



**NATIONAL CAPITAL COMMISSION**  
**COMMISSION DE LA CAPITALE NATIONALE**

<b>NCC Tender File #</b>	AL1707
<b>Project Description</b>	Gatineau Park- Guardrails replacement
<b>Site visit</b>	Not applicable
<b>Closing date and time</b>	Friday, July 21, 2017 at 3pm EDT

<b>RETURN TENDERS TO:</b> National Capital Commission 40 Elgin Street, Security Office on the 2 <sup>nd</sup> floor Ottawa, ON K1P 1C7  <b>TENDER CLOSING DATE AND TIME:</b> Friday, July 21, 2017 at 3pm EDT	<b>NCC Tender Number</b>  <b>AL1707</b>
	<b>NCC Contract Number</b>

<b>DESCRIPTION OF WORK:</b> Gatineau Park- Guardrails replacement
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**1. BUSINESS NAME AND ADDRESS OF BIDDER**

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Telephone number:** \_\_\_\_\_ **Fax number:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**2. THE OFFER**

The Bidder offers to the National Capital Commission (NCC) to perform and complete the work for the above mentioned project in accordance with the tender documents for the total tender amount (to be expressed in numbers only) of:

Sub Total	\$	_____
GST/QST – 14.975%	\$	_____
<b>TOTAL ESTIMATED AMOUNT</b>	<b>\$</b>	<b>_____</b>

**3. TENDER VALIDITY PERIOD**

The tender shall not be withdrawn for a period of 60 days following the date and time of tender closing.

**4. CONTRACT DOCUMENTS**

1. The following are the contract documents:
  - (a) Invitation to Tender & Acceptance Form when signed by the NCC;
  - (b) Duly completed Invitation to Tender & Acceptance Form and any Appendices attached thereto;
  - (c) Drawings and Specifications;
  - (d) General Conditions (GC1 to GC10);
  - (e) Supplementary Conditions, if any;
  - (f) Insurance Terms;
  - (g) Occupational Health and Safety Requirements;
  - (h) Addenda
  - (i) Any amendments issued or any allowable tender revision received before the date and time set for tender closing;
  - (j) Any amendment incorporated by mutual agreement between the NCC and the Contractor before acceptance of the tender; and
  - (k) Any amendment or variation of the contract documents that is made in accordance with the General Conditions;
  - (l) Security Requirements.
  
2. The language of the contract documents shall be the language of the Invitation to Tender & Acceptance Form submitted.

NCC Tender Number AL1707

NCC Contract Number

**5. APPENDICES**

The tender includes Appendix(ces) Nos I and II to the Invitation to Tender & Acceptance Form.

**6. ACCEPTANCE AND CONTRACT**

Upon acceptance of the Contractor's offer by the NCC, a binding Contract shall be formed between the NCC and the Contractor. The documents forming the Contract shall be the contract documents referred to in 4 – CONTRACT DOCUMENTS.

**7. CONSTRUCTION TIME**

The Contractor shall perform and complete the Work no later than seven (7) weeks after contract award.

**8. UNIT PRICE TABLE**

The Bidder agrees that

- (a) the Unit Price Table designates that part of the Work to which a Unit Price Arrangement applies.
- (b) the Price per Unit and the Estimated Total Price must be entered for each item listed;
- (c) the Price per Unit as tender governs in calculating the Total Estimated Amount, and any errors in the extension of the Price per Unit and in the addition of the Estimated Total Prices shall be corrected by the NCC in order to obtain the Total Estimated Amount; and
- (d) the following table is the Unit Price Table for the purposes of the tender and the Contract:

**UNIT PRICE TABLE**

**Note:** Transfer the Total Estimated Amount from the Unit Price Table to item 2 – THE OFFER of this Invitation to Tender & Acceptance Form

Item No.	Location	Description	UOM	Estimated qty	Unit price excl taxes	Extended total or lump sum price excl taxes
1	GP-06	Removal of existing guiderail and end treatments on South side of roadway	lump sum	1	n/a	
2	GP-07	Removal of existing guiderail and end treatments on North side of roadway	lump sum	1	n/a	
3	GP-13	Removal of existing guiderail and end treatments on North side of roadway	lump sum	1	n/a	
4	GP-14	Removal of existing guiderail and end treatments on South side of roadway	lump sum	1	n/a	
5	GP-15	Removal of existing guiderail and end treatments on North side of roadway	lump sum	1	n/a	
6	GP-16	Removal of existing guiderail and end treatments on South side of roadway	lump sum	1	n/a	

7	GP-17	Removal of existing guiderail and end treatments on North side of roadway	lump sum	1	n/a	
8	GP-18	Removal of existing guiderail and end treatments on North side of roadway	lump sum	1	n/a	
9	GP-19	Removal of existing guiderail and end treatments on West side of roadway	lump sum	1	n/a	
10	GP-20	Removal of existing guiderail and end treatments on South side of parking area	lump sum	1	n/a	
11	GP-22	Removal of existing guiderail and end treatments on East side of parking area	lump sum	1	n/a	
12		Supply and install steel beams guiderails with offset blocks and steel posts on East side of parking area (not including terminal system length) as per MTQ Tome VIII, Chapter 3, GSR 003 (MTQ codification: W/AE/1905)	Meters	2055		
13		Supply and install ET Plus Terminal System on West side of roadway (MTQ codification: L-W/A-2)	Each	34		
14		Supply and install Flared End Treatment at both ends of guiderail as per MTQ Tome VIII, Chapter 3, GSR 048	Each	6		
<b>SUB-TOTAL</b>						

9. The basis of award is low total cost to the NCC including all taxes.

10. I/We acknowledge receipt of the following addenda \_\_\_\_\_  
(Bidder to enter number of addenda issues, if any) and have included for the requirement of it/them in my/our tendered price.

**11. TENDER SECURITY**

1. The Bidders shall enclose tender security with its tender in accordance with GI08 TENDER SECURITY REQUIREMENTS.
2. If the security furnished does not comply fully with the requirements referred to in paragraph 1) herein, the tender shall be disqualified.
3. If a security deposit is furnished as tender security, it shall be forfeited in the event that the tender is accepted by the NCC and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that the NCC may, if it is in the public interest, waive the forfeiture of the security deposit.

We hereby offer to supply to the NCC in accordance with the terms and conditions set out herein, the construction work listed above and on any attached sheets at the submitted price(s).

\_\_\_\_\_  
Name and title of person authorized to sign on behalf of Bidder  
(please print or type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Your tender is accepted to supply to the NCC, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the construction services listed herein and on any attached sheets at the price(s) set out therefore.

\_\_\_\_\_  
Name and title of the person authorized to sign on behalf of the NCC  
(please print or type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**INVOICING**

Send the original invoice and 1 copy to:

**Accounts Payable  
National Capital Commission  
202-40 Elgin Street  
Ottawa, ON K1P 1C7**

Or by email at the following address: [payables@ncc-ccn.ca](mailto:payables@ncc-ccn.ca)

To ensure prompt payment, please prepare your invoice in accordance with the prices quoted. Errors in invoicing can cause delay of payment. Submit your invoice to the address shown above and clearly indicate the Purchase Order number.

<b>INVITATION TO TENDER &amp; ACCEPTANCE FORM</b>	<b>APPENDIX 1</b>
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- 1) The Bidder will subcontract the parts of the work listed below to the subcontractor named for each part. The Bidder agrees not to make changes in the list of subcontractors without the written consent of the NCC Representative. The Bidder understands that for each part of the work identified as Mandatory, if more than one subcontractor is named or no subcontractor is named, or, the Bidder fails to state that the work will be done by its own forces where applicable, the tender will be disqualified.
- 2) The Bidder certifies that tenders for the part(s) of the Work listed below were received from the following sub-contractors:

**MANDATORY REQUIREMENT:** The subcontractors performing the work listed below must be identified. Failure to disclose the name of the sub-contractor for any work identified will result in the disqualification of your tender.

(a) **XXXX**

Sub-contractor: \_\_\_\_\_

Address: \_\_\_\_\_

(b) **XXXX**

Sub-contractor: \_\_\_\_\_

Address: \_\_\_\_\_

(c) **XXXX**

Sub-contractor: \_\_\_\_\_

Address: \_\_\_\_\_

(d) **XXXX**

Sub-contractor: \_\_\_\_\_

Address: \_\_\_\_\_

**NON-MANDATORY REQUIREMENT:**

(a) Any other work not listed above

Type of work: \_\_\_\_\_ Sub-contractor: \_\_\_\_\_

Type of work: \_\_\_\_\_ Sub-contractor: \_\_\_\_\_

Type of work: \_\_\_\_\_ Sub-contractor: \_\_\_\_\_

Type of work: \_\_\_\_\_ Sub-contractor: \_\_\_\_\_

Type of work: \_\_\_\_\_ Sub-contractor: \_\_\_\_\_

Type of work: \_\_\_\_\_ Sub-contractor: \_\_\_\_\_

Supplier No. / N° du fournisseur

New supplier / Nouveau fournisseur  Update / Mise à jour

**SUPPLIER-DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM  
FOURNISSEUR-FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT**

For NCC use only / À l'usage de la CCN seulement

**PART 'A' - IDENTIFICATION / PARTIE 'A' - IDENTIFICATION**

Legal name of entity or individual / Nom légal de l'entité ou du particulier	Operating name of entity or individual (if different from Legal Name) / Nom commercial de l'entité ou du particulier (s'il diffère du nom légal)		
Former Public Servant in receipt of a PSSA Pension / Ancien fonctionnaire qui reçoit une pension en vertu de la LPPF		<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non
An entity, incorporated or sole proprietorship, which was created by a Former Public Servant in receipt of a PSSA pension or a partnership made of former public servants in receipt of PSSA pension or where the affected individual has a controlling or major interest in the entity. / Une entité, constituée en société ou à propriétaire unique, créée par un ancien fonctionnaire touchant une pension en vertu de la LPPF, ou un partenariat formé d'anciens fonctionnaires touchant une pension en vertu de la LPPF, où les entités dans lesquelles ils détiennent le contrôle ou un intérêt majoritaire.		<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non
Address / Adresse	Telephone No. / N° de téléphone :	Fax No. / N° de télécopieur :	
Postal code / Code postal	( )	( )	

**PART 'B' - STATUS OF SUPPLIER / PARTIE 'B' - STATUT DU FOURNISSEUR**

**IMPORTANT : CHOOSE ONLY ONE OF THE FOLLOWING/CHOISIR SEULEMENT UNE DES OPTIONS SUIVANTES:**

(1) Sole proprietor / Propriétaire unique <input type="checkbox"/>	If sole proprietor, provide: / Si propriétaire unique, indiquez :	Last Name / Nom de famille	First name / Prénom	Initial / Initiale
(2) Partnership / Société de personnes <input type="checkbox"/>	(3) Corporation / Société <input type="checkbox"/>			
Business No. (BN) / N° de l'entreprise (NE) -	<b>OR / OU</b>	SIN / NAS -		
GST/HST / TPS et TVH	QST / TVQ (Québec)			
Number / Numéro : Not registered / non inscrit <input type="checkbox"/>	Number / Numéro : Not registered / non inscrit <input type="checkbox"/>			
Type of contract / Genre de contrat	Contract for services only / Contrat de services seulement <input type="checkbox"/>			
	Contract for mixed goods & services / Contrat de biens et services <input type="checkbox"/>		Contract for goods only / Contrat de biens seulement <input type="checkbox"/>	
Type of goods and/or services offered / Genre de biens et / ou services rendus :				

**PART 'C' - FINANCIAL INSTITUTION / PARTIE 'C' - RENSEIGNEMENTS SUR L'INSTITUTION FINANCIÈRE**

**Please send a void cheque with this form / Veuillez, s.v.p., envoyer un spécimen de chèque avec ce formulaire**

Branch Number / N° de la succursale	Institution No. / N° de l'institution :	Account No. / N° de compte :
Institution name / Nom de l'institution :		Address / Adresse :
Postal Code / Code postal :		

**PART 'D' - DIRECT DEPOSIT PAYMENT NOTIFICATION / PARTIE 'D' - AVIS DE PAIEMENT PAR DÉPÔT DIRECT**

E-mail address / Adresse courriel :

**PART 'E' - EMAIL ADDRESS TO SEND CONTRACTS / PARTIE 'E' - ADRESSE COURRIEL POUR ENVOYER LES CONTRATS**

E-mail address / Adresse courriel :

**PART 'F' - CERTIFICATION / PARTIE 'F' - CERTIFICATION**

I certify that I have examined the information provided above and it is correct and complete, and fully discloses the identification of this supplier.	Je déclare avoir examiné les renseignements susmentionnés et j'atteste qu'ils sont exacts et constituent une description complète, claire et véridique de l'identité de ce fournisseur.		
Where the supplier identified on this form completes part C, he hereby requests and authorizes the National Capital Commission to directly deposit into the bank account identified in part C, all amounts payable to the supplier.	Lorsque le fournisseur indiqué sur ce formulaire remplit la partie C, par la présente, il demande et autorise la Commission de la capitale nationale à déposer directement dans le compte bancaire indiqué à la partie C, tous les montants qui lui sont dus.		
Name of authorized person / Nom de la personne autorisée	Title / Titre	Signature	Date
Telephone number of contact person / Numéro de téléphone de la personne ressource : ( )			

**IMPORTANT**

Please fill in and return to the National Capital Commission with one of your business cheque unsigned and marked « VOID » (for verification purposes).

Mail or fax to: Procurement Services  
National Capital Commission  
202-40 Elgin Street  
Ottawa, ON K1P 1C7 Fax: (613) 239-5007

**Veillez remplir ce formulaire et le retourner à la Commission de la capitale nationale avec un spécimen de chèque de votre entreprise non signé et portant la mention « ANNULÉ » (à des fins de vérification).**

Poster ou télécopier à : Services de l'approvisionnement  
Commission de la capitale nationale  
40, rue Elgin, pièce 202  
Ottawa (Ontario) K1P 1C7 Télécopieur : (613) 239-5007

**SUPPLIER – DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM**

**FOURNISSEUR – FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT**

**Supplier Tax Information**

Pursuant to paragraph 221(1) (d) of the *Income Tax Act*, NCC must declare form T-1204, contractual payments of government for services, all payments made to suppliers during the calendar year in accordance to related service contracts (including contracts for mixed goods and services).

The paragraph 237(1) of the *Income Tax Act* and the article 235 of the Income Tax Regulations require the supplier to provide all necessary information below to the organization who prepares the fiscal information forms.

Questions: Sylvie Monette, Accounts Payable Supervisor  
(613) 239-5678 ext. 5156 or [sylvie.monette@ncc-ccn.ca](mailto:sylvie.monette@ncc-ccn.ca)

**Direct deposit payment information**

All amounts payable by NCC to the supplier will be deposited directly into the account you identified in part C. A NCC payment advice notice will also be sent to you by e-mail detailing the particularities of the payment to the address identified in part D.

Until we process your completed form, we will still pay you by check.

You must notify the NCC of any changes to your financial institution, branch or account number. You will then have to complete a new form.

The account you identified has to hold Canadian funds at a financial institution in Canada.

**The advantages of direct deposit payment**

Direct deposit payment is a convenient, dependable, safe and timesaving way to receive your invoice payment. Direct deposit payment is completely confidential.

There are fewer risks of direct deposit payment being lost, stolen, or damaged as may happen with cheques.

Funds made by direct deposit payment will be available in your bank account on the same day that we would have mailed your cheque.

**Renseignements sur les fournisseurs aux fins de l'impôt**

En vertu de l'alinéa 221(1) (d) de la *Loi de l'impôt sur le revenu*, la CCN est tenu de déclarer, à l'aide du formulaire T-1204, Paiements contractuels de services du gouvernement, tous paiements versés aux fournisseurs pendant une année civile en vertu de marchés de services pertinents (y compris les marchés composés à la fois de biens et de services).

Le paragraphe 237 (1) de la *Loi de l'impôt sur le revenu* et l'article 235 du Règlement de l'impôt sur le revenu obligent les fournisseurs à fournir toutes les informations demandées ci-dessous à l'organisme qui prépare les formulaires de renseignements fiscaux.

Questions : Sylvie Monette, Superviseure aux comptes payable  
(613) 239-5678 poste 5156 ou [sylvie.monette@ncc-ccn.ca](mailto:sylvie.monette@ncc-ccn.ca)

**Renseignements sur le paiement par dépôt direct**

Tous les montants versés par la CCN au fournisseur seront déposés directement dans le compte identifié à la partie C. Un avis de paiement de la CCN détaillant les particularités du paiement par dépôt direct vous sera envoyé par courriel à l'adresse courriel identifiée à la partie D.

Nous continuerons à vous payer par chèque jusqu'à ce que nous ayons traité votre formulaire.

Vous devez aviser la CCN de tout changement d'institution financière, de succursale ou de numéro de compte. Vous devrez donc remplir un nouveau formulaire.

Le compte que vous désignez doit être un compte en monnaie canadienne, détenu dans une institution financière au Canada.

**Avantages du paiement par dépôt direct**

Le paiement par dépôt direct est une méthode pratique, fiable et sécuritaire, qui permet de gagner du temps dans la réception de vos paiements de factures. Le paiement par dépôt direct est entièrement confidentiel.

Avec les paiements par dépôt direct, il y a moins de risques de perte, de vol ou de dommage, comme cela peut se produire dans le cas des chèques.

Les paiements effectués par paiement par dépôt direct sont versés dans votre compte le jour même où nous aurions posté votre chèque.



- SI01 Tender Documents
- SI02 Enquiries during the Solicitation Period
- SI03 [\[Non Mandatory\] Site Visit](#)
- SI04 Revision of Tender
- SI05 Tender Results
- SI06 Negotiations
- SI07 Tender Validity Period
- SI08 Construction Documents
- SI09 Public Tender Opening

**SI01 TENDER DOCUMENTS**

- 1) The following are the tender documents:

- (a) Invitation to Tender & Acceptance Form and any Appendices attached thereto;
- (b) Special Instructions to Bidders; and
- (c) General Instructions to Bidders.

Submission of a tender constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

**SI02 ENQUIRIES DURING THE SOLICITATION PERIOD**

- 1) Enquiries regarding this tender must be submitted in writing to the following: Sr. Contract Officer, Allan Lapensée, e-mail address – [allan.lapensee@ncc-ccn.ca](mailto:allan.lapensee@ncc-ccn.ca) as early as possible within the solicitation period. Except for the approval of alternative materials as described in GI15 of the General Instructions to Bidders, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may result in an answer not being provided.
- 2) To ensure consistency and quality of the information provided to Bidders, the Sr. Contract Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 3) All enquiries and other communications related to this tender sent throughout the solicitation period are to be directed ONLY to the Sr. Contract Officer named above. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a tender.

**SI03 [\[NON MANDATORY\] SITE VISIT](#)**

- 1) not applicable.

**SI04 REVISION OF TENDER**

- 1) A tender may be revised by letter or facsimile in accordance with GI10 of the General Instructions to Bidders. The facsimile number for receipt of revisions is 613-239-5012.

**SI05 TENDER RESULTS**

- 1) Following solicitation closing, tender results may be obtained by calling or emailing the Sr. Contract Officer (see SI02).

**SI06 NEGOTIATIONS**

- 1) In the event that the lowest compliant tender exceeds the amount of funding the NCC has allocated for the construction phase of the work:
  - (a) by 15% or less, the NCC, at its sole discretion, shall either:
    - (i) cancel the invitation to tender; or
    - (ii) obtain additional funding and, subject to the provisions of GI11 and GI09 of the General Instructions to Bidders, award the Contract to the Bidder submitting the lowest compliant tender; or
    - (iii) revise the scope of the work accordingly and negotiate, with the Bidder submitting the lowest compliant tender, a corresponding reduction in its tender price.
  - (b) by more than 15%, the NCC, at its sole discretion, shall either:
    - (i) cancel the invitation to tender; or
    - (ii) obtain additional funding and, subject to the provisions of GI11 and GI09 of the General Instructions to Bidders, award the Contract to the Bidder submitting the lowest compliant tender; or
    - (iii) revise the scope of the work accordingly and invite those who submitted compliant tenders at the original invitation to tender to re-tender the work.
- 2) If negotiations or a re-tender are undertaken as is contemplated in subparagraphs 1)(a)(iii) or 1)(b)(iii) above, Bidders shall retain the same subcontractors and suppliers as they carried in their original tenders.
- 3) If the NCC elects to negotiate a reduction in the tender price as is contemplated in subparagraph 1)(a)(iii) herein and the negotiations fail to reach an agreement, the NCC shall then exercise either of the options referred to subparagraphs 1)(a)(i) or 1)(a)(ii).

**SI07 TENDER VALIDITY PERIOD**

- 1) The NCC reserves the right to seek an extension to the tender validity period prescribed in 3 of the Invitation to Tender & Acceptance Form. Upon notification in writing from the NCC, Bidders shall have the option to either accept or reject the proposed extension.
- 2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted tenders, then the NCC shall continue immediately with the evaluation of the tenders and its approvals processes.
- 3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted tenders then the NCC shall, at its sole discretion, either:
  - (a) continue to evaluate the tenders of those who have accepted the proposed extension and seek the necessary approvals; or
  - (b) cancel the invitation to tender.
- 4) The provisions expressed herein do not in any manner limit the NCC's rights in law or under GI11 of the General Instructions to Bidders.

**SI08 CONSTRUCTION DOCUMENTS**

- 1) The successful contractor will be provided with one paper copy of the sealed and signed plans, the specifications and the amendments upon acceptance of the offer. Additional copies, may be available free of charge upon request by the contractor. If not, obtaining more copies shall be the responsibility of the contractor including costs.

**SI09 PUBLIC TENDER OPENING**

- 1) A public tender opening will be held on [July 21, 2017 at 3pm EDT](#) at 40 Elgin Street, Ottawa, ON beside the security office on the 2<sup>nd</sup> floor.

- GI01 Completion of Tender
- GI02 Identity or Legal Capacity of the Bidder
- GI03 Goods and Services Tax / Harmonized Sales Tax
- GI04 Québec Sales Tax
- GI05 Capital Development and Redevelopment Charges
- GI06 Registry and Pre-qualification of Floating Plant
- GI07 Listing of Subcontractors and Suppliers
- GI08 Tender Security Requirements
- GI09 Submission of Tender
- GI10 Revision of Tender
- GI11 Acceptance of Tender
- GI12 Procurement Business Number
- GI13 Bid Depository
- GI14 Compliance with Applicable Laws
- GI15 Approval of Alternative Materials
- GI16 Performance Evaluation

**GI01 Completion of Tender**

- 1) The tender shall be:
  - (a) submitted on the Invitation to Tender and Acceptance Form provided through the Government Electronic Tendering Service (GETS) or on a clear and legible reproduced copy of such Invitation to Tender and Acceptance Form that must be identical in content and format to the Invitation to Tender and Acceptance Form provided through GETS;
  - (b) based on the Tender Documents listed in the Special Instructions to Bidders;
  - (c) correctly completed in all respects;
  - (d) signed by a duly authorized representative of the Bidder; and
  - (e) accompanied by
    - (i) tender security as specified in GI08; and
    - (ii) any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the tender.
- 2) Subject to paragraph 6) of GI11, any alteration to the pre-printed or pre-typed sections of the Invitation to Tender and Acceptance Form, or any condition or qualification placed upon the tender shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Invitation to Tender and Acceptance Form by the Bidder shall be initialled by the person or persons signing the tender. Initials shall be original(s). Alterations, corrections, changes or erasures that are not initialled shall be deemed void and without effect.
- 3) Unless otherwise noted elsewhere in the Tender Documents, facsimile copies of tenders are not acceptable.

**GI02 Identity or Legal Capacity of the Bidder**

- 1) In order to confirm the authority of the person or persons signing the tender or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by the NCC prior to award of contract, provide satisfactory proof of:

- (a) such signing authority; and
- (b) the legal capacity under which it carries on business.

Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this tender on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

**GI03 Goods and Services Tax / Harmonized Sales Tax**

- 1) The National Capital Commission (NCC) is a Crown Corporation subject to the Goods and Services Tax (GST), the Ontario Provincial Sales Tax (OST) and the Quebec Sales Tax (QST). The rates quoted are exclusive of the GST and the OST/QST. The successful firm will be required to indicate separately, on all invoices or requests for payments, the amount of Goods and Services Sales Tax (GST), the amount of Ontario Sales Tax (OST) and the amount of Quebec Sales Tax (QST), to the extent applicable, that the Commission must pay. These amounts will be paid to the successful Bidder who is required to make the appropriate remittances to Revenue Canada and the respective provincial governments.

Pursuant to paragraph 221 (1)(d) of the Income Tax Act, payments made by Crown Corporations under applicable service contracts (including contracts involving a mix of goods and services) must be reported on a "T1204" slip. To comply with this requirement, the Bidder is required to provide the following information on the "Supplier – Direct Payment and Tax Information Form" (see Appendix 11).

By signing this form, the Bidder/Proponent certifies that he/she has examined the information provided on the form and that it is correct, complete, and fully discloses the identification of the Contractor.

This "Supplier – Direct Payment and Tax Information Form" must be completed and returned to the Commission prior to any contract being awarded to your firm (see Appendix 11).

**GI04 Quebec Sales Tax**

- 1) See GI03.

**GI05 Capital Development and Redevelopment Charges**

- 1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the tender amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

**GI06 Registry and Pre-qualification of Floating Plant**

- 1) Dredges or other floating plant to be used in the performance of the Work must be on Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada, if applicable, and this certificate must accompany the tender. Plant so qualified by Industry Canada may be accepted on this project.

**GI07 Listing of Subcontractors and Suppliers**

- 1) Notwithstanding any list of Subcontractors that the Bidder shall be required to submit as part of the tender, the Bidder submitting the lowest acceptable tender shall, within 24 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so may result in the disqualification of its tender.

**GI08 Tender Security Requirements**

- 1) The Bidder shall submit tender security with the tender in the form of a bid bond or a security deposit in an amount that is equal to not less than 10% of the tender amount including all applicable taxes.

The maximum amount of tender security required with any tender is \$2,000,000.00.

- 2) A bid bond shall be in an approved form, properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to the NCC either at the time of solicitation closing or as identified on the list displayed at the following Website:

<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12027>

The approved form for the bid bond is enclosed at the end of this section.

- 3) A security deposit shall be an original, properly completed, signed where required and be either:
  - (a) a bill of exchange, bank draft or money order payable to the NCC;
  - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada; or
- 4) A bill of exchange, bank draft or money order referred to in subparagraph 3)(a) of GI08 shall be certified by or drawn on:
  - (a) a corporation or institution that is a member of the Canadian Payments Association;
  - (b) a corporation that accepts public deposits and repayment of the deposits is unconditionally guaranteed by Her Majesty in right of a province;
  - (c) a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the "Régie de l'assurance-dépôts du Québec" to the maximum permitted by law;
  - (d) a corporation, association or federation incorporated or organized as a credit union or cooperative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137 (6)(b) of the *Income Tax Act*; or
  - (e) Canada Post Corporation.
- 5) If a bill of exchange, bank draft or money order is drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in paragraph 4) of GI08, either by letter or by a stamped certification on the bill of exchange, bank draft, or money order.
- 6) For the purposes of this section, a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable time, a certain sum of money to, or to the order of, the NCC.

- 7) Bonds referred to in subparagraph 3)(b) of GI08 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:
  - (a) payable to bearer;
  - (b) accompanied by a duly executed instrument of transfer of the bonds to the NCC in the form prescribed by the Domestic Bonds of Canada Regulations; or
  - (c) registered as to principal or as to principal and interest in the name of the NCC pursuant to the Domestic Bonds of Canada Regulations.
- 8) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to the NCC and the amount shall be determined in the same manner as a security deposit referred to above.
- 9) An irrevocable standby letter of credit referred to in paragraph 8) of GI08 shall:
  - (a) be an arrangement, however named or described, whereby a financial institution (the “Issuer”) acting at the request and on the instructions of a customer (the “Applicant) or on its own behalf:
    - (i) is to make a payment to, or to the order of, the NCC as the beneficiary;
    - (ii) is to accept and pay bills of exchange drawn by the NCC;
    - (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
    - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with.
  - (b) state the face amount which may be drawn against it;
  - (c) state its expiry date;
  - (d) provide for sight payment to the NCC by way of the financial institution’s draft against presentation of a written demand for payment signed by the NCC Contract Administrator identified in the letter of credit by his/her office;
  - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
  - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600;
  - (g) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6 c) of the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600; and
  - (h) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
- 10) Tender security shall lapse or be returned as soon as practical following:
  - (a) the solicitation closing date, for those Bidders submitting non-compliant tenders; and

- (b) the administrative tender review, for those Bidders submitting compliant tenders ranked fourth to last on the schedule of tenders; and
  - (c) the award of contract, for those Bidders submitting the second and third ranked tenders; and
  - (d) the receipt of contract security for the successful Bidder; or
  - (e) the cancellation of the solicitation, for all Bidders.
- 11) Notwithstanding the provisions of paragraph 10) of GI08 and provided more than three (3) compliant tenders have been received, if one or more of the tenders ranked third to first is withdrawn or rejected for whatever reason, then the NCC reserves the right to hold the security of the next highest ranked compliant tender in order to retain the tender security of at least three (3) valid and compliant tenders.

**GI09 Submission of Tender**

- 1) The Invitation to Tender and Acceptance Form, duly completed with the bid security, shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the front page of the Invitation to Tender and Acceptance Form for the receipt of tenders.
- 2) Unless otherwise specified in the Special Instructions to Bidders:
  - (a) the tender shall be in Canadian currency;
  - (b) exchange rate fluctuation protection is not offered; and
  - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the tender, the Bidder shall ensure that the following information is clearly printed or typed on the face of the tender envelope:
  - (a) Solicitation Number;
  - (b) Name of Bidder.
- 5) Timely and correct delivery of the tender is the sole responsibility of the Bidder. The tender must be received on or before the date and time set for solicitation closing. Late tenders shall be disqualified.

**GI10 Revision of Tender**

- 1) A tender submitted in accordance with these instructions may be revised by letter or facsimile (fax number only 613-239-5012 provided the revision is received at the office designated for the receipt of tenders, on or before the date and time set for the closing of the solicitation. The letter or facsimile shall:
  - (a) be on the Bidder's letterhead or bear a signature that identifies the Bidder;
  - (b) for the Total Bid Amount, clearly identify the amount of the current revision. The total aggregate sum of all revisions submitted, including the current revision, shall be shown separately; and
  - (c) for the Price per unit portion of a tender, clearly identify the current revision(s) to the Price(s) per unit and the specific item(s) to which each revision applies. If a revision is to be applied to a specific Item that was previously amended then, in addition to the amount of the current



revision, the total aggregate sum of all revisions submitted, including the current revision, for that Item shall be shown separately.

- 2) A letter or facsimile submitted to confirm an earlier revision shall be clearly identified as "CONFIRMATION ONLY", for each contemplated change.
- 3) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The tender shall be evaluated based on the original tender submitted and all other compliant revision(s).

#### **GI11 Acceptance of Tender**

- 1) The NCC may accept any tender, whether it is the lowest or not, or may reject any or all tenders.
- 2) Without limiting the generality of paragraph 1) of GI11, the NCC may reject a tender if any of the following circumstances are present:
  - (a) the Bidder, or any employee or subcontractor included as part of the tender, have been convicted under section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 ("Selling or purchasing office"), 380 (Fraud committed against Her Majesty) or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) (False entry, certificate or return), subsection 80(2) (Fraud against her Majesty) or Section 154.01 (Fraud against her Majesty) of the Financial Administration Act;
  - (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
  - (c) the bidding privileges of any employee or subcontractor included as part of the tender are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to tender on the Work, or the portion of the Work the employee or subcontractor is to perform;
  - (d) with respect to current or prior transactions with the NCC
    - (i) the Bidder is bankrupt or if, for whatever reason, its activities are rendered inoperable for an extended period;
    - (ii) evidence, satisfactory to the NCC, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its tender;
    - (iii) the NCC has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its tender; or
    - (iv) the NCC determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being tendered on.
- 3). In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(d)(iv) of GI11, the NCC may consider, but not be limited to, such matters as:
  - (a) the quality of workmanship in performing the Work;
  - (b) the timeliness of completion of the Work;

- (c) the overall management of the Work and its effect on the level of effort demanded of the NCC and its representative; and
  - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of GI11, the NCC may reject any based on an unfavourable assessment of the:
- (a) adequacy of the tender price to permit the work to be carried out and, in the case of a tender providing prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
  - (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
  - (c) Bidder's performance on other contracts.
- 5) If the NCC intends to reject a tender pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI11, other than subparagraph 2)(b) of GI11, the NCC shall so inform the Bidder and provide the Bidder ten (10) days within which to make representation, prior to making a final decision on the tender rejection.
- 6) The NCC may waive informalities and minor irregularities in tenders received, if the NCC determines that the variation of the tender from the exact requirements set out in the Tender Documents can be corrected or waived without being prejudicial to other Bidders.

**GI12 Procurement Business Number**

- 1) Not applicable.

**GI13 Bid Depository**

- 1) If the solicitation advertisement states that a Bid Depository shall be used, the Bidder shall obtain bids in accordance with local Bid Depository rules and procedures.

**GI14 Compliance with Applicable Laws**

- 1) By submission of a tender, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the tender and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of GI14, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of GI14 shall result in the disqualification of the tender.

**GI15 Approval of Alternative Materials**

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the tender shall be based on use of the named materials. During the solicitation period,

alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least seven (7) calendar days, unless otherwise noted in the Tender documents, prior to the solicitation closing date. If the alternative materials are approved for the purposes of the tender, an addendum to the tender documents shall be issued.

**GI16 Performance Evaluation**

- 1) Bidders shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by the NCC. The evaluation shall be based on the quality of workmanship, timeliness of completion of the work, project management, contract management and management of health and safety. Should the Contractor's performance be considered unsatisfactory, the Contractor's bidding privileges on future work may be suspended indefinitely. Contractor Evaluation Report Form is enclosed at the end of this section.

# BID BOND

Bond Number \_\_\_\_\_

Amount \$ \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS**, that \_\_\_\_\_ as Principal, hereinafter called the Principal, and \_\_\_\_\_ as Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as Obligee, hereinafter called the NCC, In the amount of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_. WHEREAS, the Principal has submitted a written tender to the NCC, dated the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, for: \_\_\_\_\_.

**NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION** are such that if:

- (a) The Principal, should his tender be accepted within the period be specified by the NCC, or, if no period be specified, within sixty (60) days after closing date of the tender:
  - 1. does execute within a period specified by the NCC, or, if no period be specified therein, within fourteen (14) days after the prescribed forms are presented to him for signature, execute such further contractual documents, if any, as may be required by the terms of the tender as accepted; and does
  - 2. furnish a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract price and satisfactory to the NCC, or other security acceptable to the NCC; or
- (b) the Principal does pay to the NCC the difference between the amount of the Principal's tender and the amount of the Contract entered into by the NCC for the work, supplies and services which were specified in the said tender, if the latter amount be in excess of the former,

then, this obligation shall be void; otherwise it shall remain in full force and effect.

**PROVIDED, HOWEVER**, that the Surety and the Principal shall not be liable to the NCC for an amount greater than the amount specified in the bond.

**PROVIDED FURTHER** that the Surety shall not be subject to any suit or action unless such suit or action is instituted and process therefore served upon the Surety at its Head Office in Canada, within twelve (12) months from the date of this bond.

**IN TESTIMONY WHEREOF**, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and first above written.

**SIGNED, SEALED AND DELIVERED in the presence of:**

Principal \_\_\_\_\_

Witness \_\_\_\_\_

Surety \_\_\_\_\_

Note: Affix Corporate seal if applicable.



**CONTRACTOR PERFORMANCE EVALUATION REPORT FORM  
FORMULAIRE - RAPPORT D'ÉVALUATION DU RENDEMENT DE L'ENTREPRENEUR**

Date		Contract no. / No du contrat	
Description of work / Description des travaux			
Contractor's business name / Nom de l'entreprise de l'entrepreneur		Contractor's site superintendent / Contremaître de l'entrepreneur	
Contractor's business address / Adresse de l'entreprise de l'entrepreneur			
<b>NCC representative / Représentant de la CCN</b>			
Name / Nom		Telephone no. / N <sup>o</sup> . de téléphone	E-mail address / Adresse électronique
<b>Contract information / Information sur le contrat</b>			
Contract award amount / Montant du marché adjugé		Contract award date / Date de l'adjudication du marché	
Final amount / Montant final		Actual contract completion date / Date réelle d'achèvement du contrat	
Number of change orders / Nombre d'ordres de changement		Final certificate date / Date du certificat final	
<b>Quality of workmanship / Qualité des travaux exécutés</b>			
<p>This is the rating of the quality of the workmanship. At final completion the quality of the materials and equipment incorporated in the work must meet the requirements set out in the plans and specifications.</p> <p>Il s'agit de l'évaluation de la qualité des travaux exécutés. À l'achèvement des travaux, la qualité des matériaux et de l'équipement doit satisfaire les exigences établies dans les plans et devis.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Supérieur	17 – 20	
<b>Time / Délai d'exécution</b>			
<p>This is the rating of the timeliness of completion considering the actual completion date compared with the original (or amended) contract completion date and allowing for conditions beyond the control of the contractor.</p> <p>Il s'agit de l'évaluation du délai d'exécution des travaux en prenant en considération la date actuelle d'achèvement des travaux par rapport à la date originale (ou modifiée) et en tenant compte des conditions indépendantes de la volonté de l'entrepreneur.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Late / En retard	6 – 10	
	On time / À temps	11 – 16	
	Ahead of schedule / En avance sur le calendrier	17 – 20	
<b>Project management / Gestion de projet</b>			
<p>This is the rating of how the project, as described in the drawings and specifications, was managed including co-ordination, quality control, effective schedule development and implementation.</p> <p>Voici l'évaluation de la façon dont le projet décrit dans les documents contractuels a été géré, y compris la coordination, le contrôle de la qualité, l'élaboration d'un calendrier efficace et la mise en œuvre.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Supérieur	17 – 20	
		Criteria not applicable / Critère non-applicable	<input type="checkbox"/> N/A / S/O
<b>Contract management / Gestion de contrat</b>			
<p>This is the rating of how the contract was administered in accordance with the provisions expressed in the "front end" portion of the documents.</p> <p>Voici l'évaluation de la façon dont le contrat a été administré conformément aux dispositions comprises dans la partie « prioritaire » des documents.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
		Criteria not applicable / Critère non-applicable	<input type="checkbox"/> N/A / S/O
<b>Health and safety / Santé et sécurité</b>			
<p>This is the rating of the effectiveness of how the occupational health and safety provisions (whether identified in the contract or those of provincial legislation or those otherwise applicable) were managed and administered.</p> <p>Voici l'évaluation de l'efficacité avec laquelle les dispositions relatives à la santé et à la sécurité au travail (dans le contrat, dans les règlements provinciaux ou dans tout autre document) ont été gérées et administrées.</p>	Unacceptable / Inacceptable	0 – 5	<input type="text"/>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
		Criteria not applicable / Critère non-applicable	<input type="checkbox"/> N/A / S/O
<b>Total points / Pointage total</b>			<b>/100</b>
<b>Comments / Commentaires</b>			
Name / Nom		Title / Titre	Date
		Signature	

**INSTRUCTIONS AND ADDITIONAL INFORMATION (Contractor Performance Evaluation Report)**  
**INSTRUCTIONS ET RENSEIGNEMENTS SUPPLÉMENTAIRES (Rapport d'évaluation du rendement de l'entrepreneur)**

**QUALITY OF WORKMANSHIP – QUALITÉ DES TRAVAUX EXÉCUTÉS**

The NCC representative is to consider how the workmanship compares with:

- the norms in the area in which the work was carried out
- the contractor's compliance with any quality provisions outlined in the drawings and specification
- the quality of workmanship provided by other contractors on similar projects in the same facility/facilities

Le représentant de la CCN doit évaluer la qualité de l'exécution en fonction de ce qui suit :

- le respect des normes s'appliquant aux travaux réalisés
- la conformité de l'entrepreneur aux exigences de qualité comprises dans les dessins et dans les devis
- la qualité de l'exécution des travaux accomplis par d'autres entrepreneurs dans le cadre de projets similaires réalisés dans la même installation ou dans des installations semblables.

**TIME / DÉLAIS D'EXÉCUTION**

For the purpose of evaluation the contractor's time performance, consideration must be given to conditions beyond the contractor's control including NCC / Consultant / Client performance.

Afin d'évaluer le rendement de l'entrepreneur en matière de délai d'exécution, on doit prendre en considération les conditions indépendantes de la volonté de l'entrepreneur, y compris le rendement de la CCN, de l'expert-conseil et du client.

Consider conditions beyond the contractor's control, e.g.,

Prendre en considération les conditions indépendantes de la volonté de l'entrepreneur, par exemple :

- availability of, and access to the site
- changes in soil or site conditions
- weather extremes
- strikes
- material / equipment supply problems originating from manufacturers/suppliers
- quality of plans and specifications
- major change(s) in scope
- cumulative effect of changes
- was the NCC able to meet its obligations?
- timely decisions, clarifications, approvals, payments in due time
- delays caused by other contractors in the same facility

- disponibilité du chantier et accès au chantier
- modifications des conditions du sol ou du chantier
- température
- grèves
- problèmes d'approvisionnement en matériel et en équipement provenant des manufacturiers/fournisseurs
- qualité des plan et devis
- modifications importantes à l'étendue des travaux
- effets cumulatifs des modifications
- la CCN a-t-elle été capable de remplir ses obligations?
- décisions, clarifications, approbations, paiements en temps opportun
- les retards occasionnés par d'autres entrepreneurs travaillant dans la même installation.

The NCC representative's estimate of a reasonable maximum time allowance resulting from conditions beyond the contractor's control is  
 L'estimation, par le représentant de la CCN, du temps maximum alloué pour les conditions indépendantes de la volonté de l'entrepreneur est



The period of delay attributable to the contractor is  
 La période de retard attribuable à l'entrepreneur est



Did the contractor make an effective effort / Est-ce que l'entrepreneur s'est efforcé :

- to meet the schedule / de respecter l'échéancier des travaux
- to clean up deficiencies in a reasonable time / de corriger les vices dans un délai raisonnable

▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non
▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non

Have you recommended assessments and damages for late completion under the contract?  
 Avez-vous recommandé des dédommagements pour retard d'exécution aux termes du marché?

▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non
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**PROJECT MANAGEMENT / GESTION DU PROJET**

The extent to which the contractor takes charge of and effectively manages the work has a direct effect on the inputs required of the NCC.

La mesure dans laquelle l'entrepreneur assume efficacement la gestion des travaux a une incidence directe sur les services qu'on attend de la CCN.

Consideration should be given to: Did the contractor

Il faut examiner si l'entrepreneur a :

- employ a knowledgeable site superintendent
- required additional input from the NCC staff above that which is normal for a project of similar size and nature
- promptly commence the work
- provide realistic schedules and updates in accordance with the terms of the contract
- provide a comprehensive work plan and adhere to its milestones
- order material promptly and in such a way as to expedite the progress of the work
- provide shop drawings promptly and were they of sufficient detail

- fait appel aux services d'un surintendant de chantier expérimenté
- demandé au personnel de la CCN une plus grande contribution que ce qui est normal pour un projet de cette importance et de cette nature
- commencé les travaux dans les plus brefs délais
- fourni un calendrier réaliste et des mises à jour conformément aux modalités du contrat
- présenté un plan de travail complet et a respecté les échéances
- commandé le matériel rapidement et de façon à accélérer l'avancement des travaux.
- fourni rapidement des dessins d'atelier comprenant suffisamment de détails

## PROJECT MANAGEMENT (cont'd) / GESTION DU PROJET (suite)

- effectively manage and complete all Division 1 work site activities
  - promptly provide reasonable quotations for changes to the original scope of work
  - cooperate when issued directions by the NCC representative
  - interpret the contract documents accurately
  - establish effective quality control procedures
  - effectively coordinate and manage the work of its subcontractors
  - promptly correct defective work as the project progressed
  - promptly clean-up all deficiencies and incomplete work after issuance of the Interim Certificate of Completion
  - satisfactorily clean the work site periodically and at the completion of the project
- g r  et achev  efficacement toutes les activit s sur le chantier de la Division 1
  - propos  rapidement des prix raisonnables pour les modifications   l' nonc  des travaux initial
  - accept  les directives du repr sentant de la CCN
  - interpr t  les documents contractuels avec exactitude
  - mis en place des proc dures de contr le de la qualit  efficaces
  - coordonn  et g r  efficacement les travaux confi s   des sous-traitants
  - corrig  promptement le travail d fectueux en cours de projet
  - corrig  rapidement les travaux non acceptables et termin  les travaux incomplets apr s r ception du certificat provisoire d'ach vement
  - nettoy  de fa on satisfaisante le chantier p riodiquement ainsi qu'  la fin du projet.

## CONTRACT MANAGEMENT / GESTION DU CONTRAT

The effectiveness of the contractor to administer the contract in accordance with the provisions expressed in the "front end" portion of the contract documents.

Consideration should be given to: Did the contractor

- in the time frame specified, provide its contract security, Insurance Certificate fully executed and WSIB form where applicable
- submit progress claims in the correct format, accurately representing the work successfully completed and material delivered to the site but not yet installed for each payment period
- submit a Statutory Declaration correctly completed with each progress claim
- submit an updated Schedule if so specified
- pay subcontractors and suppliers in a timely fashion in accordance with the terms and conditions of its subcontracts
- promptly appoint a competent site superintendent
- notify the NCC representative of all its subcontracting activities
- apply for, obtain and pay for all necessary permits, licenses and certificates
- cooperate with other contractors sent onto the site of the work
- remove a superintendent or unsuitable worker when requested by the NCC representative to do so
- effectively protect the work and the contract documents provided by the NCC
- comply with all warranty provisions up to the date of the Contractor Performance Evaluation Report Form (CPERF)
- effectively manage the site during a suspension or termination of the work to mitigate any additional costs to the NCC
- deal promptly with any claims from creditors
- maintain complete records of the project
- provide information promptly when requested to do so
- expedite and co-operate in the settlement of all disputes

Efficacit  avec laquelle l'entrepreneur a administr  le contrat conform ment aux dispositions continues dans la partie « prioritaire » des documents contractuels.

Il faut examiner si l'entrepreneur a :

- fourni, dans le d lai prescrit, une garantie contractuelle, un certificat d'assurance d ment sign s et le formulaire de la CSST, le cas  ch ant
- pr sent  des r clamations p riodiques dans le bon format, en d crivant avec pr cision les travaux ex cut s et le mat riel livr  sur le chantier mais non encore install , pour chaque p riode de paiement
- pr sent  une d claration solennelle correctement remplie avec chaque r clamation p riodique
- fourni un calendrier   jour, sur demande
- pay  rapidement les sous-traitants et les fournisseurs conform ment aux conditions des contrats de sous-traitance
- d sign  dans les plus brefs d lais un surintendant de chantier qualifi 
- tenu au courant le repr sentant de la CCN de toutes les activit s de sous-traitance
- demand , obtenu et pay  tous les permis, licences et certificats n cessaires
- collabor  avec les autres entrepreneurs envoy s sur le lieu des travaux
- remplac  un surintendant ou un travailleur inapte   la demande du repr sentant de la CCN
- prot g  efficacement les travaux et les documents relativement aux travaux et au contrat fournis par la CCN
- respect  toutes les dispositions de garantie jusqu'  la date du Formulaire Rapport d' valuation du rendement de l'entrepreneur (FRERE)
- g r  efficacement le chantier pendant une suspension des travaux ou lors de leur ach vement, afin de limiter tout c t  suppl mentaire pour la CCN
- trait  dans les plus brefs d lais les demandes de paiement des cr anciers
- tenu des dossiers complets sur le projet
- fourni promptement les renseignements demand s
- acc l re et coop re dans le r glement des diff rends

## HEALTH AND SAFETY / SANTÉ ET SÉCURITÉ

The effectiveness to which the contractor managed and administered the occupational health and safety provisions as stipulated in the contract documents and those required by provincial legislation or those that would otherwise be applicable to the site of the work.

Consideration should be given to: Did the contractor

- provide the NCC with a copy of its health and safety program prior to award of contract
- provide the NCC with a copy of its site specific hazardous assessment prior to award of contract
- apply for and obtain the provincial Notice of Project prior to commencement of the work
- apply for and obtain the Building Permit prior to commencement of the work
- provide a competent superintendent who
  - is qualified in health and safety matters because of her/his knowledge, training and experience
  - is familiar with the OH&S Act and its Regulations that apply to the site of the work
  - remedies any potential or actual danger of health and safety to those employed at the work site
- respond in a timely manner to any non-compliance safety issues noted by the NCC or a representative of the authority having jurisdiction
- implement its safety program in a proactive manner

Efficacité avec laquelle l'entrepreneur a géré et administré les dispositions relatives à la santé et à la sécurité au travail telles que stipulées dans les documents contractuels et dans les règlements provinciaux ou ceux s'appliquant normalement au lieu des travaux.

Il faut examiner si l'entrepreneur a :

- fourni à la CCN une copie de son programme en matière de santé et de sécurité avant l'octroi du contrat
- fourni à la CCN une copie de son évaluation des dangers pouvant survenir sur les lieux avant l'octroi du contrat
- demandé et obtenu l'avis de projet provincial avant le début des travaux
- demandé et obtenu le permis de construction avant le début des travaux
- engagé un surintendant qui :
  - est qualifié en matière de santé et de sécurité de par ses connaissances, sa formation et son expérience
  - connaît bien les dispositions de la Loi sur la santé et la sécurité au travail et de son règlement qui s'applique sur le lieu des travaux
  - remédie à tout danger possible ou réel en matière de santé et de sécurité pouvant toucher toutes les personnes travaillant sur le lieu des travaux
- traité rapidement tous les problèmes de non-conformité à la sécurité relevés par la CCN ou par un représentant de l'autorité qui a juridiction
- mis en œuvre son programme de sécurité de façon proactive



- GC1.1 INTERPRETATION
  - GC1.1.1 Headings and References
  - GC1.1.2 Terminology
  - GC1.1.3 Application of Certain Provisions
  - GC1.1.4 Substantial Performance
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- GC1.15 SUCCESSION
- GC1.16 ASSIGNMENT
- GC1.17 NO BRIBE
- GC1.18 CERTIFICATION - CONTINGENCY FEES
- GC1.19 INTERNATIONAL SANCTIONS

**GC1.1 INTERPRETATION**

**GC1.1.1 Headings and References**

- 1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.
- 2) A reference made to a part of the Contract by means of numbers preceded by letters is a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein.
- 3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

**GC1.1.2 Terminology**

- 1) In the Contract

"Contract" means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;

"Contract Amount" means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract;

"Contract Security" means any security given by the Contractor to the NCC in accordance with the Contract;

"Contractor" means the person contracting with the NCC to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to the NCC;

"Certificate of Completion" means a certificate issued by the NCC when the Work reaches Completion;

"Certificate of Measurement" means a certificate issued by the NCC certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance" means a certificate issued by the NCC when the Work reaches Substantial Performance;

"NCC Representative" means the person designated in the Contract, or by written notice to the Contractor, to act as the NCC Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the NCC Representative to the Contractor;

"herein", "hereby", "hereof", "hereunder" and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Lump Sum Arrangement" means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"Material" includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;

"NCC" means the National Capital Commission;

"Person" also includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;

"Plant" includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a tradesperson in practicing a trade;

"Security screening" is a generic term that applies to all types and levels of personnel security screening including Reliability Status, Site Access, and CONFIDENTIAL, SECRET and TOP SECRET security clearances conducted by the NCC;

"Sensitive Information and Assets" means information or assets that have been identified by the NCC as TOP SECRET, SECRET, CONFIDENTIAL or protected;

"Subcontractor" means a person having a direct contract with the Contractor, subject to GC3.6 SUBCONTRACTING, to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent" means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6 SUPERINTENDENT;

"Supplementary Conditions" means the part of the Contract that amends or supplements the General Conditions;

"Supplier" means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

"Unit Price Arrangement" means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table" means the table of prices per unit set out in the Contract;

"Work" means, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the contract documents; and

"Working Day" means a day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the Work.

### **GC1.1.3 Application of Certain Provisions**

- 1) Any provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Lump Sum Arrangement applies.
- 2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

### **GC1.1.4 Substantial Performance**

- 1) The Work shall be considered to have reached Substantial Performance when:
  - (a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of the NCC, ready for use by the NCC or is being used for the intended purposes; and
  - (b) the Work is, in the opinion of the NCC, capable of completion or correction at a cost of not more than
    - (i) 3% of the first \$500,000;
    - (ii) 2% of the next \$500,000; and
    - (iii) 1% of the balanceof the Contract Amount at the time this cost is calculated.
- 2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and:
  - (a) the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5 DELAYS AND EXTENSION OF TIME, for reasons beyond the control of the Contractor; or
  - (b) the NCC and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or the NCC and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4, and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

**GC1.1.5 Completion**

- 1) The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of the NCC.

**GC1.2 CONTRACT DOCUMENTS****GC1.2.1 General**

- 1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.
- 2) References in the contract documents to the singular shall be considered to include the plural as the context requires.
- 3) Nothing contained in the contract documents shall create a contractual relationship between the NCC and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

**GC1.2.2 Order of Precedence**

- 1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
  - (a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;
  - (b) any amendment issued prior to tender closing;
  - (c) Supplementary Conditions;
  - (d) General Conditions;
  - (e) the duly completed Invitation to Tender and Acceptance Form when accepted;
  - (f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

- 2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:
  - (a) specifications shall govern over drawings;
  - (b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawing; and
  - (c) drawings of larger scale govern over those of smaller scale.

**GC1.2.3 Security and Protection of Documents and Work**

- 1) The Contractor shall guard and protect all sensitive contract information (TOP SECRET, SECRET, CONFIDENTIAL and PROTECTED) including printed and digital documents, drawings, information, models, copies thereof and processing systems, whether supplied by the NCC or the Contractor, against loss or compromise and damage from any cause.
- 2) The Contractor shall limit access to sensitive NCC information only to those with a “need-to-know” and who have been successfully security screened to at least the level of sensitivity of the information.
- 3) The Contractor shall ensure all contract information indicated in paragraph 1) is guarded and protected by any subcontractors, agents or suppliers and access limited only to those with a “need-to-know” and who have been successfully security screened to at least the level of sensitivity of the information.
- 4) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of the NCC in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of the NCC, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that:
  - (a) is publicly available from a source other than the Contractor; or
  - (b) is or becomes known to the Contractor from a source other than the NCC, except any source that is known to the Contractor to be under an obligation to the NCC not to disclose the information.
- 5) When the Contract, the Work, or any information referred to in paragraph 4) is identified as TOP SECRET, SECRET, CONFIDENTIAL or PROTECTED by the NCC, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by the NCC.
- 6) Without limiting the generality of paragraphs 4) and 5) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 4) is identified as TOP SECRET, SECRET, CONFIDENTIAL or PROTECTED by the NCC, the NCC shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by the NCC dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability status, site access security clearances and other procedures.
- 7) The Contractor shall report any suspected or actual security incidents immediately to the NCC involving loss, compromise or damage of NCC information or assets.
- 8) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by the NCC to the Contractor, and shall be liable to the NCC for any loss or damage from any causes.

**GC1.3 STATUS OF THE CONTRACTOR**

- 1) The Contractor is engaged under the Contract as an independent contractor.
- 2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of the NCC.
- 3) For the purposes of the contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

**GC1.4 RIGHTS AND REMEDIES**

- 1) Except as expressly provided in the Contract, the duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

**GC1.5 TIME OF THE ESSENCE**

- 1) Time is of the essence of the Contract.

**GC1.6 INDEMNIFICATION BY CONTRACTOR**

- 1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings against the NCC charging or claiming that the Work or any part thereof provided or furnished by the Contractor to the NCC infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.
- 2) The Contractor shall indemnify and save the NCC harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.
- 3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

**GC1.7 INDEMNIFICATION BY THE NCC**

- 1) Subject to the Crown Liability and Proceedings Act, the Patent Act, and any other law that affects the NCC's rights, powers, privileges or obligations, the NCC shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to:
  - (a) a lack of or a defect in the NCC's title to the Work site if owned by the NCC, whether real or alleged; or
  - (b) an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by the NCC to the Contractor.

**GC1.8 LAWS, PERMITS AND TAXES**

- 1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and labour conditions and the protection of the environment, and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than the NCC. The Contractor shall furnish evidence of compliance with such laws and regulations to the NCC at such times as the NCC may reasonably request.
- 2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.
- 3) Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than the NCC.
- 4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify the NCC of the amount properly tendered and whether or not the municipal authority has accepted that amount.
- 5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to the NCC within 6 days after the time stipulated in paragraph 4) of GC1.8.
- 6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not the NCC.
- 7) Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the Work under the Contract.
- 8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK, a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide the NCC with proof of registration with the provincial sales tax authorities in the said province.
- 9) For the purpose of the payment of any applicable tax or the furnishing of security for the payment of any applicable tax arising from or related to the performance of the Work, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of the NCC after the time of purchase in accordance with GC3.10 MATERIAL PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC, the Contractor shall be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any applicable tax payable, at the time of the use or consumption of that Material, Plant or interest of the Contractor in accordance with the relevant legislation.

**GC1.9 WORKERS' COMPENSATION**

- 1) Prior to award of contract, at the time of submitting its first progress claim, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.

- 2) At any time during the term of the Contract, when requested by the NCC, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

**GC1.10 NATIONAL SECURITY**

- 1) If the NCC determines that the Work is of a class or kind that involves national security, the NCC may order the Contractor to:
  - (a) provide the NCC with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and
  - (b) remove any person from the site of the Work if, in the opinion of the NCC, that person may be a risk to the national security;and the Contractor shall comply with the order.
- 2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

**GC1.11 UNSUITABLE WORKERS**

- 1) The NCC shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of the NCC, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

**GC1.12 PUBLIC CEREMONIES AND SIGNS**

- 1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of the NCC.
- 2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of the NCC.

**GC1.13 CONFLICT OF INTEREST**

- 1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

**GC1.14 AGREEMENTS AND AMENDMENTS**

- 1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.
- 2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either



party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.

- 3) The Contract may be amended only as provided for in the Contract.

#### **GC1.15 SUCCESSION**

- 1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16 ASSIGNMENT, permitted assigns.

#### **GC1.16 ASSIGNMENT**

- 1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of the NCC.

#### **GC1.17 NO BRIBE**

- 1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of the NCC or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

#### **GC1.18 CERTIFICATION - CONTINGENCY FEES**

- 1) In this clause:
  - (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;
  - (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and
  - (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the Lobbyists Registration Act R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.
- 2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.
- 3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, the NCC may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

**GC1.19 INTERNATIONAL SANCTIONS**

- 1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by the Government of Canada. As a result, the the NCC cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to economic sanctions.

Details on existing sanctions can be found at:

<http://www.dfait-maeci.gc.ca/trade/sanctions-en.asp>.

- 2) It is a condition of the Contract that the Contractor not supply to the NCC any goods or services which are subject to economic sanctions.
- 3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

- GC2.1 NCC REPRESENTATIVE'S AUTHORITY
- GC2.2 INTERPRETATION OF CONTRACT
- GC2.3 NOTICES
- GC2.4 SITE MEETINGS
- GC2.5 REVIEW AND INSPECTION OF WORK
- GC2.6 SUPERINTENDENT
- GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR
- GC2.8 ACCOUNTS AND AUDITS

**GC2.1 NCC REPRESENTATIVE'S AUTHORITY**

- 1) The NCC shall designate an NCC Representative and shall notify the Contractor of the name, address and telephone number of the NCC Representative.
- 2) The NCC Representative shall perform the NCC's duties and functions under the contract.
- 3) The NCC Representative shall be authorized to issue notices, instructions and directions to the Contractor and to accept on behalf of the NCC any notice, order or other communication from the contractor relating to the Work.
- 4) The NCC Representative shall, within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract.

**GC2.2 INTERPRETATION OF CONTRACT**

- 1) If, at any time before the NCC has issued a Certificate of Completion, any question arises between the parties about whether anything has been done as required by the Contract or about what the Contractor is required by the Contract to do, and in particular but without limiting the generality of the foregoing, about:
  - (a) the meaning of anything in the drawings and specifications;
  - (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;
  - (c) whether or not the quality or quantity of any Material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;
  - (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;
  - (e) what quantity of any of the Work has been completed by the Contractor; or
  - (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by the NCC.

- 2) The Contractor shall perform the Work in accordance with any decisions of the NCC that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by the NCC.

- 3) If the Contractor fails to comply with any instruction or direction issued by the NCC pursuant to the Contract, the NCC may employ such methods as the NCC deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay the NCC an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by the NCC by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by the NCC in doing what the Contractor failed to do.

**GC2.3 NOTICES**

- 1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.
- 2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party:
  - (a) if delivered personally, on the day that it was delivered;
  - (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and
  - (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.
- 3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

**GC2.4 SITE MEETINGS**

- 1) In consultation with the NCC, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

**GC2.5 REVIEW AND INSPECTION OF WORK**

- 1) The NCC shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. The NCC shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.
- 2) The NCC shall reject Work or Material which in the NCC's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the requirements of the Contract, the Contractor shall correct the Work and shall pay the NCC, on demand, all reasonable costs and expenses that were incurred by the NCC in having the examination performed.
- 3) The Contractor shall provide the NCC with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by the NCC and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, the NCC shall be given access to such Work whenever it is in progress.

- 4) The Contractor shall furnish the NCC with such information respecting the performance of the Contract as the NCC may require, and render every possible assistance to enable the NCC to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.
- 5) If Work is designated for tests, inspections, or approvals in the Contract or by the NCC's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give the NCC reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give the NCC reasonable notice of the date and time of inspections, tests or approvals.
- 6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by the NCC, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

#### **GC2.6 SUPERINTENDENT**

- 1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify the NCC of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.
- 2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.
- 3) Upon request of the NCC, the Contractor shall remove any Superintendent who, in the opinion of the NCC, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to the NCC.
- 4) The Contractor shall not substitute a Superintendent without the written consent of the NCC. If a Superintendent is substituted without such consent, the NCC shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to the NCC has been substituted.

#### **GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR**

- 1) For the purposes of this clause, "persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site. A "person" includes any partnership, proprietorship, firm, joint venture, consortium and corporation.
- 2) Without restricting the provisions of paragraph 3) of GC2.6, SUPERINTENDENT, the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because:
  - (a) of that person's race, national origin, colour, religion, age, sex or marital status;
  - (b) of the race, national origin, colour, religion, age, sex, or marital status of any person having any relationship or association with that person; or
  - (c) a complaint has been made or information has been given by or in respect of that person relating to an alleged failure by the Contractor to comply with subparagraphs 2)(a) and 2)(b) of GC2.7.

- 3) Within two Working Days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall:
  - (a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;
  - (b) forward a copy of the complaint to the NCC by registered mail or courier service; and
  - (c) when the Labour Conditions are applicable under the circumstances of the complaint, forward a copy of the complaint to HRSDC - Labour to the attention of the appropriate Director as described in the Labour Conditions ("HRSDC - Labour" means the labour component of the federal Department of Human Resources and Skills Development).
- 4) Within twenty four (24) hours immediately following receipt of a direction from the NCC to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom the NCC believes to be in breach of the provisions of paragraph 2) of GC2.7.
- 5) No later than thirty (30) days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.
- 6) If a direction is issued pursuant to paragraph 4) of GC2.7, the NCC may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9 RIGHT OF SETOFF, whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.
- 7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, the NCC shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by the NCC as a result.
- 8) The NCC may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of:
  - (a) a written award issued pursuant to the federal Commercial Arbitration Act, R.S.C. 1985, c. 17 (2nd Supp.);
  - (b) a written award issued pursuant to the Canadian Human Rights Act, R.S.C. 1985, c. H-6;
  - (c) a written award issued pursuant to provincial or territorial human rights legislation; or
  - (d) a judgement issued by a court of competent jurisdiction.
- 9) If the NCC is of the opinion that the Contractor has breached any of the provisions of this clause, the NCC may take the Work out of the Contractor's hands pursuant to GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS.
- 10) Subject to paragraph 7) of GC3.6 SUBCONTRACTING, the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

**GC2.8 ACCOUNTS AND AUDITS**

- 1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4 EXECUTION OF THE WORK, maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by the NCC or by persons designated to act on behalf of the NCC.
- 2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.
- 3) The Contractor shall maintain and keep the records intact until the expiration of two years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as the NCC may direct.
- 4) The Contractor shall cause all subcontractors at any tier and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with the requirements of this clause as if they were the Contractor.

- GC3.1 PROGRESS SCHEDULE
- GC3.2 ERRORS AND OMISSIONS
- GC3.3 CONSTRUCTION SAFETY
- GC3.4 EXECUTION OF THE WORK
- GC3.5 MATERIAL
- GC3.6 SUBCONTRACTING
- GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS
- GC3.8 LABOUR
- GC3.9 TRUCK HAULAGE RATES **(CANCELLED)**
- GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC
- GC3.11 DEFECTIVE WORK
- GC3.12 CLEANUP OF SITE
- GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

**GC3.1 PROGRESS SCHEDULE**

- 1) The Contractor shall:
  - (a) prepare and submit to the NCC, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;
  - (b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;
  - (c) advise the NCC of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by the NCC; and
  - (d) prepare and submit to the NCC, at the time of issuance of an Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to the NCC for the completion of any unfinished Work and the correction of all listed defects.

**GC3.2 ERRORS AND OMISSIONS**

- 1) The Contractor shall report promptly to the NCC any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to the NCC for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of the NCC that the Contractor did not discover.

**GC3.3 CONSTRUCTION SAFETY**

- 1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either, stop the Work, make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.
- 2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.



**GC3.4 EXECUTION OF THE WORK**

- 1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.
- 3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.
- 4) When requested in writing by the NCC, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time the NCC considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.
- 5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to the NCC.
- 7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

**GC3.5 MATERIAL**

- 1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.
- 2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to the NCC to substitute a similar item for the one specified.
- 3) If the NCC agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to that specified and is suitable for the intended purpose, the NCC may approve the substitution, subject to the following:
  - (a) the request for substitution shall be made in writing to the NCC and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by the NCC;
  - (b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;

- (c) substitution of Material shall be permitted only with the prior written approval of the NCC, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to the NCC; and
- (d) the Contractor shall be responsible for all additional expenses incurred by the NCC, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

**GC3.6 SUBCONTRACTING**

- 1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.
- 2) The Contractor shall notify the NCC in writing of the Contractor's intention to subcontract.
- 3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.
- 4) The NCC may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by the NCC of a notification referred to in paragraph 2) of GC3.6.
- 5) If the NCC objects to a subcontracting, the Contractor shall not enter into the intended subcontract.
- 6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of the NCC.
- 7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.
- 8) Neither a subcontracting nor the NCC's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon the NCC.

**GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS**

- 1) The NCC reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.
- 2) When other contractors or workers are sent on to the site of the Work, the NCC shall:
  - (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;
  - (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and
  - (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.
- 3) When other contractors or workers are sent on to the site of the Work, the Contractor shall:
  - (a) co-operate with them in the carrying out of their duties and obligations;

- (b) co-ordinate and schedule the Work with the work of the other contractors and workers;
  - (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;
  - (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to the NCC in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against the NCC by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and
  - (e) when designated as being responsible for construction safety at the place for work, in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.
- 4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor:
- (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and
  - (b) gives the NCC written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site,

the NCC shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

### **GC3.8 LABOUR**

- 1) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work shall not employ, on the site of the Work, anyone not skilled in the tasks assigned.

### **GC3.9 TRUCK HAULAGE RATES**

**CANCELLED**

### **GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC**

- 1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of the NCC for the purposes of the Work and they shall continue to be the property of the NCC:
- (a) in the case of Material, until the NCC indicates that the Materials shall not be required for the Work; and
  - (b) in the case of Plant, real property, licences, powers and privileges, until the NCC indicates that the interest vested in the NCC therein is no longer required for the purposes of the Work.
- 2) Material or Plant, that is the property of the NCC by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of the NCC.

- 3) The NCC is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of the NCC.

**GC3.11 DEFECTIVE WORK**

- 1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.
- 2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.
- 3) If, in the opinion of the NCC, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, the NCC may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the Contract documents.
- 4) The failure of the NCC to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

**GC3.12 CLEANUP OF SITE**

- 1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.
- 2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by the NCC.
- 3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.
- 4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by the NCC's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

**GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK**

- 1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense:
  - (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of the NCC with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and
  - (b) rectify and make good any defect or fault that appears in or comes to the attention of the NCC in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion;
  - (c) transfer and assign, to the NCC, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to

herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of the NCC;

- (d) provide, to the NCC prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.
- 2) The NCC may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.
- 3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

- GC4.1 PROTECTION OF WORK AND PROPERTY
- GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS
- GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE NCC
- GC4.4 CONTAMINATED SITE CONDITIONS

**GC4.1 PROTECTION OF WORK AND PROPERTY**

- 1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by the NCC to the Contractor.
- 2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the NCC to inspect or to take security measures in respect of the Work and its site.
- 3) The NCC may direct the Contractor to do such things and to perform such work as the NCC considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

**GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS**

- 1) The Contractor shall do whatever is necessary to ensure that:
  - (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
  - (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;
  - (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;
  - (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
  - (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
  - (f) adequate sanitation measures are taken in respect of the Work and its site; and
  - (g) all stakes, buoys and marks placed on the Work or its site by the NCC are protected and are not removed, defaced, altered nor destroyed.
- 2) The NCC may direct the Contractor to do such things and to perform such work as the NCC considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of the NCC.

**GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE NCC**

- 1) Subject to paragraph 2) of GC4.3, the Contractor is liable to the NCC for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by the NCC for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.

- 2) The Contractor is not liable to the NCC for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 3) The Contractor shall not use any Material, Plant or real property supplied by the NCC except for the purpose of performing the Contract.
- 4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, the NCC may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to the NCC for the cost thereof and shall, on demand, pay to the NCC an amount equal to that cost.
- 5) The Contractor shall keep records of all Material, Plant and real property supplied by the NCC as the NCC requires and shall satisfy the NCC, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

**GC4.4 CONTAMINATED SITE CONDITIONS**

- 1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall:
  - (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
  - (b) immediately notify the NCC of the circumstances in writing; and
  - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification from the Contractor, the NCC shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of the NCC's determination.
- 4) If the Contractor's services are required by the NCC, the Contractor shall follow the direction of the NCC with regard to any excavation, treatment, removal and disposal of any polluting substance or material.
- 5) The NCC, at the NCC's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

- GC5.1 INTERPRETATION
- GC5.2 AMOUNT PAYABLE
- GC5.3 INCREASED OR DECREASED COSTS
- GC5.4 PROGRESS PAYMENT
- GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK
- GC5.6 FINAL COMPLETION
- GC5.7 PAYMENT NOT BINDING ON THE NCC
- GC5.8 CLAIMS AND OBLIGATIONS
- GC5.9 RIGHT OF SETOFF
- GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION
- GC5.11 DELAY IN MAKING PAYMENT
- GC5.12 INTEREST ON SETTLED CLAIMS
- GC5.13 RETURN OF SECURITY DEPOSIT

**GC5.1 INTERPRETATION**

In these Terms of Payment

- 1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and the NCC.
- 2) An amount is "due and payable" when it is due and payable by the NCC to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.
- 3) An amount is overdue when it remains unpaid on the first day following the day upon which it is due and payable.
- 4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the NCC.
- 5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.
- 6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Ottawa Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

**GC5.2 AMOUNT PAYABLE**

- 1) Subject to any other provisions of the Contract, the NCC shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by the NCC to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to the NCC, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.
- 2) When making any payment to the Contractor, the failure of the NCC to deduct an amount payable to the NCC by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.
- 3) No payment other than a payment that is expressly stipulated in the Contract, shall be made by the NCC to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.



**GC5.3 INCREASED OR DECREASED COSTS**

- 1) The Contract Amount shall not be increased nor decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, Plant, Material or any wage adjustment arising pursuant to the Labour Conditions.
- 2) Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs:
  - (a) after the date of submission by the Contractor of its tender; or
  - (b) after the date of submission of the last revision, if the Contractor's tender was revised,
 the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.
- 3) If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by the NCC of the relevant records of the Contractor referred to in GC2.8 ACCOUNTS AND AUDITS to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.
- 4) For the purpose of paragraph 2) of GC5.3, if a tax is changed after the tender closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.
- 5) Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

**GC5.4 PROGRESS PAYMENT**

- 1) On the expiration of a payment period, the Contractor shall deliver to the NCC:
  - (a) a written progress claim in a form acceptable to the NCC that fully describes any part of the Work that has been completed, and any Material that was delivered to the Work site but not incorporated into the Work, during that payment period: and
  - (b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations with respect to the Labour Conditions and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as "subcontractors and suppliers", have been fully discharged.
- 2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, the NCC shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report to the Contractor, that indicates the value of the part of the Work and the Material described in the progress claim that, in the opinion of the NCC:
  - (a) is in accordance with the Contract; and
  - (b) was not included in any other progress report relating to the Contract.

- 3) Subject to GC5.2 AMOUNT PAYABLE, and paragraph 5) of GC5.4, the NCC shall pay the Contractor an amount that is equal to:
  - (a) 95% of the value that is indicated in the NCC's progress report if a labour and material payment bond has been furnished by the Contractor; or
  - (b) 90% of the value that is indicated in the NCC's progress report if a labour and material payment bond has not been furnished by the Contractor.
- 4) Subject to GC5.2, "Amount Payable", and paragraph 5) of GC5.4, the NCC shall pay the Contractor an amount that is equal to 90% of the value that is indicated in the NCC's progress report
- 5) In the case of the Contractor's first progress claim, it is a condition precedent to the NCC's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim and has provided evidence of compliance with workers' compensation legislation applicable to the place of the Work in accordance with GC1.9 WORKERS' COMPENSATION.

**GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK**

- 1) If, at any time before the issuance of a Certificate of Completion, the NCC determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4 SUBSTANTIAL PERFORMANCE, the NCC shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe:
  - (a) the date of Substantial Performance;
  - (b) the parts of the Work not completed to the satisfaction of the NCC; and
  - (c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK commences for the said parts and all the said things.
- 2) The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11 DEFECTIVE WORK.
- 3) Subject to GC5.2 AMOUNT PAYABLE and paragraph 4) of GC5.5, the NCC shall pay the Contractor the amount referred to in paragraph 1) of GC5.2 AMOUNT PAYABLE, less the aggregate of:
  - (a) the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT;
  - (b) an amount that is equal to the NCC's estimate of the cost to the NCC of rectifying defects described in the Certificate of Substantial Performance; and
  - (c) an amount that is equal to the NCC's estimate of the cost to the NCC of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.
- 4) The NCC shall pay the amount referred to in paragraph 3) of GC5.5 not later than:
  - (a) 30 days after the date of issue of a Certificate of Substantial Performance, or
  - (b) 15 days after the Contractor has delivered to the NCC:

- (i) a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations with respect to the Labour Conditions, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8 LAWS, PERMITS AND TAXES;
- (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION; and
- (iii) an update of the progress schedule in accordance with the requirements of GC3.1 PROGRESS SCHEDULE;

whichever is later.

#### **GC5.6 FINAL COMPLETION**

- 1) When the NCC is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, the NCC shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, the NCC shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between the NCC and the Contractor as to the quantities referred to therein.
- 2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, the NCC shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.
- 3) The NCC shall pay the amount referred to in paragraph 2) of GC5.6 not later than:
  - (a) 60 days after the date of issue of a Certificate of Completion; or
  - (b) 15 days after the Contractor has delivered to the NCC:
    - (i) a statutory declaration which contains a declaration by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied; and
    - (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

#### **GC5.7 PAYMENT NOT BINDING ON NCC**

- 1) Neither acceptance of a progress claim or progress report, nor any payment made by the NCC under the Contract, nor partial or entire use or occupancy of the Work by the NCC shall constitute an acceptance by the NCC of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

#### **GC5.8 CLAIMS AND OBLIGATIONS**

- 1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires the NCC to pay the Contractor.

- 2) Whenever requested to do so by the NCC, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.
- 3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, the NCC may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment is, to the extent of the payment, a discharge of the NCC's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by:
  - (a) a court of legal jurisdiction;
  - (b) an arbitrator duly appointed to arbitrate the claim; or
  - (c) the written consent of the Contractor authorizing payment of the claim or obligation.
- 5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than the NCC:
  - (a) such amount as may be paid by the NCC pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;
  - (b) a claimant need not comply with the provisions of such legislation, setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had; and
  - (c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by such legislation.
- 6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and the NCC shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.
- 7) Paragraph 3) of GC5.8 shall apply only to claims and obligations:
  - (a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by the NCC in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant:

- (i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or
  - (ii) performed the last of the services, work or labour, or furnished the last of the Material pursuant to the claimant's contract with the Contractor or its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and
- (b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by the NCC.
- 8) Upon receipt of a notice of claim, the NCC may withhold, from any amount that is due and payable to the Contractor pursuant to the Contract, the full amount of the claim or any portion thereof.
- 9) The NCC shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of the NCC to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with the NCC, security in a form acceptable to the NCC in an amount equal to the value of the claim, and upon receipt of such security the NCC shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

**GC5.9 RIGHT OF SETOFF**

- 1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, the NCC may set off any amount payable to the NCC by the Contractor under the Contract, or under any current contract, against any amount payable to the Contractor under the Contract.
- 2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between the NCC and the Contractor:
- (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or
  - (b) in respect of which the NCC has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

**GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION**

- 1) For the purposes of this clause:
- (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and
  - (b) the "period of delay" means the number of days commencing on the day fixed for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of the NCC, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay the NCC an amount equal to the aggregate of:
- (a) all salaries, wages and travelling expenses incurred by the NCC in respect of persons overseeing the performance of the Work during the period of delay;

- (b) the cost incurred by the NCC as a result of the inability to use the completed Work for the period of delay; and
  - (c) all other expenses and damages incurred or sustained by the NCC during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 3) The NCC may waive the right of the NCC to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of the NCC, it is in the public interest to do so.

**GC5.11 DELAY IN MAKING PAYMENT**

- 1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by the NCC in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by the NCC.
- 2) Subject to paragraph 3) of GC5.11, the NCC shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.
- 3) Interest shall be paid, on demand by the Contractor, except that:
- (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days; and
  - (b) interest shall not be payable or paid on overdue advance payments, if any.

**GC5.12 INTEREST ON SETTLED CLAIMS**

- 1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between the NCC and the Contractor under the Contract.
- 2) A claim is deemed to have been settled when an agreement in writing is signed by the NCC and the Contractor setting out the amount of the claim to be paid by the NCC and the items of work for which the said amount is to be paid.
- 3) A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.
- 4) The NCC shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 per cent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

**GC5.13 RETURN OF SECURITY DEPOSIT**

- 1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, the NCC shall return to the Contractor all or any part of a Security Deposit that, in the opinion of the NCC, is not required for the purposes of the Contract.
- 2) After a Certificate of Completion has been issued, the NCC shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.
- 3) If the security deposit was paid to the NCC, the NCC shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the Financial Administration Act.

- GC6.1 CHANGES IN THE WORK
- GC6.2 CHANGES IN SUBSURFACE CONDITIONS
- GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST
- GC6.4 DETERMINATION OF PRICE
  - GC6.4.1 Price Determination Prior to Undertaking Changes
  - GC6.4.2 Price Determination Following Completion of Changes
  - GC6.4.3 Price Determination - Variations in Tendered Quantities
- GC6.5 DELAYS AND EXTENSION OF TIME
- GC6.6 ALLOWABLE COSTS FOR CONTRACT CHANGES UNDER GC6.4.1
  - GC6.6.1 General
  - GC6.6.2 Hourly Labour Rates
  - GC6.6.3 Material, Plant and Equipment Costs
  - GC6.6.4 Allowance to the Contractor or Subcontractor

**GC6.1 CHANGES IN THE WORK**

- 1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.
- 2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.
- 3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.
- 4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

**GC6.2 CHANGES IN SUBSURFACE CONDITIONS**

- 1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.
- 2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.
- 3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.
- 4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.

- 5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.
- 8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

**GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST**

- 1) For the purposes of this clause
  - (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;
  - (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and
  - (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall
  - (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;
  - (b) immediately notify Canada of the circumstances in writing; and
  - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.
- 4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction



of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

- 5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

**GC6.4 DETERMINATION OF PRICE****GC6.4.1 Price Determination Prior to Undertaking Changes**

- 1) If a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada plus an allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount, which allowance shall be equal to
  - (a) 20% of the aggregate costs referred to herein for that portion of the Work done by the Contractor's own forces, if the aggregate cost of the Work does not exceed \$50,000;
  - (b) 15% of the aggregate costs referred to herein for that portion of the Work that is done by subcontract, if the aggregate cost of the Work does not exceed \$50,000; or
  - (c) a negotiated percentage of the aggregate costs referred to herein or a negotiated amount
    - (i) if the aggregate cost of the Work exceeds \$50,000; or
    - (ii) if the Contractor and Canada agree in writing.
- 2) If a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
- 3) A price per unit referred to in paragraph 2) of GC6.4.1 shall be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed upon by the Contractor and Canada, plus an allowance determined in accordance with paragraph 1) of GC6.4.1.
- 4) To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, each subcontract amount, and the amount of the allowance.
- 5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.
- 6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada shall determine the class and the unit of measurement of the item of labour, Plant or Material and the price per unit shall be determined in accordance with GC6.4.2.

**GC6.4.2 Price Determination Following Completion of Changes**

- 1) If it is not possible to predetermine, or if there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of

- (a) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, Plant and Material that fall within one of the classes of expenditure described in paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;
  - (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10% of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and
  - (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;
- 2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
- (a) payments to Subcontractors and Suppliers;
  - (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
  - (c) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and GST / HST collection costs;
  - (d) rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Contractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
  - (e) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
  - (f) payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
  - (g) payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
  - (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

**GC6.4.3 Price Determination - Variations in Tendered Quantities**

- 1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- 2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15%, either party to the Contract may make a written request to the other party to negotiate an

amended price per unit for that portion of the item which exceeds 115% of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with

- (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and
  - (b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115% of the tendered quantity.
- 3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.
- 4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85% of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if
- (a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and
  - (b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- 5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3
- (a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
  - (b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85% of the tendered quantity actually been performed or supplied.

#### **GC6.5 DELAYS AND EXTENSION OF TIME**

- 1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.
- 2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.
- 3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.
- 4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.

- 5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.
- 6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.
- 7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

#### **GC6.6 ALLOWABLE COSTS FOR CONTRACT CHANGES UNDER GC6.4.1**

##### **GC6.6.1 General**

- 1) The Contractor shall submit a cost estimate breakdown for each contemplated change, in accordance with paragraph 4) of GC6.4.1 PRICE DETERMINATION PRIOR TO UNDERTAKING CHANGES. The breakdown shall itemize all labour, material, plant and equipment costs estimated by the Contractor and subcontractors, and the amount of each allowance.
- 2) It is the responsibility of the Contractor to ensure that all prices included in the Contractor's breakdown to the NCC, including those of subcontractors, are fair and reasonable in view of the terms expressed herein.
- 3) The labour hours required for the contemplated change shall be based on the estimated number of hours to perform the work.
- 4) Time spent by a working foreman may be included in the number of labour hours, at a rate agreed to in writing by the Contractor and the NCC.
- 5) Time attributable to material handling, productivity factors and approved rest periods is to be included in the number of hours required by the contemplated change and will not be paid as a separate item under hourly rates.
- 6) Allowances referred to in section 04 below are not to be included in the hourly labour rates.
- 7) Credit for work deleted will only be for the work directly associated with the change.
- 8) When a change deletes work which has not yet been performed, the NCC is entitled to an adjustment in the Contract Amount equal to the cost the Contractor would have incurred had the work not been deleted.
- 9) Allowances referred to in Section 04 below shall not be applied to any credit amounts for deleted work.
- 10) In those cases where the change involves additions and deletions to the work, the allowances referred to in section 04 below shall apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Amount. The percentage allowance shall only be applied to that portion of the costs of the additions that is in excess of the cost of the deletions.

- 11) If the contemplated change in the work necessitates a change in the contract completion date, or has an impact on the work, the Contractor shall identify and include the resulting cost in the breakdown.

**GC6.6.2 Hourly Labour Rates**

- 1) The hourly labour rates listed in the Contractor's breakdown shall be determined in accordance with the collective agreements that are applicable at the site of the work and shall include:
- (a) the base rate of pay;
  - (b) vacation pay;
  - (c) benefits which includes:
    - (i) welfare contributions;
    - (ii) pension contributions;
    - (iii) union dues;
    - (iv) training and industry funds contributions; and
    - (v) other applicable benefits, if any, that can be substantiated by the Contractor.
  - (d) statutory and legislated requirements, assessed and payable under statutory authority, which includes:
    - (i) Employment Insurance contributions;
    - (ii) Canada Pension Plan or Québec Pension Plan contributions;
    - (ii) Worker's Compensation Board or Commission de la santé et de la sécurité du travail premiums;
    - (iv) Public Liability and Property Damage insurance premiums; and
    - (v) health tax premiums.
- 2) In the case of nonunion labour, all rates claimed shall be in accordance with the terms of the Labour Conditions forming part of this contract and the Contractor must provide satisfactory proof of the rates actually paid.

**GC6.6.3 Material, Plant and Equipment Costs**

- 1) The costs of all purchases and rentals must be based on the actual amount paid to the suppliers by the Contractor or subcontractor and said costs are to include all applicable discounts.

**GC6.6.4 Allowance to the Contractor or Subcontractor**

- 1) The allowances determined in accordance with paragraph 1) of GC6.4.1 PRICE DETERMINATION PRIOR TO UNDERTAKING CHANGES shall be considered as full compensation for:
- (a) supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount; and

- (b) miscellaneous additional costs related to:
  - (i) the purchase or rental of material, plant and equipment;
  - (ii) the purchase of small tools and supplies;
  - (iii) safety and protection measures; and
  - (iv) permits, bonds, insurance, engineering, as built drawings, commissioning and site office.

- GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS
- GC7.2 SUSPENSION OF WORK
- GC7.3 TERMINATION OF CONTRACT
- GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

**GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS**

- 1) By giving notice in writing to the Contractor in accordance with GC2.3 NOTICES, the NCC, without any other authorization, may take all or any part of the Work out of the Contractor's hands, and may employ such means as the NCC sees fit to have the Work completed if the Contractor:
  - (a) fails to remedy any delay in the commencement or default in the diligent performance of the Work to the satisfaction of the NCC within six days of the NCC giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;
  - (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;
  - (c) becomes insolvent, or has committed an act of bankruptcy, and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal, pursuant to the Bankruptcy and Insolvency Act;
  - (d) abandons the work;
  - (e) makes an assignment of the Contract without the consent required by GC1.16 ASSIGNMENT;  
or
  - (f) otherwise fails to observe or perform any of the provisions of the Contract.
- 2) If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay the NCC, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by the NCC in respect of the Contractor's failure to complete the Work.
- 3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by the NCC, the NCC may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by the NCC that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and that is not required for the purposes of having the Work performed or of compensating the NCC for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
- 5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of the NCC without compensation.
- 6) When the NCC certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes of the Work, or that it is not in the interests of the NCC to retain that Plant, Material, or interest, it shall revert to the Contractor.

- 7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the Bankruptcy and Insolvency Act, the Contractor shall immediately forward a copy of the proposal or the notice of intention to the NCC.

**GC7.2 SUSPENSION OF WORK**

- 1) When, in the NCC's opinion, it is in the public interest to do so, the NCC may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that the NCC determines are necessary for the care and preservation of the Work, Plant and Material.
- 3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of the NCC.
- 4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 5) If a period of suspension is more than 60 days, the NCC and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by the NCC and the Contractor. If the NCC and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

**GC7.3 TERMINATION OF CONTRACT**

- 1) The NCC may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.
- 3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, the NCC shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by the NCC and all amounts that are due to the NCC from the Contractor pursuant to the Contract.
- 4) In no event shall the total amount payable by the NCC to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.
- 5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

**GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN**

- 1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, the NCC may convert a security deposit to the NCC's own use.



- 2) If the NCC converts a security deposit, the amount realized shall be deemed to be an amount due from the NCC to the Contractor under the Contract.
- 3) Any balance of the amount realized that remains after payment of all losses, damage and claims of the NCC and others shall be paid by the NCC to the Contractor if, in the opinion of the NCC, it is not required for the purposes of the Contract.

- 1) The Contractor may, within 10 days after the communication to the Contractor of any decision or direction referred to in GC6.1 CHANGES IN THE WORK and GC2.2 INTERPRETATION OF CONTRACT, protest that decision or direction.
- 2) A protest referred to in paragraph 1) of GC8 shall be in writing, contain full reasons for the protest, be signed by the Contractor and be given to the NCC.
- 3) If the Contractor gives a protest pursuant to paragraph 2) of GC8, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action the Contractor considers appropriate in the circumstances.
- 4) The giving of a protest by the Contractor pursuant to paragraph 2) of GC8 shall not relieve the Contractor from complying with the decision or direction that is the subject of the protest.
- 5) Subject to paragraph 6) of GC8, the Contractor shall take any action referred to in paragraph 3) of GC8 within 3 months after the date of the Certificate of Completion referred to in GC5.6 FINAL COMPLETION and not afterwards, except where it is otherwise provided by law.
- 6) The Contractor shall take any action referred to in paragraph 3) of GC8 resulting from a direction under GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK, within 3 months after the expiry of a warranty or guarantee period and not afterwards, except where it is otherwise provided by law.
- 7) Subject to paragraph 8) of GC8, if the NCC determines that the Contractor's protest is justified, the NCC shall pay the Contractor the cost of the additional labour, Plant and Material necessarily incurred by the Contractor in carrying out the protested decision or direction.
- 8) Costs referred to in paragraph 7) of GC8 shall be calculated in accordance with GC6.4 DETERMINATION OF PRICE.

- GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY
- GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY
- GC9.3 IRREVOCABLE STANDBY LETTER OF CREDIT

**GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY**

- 1) The Contractor shall, at the Contractor's expense and within 7 days after the date that the Contractor receives notice that the Contractor's bid was accepted by the NCC, obtain and deliver Contract Security to the NCC in one or more of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.
- 3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.
- 4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.
- 5) In addition to the limitation imposed in paragraph 4) of GC9.1, the Contractor further acknowledges and agrees that it will not be entitled to have access to the site, nor to commence work pursuant to this contract until it has delivered the Contract Security as specified herein.

**GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY**

- 1) The Contractor shall deliver to the NCC (a), (b) or (c):
  - (a) A performance bond and a labour and material payment bond each in an amount that is equal to not less than 50% of the Contract Amount including taxes
  - (b) A labour and material payment bond in an amount that is equal to not less than 50% of the Contract Amount including taxes, and a security deposit in an amount that is equal to not less than 10% of the Contract Amount including taxes.
  - (c) A security deposit in an amount prescribed by subparagraph 1)(b) of GC9.2, plus an additional amount that is equal to 10% of the Contract Amount including taxes.
- 2) The amount of a security deposit referred to in subparagraph 1)(b) of GC9.2 shall not exceed \$2,000,000 regardless of the Contract Amount including taxes.
- 3) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by the NCC.
  - (a) The approved form for the performance bond is enclosed at the end of GC9.
  - (b) The approved form for the labour and material payment bond is enclosed at the end of GC9
  - (c) The list of approved bonding or surety companies is displayed at the following Website:  
<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12027> .
- 4) A security deposit referred to in subparagraphs 1)(b) and 1)(c) of GC9.2 shall be in the form of:

- (a) a bill of exchange, bank draft or money order made payable to the NCC and certified by an approved financial institution or drawn by an approved financial institution on itself; or
  - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
- 5) For the purposes of subparagraph 4)(a) of GC9.2:
- (a) a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a certain sum of money to, or to the order of, the NCC;
  - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 5)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
  - (c) An approved financial institution is:
    - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the Canadian Payments Act;
    - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the Régie de l'assurance-dépôts du Québec;
    - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
    - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the Income Tax Act; or
    - (v) Canada Post Corporation.
- 6) Bonds referred to in subparagraph 4)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be:
- (a) made payable to bearer; or
  - (b) accompanied by a duly executed instrument of transfer of the bonds to the NCC in the form prescribed by the Domestic Bonds of Canada Regulations; or
  - (c) registered as to principal, or as to principal and interest, in the name of the NCC pursuant to the Domestic Bonds of Canada Regulations.

### **GC9.3 IRREVOCABLE STANDBY LETTER OF CREDIT**

- 1) As an alternative to a security deposit, an irrevocable standby letter of credit is acceptable to the NCC, the amount of which shall be determined in the same manner as a security deposit referred to in GC9.2  
**TYPES AND AMOUNTS OF CONTRACT SECURITY.**
- 2) An irrevocable standby letter of credit shall:
  - (a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf:

- (i) is to make a payment to, or to the order of, the NCC as the beneficiary;
- (ii) is to accept and pay bills of exchange drawn by the NCC;
- (ii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
- (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
- (b) state the face amount that may be drawn against it;
- (c) state its expiry date;
- (d) provide for sight payment to the NCC by way of the financial institution's draft against presentation of a written demand for payment signed by the NCC;
- (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
- (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600;
- (g) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6 c) of the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600; and
- (h) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

# PERFORMANCE BOND

Bond Number \_\_\_\_\_

Amount \$ \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS**, that \_\_\_\_\_ as Principal,  
hereinafter called the Principal, and \_\_\_\_\_ as Surety, hereinafter

called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as

Obligee, hereinafter called the NCC, In the amount of \_\_\_\_\_ dollars

(\$ \_\_\_\_\_), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the

Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_. WHEREAS, the Principal has

entered into a Contract with the NCC, dated the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_,

for: \_\_\_\_\_.

**NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION** are such that if the Principal shall well and faithfully observe and perform all the obligations on the part of the Principal to be observed and performed in connection with the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. Whenever the Principal shall be, and declared by the NCC to be, in default under the Contract, the Surety shall
  - (a) if the work is not taken out of the Principal's hands, remedy the default of the Principal,
  - (b) if the work is taken out of the Principal's hands and the NCC directs the Surety to undertake the completion of the work, complete the work in accordance with the Contract provided that if a contract is entered into for the completion of the work,
    - (i) it shall be between the Surety and the completing contractor, and
    - (ii) the selection of such completing contractor shall be subject to the approval of the NCC,
  - (c) if the work is taken out of the Principal's hands and the NCC, after reasonable notice to the Surety, does not direct the Surety to undertake the completion of the work, assume the financial responsibility for the cost of completion in excess of the moneys available to the NCC under the Contract,
  - (d) be liable for and pay all the excess costs of completion of the Contract, and
  - (e) not be entitled to any Contract moneys earned by the Principal, up to the date of his default on the Contract and any holdbacks relating to such earned Contract moneys held by the NCC, and the liability of the Surety under this Bond shall remain unchanged provided, however, and without restricting the generality of the foregoing, upon the completion of the Contract to the satisfaction of the NCC, any Contract moneys earned by the Principal or holdbacks related thereto held by the NCC may be paid to the Surety by the NCC.
2. The Surety shall not be liable for a greater sum than the amount specified in this Bond.
3. No suit or action shall be instituted by the NCC herein against the Surety pursuant to these presents after the expiration of two (2) years from the date on which final payment under the Contract is payable.

**IN TESTIMONY WHEREOF**, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

**SIGNED, SEALED AND DELIVERED in the presence of:**

Principal \_\_\_\_\_

Witness \_\_\_\_\_

Surety \_\_\_\_\_

Note: Affix Corporate seal if applicable.

# LABOUR AND MATERIAL PAYMENT BOND

Bond Number \_\_\_\_\_

Amount \$ \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS**, that \_\_\_\_\_ as Principal,  
hereinafter called the Principal, and \_\_\_\_\_ as Surety, hereinafter

called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as Oblige, hereinafter called the NCC, In the amount of \_\_\_\_\_ dollars

(\$ \_\_\_\_\_), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ . WHEREAS, the Principal has entered into a Contract with the NCC, dated the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, for: \_\_\_\_\_

\_\_\_\_\_ which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

**NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION** are such that, if payment is promptly made to all Claimants who have performed labour or services or supplied material in connection with the Contract and any and all duly authorized modifications and extensions of the Contract that may hereafter be made, notice of which modifications and extensions to the Surety being hereby waived, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. For the purpose of this bond, a Claimant is defined as one having a direct contract with the Principal or any Sub-Contractor of the Principal for labour, material or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone services or rental of equipment (but excluding rental of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract.
2. For the purpose of this Bond, no payment is required to be made in respect of a claim for payment for labour or services performed or material supplied in connection with the Contract that represents a capital expenditure, overhead or general administration costs incurred by the Principal during the currency or in respect of the Contract.
3. The Principal and the Surety hereby jointly and severally agree with the NCC that if any Claimant has not been paid as provided for under the terms of his contract with the Principal or a Sub-Contractor of the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's labour or service was done or performed or materials were supplied by such Claimant, the NCC may sue on this bond, have the right to prosecute the suit to final judgment for such sum or sums as may be due and have execution thereon; and such right of the NCC is assigned by virtue of Part VIII of the Financial Administration Act to such Claimant.
4. For the purpose of this bond the liability of the Surety and the Principal to make payment to any claimant not having a contract directly with the Principal shall be limited to that amount which the Principal would have been obliged to pay to such claimant had the provisions of the applicable provincial or territorial legislation on lien or privileges been applicable to the work. A claimant need not comply with provisions of such legislation setting out steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had. Any such claimant shall be entitled to pursue a claim and to recover judgment hereunder subject to the terms and notification provisions of the Bond.
5. Any material change in the Contract between the Principal and the NCC shall not prejudice the rights or interest of any Claimant under this Bond who is not instrumental in bringing about or has not caused such change.
6. No suit or action shall be commenced hereunder by any Claimant:
  - (a) Unless such Claimant shall have given written notice within the time limits hereinafter set forth to the Principal and the Surety above named, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal and the Surety at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the Contract is located. Such notice shall be given
  - (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal or by the Sub-Contractor of the Principal under either the terms of the Claimant's Contract with the Principal or the Claimant's Contract with the Sub-Contractor of the Principal within one hundred and twenty (120) days after such Claimant should have been paid in full under this Contract;

- (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such Claimant did or performed the last of the service, work or labour or furnished the last of the materials for which such claim is made under the Claimant's Contract with the Principal or a Sub-Contractor of the Principal
  - (b) After the expiration of one (1) year following the date on which the Principal ceased work on the said Contract, including work performed under the guarantees provided in the Contract;
  - (c) Other than in a court of competent jurisdiction in the province or district of Canada in which the subject matter of the Contract or any part thereof is situated and not elsewhere, and the parties hereto hereby agree to submit to the jurisdiction of such court.
7. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.
  8. The Surety shall not be entitled to claim any moneys relating to the Contract and the liability of the Surety under this Bond shall remain unchanged and, without restricting the generality of the foregoing, the Surety shall pay all valid claims of Claimants under this Bond before any moneys relating to the Contract held by the NCC are paid to the Surety by the NCC.
  9. The Surety shall not be liable for a greater sum than the amount specified in this bond.

**IN TESTIMONY WHEREOF**, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

**SIGNED, SEALED AND DELIVERED in the presence of:**

Principal \_\_\_\_\_

Witness \_\_\_\_\_

Surety \_\_\_\_\_

Note: Affix Corporate seal if applicable.



- GC10.1 INSURANCE CONTRACTS
- GC10.2 INSURANCE PROCEEDS
- GC10.3 INSURANCE TERMS
  - GC10.3.1 General
    - GC10.3.1.1 Proof of Insurance
    - GC10.3.1.2 Payment of Deductible
  - GC10.3.2 Commercial General Liability
    - GC10.3.2.1 Scope of Policy
    - GC10.3.2.2 Insured
    - GC10.3.2.3 Period of Insurance
  - GC10.3.3 Builder's Risk / Installation Floater
    - GC10.3.3.1 Scope of Policy
    - GC10.3.3.2 Amount of Insurance
    - GC10.3.3.3 Insurance Proceeds

**GC10.1 INSURANCE CONTRACTS**

- 1) The Contractor shall, at the Contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to the NCC in accordance with the requirements of GC10.
- 2) The insurance contracts referred to in paragraph 1) of GC10.1 shall:
  - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in GC10; and
  - (b) provide for the payment of claims under such insurance contracts in accordance with GC10.2 INSURANCE PROCEEDS.

**GC10.2 INSURANCE PROCEEDS**

- 1) In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid directly to the NCC, and:
  - (a) the monies so paid shall be held by the NCC for the purposes of the contract; or
  - (b) if the NCC elects, shall be retained by the NCC, in which event they vest in the NCC absolutely.
- 2) In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 3) If an election is made pursuant to paragraph 1) of GC10.2, the NCC may cause an audit to be made of the accounts of the Contractor and of the NCC in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between:
  - (a) the aggregate of the amount of the loss or damage suffered or sustained by the NCC, including any costs incurred in respect of the clearing of the work and its site and any other amount that is payable by the Contractor to the NCC under the contract, minus any monies retained pursuant to subparagraph 1)(b) of GC10.2; and
  - (b) the aggregate of the amounts payable by the NCC to the Contractor pursuant to the contract up to the date of the loss or damage.

- 4) A difference that is established pursuant to paragraph 3) of GC10.2 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.
- 5) When payment of a deficiency has been made pursuant to paragraph 4) of GC10.2, all rights and obligations of the NCC and the Contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in paragraph 3) of GC10.2, be deemed to have been expended and discharged.
- 6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the Contractor shall, subject to paragraph 7) of GC10.2, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the Contractor's expense as if that part of the work had not yet been performed.
- 7) When the Contractor clears and cleans the work and its site and restores and replaces the work referred to in paragraph 6) of GC10.2, the NCC shall pay the Contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.
- 8) Subject to paragraph 7) of GC10.2, payment by the NCC pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100% of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.

### **GC10.3 INSURANCE TERMS**

#### **GC10.3.1 General**

##### **GC10.3.1.1 Proof of Insurance**

- 1) Before commencement of the Work, and prior to contract award, the Contractor shall deposit with the NCC a Certificate of Insurance (approved Insurance form is enclosed at the end of this section).
- 2) Upon request by the NCC, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.
- 3) The insurance policies shall be endorsed to provide the NCC with no less than 30 days notice in writing in advance of a cancellation of insurance or any reduction in coverage.

##### **GC10.3.1.2 Payment of Deductible**

- 1) Any moneys paid or payable in respect of a deductible amount shall be borne exclusively by the Contractor.

#### **GC10.3.2 Commercial General Liability**

##### **GC10.3.2.1 Scope of Policy**

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
  - (a) an Each Occurrence Limit of not less than \$5,000,000;
  - (b) a Products/Completed Operations Aggregate Limit of not less than \$5,000,000; and
  - (c) a General Aggregate Limit of not be less than \$10,000,000 per policy year, if the policy is subject to such a limit.

- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
  - (a) Blasting;
  - (b) Pile driving and caisson work;
  - (c) Underpinning;
  - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured Contractor.

#### **GC10.3.2.2 Insured**

- 1) The policy shall insure the Contractor and shall include the NCC as an additional Insured, with respect to liability arising out of the operations of the Contractor with regard to the work.

#### **GC10.3.2.3 Period of Insurance**

- 1) Unless otherwise directed in writing by the NCC, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the Certificate of Substantial Performance.

#### **GC10.3.3 Builder's Risk / Installation Floater**

##### **GC10.3.3.1 Scope of Policy**

- 1) The insurance coverage provided by a Builder's Risk policy or an Installation Floater policy shall not be less than that provided by IBC Forms 4042 and 4047, as amended from time to time.
- 2) The policy shall permit use and occupancy of the project, or any part thereof, where such use and occupancy is for the purposes for which the project is intended upon completion.
- 3) The policy may exclude or be endorsed to exclude coverage for loss or damage caused by any of the following:
  - (a) Asbestos;
  - (b) Fungi or spores;
  - (c) Cyber;
  - (d) Terrorism.

##### **GC10.3.3.2 Amount of Insurance**

- 1) The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by the NCC at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy shall be changed to reflect the revised contract value.

##### **GC10.3.3.3 Insurance Proceeds**

- 1) The policy shall provide that the proceeds thereof are payable to the NCC may direct in accordance with GC10.2, "Insurance Proceeds".
- 2) The Contractor shall, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.

• To be completed by the insurer / À être rempli par l'assureur

<b>CONTRACT / MARCHÉ</b>					
Description and location of work / Description et endroit des travaux				Contract no. / N° de contrat	
<b>INSURER / ASSUREUR</b>					
Name / Nom					
Address / Adresse					
No., Street / N°, rue		City / Ville		Province	
				Postal code / Code postal	
<b>BROKER / COURTIER</b>					
Name / Nom					
Address / Adresse					
No., Street / N°, rue		City / Ville		Province	
				Postal code / Code postal	
<b>INSURED / ASSURÉ</b>					
Name of contractor / Nom de l'entrepreneur					
Address / Adresse					
No., Street / N°, rue		City / Ville		Province	
				Postal code / Code postal	
<b>ADDITIONAL INSURED / ASSURÉ ADDITIONNEL</b>					
The National Capital Commission / La Commission de la capitale nationale					
<b>This insurer certifies that the following policies of insurance are at present in force covering all operations of the Insured, in connection with the contract made between the named insured and the National Capital Commission.</b>					
<b>L'assureur atteste que les polices d'assurances suivantes sont présentement en vigueur et couvrent toutes les activités de l'assuré en fonction du marché conclu entre l'Assuré dénommé la Commission de la capitale nationale</b>					
<b>POLICY / POLICE</b>					
Type Genre	Number Numéro	Inception Date Date d'effet	Expiry Date Date d'expiration	Limit of Liability Limites de garantie	
Commercial General Liability Responsabilité civile des entreprises					
Builder's Risk "All Risks" Assurance des chantiers « tous risques »					
Installation Floater "All Risks" Risques d'installation « tous risques »					
Other (list) / Autre (énumérer)					
Each of these policies includes the coverages and provisions as specified in Insurance Terms and each policy has been endorsed to cover the National Capital Commission as an Additional Insured. The Insurer agrees to notify the National Capital Commission in writing thirty (30) days prior to any material change in, or cancellation of any policy or coverage.			Chacune des présentes polices renferment des garanties et dispositions spécifiées aux Conditions d'assurance, et chaque police a été amendée pour couvrir la Commission de la capitale nationale en tant qu'assuré additionnel. L'assureur convient de donner un préavis de trente (30) jours à la Commission de la capitale nationale en cas de changement visant la garantie d'assurance ou les conditions ou de l'annulation de n'importe quelle police ou garantie.		
Name of Insurer's Office or Authorized Employee / Nom du cadre ou de la personne autorisée			Telephone number / Numéro de téléphone		
Signature			Date		

**1. General**

- 1.1 In this Contract “OHS” means “occupational health and safety”.
- 1.2 With respect to the work to be performed under the Contract, the Contractor covenants and agrees to perform at, and to enforce conformity with, a standard equivalent to or greater than the best practices prevailing in the construction industry at that time.
- 1.3 The Contractor acknowledges that, to the extent that the following matters may be affected by conduct of the work, it is responsible for the:
- 1.3.1 health and safety of persons on site;
  - 1.3.2 safety of property on site;
  - 1.3.3 protection of persons adjacent to the site; and,
  - 1.3.4 protection of the environment.
- 1.4 Without limiting the generality of section 1.3, the Contractor acknowledges that it is required to, and covenants and agrees to, comply and to enforce compliance with all laws or regulations that may be applicable to the conduct of the work including, without limitation:
- (a) the provisions of the *Occupational Health and Safety Act* of Ontario and all regulations, policies or directives issued thereunder for work performed in Ontario;
  - (b) *La Loi sur la santé et la sécurité du travail* of Québec and all regulations, policies or directives issued thereunder for work performed in Québec;
  - (c) Applicable provisions of the *Canada Labour Code, Part II*;
  - (d) Employment standards legislation in the province(s) in which any part of the work is performed; and
  - (e) Any policies or directives issued by the NCC in respect of the subject matter of the contract.

The NCC will present any such policies or directives referred to in paragraph (e) to the Contractor in written form by not later than the pre-construction meeting. The Contractor is obliged to ensure that the relevant policies and directives have been communicated to and acknowledged by all its employees and that they will be complied with. The NCC reserves the right to require the Contractor to produce evidence satisfactory to the NCC acting reasonably that the Contractor has discharged the foregoing obligations.

- 1.5 By entering into the Contract with the NCC, the Contractor represents and warrants to the NCC that it has informed itself of and is knowledgeable about the obligations imposed by the legislation referred to in 1.4. above.
- 1.6 For purposes of the relevant provincial OHS legislative regime the Contractor acknowledges and agrees that it is the “Constructor” and covenants to discharge and accept all liability for the performance of the obligations of the “Constructor” in respect of the work provided for in the Contract. Notwithstanding a determination by the relevant authority having jurisdiction that the NCC is the “Constructor” in the event of a dispute between the Contractor and the NCC, the Contractor acknowledges and agrees that the Contractor shall be financially responsible for the implementation of protective measures necessary to fulfill the obligations of the “Constructor”.

- 1.7 As between the NCC and the Contractor, the NCC's decision as to whether the Contractor is discharging its obligations in respect of OHS issues shall be definitive. Without limiting the generality of the foregoing, in the event of any dispute with respect to instructions given by the NCC's designated representative, the Contractor may note such dispute, but must nevertheless forthwith comply with any such instructions.
- 1.8 The Contractor hereby indemnifies and agrees to hold harmless the NCC, its agents and employees, from and against any and all claims, demands, losses, costs (including legal fees on a full indemnity basis), damages, actions, suits or proceedings (hereinafter collectively referred to as "claims") by third parties that arise out of or are attributable to the Contractor's errors or omissions in the performance of the Contract. Without limiting the generality of the foregoing, this indemnification extends to any claims related to any violation of any statute or regulation relating to OHS matters.
- 1.9 The NCC shall provide the contractor:
  - 1.9.1 a written description of every known and foreseeable health and safety hazard to which persons employed in the performance of the work may be exposed because of the nature of the site;
  - 1.9.2 a list of any prescribed materials, equipment, devices and clothing necessary because of the nature of the site;
  - 1.9.3 with written information indicating the prescribed circumstances and manner to use all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and,
  - 1.9.4 with a copy of any NCC policies and procedures that may be applicable in relation to the work site.
- 1.10 Without limiting the generality of 1.9, prior to the commencement of the work by the contractor, the contractor shall, at the contractor's expense:
  - 1.10.1 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are informed of any health and safety hazard described pursuant to 1.9.1;
  - 1.10.2 provide all persons employed in the performance of the work or granted access to the work or its site with prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2;
  - 1.10.3 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with the prescribed circumstances and manner all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and
  - 1.10.4 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with policies and procedures referred to in 1.9.4.

## **2. Qualifications of Personnel**

- 2.1 By entering into this agreement the contractor represents and warrants that it has the requisite experience, training, formal certification and equipment to enable it to discharge the obligations enumerated in sections 1.3, 1.4, 1.5 and 1.6 above.
- 2.2 The Contractor represents and warrants that supervisory personnel employed by the Contractor in respect of performance of any part of the work have the requisite experience, authority, training, formal certification and equipment to ensure that the obligations enumerated in sections 1.3, 1.4, 1.5

and 1.6 above are discharged and agrees to deliver such evidence as may be required by the NCC from time to time to verify same.

### **3. Certification**

- 3.1 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver a Worker's Compensation Clearance Certificate. Where the duration of the project is greater than sixty days, the Contractor covenants and agrees to deliver up-dated certificates at least every 60 days. In the event of a failure by the Contractor to deliver up-dated certificates, the NCC shall be entitled to immediately terminate the contract without notice and without incurring any liability to the Contractor.
- 3.2 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver historical information on its injury experience including any pertinent Worker's Compensation Experience Reports. Such historical information shall report data for the previous three years.

### **4. Plans Policies and Procedures**

- 4.1 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver for the review and approval of the NCC:
- (a) A copy of the contractor's OHS policy;
  - (b) A safety program and plan specific to the work to be performed pursuant to the Contract which plan shall include a risk assessment and analysis, a description of safe working methods, injury and incident reporting protocols, regular periodic reporting on compliance with OHS obligations including any policies, practices and procedures otherwise provided for herein, and a site-specific contingency and emergency response plan; and
  - (c) Health and safety training records of personnel and alternates responsible for OHS issues on site.

The Contractor covenants and agrees to deliver the necessary material safety data sheets for the review and approval of the NCC prior to entering the site to perform work related to the relevant material.

Approval by the NCC does not amend the provisions of the Contract with respect to the allocation of liability for discharging or failing to discharge OHS obligations. Such liability remains with the Contractor notwithstanding the granting of such approval.

- 4.2 The Contractor acknowledges and agrees that prior to commencement of work it must attend a pre-construction briefing at which any special or additional practices and procedures to be followed in completing the work are to be established. Without limiting the provisions of section 1.4(e) above, the representatives of the Contractor attending the briefing will be required to deliver a signed acknowledgement that the practices and procedures set out in the pre-construction briefing have been understood and will be complied with.
- 4.3 At any time and from time to time during the performance of the work, the NCC shall have the right to audit the manner in which the Contractor is discharging its OHS obligations and to determine whether the project specification and/or OHS policies, practices and procedures are being complied with. In the event that the audit discloses any failure by the Contractor to discharge such OHS obligations, the NCC shall be entitled to forthwith rectify at the Contractor's expense any such deficiency and the NCC shall have the further right to immediately terminate the contract without notice and without incurring any liability to the Contractor.



- 4.4 The Contractor covenants and agrees to conform with all requirements of the Workplace Hazardous Materials Information System.
- 4.5 The Contractor acknowledges and agrees that where required by any law or regulation applicable to the performance of the work it must establish and maintain a project health and safety committee. The contractor further acknowledges and agrees that it must enable staff to attend all relevant safety meetings, and that the cost of same, including costs attributable to standing down equipment is included in its bid price and is not independently recoverable.
- 4.6 Where required by the relevant provincial regulatory regime, the Contractor acknowledges and agrees that it is responsible for delivery of notice of the project to the relevant regulatory authority, and for the performance of any other administrative activity required to meet the obligations imposed in the pertinent provincial regulatory regime.
- 4.7 **(Optional depending on hazard or scope of project)**. The contractor covenants and agrees that it shall employ and assign to the work, a competent OHS professional as Health and Safety Coordinator that must:
- (a) have a minimum two (2) years' site-related working experience specific to activities associated with.(identify specific subject matter)
  - (b) have basic working knowledge of specified occupational safety and health regulations,
  - (c) be responsible for completing health and safety training session and ensuring that personnel not successfully completing the required training are not permitted to enter the site to perform the Work,
  - (d) be responsible for implementing, enforcing daily and monitoring the site-specific Health and Safety Plan, and
  - (e) be on site during execution of the Work.

The parties acknowledge that in lieu of employing an OHS professional, the Contractor may provide same by sub-contracting for such services.

- 4.8 Upon completion of the work the Contractor covenants and agrees to participate with the NCC in a post performance interview to evaluate the performance of the Contractor in respect of the OHS obligations under the contract. Without limiting the generality of the foregoing, the interview will identify areas of compliance and non-compliance in terms of:
- (a) actual performance of the work;
  - (b) reporting or procedural requirements;
  - (c) resolution of deficiencies.

The contractor acknowledges and agrees that the results of the post-completion interview may be relied upon by the NCC in evaluating bids subsequently submitted by the Contractor on other NCC projects.

### Security Requirements

The NCC complies with Treasury Board's *Policy on Government Security* and consequently, it will require that the Contractor's employees submit to a personal security screening process (Security Clearance Form TBS/SCT 330-60E). The NCC may also perform a credit check when the duties or tasks to be performed require it or in the event of a criminal record containing a charge/offence of a financial nature.

The NCC reserves the right to not award the Contract until such time as the Contractor's core employees have obtained the required level of security screening as identified by the NCC's Corporate Security. In this case the level of security required will be **Reliability/Site Access/Secret**.

The NCC also reserves the right to request that the Contractor submit to a *Designated Organisation Screening* and/or *Facility Security Clearance*— depending on the nature of the information it will be entrusted with. In the event that the Contractor does not meet the requirements to obtain the requested clearance, the Contractor shall take the corrective measures recommended by the Canadian Industrial Security Directorate (of PWGSC) or by the NCC's Corporate Security in order to meet these requirements. If no corrective measures are possible or if the Contractor fails to take the recommended measures, then the Contractor shall be in default of its obligations under this Contract and the NCC shall have the rights and remedies listed in section 2.14, including the right to terminate the Contract without further notice to the Contractor.

### Additional information

As part of their personal screening, individuals may be required to provide evidence of their status as a Canadian citizen or permanent resident as well as any other information/documentation requested by the NCC's Corporate Security in order to complete the screening.

The NCC reserves the right to refuse access to personnel who fail to obtain the required level of security screening.

The NCC reserves the right to impose additional security measures with respect to this Contract as the need arises.

### Company Security Representative

The Contractor shall appoint one Company Security Representative (CSR) as well as one alternate (for companies who have more than five employees).

Selection criteria for the CSR and the alternate are the following:

- They must be employees of the Contractor;
- They must have a security clearance (the NCC will process the clearances once the individuals have been identified).

### Responsibilities of the Company Security Representative

The CSR's responsibilities are the following:

- Act as liaison between the NCC's Corporate Security and the Contractor to ensure coordination;
- In collaboration with the NCC's Corporate Security, identify the Contractor's employees who will require access to NCC information/assets/sites **as well as any recurring subcontractors** (and their employees) who will require similar access and may not be supervised by the Contractor at all times during such access. Ensure that accurate and complete Personnel Security Screening documentation is

**SECURITY REQUIREMENTS**

submitted to the NCC's Corporate Security for the employees/subcontractors who have been identified;

- Ensure that employees/subcontractors, upon notification of having been granted a reliability status, sign the *Security Screening Certificate and Briefing Form* and return to the NCC's Corporate Security;
- Ensure that only persons who have been security screened to the appropriate level and who are on a "need-to-know basis" will have access to information and assets;
- Maintain a current list of security screened employees/subcontractors;
- Ensure proper safeguard of all information and assets, including any information/assets entrusted to subcontractors;
- If a Security incident or suspected breach of security occurs, prepare and submit to the NCC an occurrence report as soon as possible.

## **Client**

### **National Capital Commission Gatineau Park**

**33 Scott Rd, Gatineau, QC**

#### **Type of Document:**

Construction Specifications

#### **Project Name:**

**PARKWAY RAILINGS AND GUARDRAILS PHASE 1:  
GATINEAU PARK GUARDRAILS REPLACEMENT**

#### **Project Number:**

176-01

#### **Prepared By:**

**National Capital Commission**  
202-40 Elgin Street  
Ottawa, ON K1P 1C7  
Canada

#### **Date Submitted:**

June 30, 2017

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 List of Specifications
 

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## SECTION      TITLE

**DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS**

00 01 01      Project Title Page

00 01 02      List of Contents

**DIVISION 01 – GENERAL REQUIREMENTS**

01 11 00      General Instructions

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01 33 00      Submittal Procedures

01 35 29.06    Health and Safety Requirements

01 35 43      Environmental Procedures

01 55 26      Traffic Control

01 61 00      Common Product Requirements

01 74 11      Cleaning

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**DIVISION 34 – TRANSPORTATION**

34 71 13.25    Vehicle W-Beam Guiderail

## List of Drawings

Dwg No.

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 Cover Page

Location of New Guide Rails

02

Location of Guide Rails to be Replaced

03

**END OF SECTION**

<u>PART 1 - GENERAL</u>	
<u>1.0 REFERENCE</u>	.1 Section 01 11 01 - Pay Item Descriptions .2 National Capital Commission (NCC) Standard Drawings
<u>1.1 WORK COVERED BY CONTRACT DOCUMENTS</u>	.1 Work comprises the removal and reinstatement of all damaged guiderails along the Gatineau Park parkways as identified by the NCC on the contract drawing, as well as installation of new guiderails at five (5) new locations that did not previously have guiderail present. The work includes in generality: .1 Removal of existing guiderail and posts. .2 Installation of new steel posts and spacer blocks. .3 Installation of new semi-rigid guiderail. .4 Restore site grading to existing conditions if necessary. .5 Clean up site.
<u>1.2 WORK SEQUENCE</u>	.1 Guiderail installation will be staged at each location to ensure minimum of disruptions to pedestrian and vehicular traffic .2 Most parkways in Gatineau Park are seasonally closed during the winter months; work will need to be performed and completed while the road is opened.
<u>1.3 CONTRACTOR USE OF PREMISES</u>	.1 Contractor shall limit use of space along the roadway to allow for at least one lane of the road to remain open to traffic.
<u>1.4 DOCUMENTS REQUIRED</u>	.1 Maintain at job site, one copy each document as follows: .1 Contract Drawings. .2 Specifications. .3 Addenda. .4 Change Orders. .5 Other Modifications to Contract. .6 Copy of Approved Work Schedule. .7 Health and Safety Plan and Other Safety Related Documents. .8 Manufacturers' installation and application instructions.
<u>1.5 WORK SCHEDULE</u>	.1 Provide in a form acceptable to the NCC Project Manager, within 5 working days after Contract award, a detailed schedule that complies with timings required by Contract documents and shows at a minimum mobilization date(s), start of work, delivery of equipment and materials, anticipated progress stages if appropriate, and final completion of work. Any work by subcontractors shall be shown in similar detail. .2 Construction works shall be done within the hours of 7h00

	<p>and 19h00 Monday to Friday understanding that NCC and Gatineau Park staff will only be available for consultation during the hours of 08h00 to 16h30 Monday to Friday.</p> <p>.3 Interim reviews of work progress based on work schedule will be conducted as decided by NCC Project Manager and schedule updated by Contractor in conjunction with and to approval of NCC Project Manager.</p>
<p><u>1.6 CODES</u></p>	<p>.1 Perform work in accordance with the contract specifications, "Normes – Ouvrages routiers Tome VIII – Dispositifs de retenue", and National Capital Commission Standards and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.</p> <p>.2 Meet or exceed requirements of:                  .1 contract documents,                  .2 specified standards, codes and referenced documents.</p>
<p><u>1.7 EXISTING UTILITIES</u></p>	<p>.1 Contractor shall arrange for utility locations prior to commencing work.</p> <p>.2 Where work involves breaking into or connecting to existing services, carry out work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic.</p> <p>.3 Where unknown services are encountered, immediately advise the NCC Project Manager and confirm findings in writing.</p> <p>.4 Record locations of maintained, re-routed and abandoned service lines.</p> <p>.5 Contractor is responsible for any damage to any existing and temporary utility.</p>

**END OF SECTION**

<u>PART 1 - GENERAL</u>	
1.0 GENERAL	<p>.1 The cost of the work shown on the drawings or implicitly required without items in the tender price table must be included in the cost of the items in the tender price table or be in the site organization cost.</p> <p>.2 There will be measurement for payment in accordance with the Unit Price Table submitted. Payment at the contract unit or lump sum prices tendered shall be full compensation for all labour, materials, and equipment to do the work.</p>
1.1 REMOVAL OF EXISTING GUIDE RAIL AND END TREATMENTS	<p>.1 Includes item no.: 1 to 11.</p> <p>.2 Works under this item includes the removal of steel beam guide rail, timber beam guide rail, posts (timber, steel, and concrete), and end treatments at each location indicated in the contract drawings. All work required to complete the removals shall be included in this section.</p> <p>.3 Measurement for payment for these items shall be on a unit price basis per location where removals are completed.</p> <p>.4 Payment shall be full compensation for all labour, equipment and materials necessary to complete the removals of the existing guide rails and end treatments as indicated on the Contract Drawings.</p>
1.2 SUPPLY AND INSTALL NEW STEEL BEAM GUIDE RAILS	<p>.1 Includes item no. 12.</p> <p>.2 Works under this item includes the supply and installation of steel beam guide rail, including steel posts, etc., at each location indicated in the contract drawings. All work required to complete the installation shall be included in this section.</p> <p>.3 Measurement for payment for these items shall be based on meter of guide rail installed at each location.</p> <p>.4 Payment shall be full compensation for all labour, equipment and materials necessary to complete the installation of the guide rails as indicated on the Contract Drawings.</p>
1.3 SUPPLY AND INSTALL NEW ET PLUS TERMINAL SYSTEM	<p>.1 Includes item no. 13.</p> <p>.2 Works under this item includes the supply and installation of ET Plus end treatments at each location indicated in the contract drawings. All work required to complete the installation shall be included in this section.</p> <p>.3 Measurement for payment for these items shall be on a unit price basis per end treatment installed, including guide rail segments of the end treatment.</p>



	<p>.4 Payment shall be full compensation for all labour, equipment and materials necessary to complete the installation of the end treatments as indicated on the Contract Drawings.</p>
<p>1.4 <u>SUPPLY AND INSTALL NEW FLARED END TREATMENT</u></p>	<p>.1 Includes item no. 14.</p> <p>.2 Works under this item includes the supply and installation of flared end treatments at each location indicated in the contract drawings. All work required to complete the installation shall be included in this section.</p> <p>.3 Measurement for payment for these items shall be on a unit price basis per end treatment installed, including guide rail segments of the end treatment.</p> <p>.4 Payment shall be full compensation for all labour, equipment and materials necessary to complete the installation of the end treatments as indicated on the Contract Drawings.</p>

<b>Item No.</b>	<b>Location</b>	<b>Description</b>	<b>Unit</b>	<b>Est. Quant.</b>	<b>Unit Price</b>	<b>Total</b>
1	GP-06	Removal of existing guiderail and end treatments on South side of roadway	Each	1		
2	GP-07	Removal of existing guiderail and end treatments on North side of roadway	Each	1		
3	GP-13	Removal of existing guiderail and end treatments on North side of roadway	Each	1		
4	GP-14	Removal of existing guiderail and end treatments on South side of roadway	Each	1		
5	GP-15	Removal of existing guiderail and end treatments on North side of roadway	Each	1		
6	GP-16	Removal of existing guiderail and end treatments on South side of roadway	Each	1		
7	GP-17	Removal of existing guiderail and end treatments on North side of roadway	Each	1		
8	GP-18	Removal of existing guiderail and end treatments on North side of roadway	Each	1		
9	GP-19	Removal of existing guiderail and end treatments on West side of roadway	Each	1		
10	GP-20	Removal of existing guiderail and end treatments on South side of parking area	Each	1		
11	GP-22	Removal of existing guiderail and end treatments on East side of parking area	Each	1		
12		Supply and install steel beams guiderails with offset blocks and steel posts on East side of parking area (not including terminal system length) as per MTQ Tome VIII, Chapter 3, GSR 003 (MTQ codification: W/AE/1905)	Meters	2055		
13		Supply and install ET Plus Terminal System on West side of roadway (MTQ codification: L-W/A-2)	Each	34		
14		Supply and install Flared End Treatment at both ends of guiderail as per MTQ Tome VIII, Chapter 3, GSR 048	Each	6		
<b>Total Before Taxes</b>						
G.S.T. 5.0%						
Q.S.T. 9.975%						
<b>Total Project (Lump Sum Price)</b>						

END OF SECTION

<p><u>PART 1 - GENERAL</u></p>	
<p><u>1.1 ADMINISTRATIVE</u></p>	<p>.1 Submit to NCC Project Manager submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.</p> <p>.2 Do not proceed with Work affected by submittal until review is complete.</p> <p>.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.</p> <p>.4 Where items or information is not produced in SI Metric units converted values are acceptable.</p> <p>.5 Review submittals prior to submission to NCC Project Manager. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.</p> <p>.6 Notify NCC Project Manager, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.</p> <p>.7 Verify field measurements and affected adjacent Work are coordinated.</p> <p>.8 Contractor's responsibility for errors and omissions in submission is not relieved by NCC Project Manager review of submittals.</p> <p>.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by NCC Project Manager review.</p> <p>.10 Keep one reviewed copy of each submission on site.</p>
<p><u>1.2 SHOP DRAWINGS AND PRODUCT DATA</u></p>	<p>.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.</p> <p>.2 Submit shop drawings bearing stamp and signature of qualified professional engineer licensed in the Province of Quebec, Canada.</p>

	<p>.3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.</p> <p>.4 Allow five days for NCC Project Manager review of each submission.</p> <p>.5 Adjustments made on shop drawings by NCC Project Manager are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to NCC Project Manager prior to proceeding with work.</p> <p>.6 Make changes in shop drawings as NCC Project Manager may require, consistent with Contract Documents. When resubmitting, notify NCC Project Manager in writing of revisions other than those requested.</p> <p>.7 Accompany submissions with transmittal letter, in duplicate, containing:</p> <ul style="list-style-type: none"> <li>.1 Date.</li> <li>.2 Project title and number.</li> <li>.3 Contractor's name and address.</li> <li>.4 Identification and quantity of each shop drawing, product data and sample.</li> <li>.5 Other pertinent data.</li> </ul> <p>.8 Submissions include:</p> <ul style="list-style-type: none"> <li>.1 Date and revision dates.</li> <li>.2 Project title and number.</li> <li>.3 Name and address of: <ul style="list-style-type: none"> <li>.1 Subcontractor.</li> <li>.2 Supplier.</li> <li>.3 Manufacturer.</li> </ul> </li> <li>.4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.</li> <li>.5 Details of appropriate portions of Work as applicable: <ul style="list-style-type: none"> <li>.1 Fabrication.</li> <li>.2 Layout, showing dimensions, including identified field dimensions, and clearances.</li> <li>.3 Setting or erection details.</li> <li>.4 Capacities.</li> <li>.5 Performance characteristics.</li> <li>.6 Standards.</li> <li>.7 Operating weight.</li> </ul> </li> <li>.8 Single line and schematic diagrams.</li> </ul>
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	<p style="text-align: center;">.9 Relationship to adjacent work.</p> <p>.9 After NCC Project Manager review, distribute copies.</p> <p>.10 Submit three hard copies and one electronic copy of shop drawings for each requirement requested in specification Sections and as NCC Project Manager may reasonably request.</p> <p>.11 Submit one electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by NCC Project Manager where shop drawings will not be prepared due to standardized manufacture of product.</p> <p>.12 Submit one electronic copy of test reports for requirements requested in specification Sections and as requested by NCC Project Manager.</p> <p style="padding-left: 20px;">.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.</p> <p>.13 Delete information not applicable to project.</p> <p>.14 Supplement standard information to provide details applicable to project.</p> <p>.15 If upon review by NCC Project Manager, no errors or omissions are discovered or if only minor corrections are made, three copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.</p> <p>.16 The review of shop drawings by National Capital Commission (NCC) is for sole purpose of ascertaining conformance with general concept.</p> <p style="padding-left: 20px;">.1 This review shall not mean that NCC approves detailed design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.</p> <p style="padding-left: 20px;">.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.</p>
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<p><u>1.3 SAMPLES</u></p>	<p>.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.</p> <p>.2 Deliver samples prepaid to NCC Project Manager's business address.</p> <p>.3 Notify NCC Project Manager in writing, at time of submission of deviations in samples from requirements of Contract Documents.</p> <p>.4 Adjustments made on samples by NCC Project Manager are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to NCC Project Manager prior to proceeding with Work.</p> <p>.5 Make changes in samples which NCC Project Manager may require, consistent with Contract Documents.</p> <p>.6 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.</p>
<p><u>1.4 CERTIFICATES AND TRANSCRIPTS</u></p>	<p>.1 Immediately after award of Contract, submit Workers' Safety and Insurance Board Experience Report.</p> <p>.2 Submit transcription of insurance immediately after award of Contract.</p>
<p><u>1.5 FEES, PERMITS AND CERTIFICATES</u></p>	<p>.1 Provide authorities having jurisdiction with information requested.</p> <p>.2 Apply, pay fees and obtain applicable permits.</p> <p>.3 Furnish certificates and permits.</p> <p>.4 Provide copies of permits and city inspection reports.</p>

**END OF SECTION**

<p><u>PART 1 - GENERAL</u></p>	
<p><u>1.0 REFERENCE</u></p>	<p>.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.</p> <p>.2 Province of Québec: .1 Loi sur la santé et la sécurité du travail, L.R.Q., c. S-2.1 and the corresponding regulations.</p> <p>.3 FCC No. 301-1982 Standard for Construction Operations.</p>
<p><u>1.1 SUBMITTALS</u></p>	<p>.1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.</p> <p>.2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include: .1 Results of site specific safety hazard assessment. .2 Results of safety and health risk or hazard analysis for site tasks and operation.</p> <p>.3 NCC Project Manager will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to NCC Project Manager within 5 days after receipt of comments from NCC Project Manager.</p> <p>.4 NCC Project Manager's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.</p> <p>.5 On-site Contingency and Emergency Response Plan: Address standard operating procedures to be implemented during emergency situations.</p> <p>.6 Medical Surveillance: Where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to NCC Project Manager.</p> <p>.7 Submit immediately upon receipt or completion: .1 construction safety checklists, .2 reports or directions issued by Federal and Provincial health and safety inspectors, .3 incident and accident reports, .4 Material Safety Data Sheets (MSDS), and .5 health and safety training records including names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.</p>

	.8	Submit two (2) copies of Contractor's authorized representative's work site health and safety inspection reports at least once every two (2) weeks to NCC Project Manager.
<u>1.2 FILING OF NOTICE</u>	.1	File Notice of Project with Provincial authorities prior to commencement of Work.
<u>1.3 SAFETY ASSESSMENT</u>	.1	Perform site specific safety hazard assessment related to project.
<u>1.4 MEETINGS</u>	.1	Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.
<u>1.5 REGULATORY REQUIREMENTS</u>	.1	Comply with the Acts and regulations of the Province of Quebec.
	.2	Comply with specified standards and regulations to ensure safe operations at site.
<u>1.6 GENERAL REQUIREMENTS</u>	.1	Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
	.2	NCC Project Manager may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.
<u>1.7 RESPONSIBILITY</u>	.1	Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
	.2	Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
<u>1.8 COMPLIANCE REQUIREMENTS</u>	.1	Comply with Loi sur la santé et la sécurité du travail, L.R.Q., c. S-2.1 and the corresponding regulations and Regulations for Construction Projects.
	.2	Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.
<u>1.9 UNFORSEEN HAZARDS</u>	.1	Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, immediately stop work and advise Departmental Representative verbally and in writing.



<u>1.10 HEALTH AND SAFETY CO-ORDINATOR</u>	<p>.1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator must:</p> <p>.1 have minimum two (2) years' site-related working experience specific to activities associated with the work.</p> <p>.2 have basic working knowledge of specified occupational safety and health regulations,</p> <p>.3 be responsible for completing health and safety training session and ensuring that personnel not successfully completing the required training are not permitted to enter site to perform Work,</p> <p>.4 be responsible for implementing, enforcing daily and monitoring site-specific Health and Safety Plan, and</p> <p>.5 be on site during execution of Work.</p>
<u>1.11 POSTING OF DOCUMENTS</u>	<p>.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with NCC Project Manager.</p>
<u>1.12 CORRECTION OF NON-COMPLIANCE</u>	<p>.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by NCC Project Manager.</p> <p>.2 Provide NCC Project Manager with written report of action taken to correct non-compliance of health and safety issues identified.</p> <p>.3 NCC Project Manager may stop Work if non-compliance of health and safety regulations is not corrected.</p>
<u>1.13 WORK STOPPAGE</u>	<p>.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.</p>
<u>1.14 CONSTRUCTION SAFETY MEASURES</u>	<p>.1 Observe construction safety measures of National Building Code 2015 Part 8, Provincial Government, Workers'/Workmen's Compensation Board and municipal authority provided that in any case of conflict or discrepancy more stringent requirements shall apply.</p> <p>.2 Comply with requirements of FCC No. 301.</p>

**END OF SECTION**

<p><u>PART 1 - GENERAL</u></p>	
<p>1.0 GENERAL</p>	<p>.1 All Work is to be carried out while respecting established Environmental Procedures.</p> <p>.2 In order of priority Environmental Procedures are undertaken first to protect the environment from the effects of the work, then the protection of the existing heritage structures, followed by the mitigation or lessen the effects of the work, and finally to restore the environment to its original state.</p>
<p>1.1 JURISDICTION, ENFORCEMENT AND NOTIFICATION</p>	<p>.1 Comply with conditions and to mitigation measures described in Certificate of Authorization CofA) from Ministère du Développement durable, de l'Environnement et de la Lutte contre les Changements Climatiques (MDDELCC) obtained by NCC in virtue of :</p> <ul style="list-style-type: none"> <li>.1 Article 22 of the Loi sur la qualité de l'environnement (L.Q.E).</li> <li>.2 the Loi sur la conservation et la mise en œuvre de la faune.</li> </ul> <p>.2 Grant to MDDELCC employees, at any reasonable hour, access to the site, in order to ensure that special requirements, listed above, are followed.</p> <p>.3 A copy of the certificate of authorization of MDDELCC and permit from municipality having jurisdiction provided by NCC as well as all documents required to execute the work (i.e. drawing and specification) shall be available on site at all times during construction so that anyone (foreman, inspector, etc.) can consult them. The Contractor cannot start before NCC has received the certificate of authorization.</p> <p>.4 Comply with mitigation measures stipulated in Operational Statement for province of Quebec by Department Fish and Oceans Canada (DFO), as well as guidelines for the design of waterway crossing in Province of Quebec.</p> <p>.5 Comply to conditions of permit from the Municipality having jurisdiction obtained by NCC as well to law, rules, and dispositions related to environmental permitting.</p> <p>.6 Contractor shall be liable for penalties imposed by local, provincial and/or federal authorities if Contractor does not enforce all required environmental mitigation clauses and measures required by law or the regulations of these authorities.</p> <p>.7 If human remains are discovered during activities related to project, all works in the affected area shall stop immediately and Contractor shall contact the local police and the Departmental Representative. No work shall be done near discovery site of human remains.</p>

	.8	In the event of finding patrimonial artefacts contact the Departmental Representative.
	.9	If the contractor cannot respect one of the above mentioned conditions for any reasons, following uncontrollable events for example, he must contact with the Departmental Representative before starting or proceeding with work so that the latter can analyze the situation and modify the authorization, if necessary.
<u>1.2 FIRES</u>	.1	Fires and burning of rubbish on site are not permitted.
<u>1.3 DISPOSAL OF WASTES</u>	.1	Do not bury rubbish and waste materials on site.
	.2	Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
	.3	All construction debris shall be transported off-site at contractor's cost.
<u>1.4 SITE CLEARING AND PLANT AND WILD LIFE PROTECTION</u>	.1	Protect trees and plants on site and adjacent properties.
	.2	If trees are accidentally damaged or removed as a result of the works, the contractor will plant two trees for each tree damaged or removed (a 2:1 ratio). Contractor shall get A planting plan approved by NCC before the planting of trees. Contractor will monitor the success of all plantings and re-vegetation for two years and will undertake any remedial actions that may be required.
	.3	Limit cut of vegetation (diameter at trunk level smaller than 10 cm) to strict minimum, i.e. vegetation impeding access of machinery and construction work.
	.4	Minimize stripping of topsoil and vegetation.
<u>1.5 WORK ADJACENT TO WATERWAYS</u>	.1	Do not operate construction equipment in waterways.
	.2	Do not use waterway beds for borrow material.
	.3	Do not dump excavated fill, waste material or debris in waterways.
<u>1.6 POLLUTION CONTROL</u>	.1	Maintain temporary pollution control features installed under this contract.
	.2	Control emissions from equipment to local authorities' emission requirements.
	.3	Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.

	<p>.4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads and construction site.</p>
<p><u>1.7 PROTECTION - GENERAL</u></p>	<p>.1 Fauna on site shall not be hunted, harassed or tracked down. All motorized vehicles and machinery shall stay in the designated road or pathways to avoid perturbing the fauna habitat.</p> <p>.2 Provide site with proper necessary amenities (portable chemical toilets, garbage cans, bins, etc) to prevent any debris dispersion in the environment.</p> <p>.3 Gather and dispose of waste and debris in conformity with regulations in force. All debris shall be collected and eliminated each day, or stocked in safe containers to prevent effects on garbage consuming animals.</p> <p>.4 Frequent inspections of heavy machinery and equipment will have to be done to ensure good working order and to detect leaks of fuel, oil, grease, etc. Proper corrective measures will have to be taken and maintenance done immediately if a problem is detected.</p> <p>.5 Use the smallest equipment possible. Constrain vehicular traffic to approved and clearly identified roads and pathways. Keep travel and operation of equipment and machinery to a minimum. Shut off any motorized equipment on site when not in use.</p>
<p><u>1.8 MITIGATION</u></p>	<p>.1 Limit clearing, excavation, earth works and levelling to the absolute minimum necessary for the success of the Work.</p> <p>.2 If an oil leak or problem is detected, immediate spill response corrective measures shall be taken and the cleaning of machinery or defective machineries shall be done immediately.</p>
<p><u>1.9 RESTORATION</u></p>	<p>.1 Contractor shall remove all temporary signage. Contractor shall remove debris and garbage before leaving the construction site.</p> <p>.2 Contractor shall be responsible for the re-instatement of all areas of fauna habitat in and around the site that has been degraded as a result of the Work.</p> <p>.3 Re-instate to original condition all damaged ditches by machinery (damage to drainage slope, shoulders of embankments, etc).</p>
<p><u>1.10 METHODS OF CONSTRUCTION</u></p>	<p>.1 Contractor shall use methods of construction approved by the NCC.</p>

**END OF SECTION**

<p><u>PART 1 - GENERAL</u></p>	
<p><u>1.0 REFERENCE</u></p>	<p>.1 MTQ Normes – Ouvrages routiers Tome V – Signalisation routière</p>
<p><u>1.1 PROTECTION OF PUBLIC TRAFFIC</u></p>	<p>.1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out work or haul materials or equipment.</p> <p>.2 When working on travelled way:</p> <p>.1 Place equipment in position to present minimum of interference and hazard to traveling public.</p> <p>.2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.</p> <p>.3 Do not leave equipment on travelled way overnight.</p> <p>.3 Keep travelled way graded, free of pot holes and of sufficient width for required number of lanes of traffic.</p> <p>.1 Provide minimum 7 m wide temporary roadway for traffic in two-way sections through work and on detours.</p> <p>.2 Provide minimum 3.1 m wide temporary roadway for traffic in one-way sections through work and on detours.</p> <p>.4 Provide and maintain road access and egress to property fronting along work under Contract and in other areas as indicated, unless other means of road access exist that meet approval of Departmental Representative.</p>
<p><u>1.2 INFORMATIONAL AND WARNING DEVICES</u></p>	<p>.1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from project work which requires road user response.</p> <p>.2 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in the MTQ Normes – Ouvrages routiers Tome V – Signalisation routière. All signs to be bilingual.</p> <p>.3 Place signs and other devices in locations recommended in the MTQ Normes – Ouvrages routiers Tome V – Signalisation routière.</p> <p>.4 Meet with Departmental Representative prior to commencement of work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of Departmental Representative.</p> <p>.5 Continually maintain traffic control devices in use by:</p> <p>.1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.</p>

	<p>.2 Removing or covering signs which do not apply to conditions existing from day to day.</p> <p>.6 Seven day advance notice of parkway closures using lighted changeable bilingual message signs shall be provided. Three message signs shall be provided.</p>
<p><u>1.3 CONTROL OF PUBLIC TRAFFIC</u></p>	<p>.1 Provide flag persons, trained in accordance with, and properly equipped as specified in the OTM in the following situations:</p> <p>.1 When public traffic is required to pass working vehicles or equipment which block all or part of travelled roadway.</p> <p>.2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.</p> <p>.3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.</p> <p>.4 Where temporary protection is required while other traffic control devices are being erected or taken down.</p> <p>.5 For emergency protection when other traffic control devices are not readily available.</p> <p>.6 In situations where complete protection for workmen, working equipment and public traffic is not provided by other traffic control devices.</p> <p>.7 Delays to public traffic due to contractor's operators: maximum 2 minutes.</p>
<p><u>1.4 TRAFFIC CONTROL PLAN</u></p>	<p>.1 The Contractor shall provide a detailed Traffic Control Plan within 7 working days after Contract award showing all required traffic control and protection systems to be installed, operated, maintained and removed by the Contractor. The Contractor shall be responsible to ensure that the proposed traffic control and protection shall comply with Ministry of Labour requirements, Occupational Health and Safety Act regulations and the MTQ.</p>

**END OF SECTION**

<p><u>PART 1 - GENERAL</u></p>	
<p><u>1.0 GENERAL</u></p>	<p>.1 Use new material unless otherwise specified.</p> <p>.2 Within 5 days of written request by Departmental Representative, submit following information for materials and equipment proposed for supply:</p> <ul style="list-style-type: none"> <li>.1 Name and address of manufacturer;</li> <li>.2 Trade name, model and catalogue number;</li> <li>.3 Performance, descriptive and test data;</li> <li>.4 Manufacturer's installation or application instructions;</li> <li>.5 Evidence of arrangements to procure.</li> </ul> <p>.3 Use products of one manufacturer for material and equipment of same type or classification unless otherwise specified.</p>
<p><u>1.1 SECTION INCLUDES</u></p>	<p>.1 Product quality, availability, storage, handling, protection, and transportation.</p> <p>.2 Manufacturer's instructions.</p> <p>.3 Quality of Work, coordination and fastenings.</p>
<p><u>1.2 REFERENCES</u></p>	<p>.1 Within text of each specifications section, reference may be made to reference standards.</p> <p>.2 Conform to these reference standards, in whole or in part as specifically requested in specifications.</p> <p>.3 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.</p> <p>.4 Cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.</p> <p>.5 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.</p>
<p><u>1.3 QUALITY</u></p>	<p>.1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.</p> <p>.2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous</p>

	<p>inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.</p> <p>.3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.</p> <p>.4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.</p> <p>.5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.</p>
<p><u>1.4 AVAILABILITY</u></p>	<p>.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.</p> <p>.2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.</p>
<p><u>1.5 STORAGE HANDLING AND PROTECTION</u></p>	<p>.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.</p> <p>.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.</p> <p>.3 Store products subject to damage from weather in weatherproof enclosures.</p> <p>.4 Store material and equipment in accordance with suppliers instructions.</p> <p>.5 Store cementitious products clear of earth or concrete floors, and away from walls.</p> <p>.6 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.</p>



	.7	Store lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
	.8	Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
	.9	Touch-up damaged factory finished surfaces to Departmental Representative satisfaction. Use touch-up materials to match original. Do not paint over name plates.
<u>1.6 TRANSPORTATION</u>	.1	Pay costs of transportation of products required in performance of Work.
	.2	Transportation cost of products supplied by Departmental Representative will be paid for by Departmental Representative. Unload, handle and store such products.
<u>1.7 MANUFACTURER'S INSTRUCTIONS</u>	.1	Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
	.2	Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
	.3	Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.
<u>1.8 QUALITY OF WORK</u>	.1	Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
	.2	Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
	.3	Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.
<u>1.9 CO-ORDINATION</u>	.1	Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
<u>1.10 REMEDIAL WORK</u>	.1	Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.

	.2	Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.
1.11 FASTENINGS	.1	Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
	.2	Prevent electrolytic action between dissimilar metals and materials.
	.3	Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
1.12 FASTENINGS - EQUIPMENT	.1	Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
	.2	Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
	.3	Bolts may not project more than one diameter beyond nuts.
	.4	Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.
	.5	Seek authority from Departmental Representative prior to using explosive actuated tools and ensure trades are appropriately trained and licensed for these tools.
1.13 EXISTING UTILITIES	.1	With the assistance of authorities having jurisdiction, locate and mark underground and overhead services at the work site and associated areas.
	.2	Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.
1.14 CONTRACTOR'S OPTIONS FOR SELECTION OF MATERIALS FOR TENDERING	.1	Materials specified by referenced standard, select any material that meets or exceeds the specified standard.
	.2	Where materials are required to be listed on the "Canadian General Standards Board, Qualified Products List" select any manufacturer so listed.
	.3	Materials specified by "Prescriptive" or "Performance" specification, select any material meeting or exceeding specification.
	.4	Materials specified by naming one or more materials, select any material named. For the purpose of these

	<p>specifications, the term "Acceptable Material" is deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name or any combination thereof.</p> <p>.5 When materials are specified by a Standard, Prescriptive or Performance specifications, upon request of the Departmental Representative, obtain from manufacturer an independent testing laboratory reporting, showing that the material or equipment meets or exceeds the specified requirements.</p>
<p><u>1.15 SUBSTITUTION</u></p>	<p>.1 No substitutions will be permitted without prior written approval of Departmental Representative.</p> <p>.2 Proposals for substitution may only be submitted after award of contract. Such request must include statements of respective costs of items originally specified and the proposed substitution.</p> <p>.3 Proposals will be considered by Departmental Representative if:</p> <ul style="list-style-type: none"> <li>.1 Materials selected by tenderer from those specified are not available;</li> <li>.2 Delivery date of materials selected from those materials specified would unduly delay completion of contract, or</li> <li>.3 Alternative material to those specified, which are brought to the attention of and considered by Departmental Representative as equivalent to the material, specified and will result in a credit to the Contract amount.</li> </ul> <p>.4 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.</p> <p>.5 Amounts of all credits arising from approval of substitutions will be determined by Departmental Representative and Contract Price will be reduced accordingly.</p>
<p><u>1.16 CONSTRUCTION EQUIPMENT AND PLANT</u></p>	<p>.1 On request, prove to the satisfaction of Departmental Representative that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.</p> <p>.2 Maintain construction equipment and plant in good operating order.</p>

**END OF SECTION**

<u>PART 1 - GENERAL</u>	
1.1 SECTION INCLUDES	<p>.1 Progressive cleaning.</p> <p>.2 Final cleaning.</p>
1.2 PROJECT CLEANLINESS	<p>.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.</p> <p>.2 Remove waste materials from site daily or dispose of as directed by the NCC Project Manager. Do not burn waste materials on site.</p> <p>.3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.</p> <p>.4 Provide on-site containers for collection of waste materials and debris.</p> <p>.5 Dispose of waste materials and debris off site.</p> <p>.6 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.</p>
1.3 FINAL CLEANING	<p>.1 Prior to final review remove surplus products, tools, construction machinery and equipment.</p> <p>.2 Remove waste products and debris other than that caused by Owner or other Contractors.</p> <p>.3 Remove waste materials from site daily. Do not burn waste materials on site.</p> <p>.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.</p> <p>.5 Clean lighting reflectors, lenses, and other lighting surfaces.</p>

**END OF SECTION**

<u>PART 1 - GENERAL</u>	
<u>1.1 SECTION INCLUDES</u>	<p>.1 Text, schedules and procedures for systematic Waste Management Program for construction, deconstruction, demolition, and renovation projects, including:</p> <ul style="list-style-type: none"> <li>.1 Diversion of Materials.</li> <li>.2 Waste Audit (WA).</li> <li>.3 Waste Reduction Workplan (WRW).</li> <li>.4 Demolition Waste Audit (DWA).</li> <li>.5 Materials Source Separation Program (MSSP).</li> </ul>
<u>1.2 DEFINITIONS</u>	<p>.1 Demolition Waste Audit (DWA): relates to actual waste generated from project.</p> <p>.2 Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.</p> <p>.3 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.</p> <p>.4 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.</p> <p>.5 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.</p> <p>.6 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:</p> <ul style="list-style-type: none"> <li>.1 Salvaging reusable materials from re-modeling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.</li> <li>.2 Returning reusable items including pallets or unused products to vendors.</li> </ul> <p>.7 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.</p> <p>.8 Separate Condition: refers to waste sorted into individual types.</p> <p>.9 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.</p> <p>.10 Waste Audit (WA): detailed inventory of materials in</p>

	<p>building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill.</p> <p>.11 Waste Management Coordinator (WMC): contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.</p> <p>.12 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is based on information acquired from WA.</p>
<p><u>1.3 DOCUMENTS</u></p>	<p>.1 Maintain at job site, one copy of following documents:</p> <ul style="list-style-type: none"> <li>.1 Waste Audit.</li> <li>.2 Waste Reduction Workplan.</li> <li>.3 Material Source Separation Plan.</li> </ul>
<p><u>1.4 SUBMITTALS</u></p>	<p>.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.</p> <p>.2 Prepare and submit the following:</p> <ul style="list-style-type: none"> <li>.1 Completed Waste Audit (WA).</li> <li>.2 Completed Waste Reduction Workplan (WRW).</li> <li>.3 Completed Demolition Waste Audit (DWA).</li> <li>.4 Materials Source Separation Program (MSSP) description.</li> </ul>
<p><u>1.5 WASTE AUDIT (WA)</u></p>	<p>.1 Conduct WA prior to commencing work on site.</p> <p>.2 Record, on WA, extent to which materials or products used consist of recycled or reused materials or products.</p>
<p><u>1.6 WASTE REDUCTION WORKPLAN (WRW)</u></p>	<p>.1 Prepare WRW prior to commencing work.</p> <p>.2 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.</p> <p>.3 Describe management of waste.</p> <p>.4 Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.</p> <p>.5 Post WRW or summary where workers are able to review content.</p>
<p><u>1.7 DEMOLITION WASTE AUDIT (DWA)</u></p>	<p>.1 Prepare DWA prior to start of demolition.</p>

<p>1.8 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)</p>	<ul style="list-style-type: none"> <li>.1 Processing of waste will not be permitted on site due to space limitation and ongoing operations. Contractor to truck out debris daily and process off site for source separation.</li> <li>.2 Prepare MSSP and have ready for use prior to commencing work on site.</li> <li>.3 Implement MSSP for waste generated on project in compliance with approved methods and regulations.</li> <li>.4 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.</li> <li>.5 Provide containers to deposit reusable and recyclable materials.</li> <li>.6 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.</li> <li>.7 Locate separated material(s) in area(s) which minimize material damage.</li> <li>.8 Collect, handle, and transport off-site, salvaged materials in separate condition.             <ul style="list-style-type: none"> <li>.1 Transport to approved and authorized recycling facility or to users of material for recycling.</li> </ul> </li> <li>.9 Collect, handle, and transport off-site, salvaged materials in combined condition.             <ul style="list-style-type: none"> <li>.1 Ship materials to site operating under Certificate of Approval.</li> <li>.2 Materials must be immediately separated into required categories for reuse or recycling.</li> </ul> </li> </ul>
<p>1.9 STORAGE, HANDLING AND PROTECTION</p>	<ul style="list-style-type: none"> <li>.1 Store, materials to be reused, recycled and salvaged in locations as directed by the NCC Project Manager.</li> <li>.2 Unless specified otherwise, materials for removal become Contractor's property.</li> <li>.3 Protect, stockpile, store and catalogue salvaged items.</li> <li>.4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.</li> <li>.5 Protect structural components not removed for demolition from movement or damage.</li> <li>.6 Support affected structures. If safety of building is endangered, cease operations and immediately notify the NCC Project Manager.</li> </ul>

	.7	Separate and store materials produced during dismantling of structures in designated areas.
1.10 DISPOSAL OF WASTES	.1	Do not bury rubbish or waste materials.
	.2	Keep records of construction waste including: .1 Number and size of bins. .2 Waste type of each bin. .3 Total tonnage generated. .4 Tonnage reused or recycled. .5 Reused or recycled waste destination.
	.3	Remove materials from deconstruction daily. No stock piling on site allowed.
	.4	Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.
1.11 USE OF SITE AND FACILITIES	.1	Execute work with least possible interference or disturbance to normal use of premises.
<u>PART 2 - PRODUCTS</u>		
2.1 NOT USED	.1	Not Used.
<u>PART 3 - EXECUTION</u>		
3.1 APPLICATION	.1	Do Work in compliance with WRW.
	.2	Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
3.2 CLEANING	.1	Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
	.2	Clean-up work area as work progresses.
	.3	Source separate materials to be reused/recycled into specified sort areas.
3.3 CONSTRUCTION & DEMOLITION WASTE	.1	Carefully deconstruct and source separate materials/equipment and divert waste destined for landfill to maximum extent possible. Reuse, recycle or sell material off site for reuse except where indicated otherwise. On site sales are not permitted.
	.2	Submit a waste reduction Workplan indicating the materials and quantities of material that will be recycled and diverted from landfill. .1 Indicate how material being removed from the site will be reused or recycled.



	<p>.3 Submit proof that all waste is being disposed of at a licensed land fill site or waste transfer site. A copy of the disposal/waste transfer site's license and a letter verifying that said landfill site will accept the waste must be supplied to the NCC Project Manager prior to removal of waste from the demolition site.</p>
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**END OF SECTION**

<b>PART 1 - GENERAL</b>	
<b>1.1 INSPECTION AND DECLARATION</b>	<ul style="list-style-type: none"> <li>.1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.                             <ul style="list-style-type: none"> <li>.1 Notify the NCC Project Manage in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.</li> <li>.2 Request the NCC Project Manager's Inspection.</li> </ul> </li> <li>.2 NCC Project Manager's Inspection: the NCC Project Manage and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.</li> <li>.3 Completion: submit written certificate that following have been performed:                             <ul style="list-style-type: none"> <li>.1 Work has been completed and inspected for compliance with Contract Documents.</li> <li>.2 Defects have been corrected and deficiencies have been completed.</li> <li>.3 Equipment and systems have been tested and are fully operational.</li> <li>.4 Work is complete and ready for final inspection.</li> </ul> </li> <li>.4 Final Inspection: when items noted above are completed, request final inspection of Work by the NCC Project Manager and Contractor. If Work is deemed incomplete by the NCC Project Manager, complete outstanding items and request re-inspection.</li> </ul>
<b>1.2 CLEANING</b>	<ul style="list-style-type: none"> <li>.1 In accordance with Section 01 74 11 - Cleaning.</li> <li>.2 Remove waste and surplus materials, rubbish and construction facilities from the site in accordance with Section 01 74 21 - Waste Management and Disposal.</li> </ul>

**END OF SECTION**

<b>PART 1 - GENERAL</b>	
<b>1.1 RECORDING ACTUAL SITE CONDITIONS</b>	<p>.1 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:</p> <ul style="list-style-type: none"> <li>.1 Measured dimensions of elements.</li> <li>.2 Changes made by change orders.</li> <li>.3 References to related shop drawings and modifications.</li> </ul> <p>.2 Specifications: legibly mark each item to record actual construction, including:</p> <ul style="list-style-type: none"> <li>.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.</li> <li>.2 Changes made by Addenda and change orders.</li> </ul>
<b>1.2 WARRANTIES AND BONDS</b>	<p>.1 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.</p> <p>.2 Obtain warranties executed in duplicate by subcontractors, suppliers, and manufacturers, within 5 days after completion of the applicable item of work.</p> <p>.3 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Certificate of Substantial Performance is determined.</p>

**END OF SECTION**

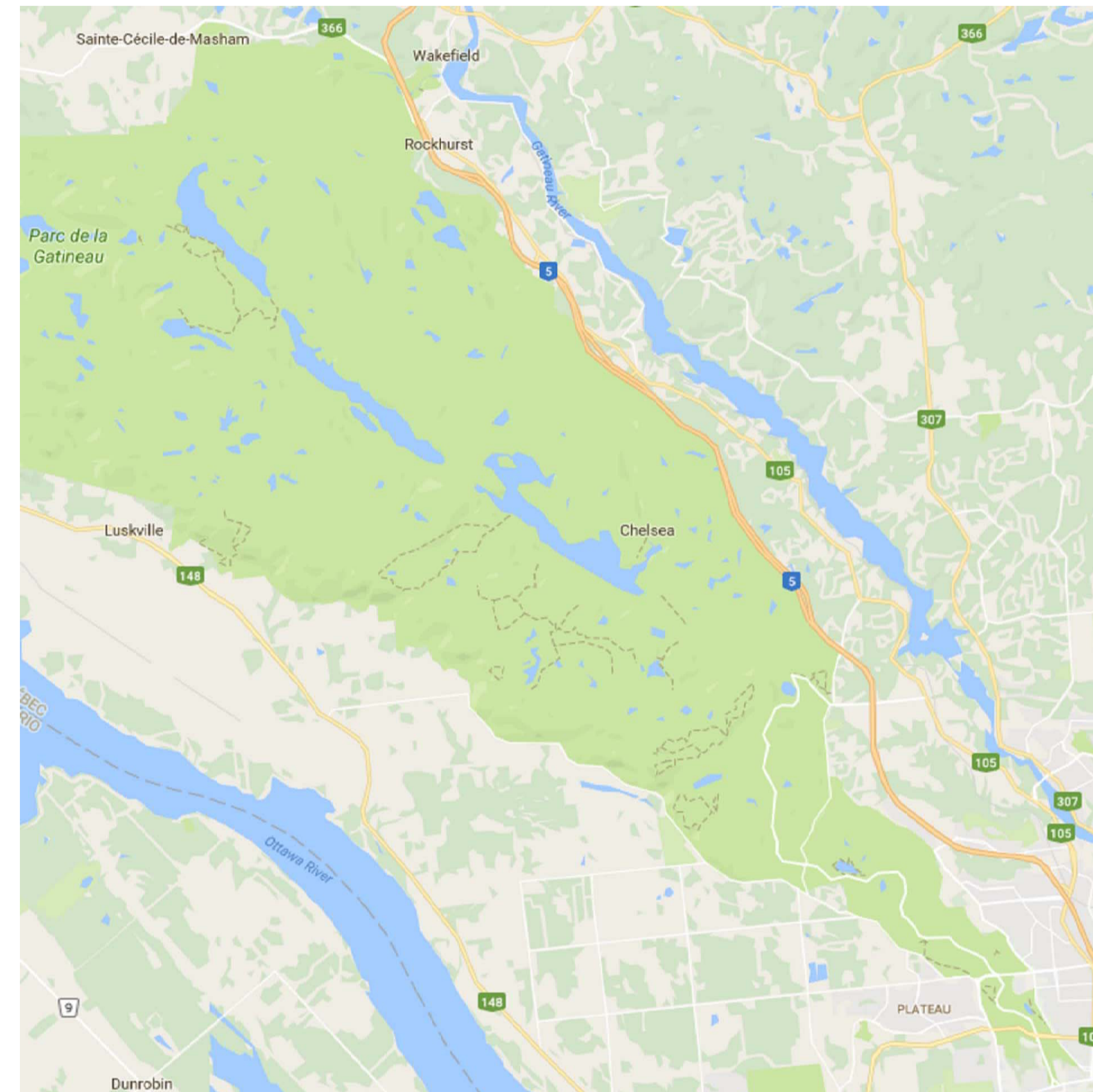
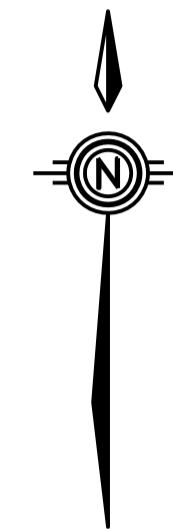
<b>PART 1 - GENERAL</b>	
<b>1.1 RELATED SECTIONS</b>	.1 Section 01 33 00 - Submittal Procedures. .2 Section 01 74 21 - Waste Management And Disposal.
<b>1.2 MEASUREMENT PROCEDURES</b>	.1 Supply and erection of roadside steel W-beam guide rail including posts, offset blocks, and necessary hardware shall be measured in metres of guide rail installed and measured from outer tips of steel W-beam guide rail, including guide rail used in anchorages and terminal sections. .2 Measure supply of terminal sections of steel W-beam as individual units delivered to Project site.
<b>1.3 REFERENCES</b>	.1 Ministère du Transport du Québec .1 MTQ Normes – Ouvrages routiers Tome VIII – Dispositifs de retenue. .2 MTQ Normes – Ouvrages routiers Tome VII – Matériaux. .2 American Society for Testing and Materials (ASTM International) .1 ASTM A36 / A36M, Standard Specification for Carbon Structural Steel. .2 ASTM A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless. .3 ASTM A123 / A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products. .4 ASTM A307, Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength. .5 ASTM F1667, Standard Specification for Driven Fasteners: Nails, Spikes, and Staples. .3 Canadian Standards Association (CSA International) .1 CSA G40.20-13/G40.21-13 - General requirements for rolled or welded structural quality steel / Structural quality steel. .4 Bureau de Normalisation du Québec (BNQ) .1 BNQ 2560-114, Travaux de génie civil - Granulats
<b>1.4 SUBMITTALS</b>	.1 Inform the NCC Project Manager at least 4 weeks prior to beginning Work, of proposed sources of guide rail and components.
<b>1.5 WASTE MANAGEMENT AND DISPOSAL</b>	.1 Separate and recycle waste materials in accordance with Section 01 74 21 - Waste Management And Disposal.

	<ul style="list-style-type: none"> <li>.2 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material for recycling in accordance with Waste Management Plan.</li> <li>.3 Divert unused metal materials from landfill to metal recycling facility.</li> <li>.4 Fold up metal banding, flatten and place in designated area for recycling.</li> <li>.5 Do not dispose of preservative treated wood through incineration.</li> <li>.6 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.</li> <li>.7 Dispose of treated wood, end pieces, wood scraps and sawdust at a sanitary landfill.</li> </ul>
<p><u>PART 2 - PRODUCTS</u></p>	
<p><u>2.1 MATERIALS</u></p>	<ul style="list-style-type: none"> <li>.1 Semi-rigid guide rail parts furnished under these specifications shall be interchangeable with similar parts, regardless of their source of manufacture.</li> <li>.2 Semi-rigid steel W-beam guide rail as indicated and to following requirements:             <ul style="list-style-type: none"> <li>.1 Rail sections shall be supplied by the contractor.</li> <li>.2 The rail elements shall consist of a corrugated steel W-beam with corrugations symmetrical about the horizontal axis and such that the edges and centre of the rail element may contact each post.</li> <li>.3 The rail elements shall be hot-dip galvanized before or after fabrication in accordance with the specifications of ASTM A123/A123M.</li> <li>.4 W-beam will be as per MTQ Standard Drawing GSR 045, Tome VIII – Dispositifs de retenue; and standard 6301, Tome VII – Matériaux.</li> <li>.5 MTQ guide rail codification:                 <ul style="list-style-type: none"> <li>.1 Guide rail elements: W/AE/1905</li> <li>.2 End treatments: L-W/A-2</li> </ul> </li> </ul> </li> <li>.3 Steel posts and offset blocks:             <ul style="list-style-type: none"> <li>.1 As per MTQ Standard Drawing GSR 003, Ouvrages routiers Tome VIII – Dispositifs de retenue; and standard 6101, Tome VII – Matériaux.</li> <li>.2 Steel post strength shall be minimum 260W.</li> <li>.3 Offset blocks shall be treated timber as per standard 11101, Tome VII – Matériaux.</li> <li>.4 Post installation above a culvert: MTQ Standard Drawing GSR 028C and GSR 028D.</li> <li>.5 Reflectors Type XI shall be as per standard 14101, Tome VII – Matériaux.</li> </ul> </li> <li>.4 Bolts, Nuts, Washers and Spikes:</li> </ul>

	<ul style="list-style-type: none"> <li>.1 Bolts, nuts, washers and spikes: to standard 6201, Tome VII, hot dip galvanized to ASTM A123 / A123M.</li> <li>.2 The Contractor shall supply the bolts, nuts, washers and spikes.</li> <li>.3 Bolts, nuts, washers: as per MTQ Standard Drawing GSR 050, Tome VIII – Dispositifs de retenue; and standard 6201, Tome VII – Matériaux.</li> <li>.5 Rail terminal sections:             <ul style="list-style-type: none"> <li>.1 Rail terminal sections shall be of the standard L-W/A-2 type, as illustrated on the drawings. The steel and galvanizing shall be of the same thickness and quality as is stipulated for the rail sections.</li> </ul> </li> </ul>
<b>PART 3 - EXECUTION</b>	
<b>3.1 ERECTION</b>	<ul style="list-style-type: none"> <li>.1 Galvanized materials shall be loaded, hauled and handled in such manner that galvanizing will not be damaged. All bare, abraded, and damaged surfaces shall be cleaned, pre-treated if required and coated with cold galvanizing compound.</li> <li>.2 Guide rail shall be placed to the lengths, lines and grades set by the NCC Project Manager. Except where directed otherwise by the NCC Project Manager, the guide rail shall be installed in accordance with the requirement of the drawings.</li> <li>.3 Erect steel W-beam components to details as indicated. Lap joints in direction of traffic</li> <li>.4 Posts shall be set plumb and to the established lines and grades and shall be placed at 1905mm intervals, unless directed by the NCC Project Manager. When the Drawings require that the ends of a section of guardrail be curved outward or downward, the posts shall be set to accommodate the curve.</li> <li>.5 Post shall be pile driven into the ground.</li> <li>.6 The rails shall be secured to even lines such that the top of the rail is 710mm above the edge of pavement.</li> <li>.7 Signal reflectors shall be attached to posts at terminal sections and to every second post in a length of guide rail, as indicated in the MTQ standards. Silver reflectors shall be placed facing oncoming traffic and yellow reflectors shall be placed on the opposite side of the post.</li> </ul>

**END OF SECTION**

# NATIONAL CAPITAL COMMISSION *LA COMMISSION DE LA CAPITALE NATIONALE*



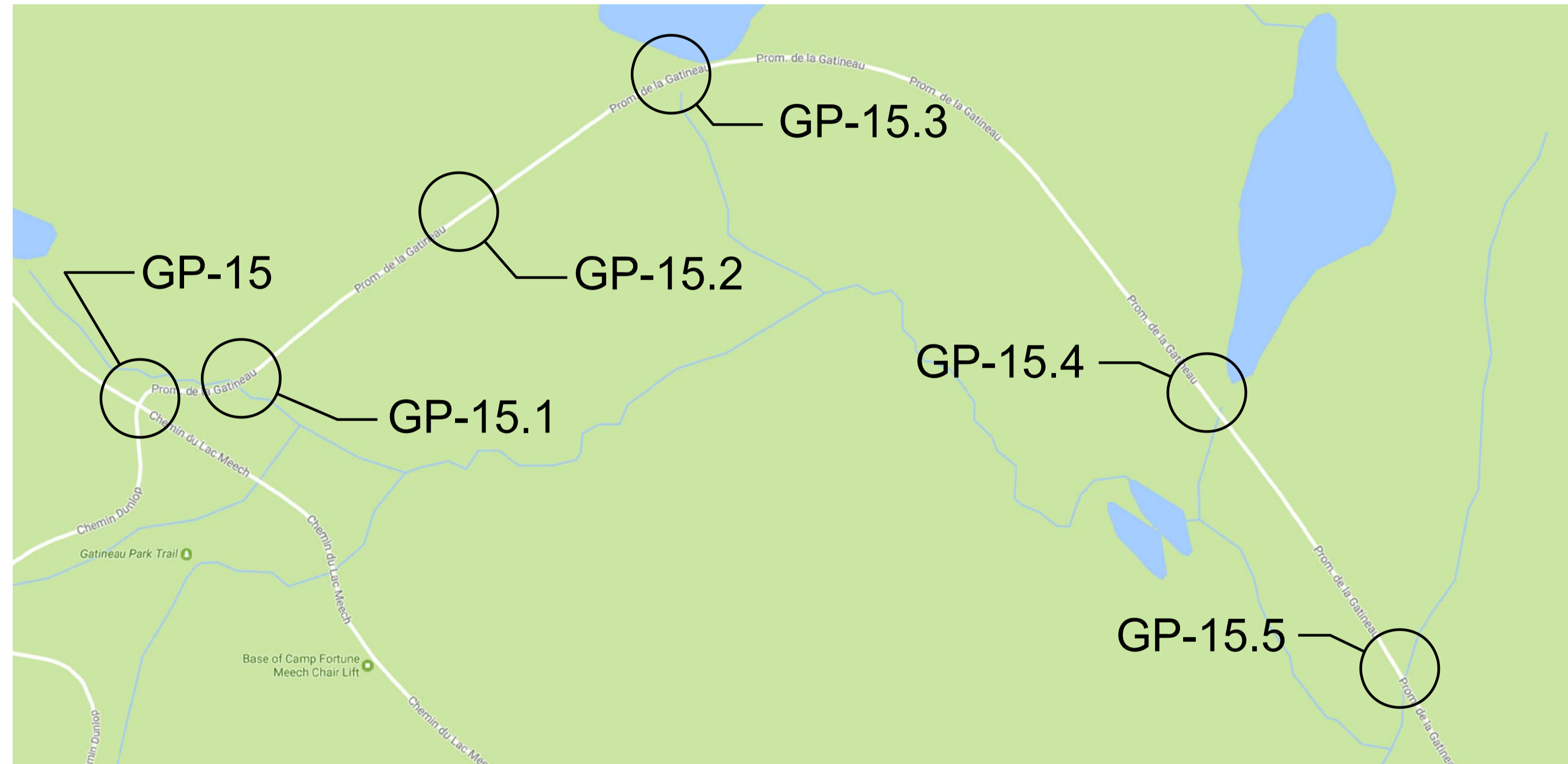
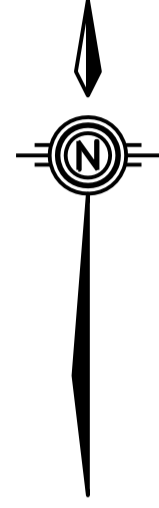
## LIST OF DRAWINGS:

- COVER SHEET
- 01. LOCATION OF NEW GUIDE RAILS
- 02. LOCATION OF GUIDE RAILS TO BE REPLACED

## LISTE DE DESSINS:

- PAGE COUVERTURE
- 01. EMPLACEMENT DE NOUVELLES GLISSIÈRES DE SÉCURITÉ
- 02. EMPLACEMENT DE GLISSIÈRES DE SÉCURITÉ À REMPLACER

**PARKWAY RAILINGS AND GUARDRAILS PHASE 1:  
GATINEAU PARK GUARDRAILS REPLACEMENT  
*GARDE-CORPS ET GLISSIÈRES DES PROMENADES PHASE 1:  
REEMPLACEMENT DES GLISSIÈRES DE SÉCURITÉ  
DANS LE PARC DE LA GATINEAU*  
CONTRACT No. 176-01 / *CONTRAT No. 176-01***



**NEW SITES REQUIRING GUIDERAILS**

GUIDE RAIL LENGTH / LONGUEUR DE GLISSIÈRE DE SÉCURITÉ				
SITE / LOCATION	SIDE OF THE ROAD / CÔTÉ DU CHEMIN	REQUIRED GUIDE RAIL LENGTH / SECTION EFFICACE DE GLISSIÈRE	END TREATMENT / TRAITEMENT DES EXTRÉMITÉS	
			APPROACH / ORIGINE DU DISPOSITIF	LEAVING / FIN DU DISPOSITIF
GP-15	NORTH / NORD	50.83 m (EXISTING LENGTH / LONGUEUR EXISTANTE)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048
GP-15.1	NORTH / NORD	63 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
	SOUTH / SUD	66 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-15.2	NORTH / NORD	85 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
	SOUTH / SUD	91 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-15.3	NORTH / NORD	75 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
	SOUTH / SUD	57 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-15.4	NORTH / NORD	90 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
	SOUTH / SUD	95 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-15.5	NORTH / NORD	93 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
	SOUTH / SUD	94 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)

**GENERAL NOTES / NOTES GÉNÉRALES:**

- ALL GIVEN LENGTHS FOR NEW GUIDE RAILS ARE APPROXIMATE. LENGTHS SHOULD BE CONFIRMED ON SITE BY THE DESIGN ENGINEER PRIOR TO INSTALLATION OF GUIDE RAILS. / TOUTES LONGUEURS SPÉCIFIÉES POUR LES NOUVELLES GLISSIÈRES DE SÉCURITÉ SONT APPROXIMATIVES ET DEVRONT ÊTRE CONFIRMÉES SUR LE SITE PAR L'INGÉNIEUR CONCEPTEUR AVANT DE DÉBUTER L'INSTALLATION DE NOUVELLES GLISSIÈRES.
- NEW GUIDE RAILS SHALL BE SEMI-RIGID W SHAPE SECTION GALVANIZED STEEL HIGHWAY BARRIER WITH STEEL POSTS SPACED AT 1905MM C/C (MTQ CODIFICATION: W/AE/1905). / LES NOUVELLES GLISSIÈRES SERONT DES GLISSIÈRES SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION SUR DES POTEAUX D'ACIER ESPACÉS À 1905mm (CODIFICATION DU MTQ: W/AE/1905).
- REFER TO TABLES ON THIS DRAWING AND ON DRAWING 02 FOR REQUIRED GUIDE RAIL LENGTH AND END TREATMENTS FOR EACH SITE. INDICATED LENGTHS DO NOT INCLUDE RAIL USED IN END TREATMENT. / VÉRIFIEZ LE TABLEAU SUR CE DESSIN ET SUR LE DESSIN 02 POUR CONNAÎTRE LA LONGUEUR DE GLISSIÈRE REQUISE ET LE TYPE DE TRAITEMENT D'EXTRÉMITÉ POUR CHAQUE SITE. LES LONGUEURS INDIQUÉES NE COMPRENNENT PAS LES ÉLÉMENTS DE GLISSEMENT UTILISÉ DANS LES TRAITEMENTS DES EXTRÉMITÉS.
- END TREATMENT MTQ CODIFICATION: L-WIA-2. / CODIFICATION DU MTQ DES TRAITEMENTS D'EXTRÉMITÉ: L-WIA-2.
- GUIDE RAILS AT LOCATIONS HAVING EXISTING GUIDE RAILS WILL BE REMOVED AND REPLACED WITH A NEW GUIDE RAIL SYSTEM (W-BEAM GUIDE RAIL AND APPROVED END TREATMENT). EXISTING LENGTHS ARE ASSUMED TO SATISFY THE MTQ REQUIREMENTS AND WILL BE MAINTAINED WHEN INSTALLING NEW GUIDE RAILS. / LES GLISSIÈRES DE SÉCURITÉ DANS LES EMPLACEMENTS AYANT DÉJÀ DES GLISSIÈRES SERONT ENLEVÉS ET REMPLACÉS PAR UN NOUVEAU SYSTÈME DE GLISSIÈRE (GLISSIÈRES SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION AVEC DISPOSITIF D'EXTRÉMITÉ L-WIA-2). LES LONGUEURS DES GLISSIÈRES EXISTANTES SONT PRÉSUMÉES SATISFAIRE AUX EXIGENCES DU MTQ ET SERONT MAINTENUES LORS DE L'INSTALLATION DE NOUVELLES GLISSIÈRES DE SÉCURITÉ.
- GUIDE RAIL SPECIFICATIONS, FABRICATION, AND INSTALLATION WILL BE AS DETAILED IN THE CONTRACT SPECIFICATIONS AND AS SPECIFIED BY THE STANDARDS PRESENTED IN THE MTQ'S "OUVRAGES ROUTIERS TOME VIII - DISPOSITIFS DE RETENUE". / LES SPÉCIFICATIONS, LA FABRICATION, ET L'INSTALLATION DE NOUVELLE GLISSIÈRE DE SÉCURITÉ SERONT DÉTAILLÉES DANS LES SPÉCIFICATIONS DU CONTRAT ET PRÉCISÉES PAR LES NORMES PRÉSENTÉES DANS LE TOME VIII - DISPOSITIFS DE RETENUE DU MTQ.
- NEW GUIDE RAILS AND END TREATMENTS MUST BE SELECTED FROM THE MTQ'S PREAPPROVED PRODUCT LIST BASED ON THE PRODUCT CODE PROVIDED IN THE TABLES FOR EACH ELEMENT. / LES NOUVELLES GLISSIÈRES DE SÉCURITÉ ET LES TRAITEMENTS D'EXTRÉMITÉ DOIVENT ÊTRE SÉLECTIONNÉS À PARTIR DE LA LISTE DE PRODUITS PRÉAPPROUVÉS DU MTQ PAR RAPPORT AU CODE DE PRODUIT FOURNI DANS LES TABLEAUX POUR CHAQUE ÉLÉMENTS.

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émis ou révisé

no.	description	date
1	ISSUED FOR REVIEW	31/03/16

project  
projet

PHASE 1: GATINEAU PARK  
GUARDRAILS REPLACEMENT

PHASE 1: REMPLACEMENT DES  
GLISSIÈRES DE SÉCURITÉ DANS  
LE PARC DE LA GATINEAU

drawing  
dessin

LOCATION OF NEW GUIDERAILS

EMPLACEMENT DE NOUVELLES  
GLISSIÈRES DE SÉCURITÉ

approved by  
approuvé par TASHI DWIVEDI

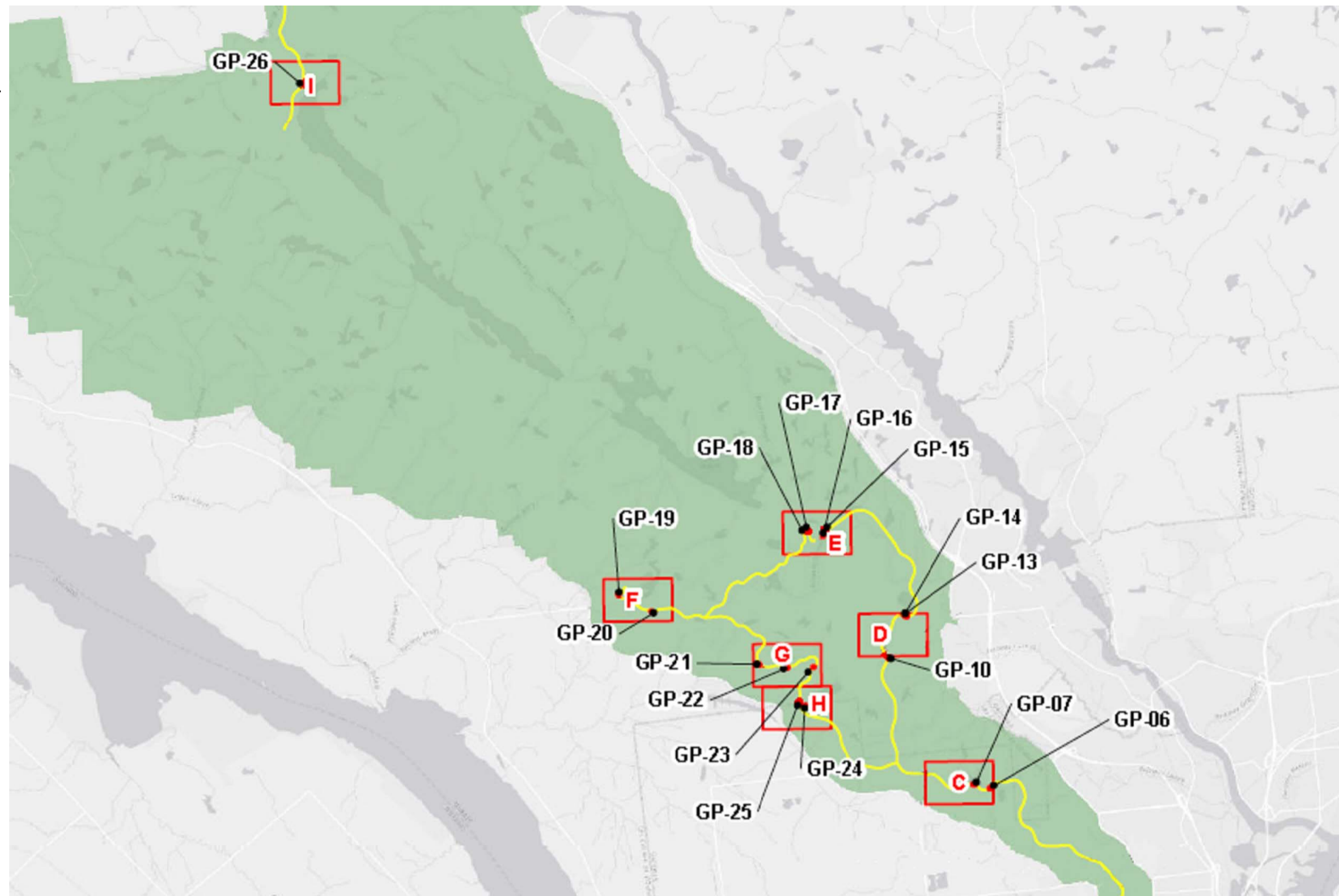
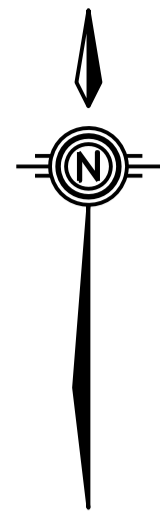
designed by  
conçu par LUC MONETTE

drawn by  
dessiné par M.P.

date 31 MARCH 2017 scale AS SHOWN

NCC project no. 000176-01 sheet no. no. de la feuille





SITES REQUIRING GUIDE RAIL REMOVAL AND INSTALLATION

NOTES / NOTES:

- REFER TO DRAWING 02 FOR GENERAL NOTES. / VOIR LE DESSIN 02 POUR LES NOTES GÉNÉRALES.
- LOCATIONS INDICATED ON THIS DRAWING HAVE EXISTING GUIDE RAILS; REMOVE EXISTING GUIDE RAILS, INCLUDING POSTS, AND INSTALL NEW SEMI-RIGID STEEL BEAM GUIDE RAILS AND END TREATMENTS ACCORDING TO DETAILS INDICATED IN THE TABLE FOR EACH LOCATION AND AS PER MINISTRY OF TRANSPORTATION OF QUEBEC STANDARDS LISTED IN "TOME VIII - DISPOSITIFS DE RETENUE". / LES EMPLACEMENTS INDICQUÉS SUR CE DESSIN ONT DES GLISSIÈRES DE SÉCURITÉ EXISTANTES; ENLEVER LES GLISSIÈRES EXISTANTES, Y COMPRIS LES POTEAUX, ET INSTALLER DES NOUVELLES GLISSIÈRES SEMI-RIGIDES AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION ET DES TRAITEMENTS D'EXTRÉMITÉS SELON LES DÉTAILS INDICQUÉS DANS LE TABLEAU POUR CHAQUE EMPLACEMENT ET SELON LES NORMES DU MTQ FIGURANT DANS LE TOME VIII - DISPOSITIFS DE RETENUE.

SITE / LOCATION	REQUIRED GUIDE RAIL LENGTH / SECTION EFFICACE DE GLISSIÈRE (W / AE / 1905)	END TREATMENT / TRAITEMENT DES EXTRÉMITÉS	
		APPROACH / ORIGINE DU DISPOSITIF	LEAVING / FIN DU DISPOSITIF
GP-06	177 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-07	149 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-10	101 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-13	192 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-14	138 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-15	51 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048
GP-16	35 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-17	36 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	COMBINED WITH GP-18
GP-18	149 m	COMBINED WITH GP-17	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-19	87 m	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-20 (PARKING LOT / STATIONNEMENT)	159 m	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048
GP-21	176 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-22 (PARKING LOT / STATIONNEMENT)	73 m	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048
GP-23	208 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)
GP-24 (PARKING LOT / STATIONNEMENT)	103 m	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048
GP-25 (PARKING LOT / STATIONNEMENT)	35 m	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048	FLARED END - MTQ TOME VIII, CHAPITRE 3, GSR 048 / BOUT EFFILÉ - MTQ TOME VIII, CHAPITRE 3, GSR 048
GP-26	199 m	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)	ET PLUS TERMINAL SYSTEM / DISPOSITIF D'EXTRÉMITÉ ET-PLUS (L-WIA-2)

Real Estate Management, Design and Construction Branch  
Direction de la gestion de l'immobilier, design et construction

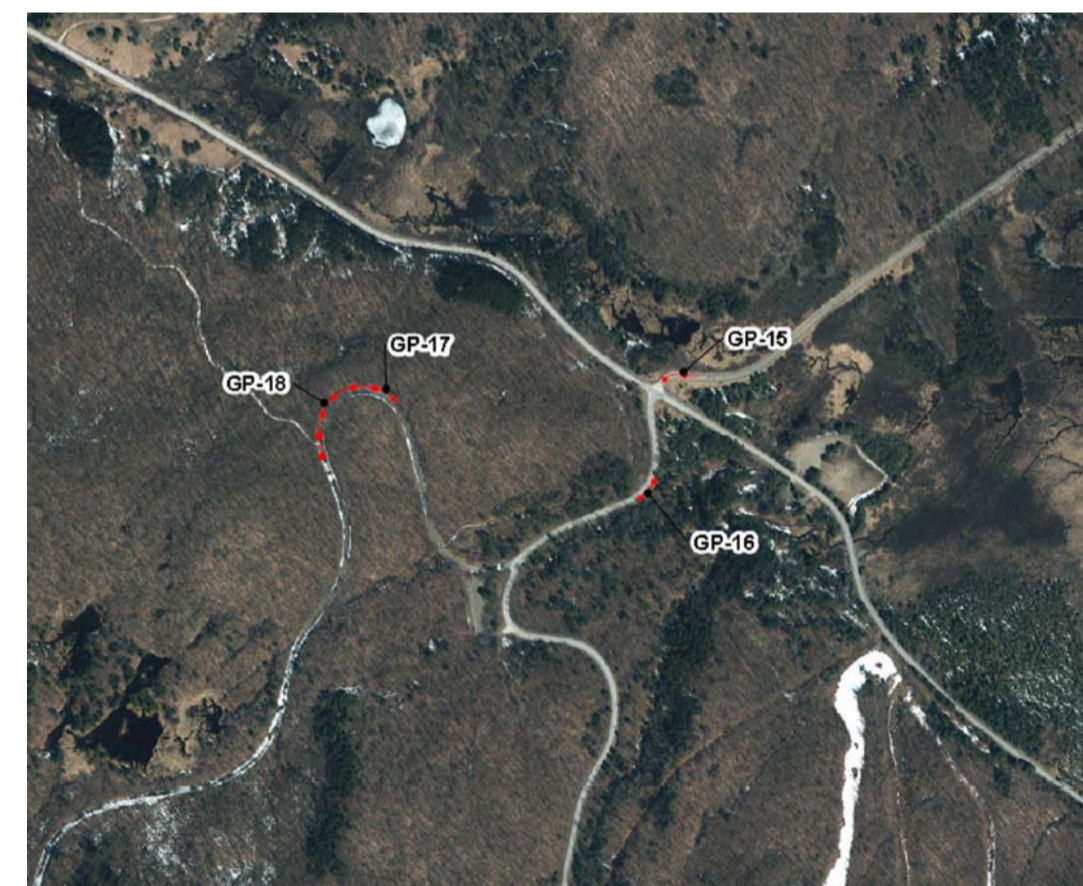
Design and Construction Division  
Division design et construction

director - Claude Robert - directeur

consultant  
expert-conseil



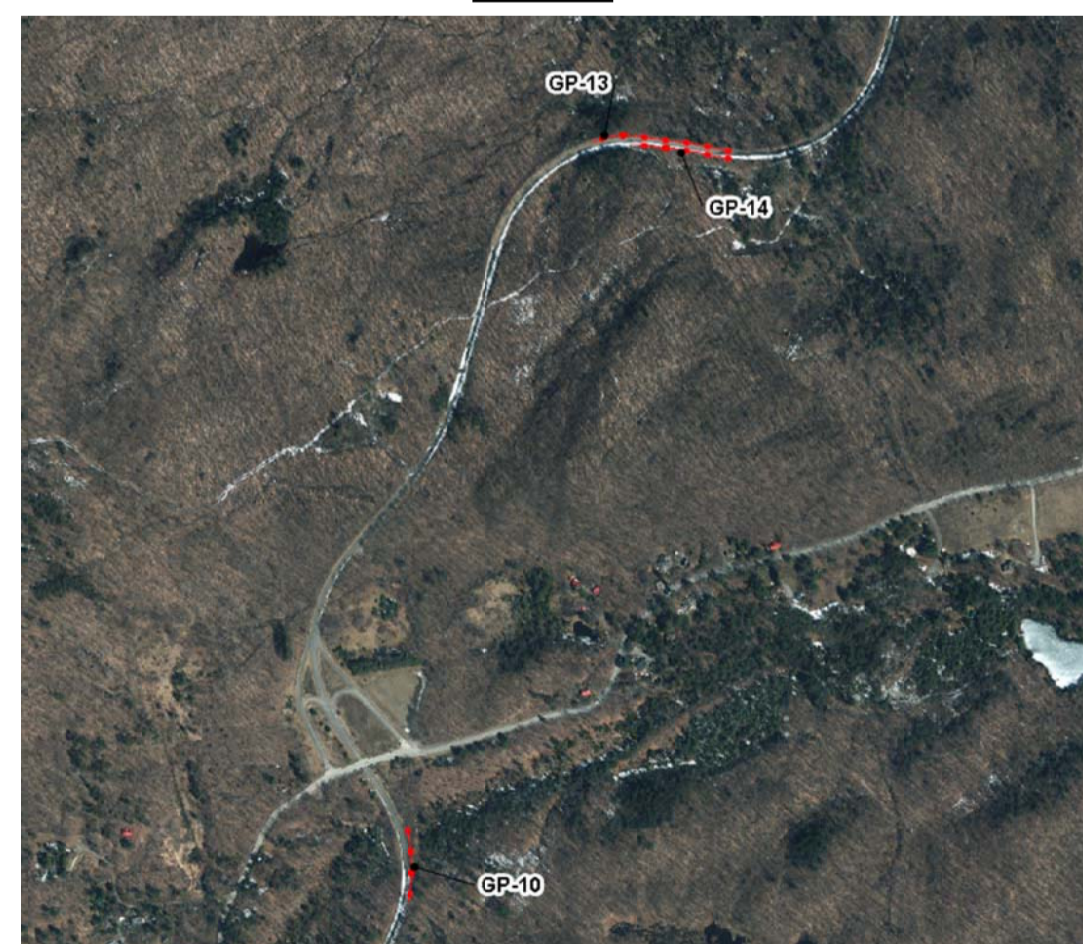
MAP: C



MAP: E



MAP: G



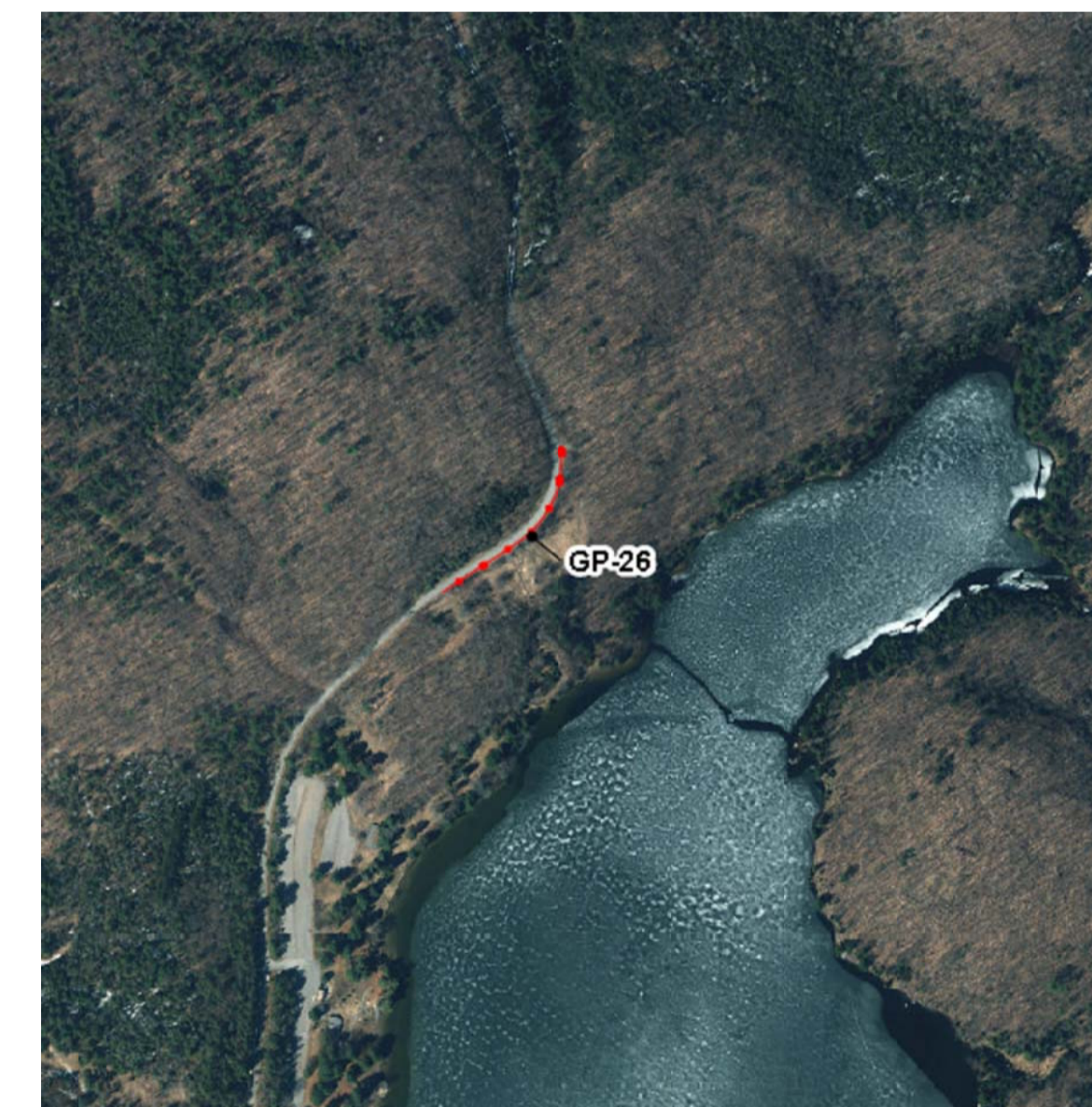
MAP: D



MAP: F



MAP: H



MAP: I

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GUARDRAIL REPLACEMENT

PHASE 1: REMPLACEMENT DES  
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drawing  
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LOCATION OF GUIDE RAILS  
TO BE REPLACED

EMPLACEMENT DE GLISSIÈRES  
DE SÉCURITÉ À REMPLACER

approved by  
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NCC project no. sheet no.  
no. du projet de la CCN no. de la feuille

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## **National Capital Commission (NCC) Environmental Guidelines for Maintenance Contracts**

This document summarizes the mitigation measures to be implemented during the various activities that will be undertaken as part of Maintenance contracts on National Capital Commission (NCC) lands. This document fulfills the requirements under the *Canadian Environmental Assessment Act 2012 (CEAA, 2012)* to determine whether projects on federal lands are likely to cause significant adverse environmental effects<sup>1</sup>. If the mitigation measures outlined within this document are implemented, then the activities described below which are conducted on NCC lands will be unlikely to cause significant adverse environmental effects. This table also takes into account the other legal obligations the NCC has under both provincial and federal environmental legislation (e.g. *Species at Risk Act, Migratory Birds Convention Act, Canadian Environmental Protection Act, etc.*). This document complements the NCC's Environmental Strategy and Master Plans.

The NCC Environmental Strategy outlines 5 areas for action: reducing waste, protecting biodiversity, preventing pollution, leading in environmental practices and combating climate change. One of the objectives under the *leading in environmental practices* area is to incorporate environmentally sensitive practices into all Maintenance contracts. This document reflects the NCC's commitment to meeting this objective.

All contractors and contract management officers will be required to have basic training in the use of these environmental guidelines. It is important that these guidelines be strictly followed, as fines may be issued by the provincial or federal government in the event of noncompliance. Repaying these fines will be the responsibility of the contractor.

### **Environmental Guidelines to be followed for All Maintenance Activities**

The following measures and principles must be followed throughout all Maintenance work on NCC lands. Mitigation measures marked with an asterisk (\*) will require approval from the NCC prior to the start of the Maintenance activity, or will require the contractor to notify the NCC in the case of an accident or emergency. When a mitigation measure is marked with an asterisk (\*), contact the Contract Management Officer (CMO) to inform them of the type of work you are doing. The CMO will then be responsible to contact relevant NCC specialists (e.g. arborist, contaminated site specialists, biologists, archaeologist, etc.) to obtain their recommendations.

#### *Air Emissions*

- To the extent possible the Contractor will minimize unnecessary idling of vehicles which can result in wasted fuel and the creation of greenhouse gases (refer to municipal by-laws).
- All air emissions must meet regulatory requirements. Where required, a certificate of approval must be obtained from provincial authorities for stationary sources of air pollution (e.g. stacks, boilers, fume hoods).
- Use low-sulphur diesel or ethanol-based fuel wherever possible to reduce vehicle emissions.
- Regularly service vehicles and practice preventive maintenance to reduce vehicle emissions.
- The use of energy efficient vehicles and machinery is encouraged to reduce carbon emissions.
- Whenever possible, it is recommended to use renewable sources of electricity to prevent unnecessary emissions.

#### *Archaeological Resources*

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<sup>1</sup> The determination of whether an adverse environmental effect is significant is based on several criteria : magnitude, geographic extent, duration and frequency, reversibility and ecological context as per the Canadian Environmental Assessment Agency guidelines

- \*If any archaeological resources or human remains are discovered during Maintenance activities, all work at the location concerned must be halted immediately and Ian Badgley, Archaeologist, NCC Heritage Program (613-239-5678, Ext. 5751, [ian.badgley@ncc-ccn.ca](mailto:ian.badgley@ncc-ccn.ca)) must be notified forthwith. Work shall not be resumed at that location until measures for the protection of those resources or remains have been put in place.

#### *Cleaning of Equipment, Machinery, and Vehicles*

- Before transporting all-terrain vehicles or other tracked vehicles into and out of an NCC valued ecosystem or valued habitat, ensure appropriate measures have been taken to clean away sludge, dirt, and plant material, the latter to minimize the spread of invasive species.

#### *Contaminated Soils*

- \*No soils from a contaminated site may be reused elsewhere.
- Management and disposal of contaminated soils will follow all applicable regulations and guidelines.

#### *Designated Substances*

- \*Prior to entering a site, contact the NCC to determine if any designated substances<sup>2</sup> are present.
- Handle and dispose of all designated substances in accordance with all federal, provincial, and municipal requirements.
- Ensure employees are trained on the identification and handling of designated substances.

#### *Pesticides*

- In 2012, the NCC developed and approved a policy to eliminate the cosmetic use of pesticides on its lands. All activities that take place on NCC lands must be in full compliance with all federal pesticides legislation and regulations as well as be in full compliance with the requirements under the *Ontario Pesticide Act* and the *Quebec Pesticide Act*, depending on the province where the activity is taking place.

#### *Fauna and Wildlife*

- Workers will avoid wilfully disturbing any wildlife at the site.
- If the animal is found inside a structure, contact the CMO who will be advised by the NCC environmental services on the best course of action.
- Workers must keep the work site clean and must not leave behind garbage or food scraps that could attract animals or alter their behaviour.

#### *Site Reinstatement*

- To prevent weed germination and establishment, retain native vegetation in and around project activity and keep soil disturbance to a minimum consistent with project objectives.
- All materials should be removed at the end of the works, and the site should be reinstated to its original conditions, or better, including the restoration of both topsoil and native vegetation. Seed mixtures are to follow the NCC portfolio approved seeding, sodding or mulch.

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<sup>2</sup> As per *Ontario Regulation 490/09 Designated Substances* definition

- Revegetation must be done as soon as possible within the growing season. If unfeasible, the Contractor must stabilize disturbed areas with erosion control blankets to keep the soil in place and prevent erosion in water bodies. Blankets must be removed only at the end of the revegetation work.

#### *Spills Procedure & Emergency Response*

The NCC has developed a Spills Procedure to ensure that appropriate and consistent responses are implemented to deal with emergencies or accidents. All individuals performing work on NCC property are expected to be familiar with the general requirements for reporting and responding to environmental emergencies on NCC property. In addition, the following requirements must be met.

- **All emergency situations MUST be reported immediately to 911 and then to the NCC 24 Hour Emergency Communications Service at 613 239-5353.** Any environmental spills (biological, chemical or petroleum based) must be reported to the NCC 24 Hour Emergency Communication Service at 613-239-5353.
- Spill response materials should be available wherever hazardous materials are used or stored. These spill response materials should be suitable in type and quantity to the type and quantity of hazardous materials being used at that location.
- Employees must be trained on how to use the spill material and equipment.
- All used absorbent material must be disposed of in accordance with applicable regulatory requirements.
- \*Any release of potential contaminants, such as fuel, chemicals, or other hazardous materials, must be reported to the NCC immediately.
- All spills must also be reported to the appropriate provincial authority where a spill: discharges to air, land or water, is in excess of normal usage, has escaped its means of containment, or has been combined with other products affecting its chemical stability which could cause an adverse effect (i.e. negative impact on health, environment or property).
- Spills must be contained and cleaned up in accordance with all federal, provincial, and local regulatory requirements.
- A spill report form has been prepared by the NCC and must be completed and sent to Environmental Services within 24 hours of the spill. The spill form is included in the reporting section of this contract. The Spill Report, Response and Review Log must be completed by following the Spill Procedure in place. The Spill Report, Response and Review Log should be submitted to the NCC Contract Manager and it should provide details on the spill.

#### *Trees*

- \*No tree (with a diameter at breast height (DBH) of 10cm or greater) may be cut without prior authorization from the NCC.
- Respect a minimum distance of 2 meters from any trees (species at risk such as Butternut, Rock Elm, or Black Maple may require greater distance) when excavating or installing structures. Install protectors around all trees susceptible of being damaged by machinery. \*If damages are done to a tree, it must be reported to the CMO who will decide of the applicable mitigation measures (e.g. proper pruning of the branch, replacement of the tree, report to applicable authorities, etc.) to be implemented by the contractor.
- When feasible, do not park vehicles or machinery or store any materials within the dripline of any trees.
- Any federally or provincially protected tree species (seedling, sapling or tree) must be protected and precautionary measures such as flagging the tree or installing protectors at the dripline of the tree must be taken to ensure they are not damaged or cut, including the critical root zone. These species include, but are not limited to Butternut (*Juglans cinerea*) in both Quebec and Ontario and Rock Elm (*Ulmus thomasii*) and Black Maple (*Acer nigrum*) in Quebec. Any flagging tape used must be removed once work is completed.

#### *Water Quality, Fish, and Fish Habitat*

- Any activity that takes place within 30 m of a watercourse or wetland and may release sediment, soil, or any other potentially polluting chemical or product will require the development and implementation of an Erosion and Sediment Control Plan and an Emergency Response Plan.
- Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals do not enter the watercourse.

- Clearing of riparian vegetation should be kept to a minimum: use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction. When practicable, prune or top the vegetation instead of grubbing/uprooting.
- Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high water mark. If material is removed from the waterbody, set it aside and return it to the original location once construction activities are completed. Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks.
- Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the waterbody.
- Limit machinery fording of the watercourse to a one-time event (i.e., over and back), and only if no alternative crossing method is available. If repeated crossings of the watercourse are required, construct a temporary crossing structure.
- Use temporary crossing structures or other practices to cross streams or waterbodies with steep and highly erodible (e.g., dominated by organic materials and silts) banks and beds. For fording equipment without a temporary crossing structure, use stream bank and bed protection methods (e.g., swamp mats, pads) if minor rutting is likely to occur during fording.
- Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

#### *Weather*

- Avoid performing Maintenance activities that have the potential to release dust or other particles during periods of heavy rainfall or high winds.

**Table 1: Mitigation Measures for Maintenance Contracts**

To use this table, find the Maintenance activity you are performing on the leftmost column, and apply the mitigation measures specified. Mitigation measures marked with an asterisk (\*) will require approval from the NCC prior to the start of the Maintenance activity, or will require the contractor to notify the NCC in the case of an accident or emergency. When a mitigation measure is marked with an asterisk (\*), contact the Contract Management Officer (CMO) to inform them of the type of work you are doing. The CMO will then be responsible to contact relevant NCC specialists (e.g. arborist, contaminated site specialists, biologists, archaeologist, etc.) to obtain their recommendations.

**Important note:** The installation or construction of new fixtures, structures, or systems (e.g. culverts, electrical conduits, underground pipes, etc.) is not covered under this guide, and must be reviewed separately under the *Canadian Environmental Assessment Act, 2012*. If your work involves new construction, make sure to contact the CMO.

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
<b>Landscape Management</b>				
<b>Turf:</b> machine and manual cutting, trimming, watering, edging, top dressing, seeding or overseeding, aerating, fertilizing, etc.	No	<ul style="list-style-type: none"> <li>Excess or improper application of fertilizers can cause environmental degradation of water bodies.</li> <li>Potential damage to species protected under the <i>Species at Risk Act</i> or provincial legislation during cutting.</li> <li>Potential destruction of migratory bird nests which are protected under the <i>Migratory Bird Conventions Act</i> during cutting.</li> </ul>	<ul style="list-style-type: none"> <li>Do not apply fertilizers or other products containing phosphorus or nitrogen within 15m of a watercourse or water body.</li> <li>In 2012, the NCC developed and approved a policy to eliminate the cosmetic use of pesticides on its lands. All activities that take place on NCC lands must be in full compliance with all federal pesticides legislation and regulations as well as be in full compliance with the requirements under the <i>Ontario Pesticide Act</i> and the <i>Quebec Pesticide Act</i>, depending on the province where the activity is taking place.</li> <li>Turf cuttings are to be collected and composted on site, where possible.</li> <li>*When clearing naturalized meadows (e.g. Class C), the NCC will need to verify the presence of any species at risk prior to undertaking the activity.</li> <li>*To minimize harm to migratory birds, naturalized meadows (e.g. Class C) may not be cut between April 15<sup>th</sup> and August 15<sup>th</sup>, which corresponds to the core migratory bird breeding and nesting season. If, by exception or for health and safety reasons (fire breaks), the NCC requires that naturalized meadows or class C areas be cut prior to August 15<sup>th</sup>, the NCC will be required to conduct an area search for evidence of nesting. Environment Canada recommends that these surveys be carried out by skilled and experienced observers using appropriate methodology<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>If activities must be conducted in a naturalized meadow between April 15<sup>th</sup> and August 15<sup>th</sup>, conduct area search for evidence of nesting.</li> </ul>
<b>Tree/shrub:</b> safety and Maintenance, pruning, trimming, cultivating, edging, mulching,	Yes, when carried out in relation to a	<ul style="list-style-type: none"> <li>Potential damage to trees or shrubs protected under the <i>Species at Risk Act</i> or provincial legislation.</li> <li>Potential destruction of migratory bird nests</li> </ul>	<ul style="list-style-type: none"> <li>*Any federally or provincially protected tree species (seedling, sapling or tree) must be properly flagged and protected to prevent damage or accidental removal. Highly visible flagging tape (using a pre-determined colour) should be used to clearly identify the tree and removed once work is completed. Presence of such species should be reported to the CMO.</li> </ul>	<ul style="list-style-type: none"> <li>NCC approval prior to tree pruning, cutting or removal.</li> <li>If activities must be conducted in a naturalized</li> </ul>

<sup>3</sup> Environment Canada. Specific considerations related to determining the presence of nests. [[http://ec.gc.ca/paom-itmb/default.asp?lang=En&n=8D910CAC-1#\\_004](http://ec.gc.ca/paom-itmb/default.asp?lang=En&n=8D910CAC-1#_004)]. Online December 10, 2013.

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
removal, winter protection, etc.	physical work (e.g. pathway Maintenance)	<p>which are protected under the <i>Migratory Bird Conventions Act</i>.</p> <ul style="list-style-type: none"> <li>Improper disposal of diseased trees or shrubs may spread invasive pests, diseases or pathogens.</li> <li>Improper pruning may decrease tree health.</li> </ul>	<p>These species include <b>Butternut</b> (<i>Juglans cinerea</i>), <b>Rock Elm</b> (<i>Ulmus thomasi</i>) and <b>Black Maple</b> (<i>Acer nigrum</i>).</p> <ul style="list-style-type: none"> <li>*It is prohibited to prune or fell any at risk tree species (live or dead) protected by provincial and/or federal law, unless a permit was first obtained from the appropriate agency, either Environment Canada or MDDEFP, depending on the case. A permit request to these agencies must first be obtained by the NCC. Protected tree species include <b>Butternut</b> (<i>Juglans cinerea</i>) in both Quebec and Ontario, <b>Rock Elm</b> (<i>Ulmus thomasi</i>) and <b>Black Maple</b> (<i>Acer nigrum</i>) in Quebec.</li> <li>*To minimize harm to migratory birds, no tree or shrub cutting or removal may take place between April 15<sup>th</sup> and August 15<sup>th</sup>, which corresponds to the core migratory bird breeding and nesting season. Alternatively, consider conducting an area search for evidence of nesting. Environment Canada recommends that these surveys be carried out by skilled and experienced observers using appropriate methodology<sup>2</sup></li> <li>Trees or shrub clippings, branches, or log pieces that show signs of disease or pests must be appropriately disposed of following all federal, provincial, and municipal regulations in order to minimize spread of the disease or pest (e.g. Dutch elm disease, emerald ash borer, etc). Healthy material will be collected and composted on-site, where possible.</li> <li>Minimize vegetation cutting (DBH &lt; 10 cm), limiting it to vegetation that interferes with the movement of machinery and work.</li> <li>All tree or vegetation debris that may fall or enter any water bodies must be removed immediately with as little disturbance as possible.</li> <li>If working in Gatineau Park, any sapling or tree that has to be cut should be cut in 1 meter lengths and dispersed in the surrounding forest on NCC property.</li> <li>*When removing tree stumps, contact your CMO because the associated excavation may affect archaeological resources and may require testing and disposal if it is located on a contaminated site.</li> <li>All tree pruning should follow the International Society of Arboriculture (ISA) best practices for tree pruning.</li> </ul>	<p>meadow between April 15<sup>th</sup> and August 15<sup>th</sup>, conduct area search for evidence of nesting.</p> <ul style="list-style-type: none"> <li>Obtain required authorization to prune or fell a protected tree species.</li> <li>Monitor compliance of conditions set out in the permit and/or authorization for cutting of protected trees.</li> <li>Verification of soil and groundwater contamination and archaeological potential when removing stumps.</li> </ul>
<b>Annual, bulb, and perennial:</b> mowing of daffodils, planting/removing, watering, fertilizing, cultivating, edging,	No	<ul style="list-style-type: none"> <li>Excess or improper application of fertilizers can cause environmental degradation of water bodies and aquatic life.</li> <li>Improper disposal of flowers may spread invasive pests, diseases or pathogens.</li> </ul>	<ul style="list-style-type: none"> <li>Do not apply fertilizers or other products containing phosphorus or nitrogen within 15m of a watercourse or water body.</li> <li>Flowers that are removed and show signs of disease or pests must be appropriately disposed of following all federal, provincial, and municipal regulations in order to minimize spread of the disease or pest. Healthy clippings are to be collected and composted on-site, where</li> </ul>	

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
hang weeding, pinching, roguing, winter protection, plant division, etc.			possible. <ul style="list-style-type: none"> <li>Use non-invasive plant species and preferably native species for ornamental purposes. Consult invasive alien species lists before the introduction of a new ornamental species.</li> </ul>	
<b>Non-desirable vegetation / nest / small animal control<sup>4</sup>:</b> inspecting and removing as needed.	Yes	<ul style="list-style-type: none"> <li>Potential damage to species protected under the <i>Species at Risk Act</i> or provincial legislation.</li> <li>Potential destruction of migratory bird nests which are protected under the <i>Migratory Bird Conventions Act</i>.</li> <li>Pesticides, herbicides, insecticides, or fungicides may kill non-target species.</li> <li>Accidental spread of invasive species.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that the small nuisance animal is not a species protected under the <i>Species at Risk Act</i>, the <i>Ontario Endangered Species Act</i>, <i>Quebec Loi sur les espèces menacées ou vulnérables</i> or the <i>Migratory Birds Convention Act</i>.</li> <li>*No active bird nests may be disturbed or destroyed. Generally, if migratory birds nesting in buildings are a cause for concern, it is recommended that contractors identify how the birds enter the building and block those entries after nesting is completed and before the birds come back to nest the following season.</li> <li>Where the presence or effects of the nuisance animal(s) may create a dangerous situation, the Contractor is to contact the CMO who will be advised by the NCC environmental services on the best course of action.</li> <li>In 2012, the NCC developed and approved a policy to eliminate the cosmetic use of pesticides on its lands. All activities that take place on NCC lands must be in full compliance with all federal pesticides legislation and regulations as well as be in full compliance with the requirements under the <i>Ontario Pesticide Act</i> and the <i>Quebec Pesticide Act</i>, depending on the province where the activity is taking place.</li> <li>Only products registered by Agriculture and Agri-Food Canada under the <i>Pest Control Products Act</i> may be used.</li> <li>*The contractor must receive written authorization from the NCC for any exceptional circumstances requiring application of pesticides, herbicides, insecticides or fungicides.</li> <li>*When removing invasive plant species, ensure that plant material is appropriately disposed of to minimize spread. Consult the NCC for information on the best disposal requirements based on the invasive species you are working with.</li> <li>Clean sludge, dirt, and plant material from equipment and tools before leaving a site infested with invasive species. High pressure air hoses, mobile cleaning stations which retain water runoff, and brushes or brooms are acceptable cleaning methods.</li> </ul>	<ul style="list-style-type: none"> <li>Approval of pesticide application.</li> <li>Verification of appropriate disposal methods for invasive species.</li> <li>Confirmation of the animal species.</li> </ul>
<b>Civil Maintenance</b>				
<b>All surfaces:</b>	Yes	<ul style="list-style-type: none"> <li>Accidental spills may degrade environmental</li> </ul>	<ul style="list-style-type: none"> <li>Refer to the Spills Procedure and Emergency Response mitigation measures on page 2.</li> </ul>	

<sup>4</sup> Animals causing material damage to the NCC's Assets



Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
Inspecting, reporting, sweeping, removing hazards (e.g. leaves, encroaching vegetation, etc.), providing emergency services such as accident clean-ups, etc.		quality and have the potential to spread contamination.	<ul style="list-style-type: none"> <li>*Work performed in or near water may require a permit from the Ontario or Quebec provincial and/or federal government. The contractor must contact the CMO to verify permit requirements with the NCC environmental services.</li> <li>Any activity that takes place within 30 m of a watercourse or wetland and may release sediment, soil, or any other potentially polluting chemical or product will require the development and implementation of an Erosion and Sediment Control Plan and an Emergency Response Plan.</li> </ul>	
<b>Asphalt surfaces:</b> daily inspection, reporting, and secure any deficiencies (e.g. bumps, cracking, culvert and ditch problems, drainage problems, erosion, manhole and catch basin problems, etc), provide emergency pothole/sinkhole fillings.	Yes	<ul style="list-style-type: none"> <li>Accidental spills will degrade environmental quality and have the potential to spread contamination.</li> <li>The release of sediment and/or chemicals during Maintenance activities that take place in or near water may adversely affect fish, fish habitat, and/or water quality.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to the Spills Procedure and Emergency Response mitigation measures on page 2.</li> <li>Asphalt should either be mixed away from the site or should be prepared on paved surfaces to minimize the effects of a spill. Excess asphalt must be disposed off-site at a location that meets all regulatory requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Receive authorization to work near water.</li> <li>Monitor compliance of conditions set out in the permit and/or authorization to perform in-water or near-water works.</li> <li>Periodically inspect the erosion and sediment control measures to ensure proper installation and functioning, especially prior to, and after rainfall events.</li> </ul>
<b>Concrete/masonry surfaces</b> (curbs, gutters, concrete steps, exposed aggregate, granite sets, pavers, interlocks, flag stones, cobblestones, patio stones, etc.): re-setting, correcting, etc.	Yes	<ul style="list-style-type: none"> <li>Accidental spills will degrade environmental quality and have the potential to spread contamination.</li> </ul>	<ul style="list-style-type: none"> <li>Concrete should either be mixed away from the site or should be prepared on paved surfaces if only small quantities (e.g. for minor repairs) are required. Excess concrete must be disposed off-site at a location that meets all regulatory requirements.</li> <li>The washing of concrete trucks and other equipment used for mixing concrete should not be carried out within 30 m of a watercourse or wetland and should take place outside of the work site.</li> <li>All concrete trucks should collect their wash water and recycle it back into their trucks for disposal off-site at a location meeting all regulatory requirements.</li> <li>When performing gutter repairs or cleaning, ensure that no deleterious substance or debris falls into the gutter system.</li> </ul>	
<b>Gravel / granular /</b>	Yes	<ul style="list-style-type: none"> <li>The release of sediment and/or chemicals</li> </ul>	<ul style="list-style-type: none"> <li>Implement dust control measures.</li> </ul>	<ul style="list-style-type: none"> <li>Periodically inspect the</li> </ul>

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
<b>stone dust / natural / decorative surfaces:</b> levelling, grading, etc.		during Maintenance activities that take place in or near water may adversely affect fish, fish habitat, and/or water quality. <ul style="list-style-type: none"> <li>The release of particulate matter may adversely affect air quality.</li> </ul>	<ul style="list-style-type: none"> <li>*No increase in footprint below the High Water Mark</li> <li>*No new fill placed below the High Water Mark</li> </ul>	erosion and sediment control devices to ensure proper installation and functioning, especially after heavy rainfall.
<b>Wood surfaces:</b> repairing, maintaining structural integrity, sanding, painting, etc.	Yes	<ul style="list-style-type: none"> <li>Accidental spills will degrade environmental quality and have the potential to spread contamination.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure proper storage, management and use of materials to minimize spills.</li> <li>Implement dust control measures when sanding.</li> <li>Do not use treated wood in or near water (minimum distance is 15m).</li> <li>Do not use treated wood on surfaces used in the preparation or consumption of food (picnic tables, bird feeders), that would be in direct contact with drinking water or that will be used by people (benches, wooden structures for children).</li> <li>Refer to the Spills Procedure and Emergency Response mitigation measures on page 2.</li> </ul>	
<b>Lighting and electrical</b> (distribution boxes, electrical panels, aboveground and underground electrical conduits and wiring, light standards, etc.): inspecting, repairing, securing, replacing, providing line locates, providing immediate repairs, reporting.	Yes	<ul style="list-style-type: none"> <li>Spread of contaminated groundwater or soils during excavation.</li> <li>Health and safety effects from the exposure of contaminated soils.</li> <li>Damage to archaeological resources as a result of excavation.</li> <li>Damage to tree roots or trees as a result of excavation.</li> <li>Accidental erosion of soil that is stored near water may adversely affect fish, fish habitat, and/or water quality.</li> <li>Improper disposal of hazardous materials could degrade environmental quality and have an impact on health and safety.</li> </ul>	<ul style="list-style-type: none"> <li>*Prior to the start of any digging or excavation for the repair of electrical conduits or any other subsurface lighting and electrical fixture, contact the CMO to verify the presence of soil or groundwater contamination and archaeological potential. Provide the CMO with details on the location of the digging, and the type of work to be performed (e.g. will the trench be deepened or widened compared to what was previously excavated?).                             <ul style="list-style-type: none"> <li>If soil or groundwater contamination is present, testing prior to off-site disposal may be required.</li> <li>Management and disposal of contaminated soils will follow all applicable regulations and guidelines.</li> <li>In the case of new excavation or excavation that will widen, deepen or otherwise alter the footprint of previous excavation in zones of elevated archaeological potential, an archaeologist may need to be called on site to monitor that work.</li> <li>If the excavation does not involve any alteration to the footprint of previous excavation, then no archaeological investigation or monitoring is required.</li> </ul> </li> <li>*If any suspected soil or groundwater contamination at the site is discovered, the NCC must be notified immediately.</li> <li>Any activity that takes place within 30 m of a watercourse or wetland and may release sediment, soil, or any other potentially polluting chemical or product will require the development and implementation of an Erosion and Sediment Control Plan and an Emergency Response Plan.</li> <li>If soils must be stored overnight, they should be covered with a tarp.</li> </ul>	<ul style="list-style-type: none"> <li>Periodically inspect the erosion and sediment control fences to ensure proper installation and functioning, especially after heavy rainfall.</li> <li>May require testing of soils prior to off-site disposal.</li> <li>May require monitoring by qualified archaeologist.</li> <li>Attain permit to excavate near Butternut.</li> </ul>

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
			<ul style="list-style-type: none"> <li>• *Excavation within the dripline of a Butternut tree cannot proceed without a permit from Environment Canada.</li> <li>• *Excavation within the dripline of any tree is discouraged. If excavation must be performed, then contact the CMO so that they can verify mitigation measures for potential damage to trees.</li> <li>• Ensure proper disposal of hazardous materials (e.g. lamps, ballasts) in accordance with provincial and federal regulations.</li> </ul>	
<p><b>Drainage</b> (catch basins, manholes, underground pipes, ditches, side slopes, embankments, culverts, drainage channels, tiles drains, subsurface drains, bridges, tunnels, etc.): inspecting, reporting, cleaning, erosion / flood control prevention, providing line locates, water level control, removing surface water, etc.</p>	<p>Yes</p>	<ul style="list-style-type: none"> <li>• Spread of contaminated groundwater or soils during excavation.</li> <li>• Health and safety effects from the exposure of contaminated soils.</li> <li>• Damage to archaeological resources as a result of excavation.</li> <li>• Damage to tree roots or trees as a result of excavation.</li> <li>• The release of sediment and/or chemicals during Maintenance activities that take place in or near water may adversely affect fish, fish habitat, and/or water quality.</li> <li>• Potential destruction of migratory bird nests which are protected under the <i>Migratory Bird Conventions Act</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• *Prior to the start of any digging or excavation, contact the CMO to verify the presence of soil or groundwater contamination and archaeological potential. Provide the CMO with details on the location of the digging, and the type of work to be performed (e.g. will the trench be deepened or widened compared to what was previously excavated?).</li> <li>• If soil or groundwater contamination is present, testing prior to off-site disposal may be required.</li> <li>• Management and disposal of contaminated soils will follow all applicable regulations and guidelines.</li> <li>• In the case of new excavation or excavation that will widen, deepen or otherwise alter the footprint of previous excavation in zones of elevated archaeological potential, an archaeologist may need to be called on site to monitor that work.</li> <li>• If the excavation does not involve any alteration to the footprint of previous excavation, then no archaeological investigation or monitoring is required.</li> <li>• *If any suspected contamination at the site is discovered, the NCC must be notified immediately.</li> <li>• Any activity that takes place within 30 m of a watercourse or wetland and may release sediment, soil, or any other potentially polluting chemical or product will require the development and implementation of an Erosion and Sediment Control Plan and an Emergency Response Plan.</li> <li>• If soils must be stored overnight, they should be covered with a tarp.</li> <li>• *Excavation within the dripline of a Butternut tree cannot proceed without a permit from Environment Canada. Contact the CMO prior to excavation in order to obtain the necessary permit.</li> <li>• *Excavation within the dripline of any tree is discouraged. If excavation must be performed, then contact the CMO so that they can verify mitigation measures for potential damage to trees.</li> </ul>	<ul style="list-style-type: none"> <li>• Periodically inspect the erosion and sediment control devices to ensure proper functioning, especially after heavy rainfall.</li> <li>• May require testing of soils prior to off-site disposal.</li> <li>• May require monitoring by qualified archaeologist.</li> <li>• Monitor compliance of conditions set out in the permit and/or authorization to perform in-water or near-water works.</li> <li>• If activities must be conducted in a naturalized meadow within April 15<sup>th</sup> and August 15<sup>th</sup>, install temporary netting or other appropriate systems prior to the arrival of birds in the spring, in order to prevent birds from initiating nesting on the structure.</li> </ul>

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
			<ul style="list-style-type: none"> <li>• *Where Maintenance activities must take place during the the core migratory bird breeding and nesting season season (April 15<sup>th</sup> to August 15<sup>th</sup> ), netting or other appropriate systems may be temporarily installed prior to the arrival of birds in the spring, in order to prevent birds from initiating nesting on the structure (e.g. bridges and culverts).</li> <li>• *No increase in footprint below the High Water Mark.</li> <li>• *No new fill placed below the High Water Mark. Routine clean-out of drainage channels work has to be done in the dry<sup>5</sup></li> <li>• When cleaning culverts, follow the requirements set out in <b>Appendix A</b>.</li> <li>• The following measures should be applied during bridge cleaning:</li> <li>• Adequately seal drains and open joints before sweeping to prevent material from falling into the watercourse. Sweep bridges thoroughly before washing.</li> <li>• Clean and remove debris and sediment from drainage devices and dispose of the material in a way that will prevent it from entering the watercourse.</li> <li>• Direct wash-water past the ends of the bridge deck to a vegetated area to remove suspended solids, dissipate velocity and prevent sediment and other deleterious substances from entering the watercourse. If this cannot be achieved, use silt fences or other sediment and erosion control measures to prevent wash-water from entering the watercourse.</li> <li>• When extracting water from a watercourse, ensure the intakes of pumping hoses are equipped with an appropriate device to avoid entraining and impinging fish.</li> <li>• Remove paint or protective coatings in a manner that prevents any paints, paint flakes, primers, blasting abrasives, rust, solvents, degreasers or other waste material from entering the watercourse.</li> <li>• Use measures such as barges or shrouding to trap and prevent blasting abrasives, protective coatings, rust and grease from entering the watercourse.</li> <li>• Contain paint flakes, abrasives, and other waste materials for safe disposal.</li> <li>• Store, mix and transfer paints and solvents on land and not on the bridge to prevent these materials from entering the watercourse in the event of a spill.</li> <li>• Do not clean equipment in the watercourse or where the wash-water can enter the</li> </ul>	

<sup>5</sup> The recommended method for ditches cleaning and maintenance is the “methode du tiers inférieur” formally adopted by the Quebec Ministry of Transportation [http://www.mtq.gouv.qc.ca/portal/page/portal/Librairie/bpm/Publication\_entretien\_des\_fosses\_routiers.pdf]

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
			<p>watercourse.</p> <ul style="list-style-type: none"> <li>• Unless the debris accumulation is an immediate threat to the integrity of the piers and abutments, time debris removal to avoid disruption to sensitive fish life stages by adhering to appropriate fisheries timing windows (see the Ontario In-Water Construction Timing Windows), with the exception of ice build-up removal.</li> <li>• Limit the removal of material to that which is necessary to protect piers and abutments.</li> <li>• Remove debris by hand or with machinery operating from shore or a floating barge.</li> </ul>	
<p><b>Plumbing, irrigation, and water</b> (decorative fountains, drinking fountains, outdoor faucets, underground and aboveground water and sewer lines, pit toilets, washroom facilities, pump systems, irrigation controls, lines, heads, control panels, etc.): inspecting, installing, cleaning, testing, repairing, maintaining, replacing, water testing, providing portable toilets, providing locates, etc.</p>	<p>Yes</p>	<ul style="list-style-type: none"> <li>• Spread of contaminated groundwater or soils during excavation.</li> <li>• Damage to archaeological resources as a result of excavation.</li> <li>• Damage to tree roots or trees as a result of excavation.</li> <li>• Accidental erosion of soil that is stored near water may adversely affect fish, fish habitat, and/or water quality.</li> <li>• Accidental spills will degrade environmental quality.</li> </ul>	<ul style="list-style-type: none"> <li>• *Prior to the start of any digging or excavation for the repair of water and sewer lines, irrigation lines or heads, or any other subsurface plumbing, irrigation, or water fixture, contact the CMO to verify the presence of soil or groundwater contamination and archaeological potential. Provide the CMO with details on the location of the digging, and the type of work to be performed (e.g. will the trench be deepened or widened compared to what was previously excavated?). <ul style="list-style-type: none"> <li>○ If soil or groundwater contamination is present, testing prior to off-site disposal may be required.</li> <li>○ Management and disposal of contaminated soils will follow all applicable regulations and guidelines.</li> <li>○ In the case of new excavation or excavation that will widen, deepen or otherwise alter the footprint of previous excavation in zones of elevated archaeological potential, an archaeologist may need to be called on site to monitor that work.</li> <li>○ If the excavation does not involve any alteration to the footprint of previous excavation, then no archaeological investigation or monitoring is required.</li> </ul> </li> <li>• If any suspected contamination at the site is discovered, the NCC must be notified immediately.</li> <li>• Any activity that takes place within 30 m of a watercourse or wetland and may release sediment, soil, or any other potentially polluting chemical or product will require the development and implementation of an Erosion and Sediment Control Plan and an Emergency Response Plan.</li> <li>• If soils must be stored overnight, they should be covered with a tarp.</li> <li>• *Excavation within the dripline of a Butternut tree cannot proceed without a permit from Environment Canada. Contact the CMO prior to excavation in order to obtain the necessary permit.</li> <li>• *Excavation within the dripline of any tree is discouraged. If excavation must be performed,</li> </ul>	<ul style="list-style-type: none"> <li>• Periodically inspect the erosion and sediment control fences to ensure proper functioning, especially after heavy rainfall.</li> <li>• May require testing of soils prior to off-site disposal.</li> <li>• May require monitoring by qualified archaeologist.</li> </ul>

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
			<p>then contact the CMO so that they can verify mitigation measures for potential damage to trees.</p> <ul style="list-style-type: none"> <li>Refer to the Spills Procedure and Emergency Response mitigation measures on page 2.</li> </ul>	
<p><b>Fixtures, furniture and buildings</b> (NCC furniture only – fences, stone walls, guardrails, barricades, flags, bollards, garbage receptacles, signs, NCC buildings, kiosks, etc.): inspecting, repairing, replacing, cleaning, removing graffiti, painting, staining, displacing furniture, etc.</p>	<p>Yes</p>	<ul style="list-style-type: none"> <li>Spread of contaminated groundwater or soils during excavation.</li> <li>Damage to archaeological resources as a result of excavation.</li> <li>Accidental spills will degrade environmental quality.</li> <li>Potential destruction of migratory bird nests which are protected under the <i>Migratory Bird Conventions Act</i>.</li> <li>Dispersion of hazardous and designated substances (e.g. asbestos, lead, mercury, silica, urea formaldehyde foam insulation, vinyl chloride, PCBs, arsenic, etc.) in the environmental and potential adverse human health effects</li> </ul>	<ul style="list-style-type: none"> <li>*Prior to the start of any digging or excavation for the installation of new fixtures or furniture, contact the CMO to verify the presence of soil or groundwater contamination and archaeological potential. Provide the CMO with details on the location of the digging, and the type of work to be performed (e.g. will the trench be deepened or widened compared to what was previously excavated?).                         <ul style="list-style-type: none"> <li>If soil or groundwater contamination is present, testing prior to off-site disposal may be required.</li> <li>Management and disposal of contaminated soils will follow all applicable regulations and guidelines.</li> <li>In the case of new excavation or excavation that will widen, deepen or otherwise alter the footprint of previous excavation in zones of elevated archaeological potential, an archaeologist may need to be called on site to monitor that work.</li> <li>If the excavation does not involve any alteration to the footprint of previous excavation, then no archaeological investigation or monitoring is required.</li> </ul> </li> <li>*If any suspected contamination at the site is discovered, the NCC must be notified immediately.</li> <li>Soils from excavation may not be stored within 30m of a watercourse or wetland. If no other staging area is available, a silt fence should be erected around the material to minimize erosion. If soils must be stored overnight, they should be covered with a tarp.</li> <li>Refer to the Spills Procedure and Emergency Response mitigation measures on page 2.</li> <li>*Where Maintenance activities must take place during the the core migratory bird breeding and nesting season season (April 15<sup>th</sup> to August 15<sup>th</sup> ), netting or other appropriate systems may be temporarily installed prior to the arrival of birds in the spring, in order to prevent birds from initiating nesting on the structure (e.g. buildings, kiosks, chimneys, roofs, etc.).</li> <li>Provide the building Designated Substances Survey report to the contractors and ensure recommendations are implemented. If no Designated Substances Survey report exists for the building to be repaired or maintained, contact NCC Contaminated Sites Team (Eric Soulard, Senior Manager, at <a href="mailto:eric.soulard@ncc-ccn.ca">eric.soulard@ncc-ccn.ca</a> ext. 5418).</li> </ul>	<ul style="list-style-type: none"> <li>Periodically inspect the erosion and sediment control fences to ensure proper functioning, especially after heavy rainfall.</li> <li>May require testing of soils prior to off-site disposal.</li> <li>May require monitoring by qualified archaeologist.</li> <li>If activities must be conducted in a naturalized meadow within April 15<sup>th</sup> and August 15<sup>th</sup>, install temporary netting or other appropriate systems prior to the arrival of birds in the spring, in order to prevent birds from initiating nesting on the structure.</li> </ul>
<b>Snow and Ice Control</b>				

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
<b>Snow and ice control</b> (roadways and parking lots, walkways, pathways, sidewalks, steps and building access, buildings, utility service access, trails, lanes, fire lanes, open spaces, fields, etc.): providing equipment and supplies, removing, blowing, plowing, shoveling, clearing, cleaning, sweeping, de-icing, stockpiling, transporting, disposing, providing floor control and emergency services, etc.	Yes	<ul style="list-style-type: none"> <li>• Salt and sand from de-icing may adversely affect fish, fish habitat, and/or water quality.</li> <li>• Accidental damage to trees.</li> </ul>	<ul style="list-style-type: none"> <li>• Snow that is removed and transported for disposal must be disposed of at an authorized snow dumping facility.</li> <li>• No snow dumping is permitted on NCC property. Snow storage sites should be located such that meltwater that may contain salt is not directed towards <a href="#">salt vulnerable areas</a><sup>6</sup>. Contractors should implement Environment Canada <i>Best Management Practices for Salt Use on Private Roads, Parking Lots and Sidewalks</i><sup>7</sup>.</li> <li>• Install snow fencing around trees susceptible to damage from snow removal and transport activities.</li> <li>• Do not blow, plow, store, or shovel snow against trees or shrubs.</li> </ul>	
<b>Waste / Recycling / Cleaning Operations</b>				
<b>Litter / recycling pick-</b>	Yes	<ul style="list-style-type: none"> <li>• Improper disposal of waste will degrade</li> </ul>	<ul style="list-style-type: none"> <li>• All solid waste must be disposed of in accordance with all applicable environmental laws.</li> </ul>	

<sup>6</sup> For a definition of “salt vulnerable areas” please consult Environment Canada *Code of practice for the Environmental Management of Road Salts* [<http://www.ec.gc.ca/nopp/roadsalt/cop/en/guide.htm>]. Due to concerns about the large quantities of chlorides being released to the environment, road salts underwent a comprehensive five-year scientific assessment under the *Canadian Environmental Protection Act, 1999* beginning in 1995. The road salts assessment covered the chloride salts — sodium chloride (NaCl), calcium chloride (CaCl<sub>2</sub>), magnesium chloride (MgCl<sub>2</sub>) and potassium chloride (KCl) — as well as brines used in road de-icing/anti-icing and dust suppression, the salt portion of abrasive mixtures and ferrocyanide additives. Road salts enter the environment through losses at salt storage and snow disposal sites and through runoff and splash from roadways. The assessment report, published on December 1, 2001 concluded that high releases of road salts were having an adverse effect on freshwater ecosystems, soil, vegetation and wildlife.

<sup>7</sup> Available on the following Website: <http://www.ec.gc.ca/nopp/roadsalt/reports/ParkingLot/EN/p5.cfm#section>. See footnote 4 for rationale.

Maintenance Activity	Project Under CEAA, 2012?	Environmental Effects	Mitigation Measures	Responsibilities of NCC Environmental Experts (e.g. monitoring, permitting, approval, terms of reference, etc.)
<p><b>up and cleaning:</b> collecting litter and debris, emptying waste receptacles, cleaning fixtures and furniture, sweeping and flushing hard surfaces, bridges and tunnels, removing graffiti and posters from all assets, removing vegetative and non-vegetative material in spring, removing spills.</p>		<p>environmental quality.</p>	<p>The contractor must be aware of any restrictions or prohibitions in force at the disposal site. Where in effect, all municipal recycling and composting procedures shall be respected.</p> <ul style="list-style-type: none"> <li>• In general, burning of waste is prohibited on NCC property. Branches and cuttings may only be burned on NCC property with prior NCC authorization and with appropriate municipal permits for burning.</li> <li>• Contractors that provide services to the NCC for waste, recycling and composting disposal might be required to report the total weights for specific periods<sup>8</sup>.</li> <li>• Litter or debris must never be swept or pushed into water courses or wetlands.</li> <li>• All hazardous materials on NCC property must be stored in accordance with applicable regulations, standards and guidelines. Flammable materials must be stored in accordance with the National Fire Code of Canada.</li> <li>• Material Safety Data Sheets (MSDS) must be readily available for all hazardous materials brought on to NCC property. All employees handling these materials must have received training on the Workplace Hazardous Materials Information System (WHMIS) and on proper handling, storage and disposal of these materials.</li> <li>• All hazardous materials must be labelled in accordance with WHMIS requirements.</li> <li>• Absorbent material must be available whenever liquid hazardous materials are being used on NCC property. Staff must be trained on how to use and dispose of this material in the event of a spill.</li> <li>• When transporting hazardous materials, these materials must be labelled and transported in accordance with provincial and federal regulations regarding the transportation of dangerous goods.</li> <li>• Hazardous wastes and containers which previously contained hazardous materials must be disposed of in accordance with provincial and federal regulations.</li> </ul>	

**Appendix A. Culvert Cleaning - Mitigation Measures**

The below requirements and mitigation measures apply to the cleaning of culverts by use of a vacuum truck system. All measures should be reviewed and understood prior to commencement of any work.

Culvert Access

<sup>8</sup> Request for these numbers would come from the Environmental Strategy team in the context of meeting NCC Environmental Strategy objectives and would first be discussed with CMO.



- Vacuum truck must remain within paved area of the road to the extent possible or limit encroachment onto road shoulder. It is prohibited to circulate outside of the limits of the road shoulder in order to avoid damage to vegetation.
- Use existing trails, roads, or cut lines wherever possible to avoid disturbance to the riparian vegetation.
- Machinery is prohibited to circulate within the watercourse
- Do not store material or equipment within 30 meters of all water bodies.

#### Vegetation Removal

- All trees within 2 m of equipment in operation and susceptible to being damaged will have protectors installed around their drip line (e.g. protective fencing);
- No tree (DBH > 10cm) may be cut. If trees with a DBH of 10 cm or higher were to be cut, an authorization from the Contract Management Officer is required.
- These trees will have to be replaced, at a 2:1 ratio, with non-invasive indigenous species, approved by the NCC portfolio. The contractor's tree planting plan must be approved by NCC prior to the tree planting.
- Minimize vegetation cutting (DBH < 10 cm), limiting it to vegetation that interferes with the movement of machinery and work.
- Any federally or provincially protected tree species (seedling, sapling or tree) must be properly flagged and protected to ensure these trees are not damaged, harmed or cut. Highly visible flagging tape (using a pre-determined colour) should be used to clearly identify the tree.
- Trees or shrub clippings, branches, or log pieces that show signs of disease or pests must be appropriately disposed of following all federal, provincial, and municipal regulations in order to minimize spread of the disease or pest (e.g. Dutch elm disease, emerald ash borer, etc).

#### Migratory Birds

- No activities susceptible to disturb or destroy the nest of a migratory bird can occur during the core migratory bird nesting period as per the *Migratory Bird Convention Act*.

#### Sediment and Erosion Control

- Install effective sediment and erosion control measures before starting work to prevent sediment from entering the watercourse. Inspect them regularly during the course of debris removal and make all necessary repairs if any damage occurs.
- Maintain existing riparian vegetation in order to help reduce erosion.

#### Timing of Removal of Accumulated Material

- \*Work should be undertaken outside of the fish spawning period and periods of high flooding. Timing windows to conduct projects in or around water may vary by province, species or watercourse and are established by Fisheries and Oceans Canada (DFO) to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed<sup>9</sup>. Avoid Maintenance activities during wet and rainy periods.
- Unless accumulated material (i.e., branches, stumps, other woody materials, garbage, ice build-up, etc.) is preventing the passage of water and/or fish through the structure, time material and debris removal to prevent disruption to sensitive fish life stages by adhering to appropriate fisheries timing windows (see above).

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<sup>9</sup> Timing windows by province are available on DFO website [<http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/index-eng.html>] and must be confirmed with CMO.

#### Debris Removal

- Limit the removal of accumulated material (i.e., branches, stumps, other woody materials, garbage, etc.) to the area within the culvert, immediately upstream of the culvert and to that which is necessary to maintain culvert function and fish passage.
- Remove accumulated material and debris slowly to allow clean water to pass, to prevent downstream flooding and reduce the amount of sediment-laden water going downstream. Gradual dewatering will also reduce the potential for stranding fish in upstream areas.
- When water (from the truck) is flushed through the culvert, it must be done at a slow speed (gently) as to prevent sedimentation and impacts downstream.
- Depending on the sensitivity of the downstream fish habitat and amount of sediment in the culvert, installing cofferdams and working in the dry prior to vacuuming should be considered.
- Temporary structures and environmental protection devices must ensure sufficient free movement of water at all times to maintain fish habitat functions (feeding, fry rearing, spawning) downstream from the work site. Take the necessary measures to prevent impacts (e.g. flooding, dewatering, suspended solids, erosion) upstream and downstream of the work site.

#### Machinery Maintenance

- The smallest possible machinery and equipment suitable for the bearing capacity of the soil should be used.
- Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks.
- It is prohibited to circulate beyond the boundaries of the work site and leave equipment, waste or other materials, even temporarily without the prior authorization of the NCC.
- Wash, refuel and service machinery and store fuel and other materials for the machinery at least 60m away from the high water mark to prevent any deleterious substance from entering the water.
- Keep an emergency spill kit on site in case of fluid leaks or spills from machinery.

#### Site Reinstatement (if required)

- Disturbed surfaces will be rehabilitated at the end of the work using the portfolio approved seed mixture and topsoil.
- Revegetation must be done as soon as possible within the growing season. If unfeasible, the Contractor must stabilize disturbed areas with erosion control blankets to keep the soil in place and prevent erosion in water bodies. Blankets must be removed only at the end of the revegetation work.
- All tree or vegetation debris that may fall or enter any water bodies must be removed immediately.

#### Management of Material

- All sludge, dirt, sand, rocks, grease, and any other solid or semi-solid material resulting from the cleaning operation shall be removed at the downstream end of the culvert being cleaned (either manually or with suction). The Contractor shall maintain record of the amount and type of material removed for each culvert in a format approved by the NCC.
- Debris shall be kept in totally enclosed containers at all times and shall be removed from the site at the end of each day or when the containers are full. Under no circumstances will the Contractor be allowed to accumulate debris, etc. on site of work beyond the stated time. All debris shall be removed from the site and disposed by the Contractor at no additional cost to the NCC.

#### Fauna

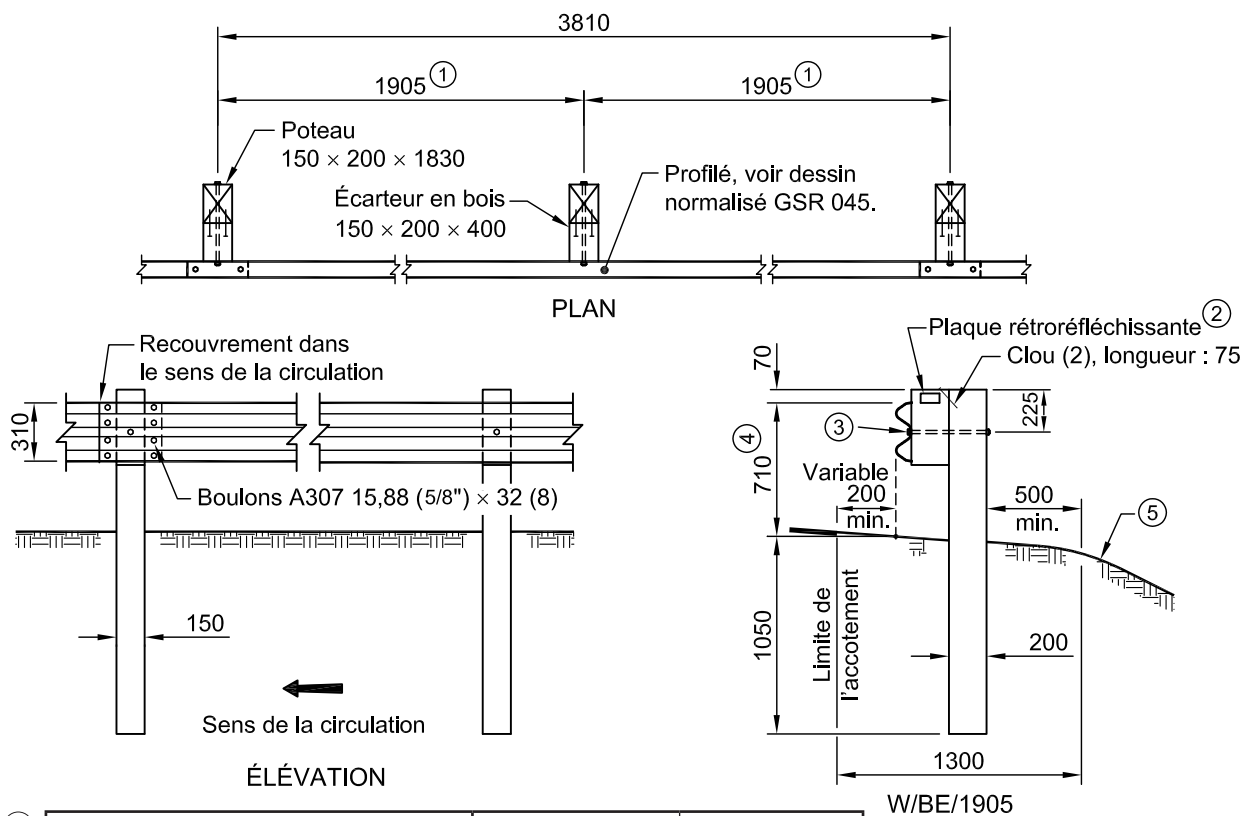
- In order to minimize the impact on wildlife, all work will be completed within a reasonable time frame.
- Use caution when driving to and from the work site – watch out for turtles and other small animals on the road surface and shoulder. Avoid hitting them, provided that it is safe to do so.
- Workers must keep the work site clean and must not leave behind garbage or food scraps that could attract animals or alter their behavior.

- Any fauna (mammals, amphibians, reptiles) that are encountered within the work site should not be harmed or harassed. Allow the animal to move away on its own by slowly walking toward it in the direction you want it to move. If necessary to move the animal out of the work area, carefully move it into a similar habitat next to site (within same area).



GLISSIÈRE SEMI-RIGIDE  
AVEC PROFILÉ D'ACIER  
À DOUBLE ONDULATION  
SUR POTEAUX DE BOIS

NORME



①	Espacement des poteaux (mm)	1905	952
	Déformation dynamique (mm)	900	600

- ② Sur tous les deux poteaux, une plaque rétro réfléchissante de 50×100 mm doit être posée. La pellicule auto-adhésive est fixée sur un support d'aluminium dont le dos est peint. Elle est maintenue à l'aide de clous de 20 mm (4). La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ③ L'assemblage nécessite un boulon A307 15,88 (5/8'')×457 mm, avec écrou et rondelle.
- ④ En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.
- ⑤ Pente de 1V:2H ou plus douce. Dans le cas d'une pente plus abrupte, les poteaux doivent être placés de manière à ce que la distance entre la face avant de l'élément de glissement et le bord du talus soit égale ou supérieure à la déformation dynamique de la glissière.

Notes :

- le traitement des extrémités pour une route où la vitesse affichée est de 50 km/h et moins doit être effectué conformément au dessin normalisé GSR 002. Pour une route où la vitesse affichée est supérieure à 50 km/h, un dispositif d'extrémité de glissière semi-rigide doit être utilisé;
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Bois  
Boulons, tiges d'ancrage,  
écrous et rondelles  
Clous

Tome VII, norme 11101  
Tome VII, norme 6201  
ASTM F1667

Éléments de glissement  
Galvanisation  
Pellicules rétro réfléchissantes, type XI

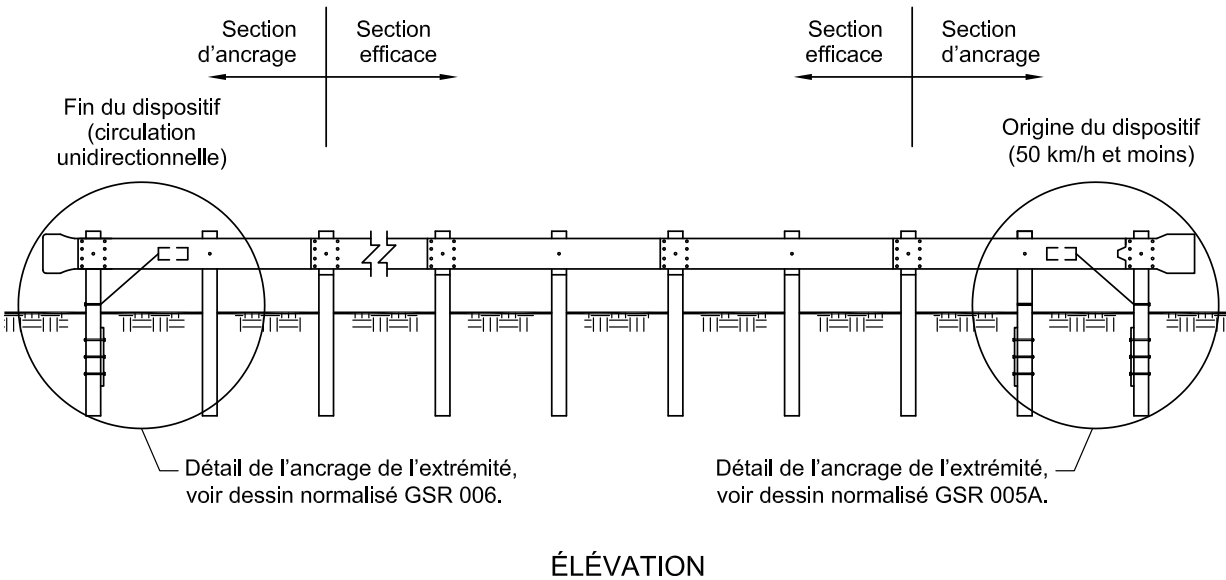
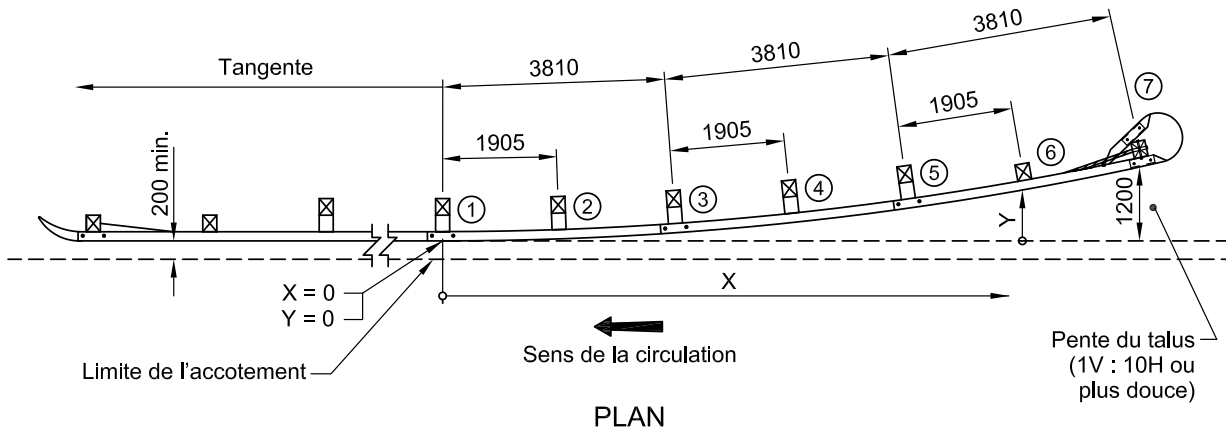
Tome VII, norme 6301  
ASTM A123/A123M  
Tome VII, norme 14101

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 002</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION SUR POTEAUX DE  
BOIS – TRAITEMENT DES EXTRÉMITÉS  
(50 km/h ET MOINS)**

**NORME**



**Coordonnées de la parabole**

Coordonnées du profilé	Poteaux						
	①	②	③	④	⑤	⑥	⑦
<b>X</b>	0	1905	3807	5704	7595	9476	11 346
<b>Y</b>	0	33	133	300	533	833	1200

**Notes :**

- la fin du dispositif représenté correspond au cas d'une route unidirectionnelle. Dans le cas d'une route bidirectionnelle, l'ancrage et la parabole sont exécutés comme l'origine du dispositif (dessin normalisé GSR 005A);
- les cotes sont en millimètres.

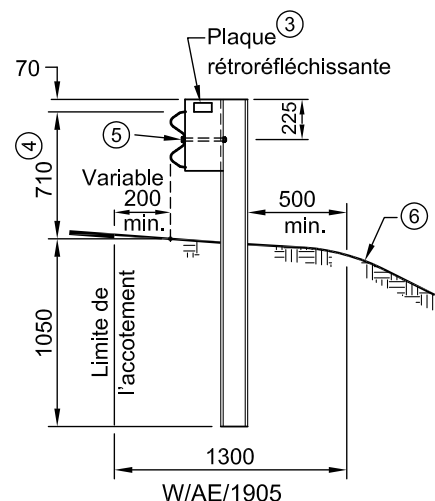
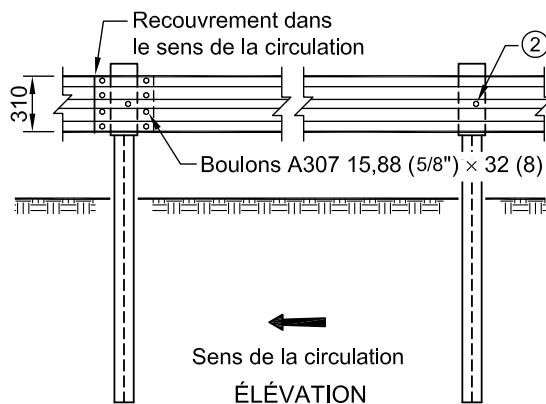
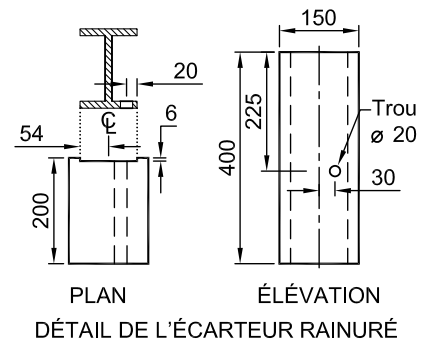
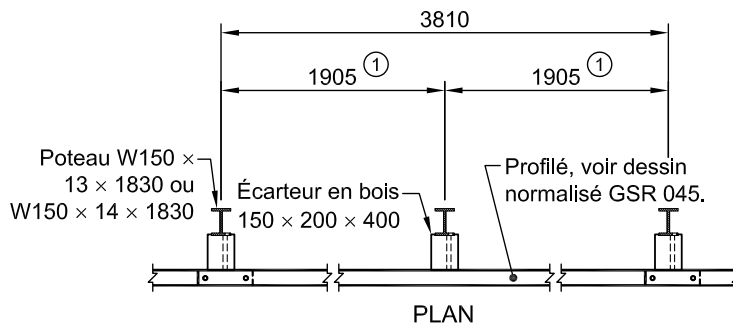
**MATÉRIAUX — NORMES APPLICABLES**

Bois	<i>Tome VII, norme 11101</i>
Éléments de glissement	<i>Tome VII, norme 6301</i>



NORME

GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION SUR POTEAUX D'ACIER



①	<b>Espacement des poteaux (mm)</b>	1905	952
	<b>Déformation dynamique (mm)</b>	900	600

- ② La position du boulon est celle qui est indiquée sur le dessin, quel que soit le sens de la circulation.
- ③ Sur tous les deux poteaux, une plaque rétro réfléchissante de 50 x 100 mm doit être posée. La pellicule autoadhésive est fixée sur un support d'aluminium dont le dos est peint. Elle est maintenue à l'aide de clous de 20 mm (4). La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ④ En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.
- ⑤ L'assemblage nécessite un boulon A307 15,88 (5/8) x 267 mm, avec écrou et rondelle.
- ⑥ Pente de 1V:2H ou plus douce. Dans le cas d'une pente plus abrupte, les poteaux doivent être placés de manière à ce que la distance entre la face avant de l'élément de glissement et le bord du talus soit égale ou supérieure à la déformation dynamique de la glissière.

Notes :

- le traitement des extrémités pour une route où la vitesse affichée est de 50 km/h et moins doit être effectué conformément au dessin normalisé GSR 004. Pour une route où la vitesse affichée est supérieure à 50 km/h, un dispositif d'extrémité de glissière semi-rigide doit être utilisé;
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa  
Bois  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 11101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation

Pellicules rétro réfléchissantes, type XI

Tome VII, norme 6301  
ASTM A123/A123M

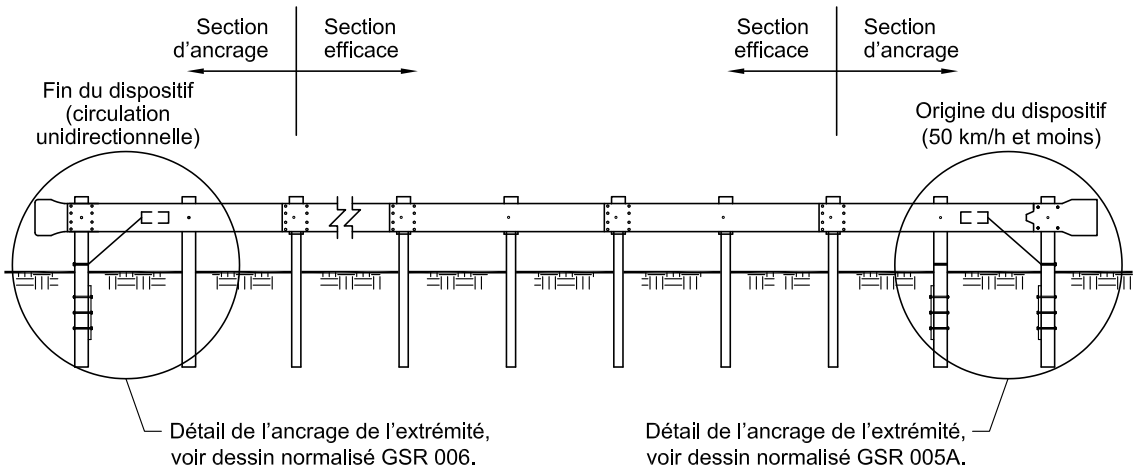
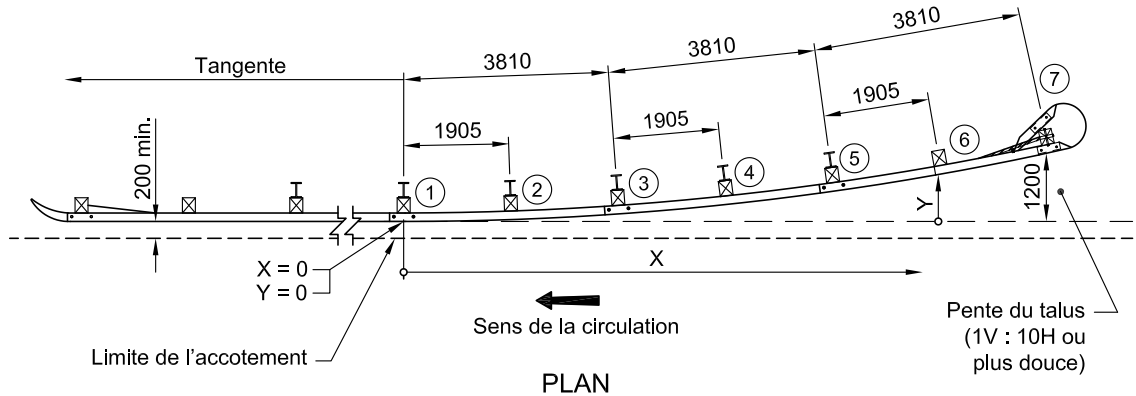
Tome VII, norme 14101

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 004</b>
Date <b>2014 09 30</b>

# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION SUR POTEAUX D'ACIER – TRAITEMENT DES EXTRÉMITÉS (50 km/h ET MOINS)

# NORME



**Coordonnées de la parabole**

Coordonnées du profilé	Poteaux						
	①	②	③	④	⑤	⑥	⑦
<b>X</b>	0	1905	3807	5704	7595	9476	11 346
<b>Y</b>	0	33	133	300	533	833	1200

**Notes :**

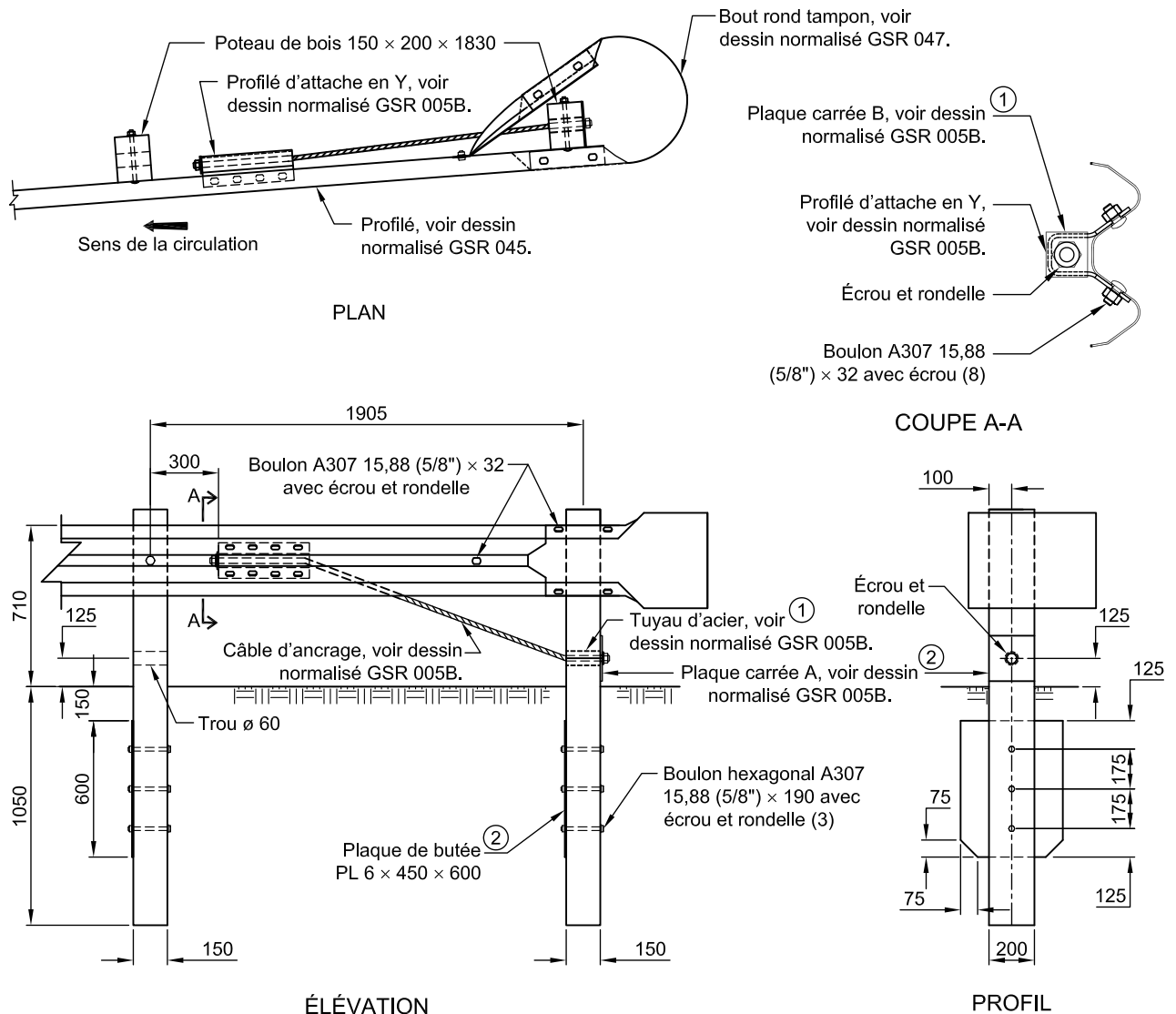
- la fin du dispositif représenté correspond au cas d'une route unidirectionnelle. Dans le cas d'une route bidirectionnelle, l'ancrage et la parabole sont exécutés comme l'origine du dispositif (dessin normalisé GSR 005A);
- les poteaux ⑥ et ⑦ sont en bois;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES			
Aciers de construction, type W, limite élastique minimale 260 MPa	Tome VII, norme 6101	Bois Éléments de glissement	Tome VII, norme 11101 Tome VII, norme 6301



GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ  
D'ACIER À DOUBLE ONDULATION –  
TRAITEMENT DE L'ORIGINE  
(50 km/h ET MOINS)

NORME



- ① Limite élastique de 350 MPa.
- ② Limite élastique de 260 MPa.

Notes :

- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (Tome VII, norme 6101);
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,	Tome VII, norme 6101
Bois	Tome VII, norme 11101
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201
Éléments de glissement	Tome VII, norme 6301
Galvanisation	ASTM A123/A123M

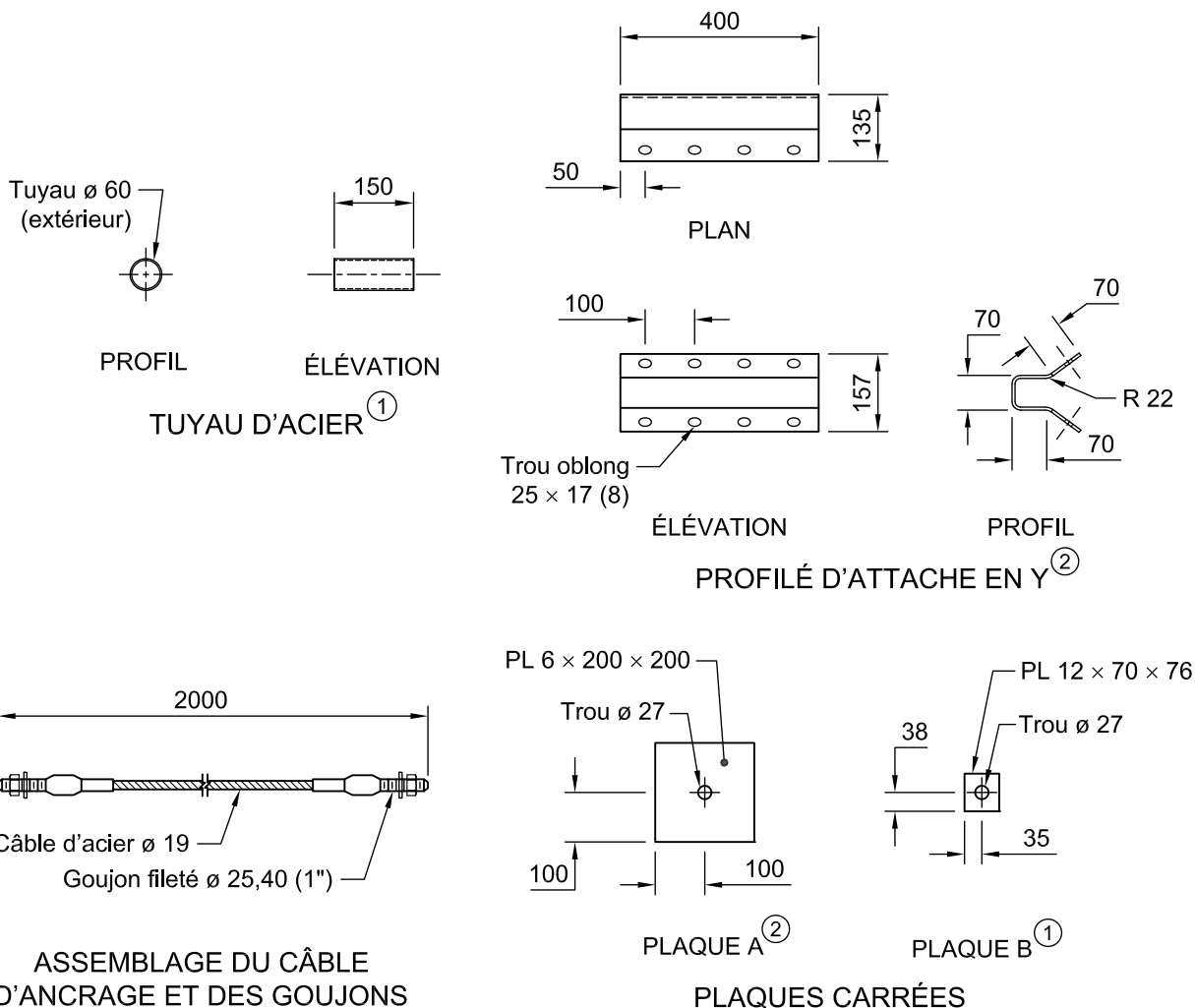






GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ  
D'ACIER À DOUBLE ONDULATION –  
TRAITEMENT D'EXTRÉMITÉ,  
PIÈCES D'ANCRAGE

NORME



① Limite élastique de 350 MPa.

② Limite élastique de 260 MPa.

Notes :

- le tuyau d'acier a une épaisseur minimale de 3 mm;
- la plaque d'acier du profilé d'attache en Y a une épaisseur de 6 mm;
- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (Tome VII, norme 6101);
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation

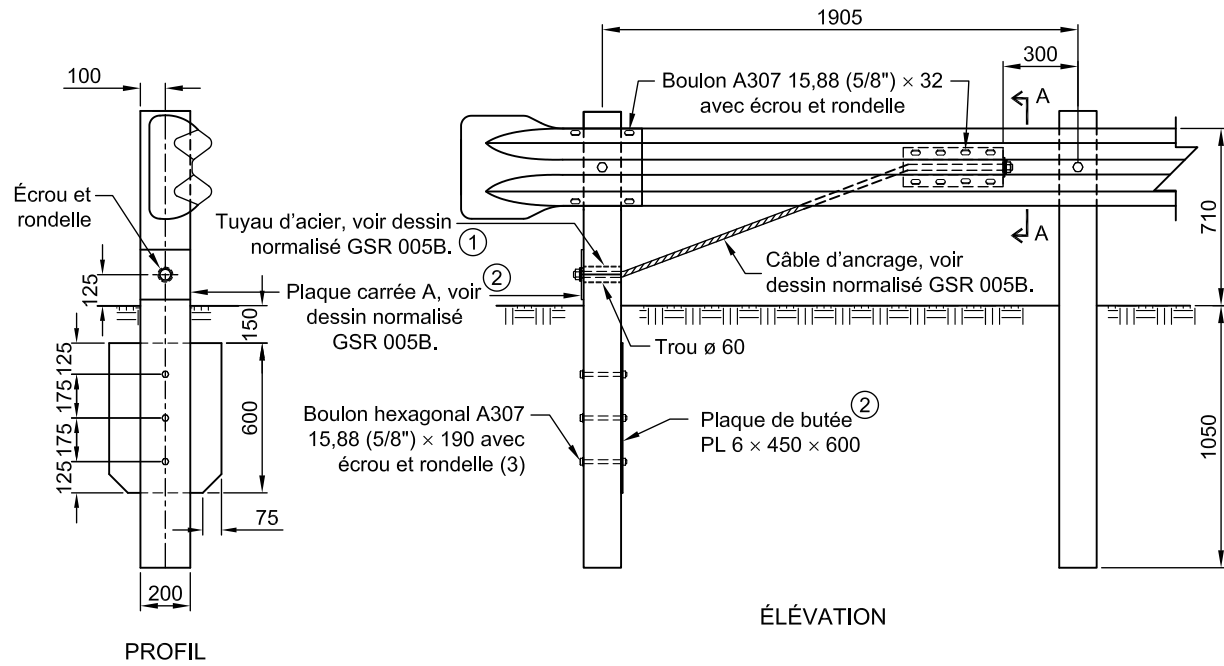
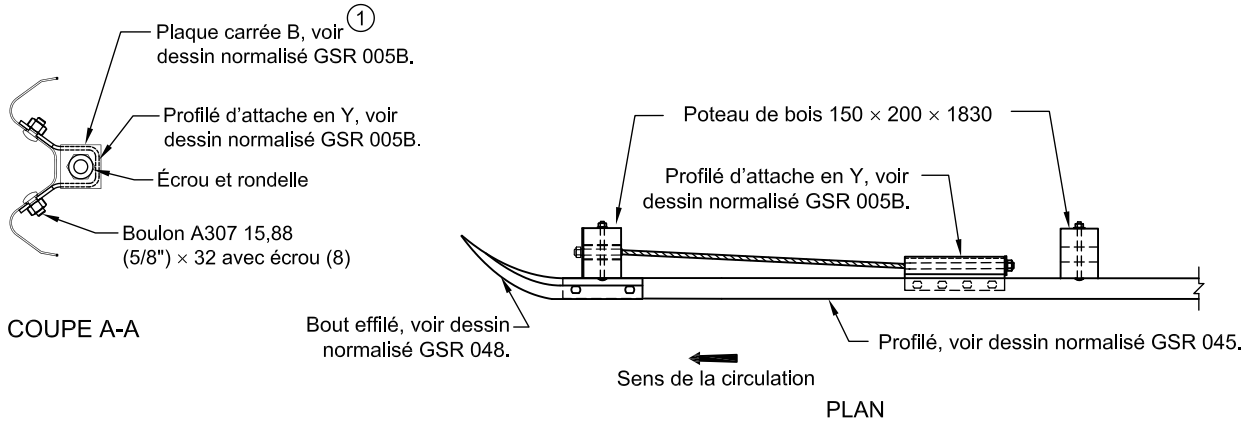
Tome VII, norme 6301  
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 006</b>
Date <b>2015 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – TRAITEMENT DE LA FIN  
(CIRCULATION UNIDIRECTIONNELLE)**

**NORME**



- ① Limite élastique de 350 MPa.
- ② Limite élastique de 260 MPa.

**Notes :**

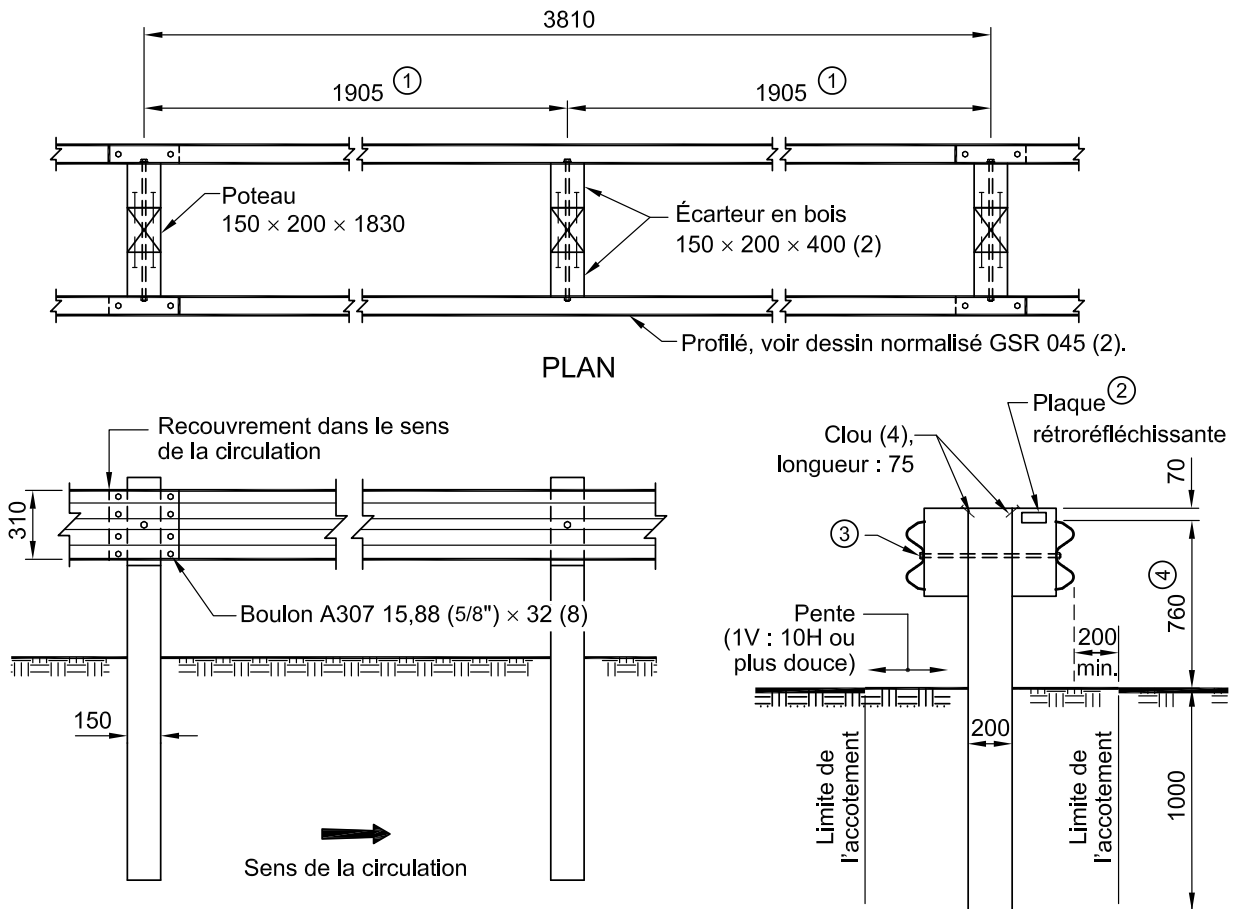
- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (Tome VII, norme 6101);
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

<b>MATÉRIAUX — NORMES APPLICABLES</b>	
Aciers de construction, type W	Tome VII, norme 6101
Bois	Tome VII, norme 11101
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201
Éléments de glissement	Tome VII, norme 6301
Galvanisation	ASTM A123/A123M



NORME

GLISSIÈRE SEMI-RIGIDE MÉDIANE  
AVEC PROFILÉ D'ACIER À DOUBLE  
ONDULATION SUR POTEAUX DE BOIS



ÉLÉVATION

M-W/BE/1905

①	<b>Espacement des poteaux (mm)</b>	1905	952
	<b>Déformation dynamique (mm)</b>	900	600

- ② Sur tous les deux poteaux, une plaque rétro réfléchissante de 50 x 100 mm (2) doit être posée. La pellicule autoadhésive est fixée sur un support d'aluminium dont le dos est peint. Elle est maintenue à l'aide de clous de 20 mm (4). La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ③ L'assemblage nécessite un boulon A307 15,88 (5/8") x 660 mm, avec écrou et rondelle.
- ④ En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.

Notes :

- le traitement des extrémités doit être effectué avec un dispositif d'extrémité de glissière semi-rigide pour configuration médiane;
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Bois  
Boulons, tiges d'ancrage,  
écrous et rondelles  
Clous

Tome VII, norme 11101

Tome VII, norme 6201  
ASTM F1667

Éléments de glissement  
Galvanisation  
Pellicules rétro réfléchissantes, type XI

Tome VII, norme 6301

ASTM A123/A123M

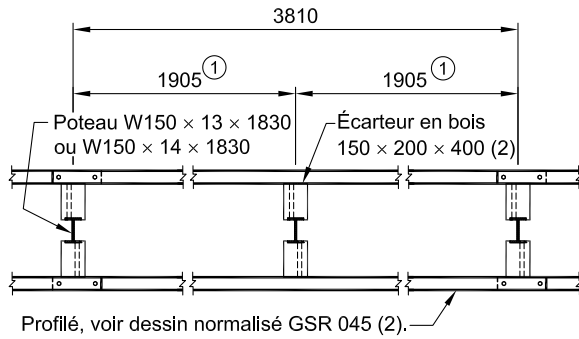
Tome VII, norme 14101

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 008</b>
Date <b>2014 09 30</b>

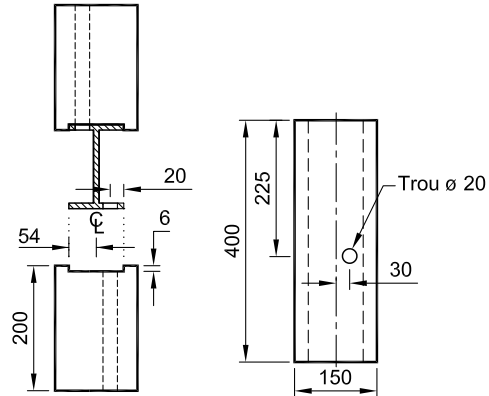
# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE MÉDIANE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION SUR POTEAUX D'ACIER

# NORME



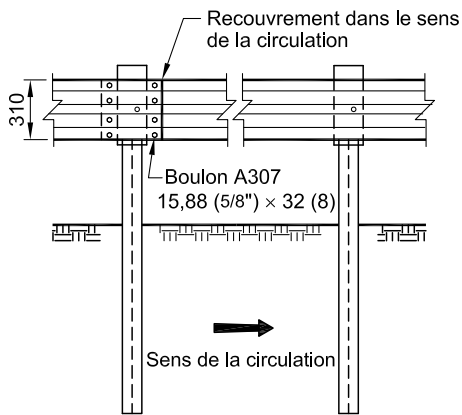
PLAN



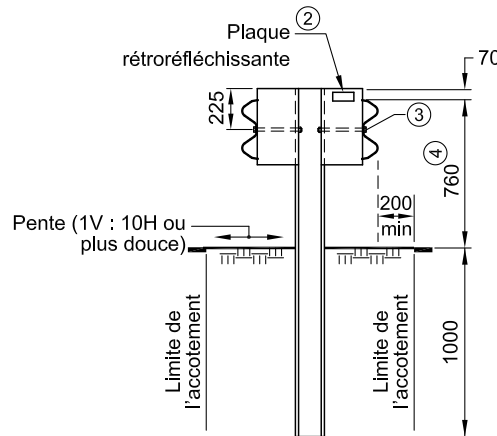
PLAN

ÉLÉVATION

DÉTAIL DE L'ÉCARTEUR RAINURÉ



ÉLÉVATION



M-W/AE/1905

①	<b>Espacement des poteaux (mm)</b>	1905	952
	<b>Déformation dynamique (mm)</b>	900	600

- ② Sur tous les deux poteaux, une plaque rétro réfléchissante de 50 x 100 mm (2) doit être posée. La pellicule autoadhésive est fixée sur un support d'aluminium dont le dos est peint. Elle est maintenue à l'aide de clous de 20 mm (4). La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ③ L'assemblage nécessite un boulon A307 15,88 (5/8) x 267 mm, avec écrou et rondelle.
- ④ En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.

**Notes :**

- le traitement des extrémités doit être effectué avec un dispositif d'extrémité de glissière semi-rigide pour configuration médiane;
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W, limite élastique minimale 260 MPa	<i>Tome VII</i> , norme 6101	Éléments de glissement	<i>Tome VII</i> , norme 6301
Bois	<i>Tome VII</i> , norme 11101	Galvanisation	ASTM A123/A123M
Boulons, tiges d'ancrage, écrous et rondelles	<i>Tome VII</i> , norme 6201	Pellicules rétro réfléchissantes, type XI	<i>Tome VII</i> , norme 14101



# NORME

## DESSIN NORMALISÉ

### GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – RÉDUCTION DE LA DÉFORMATION DYNAMIQUE DEVANT UN OBJET FIXE

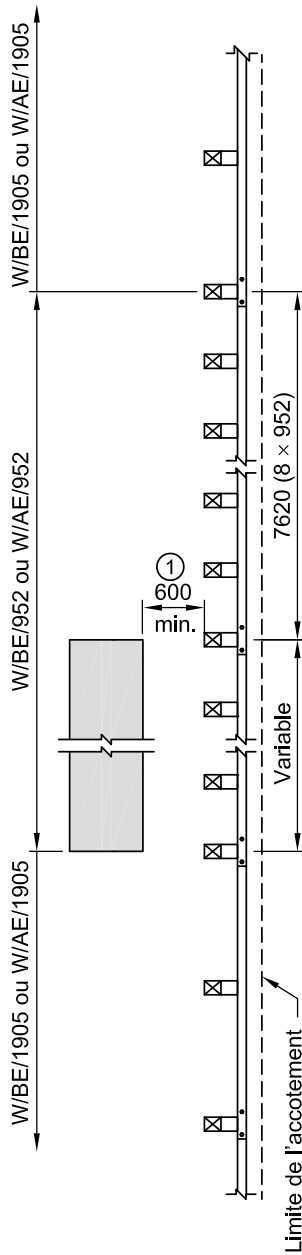
Tome  
VIII

Chapitre  
3

Numéro  
GSR 009

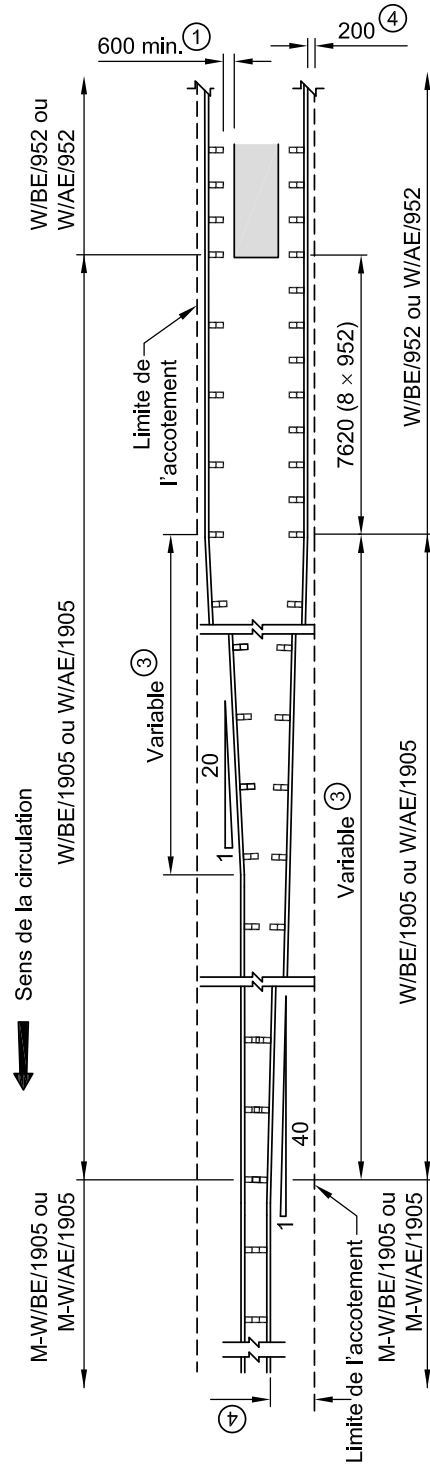
Date  
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Contenu normatif



② Sens de la circulation

DANS UN TALUS



③ Sens de la circulation

DANS UN TERRE-PLEIN

④ Sens de la circulation

- ① Si la distance mesurée de l'arrière du poteau à l'objet fixe est supérieure à 900 mm, l'espacement normal des poteaux de 1905 mm est suffisant.
- ② La situation représentée correspond au cas d'une route unidirectionnelle. Dans le cas d'une route bidirectionnelle, une réduction de la déformation dynamique est nécessaire des deux côtés de l'objet fixe.
- ③ La longueur des biseaux 1 : 20 et 1 : 40 varie en fonction de la largeur de l'objet fixe.
- ④ En présence d'une bordure devant la glissière, si la distance entre la bordure et la glissière est supérieure à 200 mm et inférieure à 3000 mm, la bordure doit être arasée. Pour la mesure de la hauteur fonctionnelle de la glissière, voir la figure 3.4-2.

**Note :**

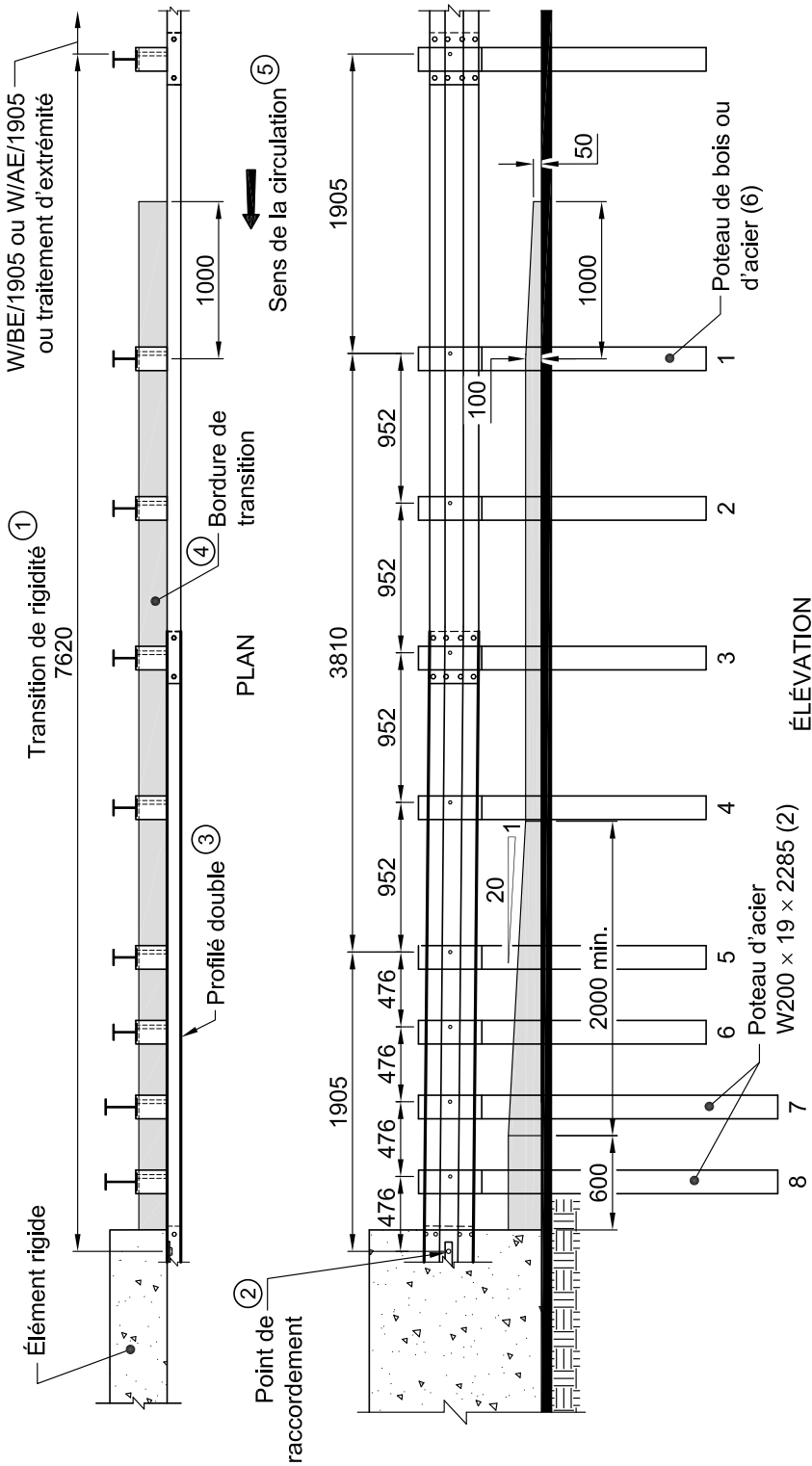
- les cotes sont en millimètres.

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 010A</b>
Date <b>2014 09 30</b>

# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE LATÉRALE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – TRANSITION DE RIGIDITÉ TL-3

# NORME



**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type V, limite élastique minimale 260 MPa	Tome VII, norme 6101
Béton	Tome VII, norme 3101
• bordure coulée, type IV ou V	Tome VII, norme 11101
• bordure moulée, type VI ou VII	Tome VII, norme 6201
Bois	ASTM F1667
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6301
Clous	ASTM A123/A123M
Éléments de glissement	Tome VII, norme 14101
Galvanisation	
Pellicules rétro réfléchissantes, type XI	

- ① Lorsque la glissière semi-rigide est raccordée à une glissière rigide latérale dont l'origine est conforme aux dessins normalisés GR 010 et GR 011, la transition est exécutée conformément au dessin normalisé GSR 012A.
- ② Les détails du raccordement correspondant à l'élément rigide en présence sont indiqués aux dessins normalisés GSR 016 à GSR 018 et GSR 020 à GSR 026B.
- ③ Cette section de la transition de rigidité nécessite l'utilisation de deux profilés d'acier à double ondulation emboîtés.
- ④ La bordure de transition doit être réalisée conformément au Tome II – Construction routière, chapitre 4 « Bordures ». Elle est prolongée, au besoin, pour améliorer le drainage. Une transition de forme et de dimensions doit être réalisée pour l'adapter au chasse-roue de l'élément rigide.
- ⑤ Sur une route unidirectionnelle, la transition de rigidité n'est pas requise à la sortie de la structure ou à la fin de la glissière rigide.

**Notes :**

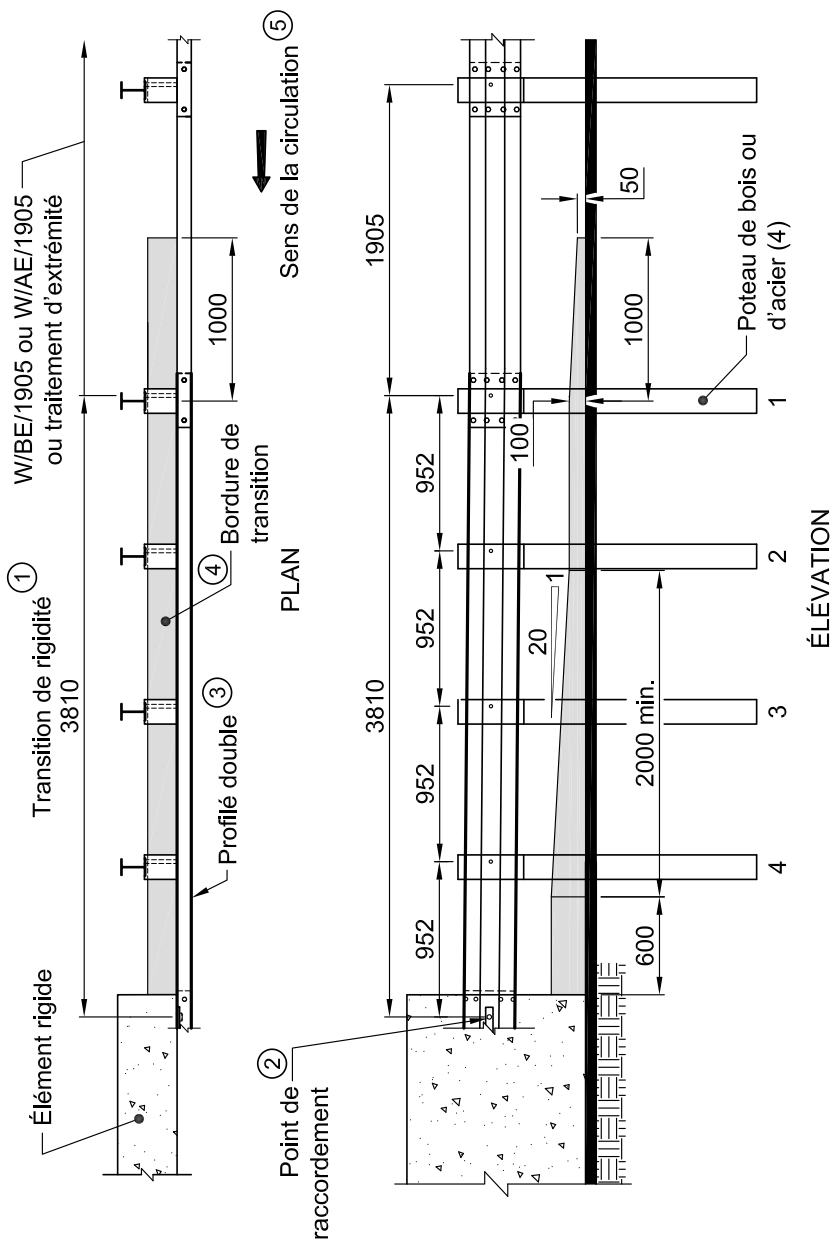
- la transition de rigidité n'est pas requise à l'approche d'un pont acier-bois;
- les cotes sont en millimètres.



GLISSIÈRE SEMI-RIGIDE LATÉRALE  
AVEC PROFILÉ D'ACIER  
À DOUBLE ONDULATION –  
TRANSITION DE RIGIDITÉ TL-2

NORME

Contenu normatif



MATÉRIAUX — NORMES APPLICABLES

- |   |                       |
|---|-----------------------|
| Aciers de construction, type W, limite élastique minimale 260 MPa | Tome VII, norme 6101  |
| Béton   |                       |
| • bordure coulée, type IV ou V                                    | Tome VII, norme 3101  |
| • bordure moulée, type VI ou VII                                  | Tome VII, norme 11101 |
| Bois  |                       |
| Boulons, tiges d'ancrage, écrous et rondelles                     | Tome VII, norme 6201  |
| Clous   | ASTM F1667            |
| Éléments de glissement  | Tome VII, norme 6301  |
| Galvanisation   | ASTM A123 / A123M     |
| Pellicules rétro réfléchissantes, type XI                         | Tome VII, norme 14101 |

- Notes :
- Lorsque la glissière semi-rigide est raccordée à une glissière rigide latérale dont l'origine est conforme aux dessins normalisés GR 010 et GR 011, la transition est exécutée conformément au dessin normalisé GSR 012B.
  - Le détail du raccordement correspondant à l'élément rigide en présence est indiqué aux dessins normalisés GSR 020 à GSR 026B.
  - Cette transition de rigidité nécessite l'utilisation de deux profilés d'acier à double ondulation emboîtés.
  - La bordure de transition doit être réalisée conformément au Tome II – Construction routière, chapitre 4 « Bordures ». Elle est prolongée, au besoin, pour améliorer le drainage. Une transition de forme et de dimensions doit être réalisée pour l'adapter au chasse-roue de l'élément rigide.
  - Sur une route unidirectionnelle, la transition de rigidité n'est pas requise à la sortie de la structure ou à la fin de la glissière rigide.

- la transition de rigidité n'est pas requise à l'approche d'un pont acier-bois;
- les cotes sont en millimètres.



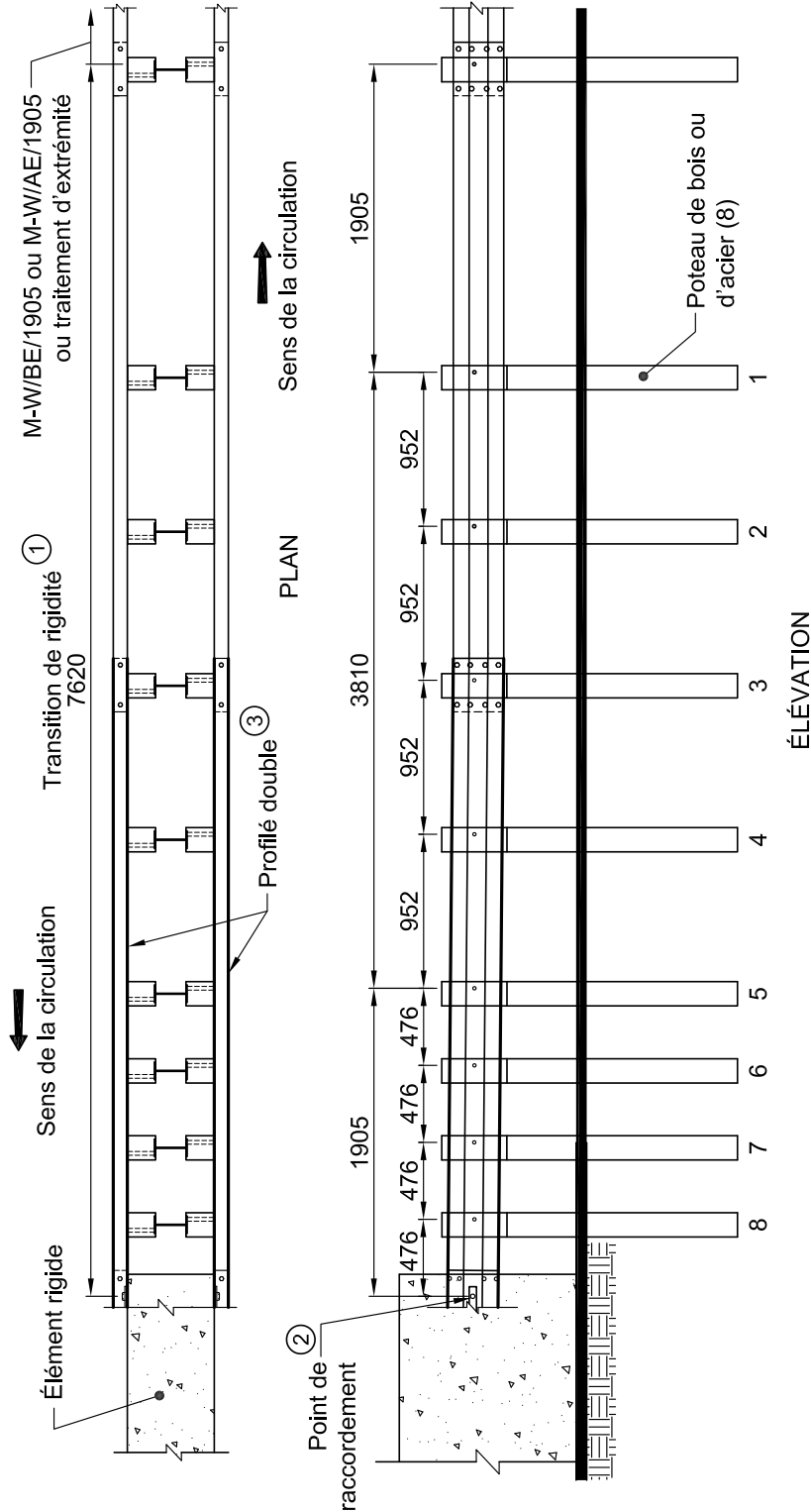




GLISSIÈRE SEMI-RIGIDE MÉDIANE  
AVEC PROFILÉ D'ACIER  
À DOUBLE ONDULATION –  
TRANSITION DE RIGIDITÉ TL-3

NORME

Contenu normatif



MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W, limite élastique minimale 260 MPa	Tome VII, norme 6101
Bois	Tome VII, norme 11101
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201
Clous	ASTM F1667
Éléments de glissement	Tome VII, norme 6301
Galvanisation	ASTM A123/ A123M
Pellicules rétro réfléchissantes, type XI	Tome VII, norme 14101

- ① Lorsque la glissière semi-rigide est raccordée à une glissière rigide médiane dont l'origine est conforme aux dessins normalisés GR 013 et GR 014, la transition est exécutée conformément au dessin normalisé GSR 014.
- ② Les détails du raccordement correspondant à l'élément rigide en présence sont indiqués aux dessins normalisés GSR 016 à GSR 018 et GSR 020 à GSR 026B.
- ③ Cette section de la transition nécessite l'utilisation de deux profilés d'acier à double ondulation emboîtés.

Notes :

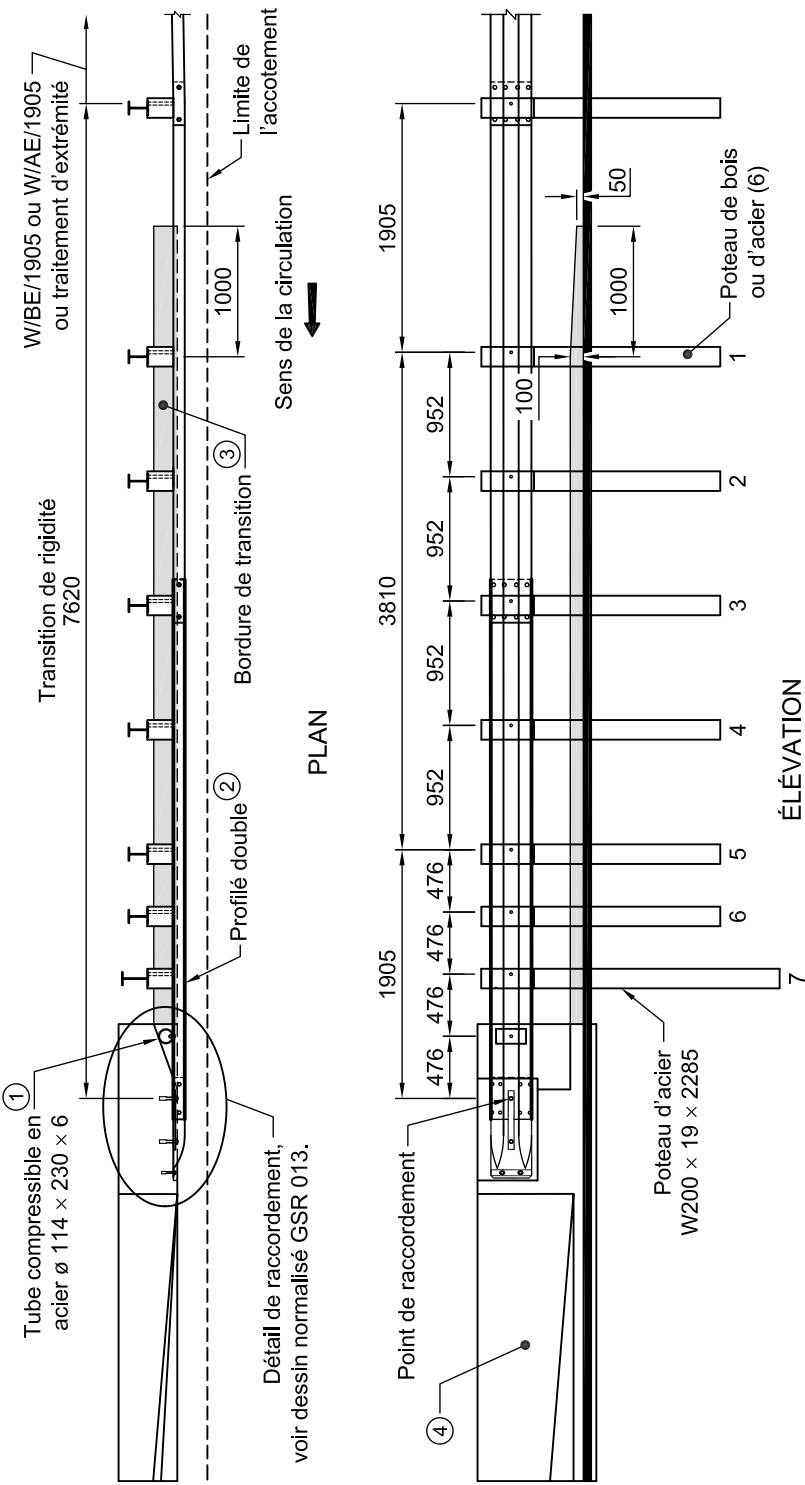
- l'épaisseur des blocs écarteurs doit être ajustée afin de tenir compte de la largeur de l'élément rigide;
- les cotes sont en millimètres.

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 012A</b>
Date <b>2014 09 30</b>

# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE LATÉRALE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – TRANSITION DE RIGIDITÉ TL-3, GLISSIÈRE RIGIDE LATÉRALE AVEC AMÉNAGEMENT DE L'ORIGINE

# NORME



**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W, limite élastique minimale 260 MPa	Tome VII, norme 6101
Béton	Tome VII, norme 3101
• bordure coulée, type IV ou V	Tome VII, norme 6201
• bordure moulée, type VI ou VII	ASTM F1667
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6301
Clous	ASTM A123/A123M
Éléments de glissement	ASTM A53
Galvanisation	
Tube d'acier	

- ① Le tube compressible remplace le poteau 8 de la transition de rigidité du dessin normalisé GSR 010A.
- ② Cette section de la transition de rigidité nécessite l'utilisation de deux profilés d'acier à double ondulation emboîtés.
- ③ La bordure de transition doit être réalisée conformément au *Tome II – Construction routière*, chapitre 4 « Bordures ». Elle est prolongée, au besoin, pour améliorer le drainage.
- ④ Glissière rigide latérale en béton dont l'origine est conforme aux dessins normalisés GR 010 et GR 011.

**Notes :**

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.



# NORME

## DESSIN NORMALISÉ

GLISSIÈRE SEMI-RIGIDE LATÉRALE  
AVEC PROFILÉ D'ACIER À DOUBLE  
ONDULATION – TRANSITION DE RIGIDITÉ  
TL-2, GLISSIÈRE RIGIDE LATÉRALE  
AVEC AMÉNAGEMENT DE L'ORIGINE

Tome

VIII

Chapitre

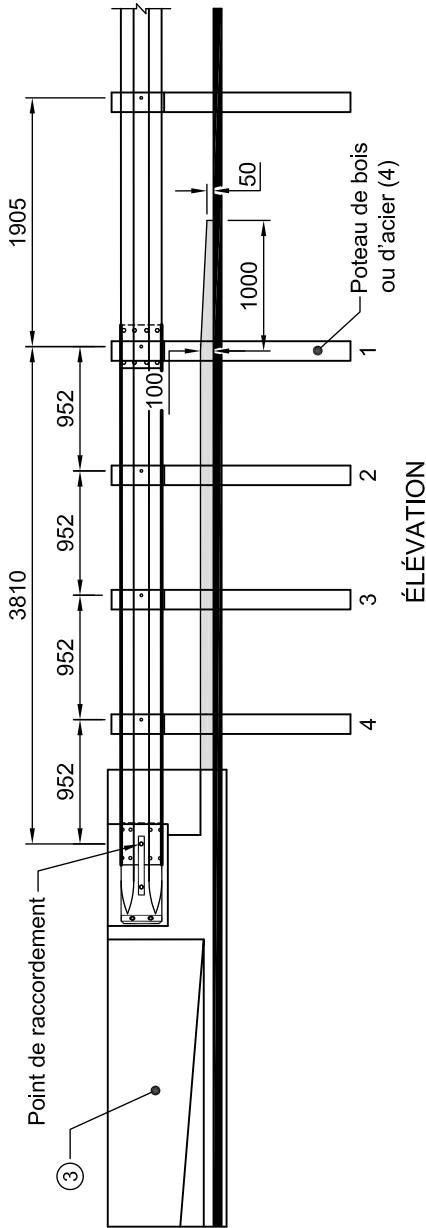
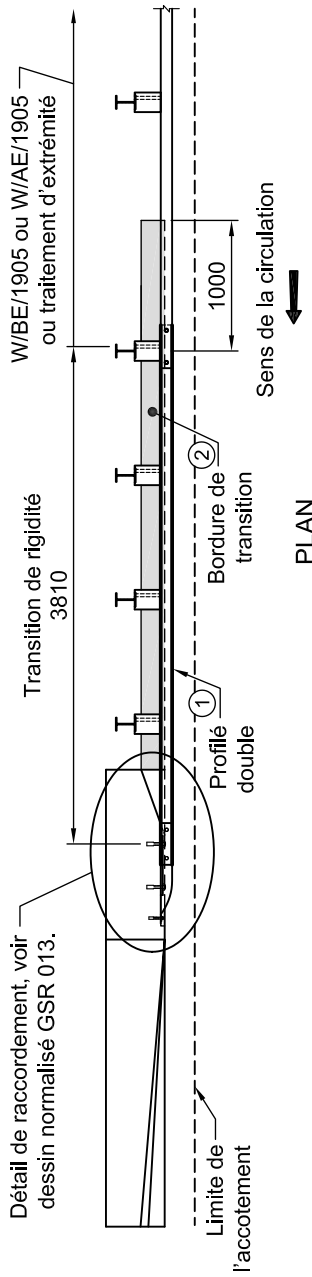
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Numéro

GSR 012B

Date

2014 09 30



### MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W, limite élastique minimale 260 MPa	Tome VII, norme 6101
Béton	Tome VII, norme 3101
• bordure coulée, type IV ou V	
• bordure moulée, type VI ou VII	
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201
Clous	ASTM F1667
Éléments de glissement	Tome VII, norme 6301
Galvanisation	ASTM A123/A123M

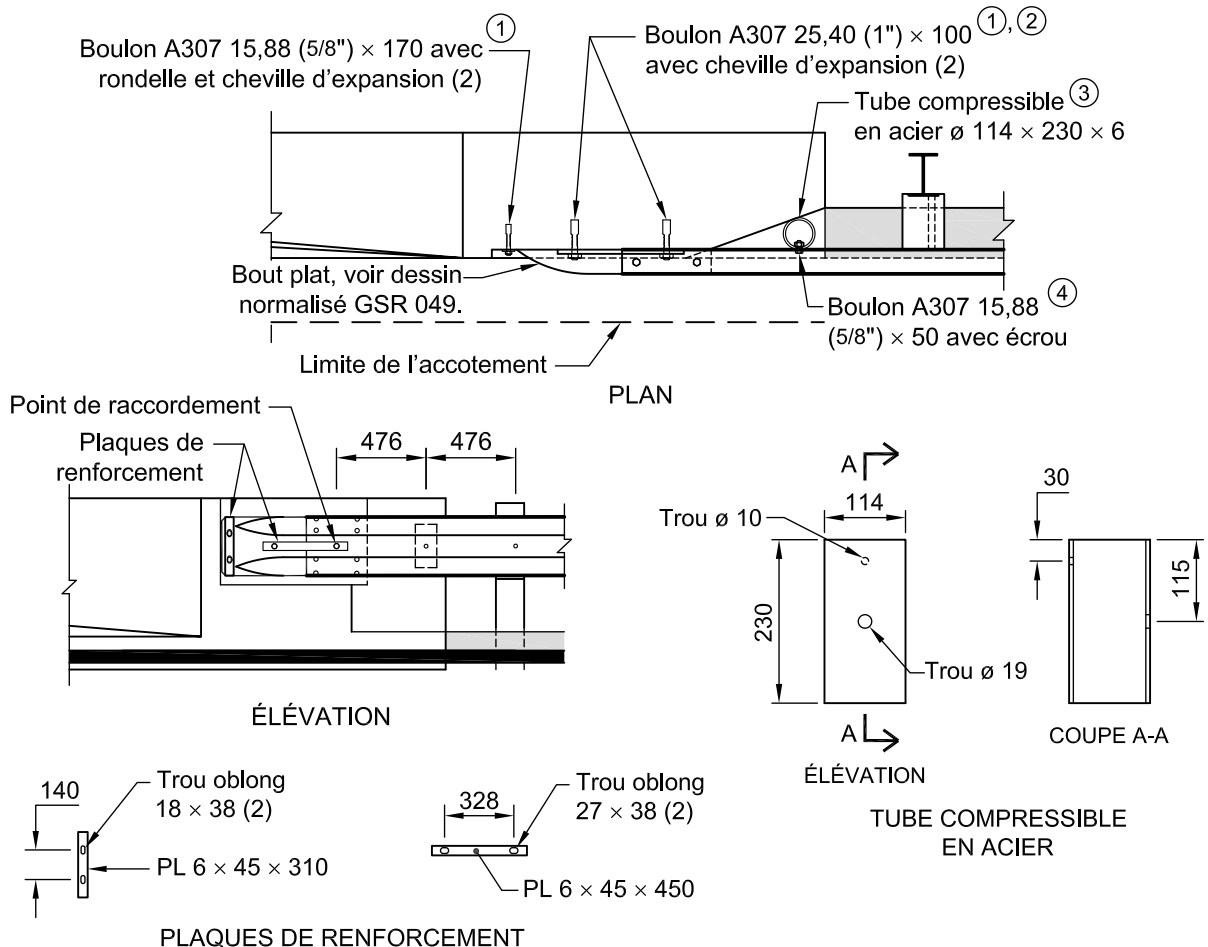
- 1 Cette section de la transition de rigidité nécessite l'utilisation de deux profilés d'acier à double ondulation emboîtés.
- 2 La bordure de transition doit être réalisée conformément au *Tome II – Construction routière*, chapitre 4 « Bordures ». Elle est prolongée, au besoin, pour améliorer le drainage.
- 3 Glissière rigide latérale en béton dont l'origine est conforme aux dessins normalisés GR 010 et GR 011.
- Notes :**
- toutes les pièces métalliques doivent être galvanisées;
  - les cotes sont en millimètres.





**GLISSIÈRE SEMI-RIGIDE LATÉRALE  
AVEC PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT À  
UNE GLISSIÈRE RIGIDE LATÉRALE  
AVEC AMÉNAGEMENT DE L'ORIGINE**

**NORME**



- ① La projection maximale du boulon doit être de 30 mm, mesurée à partir de la plaque de renforcement.
- ② Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").
- ③ En présence d'une transition de rigidité de niveau de performance TL-2, le tube compressible n'est pas requis.
- ④ Si requis, un trou de 19 mm de diamètre permettant la fixation du tube compressible en acier doit être fait dans le profilé.

**Notes :**

- le trou de 10 mm de diamètre montré au détail du tube compressible est requis aux fins de fabrication de la pièce. Son absence n'influe pas sur le comportement du tube;
- le recouvrement est fait dans le sens de la circulation;
- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87% de zinc métallique dans le film sec;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Acier de construction  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Tube d'acier

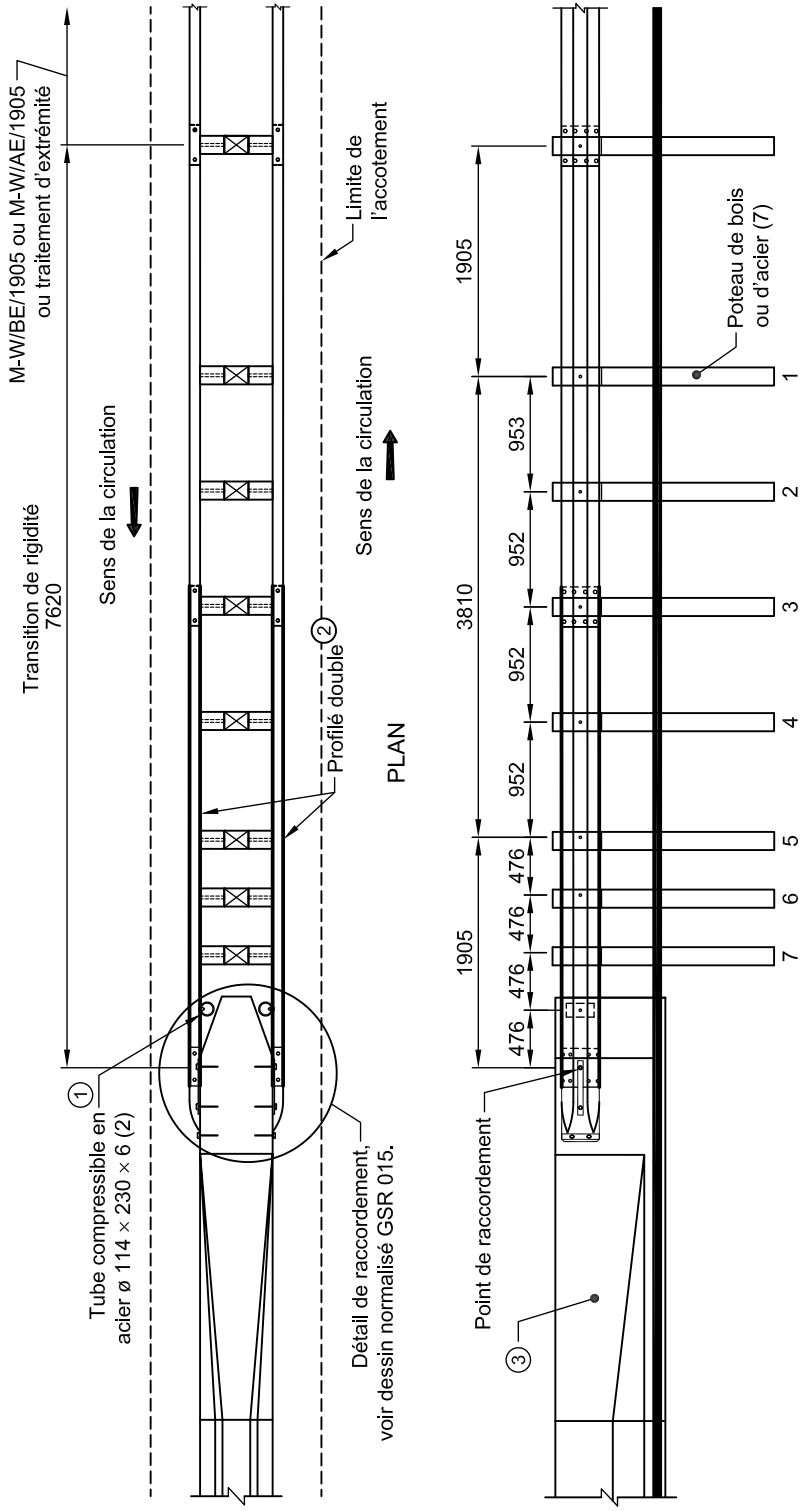
Tome VII, norme 6301  
ASTM A123/A123M  
ASTM A53/A53M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 014</b>
Date <b>2015 09 30</b>

# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE MÉDIANE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – TRANSITION DE RIGIDITÉ TL-3, GLISSIÈRE RIGIDE MÉDIANE AVEC AMÉNAGEMENT DE L'ORIGINE

# NORME



**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,	Tome VII, norme 6101
limite élastique minimale 260 MPa	
Boulons, tiges d'ancrage,	Tome VII, norme 6201
écrous et rondelles	ASTM F1667
Clous	Tome VII, norme 6301
Éléments de glissement	ASTM A123/A123M
Galvanisation	ASTM A53/A53M
Tube d'acier	

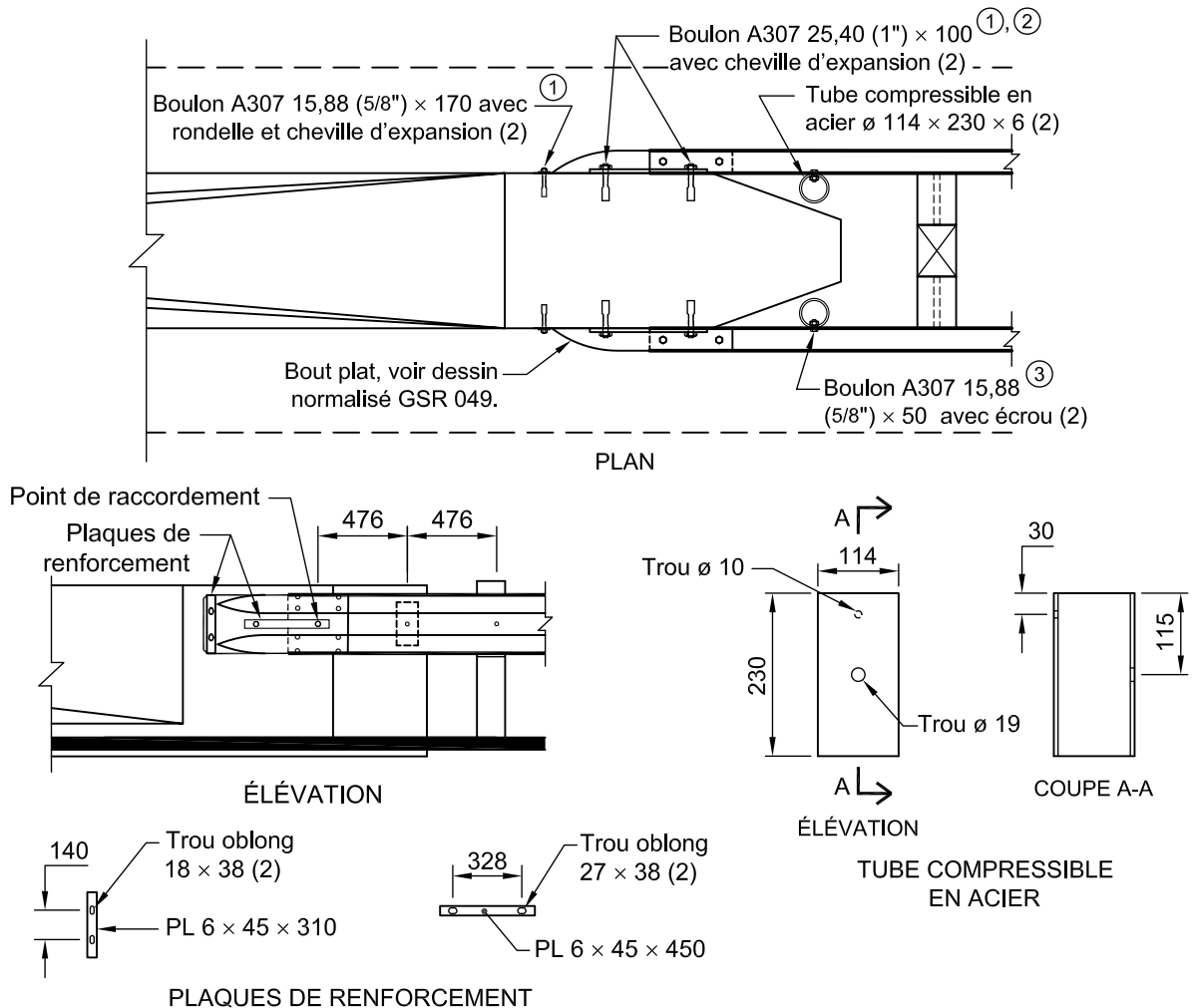
- ① Les tubes compressibles remplacent les poteaux 8 de la transition de rigidité du dessin normalisé GSR 011.
- ② Cette section de la transition de rigidité nécessite l'utilisation de deux profilés d'acier à double ondulation emboîtés.
- ③ Glissière rigide médiane en béton dont l'origine est conforme aux dessins normalisés GR 013 et GR 014.

- Notes :**
- l'épaisseur des blocs écarteurs doit être ajustée afin de tenir compte de la largeur de l'élément rigide;
  - toutes les pièces métalliques doivent être galvanisées;
  - les cotes sont en millimètres.



GLISSIÈRE SEMI-RIGIDE MÉDIANE  
AVEC PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT À  
UNE GLISSIÈRE RIGIDE MÉDIANE AVEC  
AMÉNAGEMENT DE L'ORIGINE

NORME



- ① La projection maximale du boulon doit être de 30 mm, mesurée à partir de la plaque de renforcement.
- ② Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").
- ③ Si requis, un trou de 19 mm de diamètre permettant la fixation du tube compressible en acier doit être fait dans le profilé.

Notes :

- le trou de 10 mm de diamètre montré au détail du tube compressible est requis aux fins de fabrication de la pièce. Son absence n'influe pas sur le comportement du tube;
- le recouvrement est fait dans le sens de la circulation;
- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87 % de zinc métallique dans le film sec;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Acier de construction  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Tube d'acier

Tome VII, norme 6301  
ASTM A123/A123M  
ASTM A53/A53M

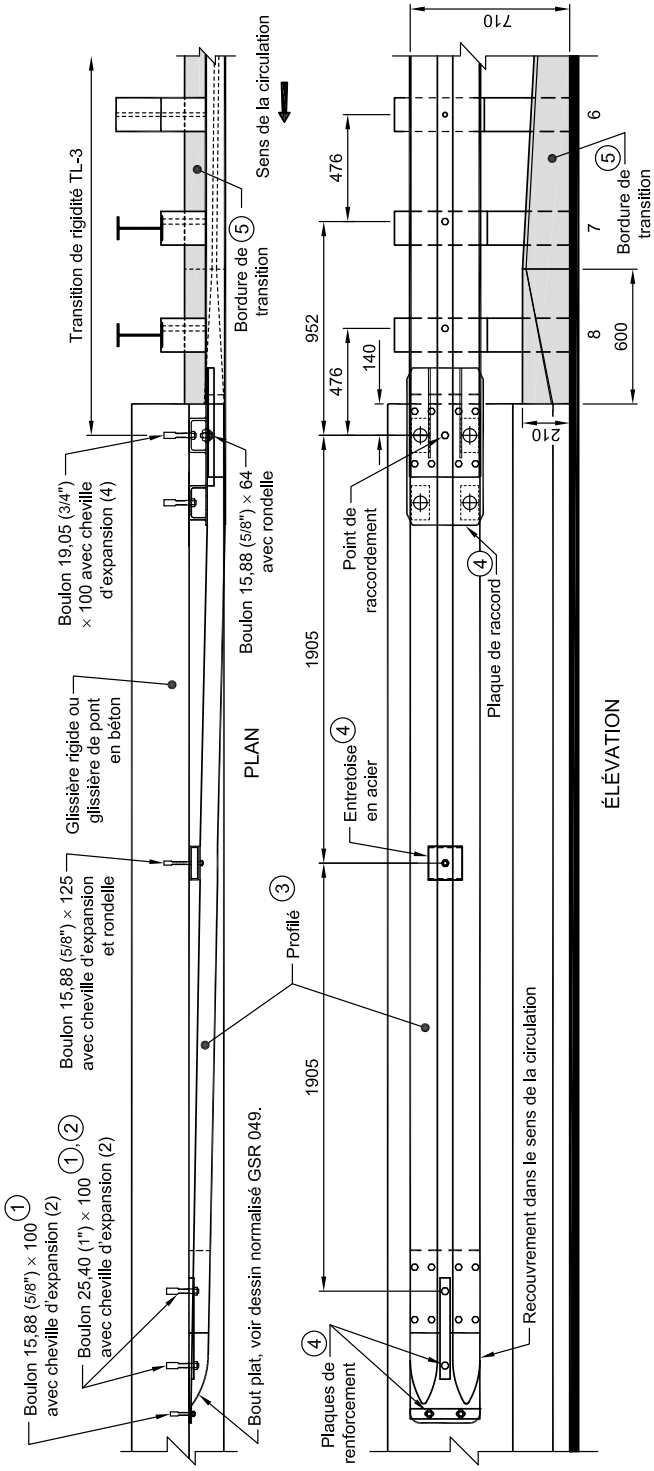


Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 016</b>
Date <b>2015 09 30</b>

# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – RACCORDEMENT À UNE GLISSIÈRE RIGIDE OU À UNE GLISSIÈRE DE PONT EN BÉTON

# NORME



- ① La projection maximale du boulon doit être de 30 mm, mesurée à partir de la plaque de renforcement.
- ② Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").
- ③ Pour le raccordement à un pont, si la longueur de la glissière du pont située sur le mur en retour est inférieure à 4650 mm, le profilé d'acier de 3810 mm est remplacé par le profilé de 1905 mm (voir dessin normalisé GSR 045) et l'entretoise en acier n'est pas requise.
- ④ Détail des plaques et de l'entretoise, voir dessin normalisé GSR 017.
- ⑤ Détail de la bordure de transition, voir dessin normalisé GSR 018.

**Notes :**

- ce raccordement est utilisé si la glissière semi-rigide avec profilé d'acier à double ondulation est raccordée à une glissière de pont en béton ou à une glissière rigide dont l'origine ne comporte pas la transition de forme prévue au dessin normalisé GSR 010;
- les boulons sont des boulons A307 (voir dessin normalisé GSR 050);
- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87% de zinc métallique dans le film sec;
- les cotes sont en millimètres.

<b>MATÉRIAUX — NORMES APPLICABLES</b>	
Aciers de construction, type W, limite élastique minimale 260 MPa	Tome VII, norme 6301
Boulons, tiges d'ancrage, écrous et rondelles	Éléments de glissement
	Galvanisation
	Tome VII, norme 6101
	Tome VII, norme 6201
	Tome VII, norme 6301
	ASTM A123/A123M



## DESSIN NORMALISÉ

# GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – RACCORDEMENT À UNE GLISSIÈRE RIGIDE OU À UNE GLISSIÈRE DE PONT EN BÉTON, PLAQUE DE RACCORD

Tome

VIII

Chapitre

3

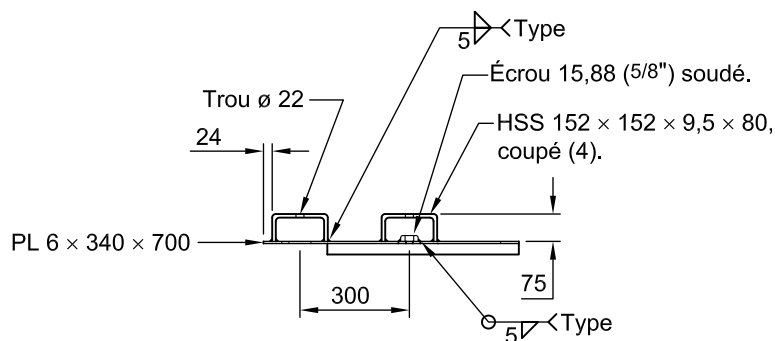
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GSR 017

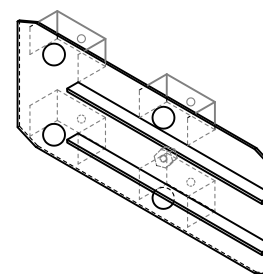
Date

2015 09 30

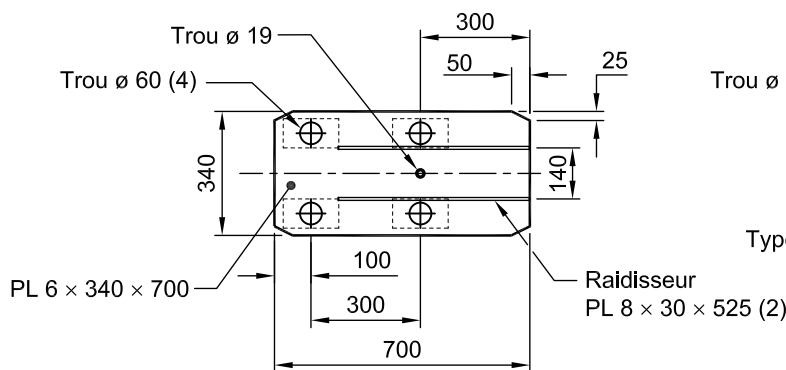
## NORME



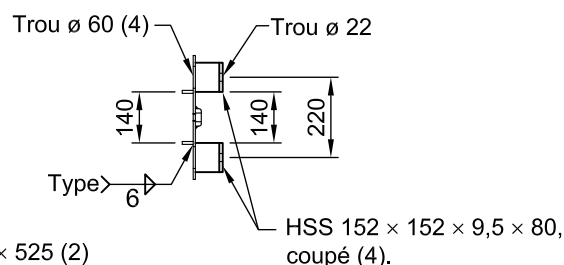
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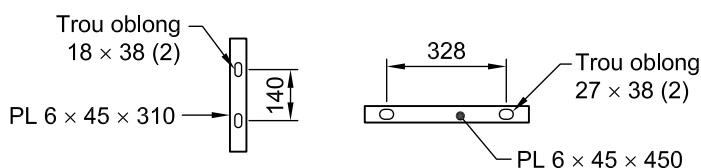
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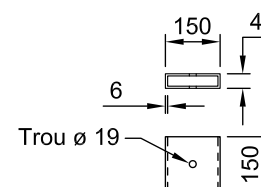
ÉLÉVATION



PROFIL



PLAQUES DE RENFORCEMENT



ENTRETOISE EN ACIER <sup>①</sup>

① L'entretoise n'est pas requise lorsqu'un profilé de 1905 mm de longueur est utilisé.

### Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

### MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Galvanisation  
Soudures

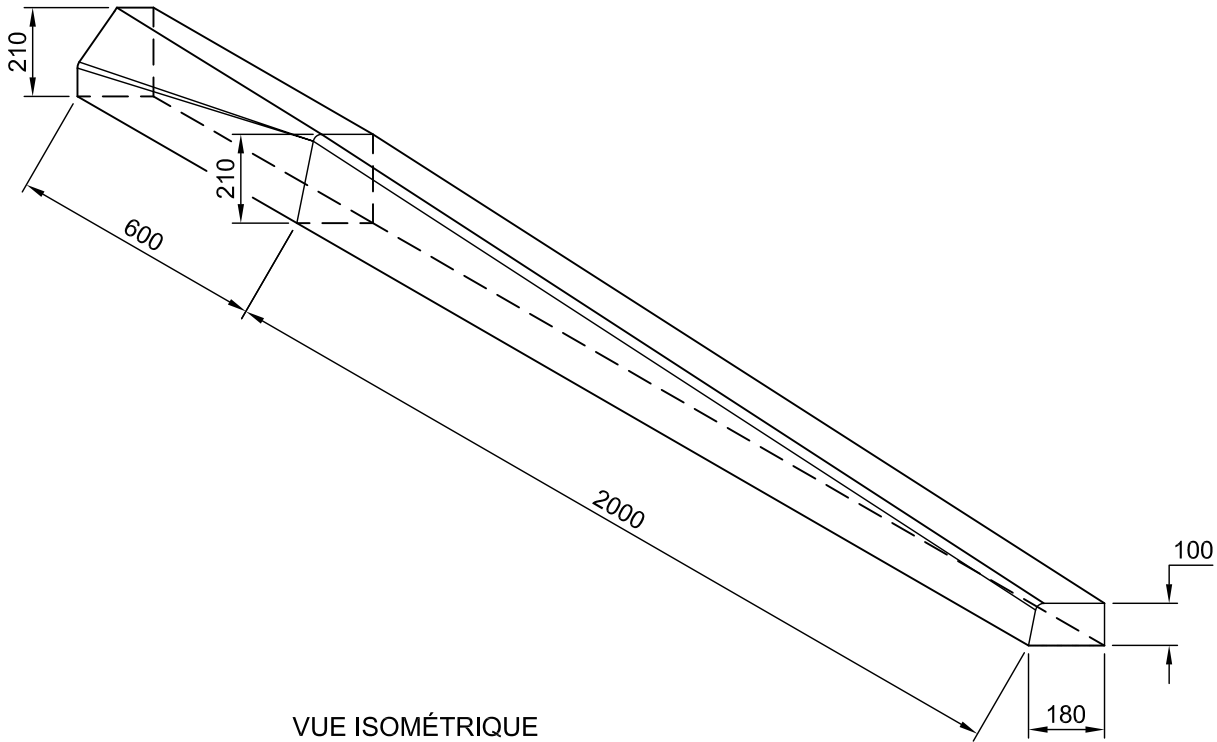
ASTM A123/A123M  
CSA W59

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 018</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ  
D'ACIER À DOUBLE ONDULATION –  
RACCORDEMENT À UNE GLISSIÈRE  
DE PONT EN BÉTON, DÉTAIL DE  
LA BORDURE DE TRANSITION**

**NORME**



**Notes :**

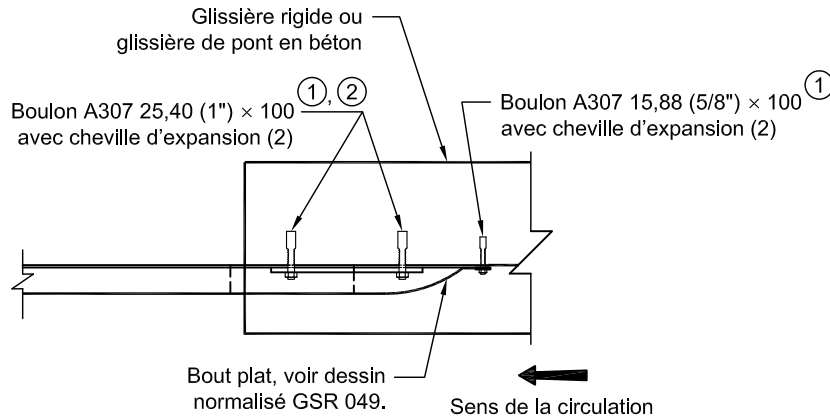
- la bordure de transition doit être réalisée conformément au *Tome II – Construction routière*, chapitre 4 « Bordures ». Toutefois, une transition de forme et de dimensions doit être réalisée pour l'adapter au chasse-roue de l'élément rigide;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

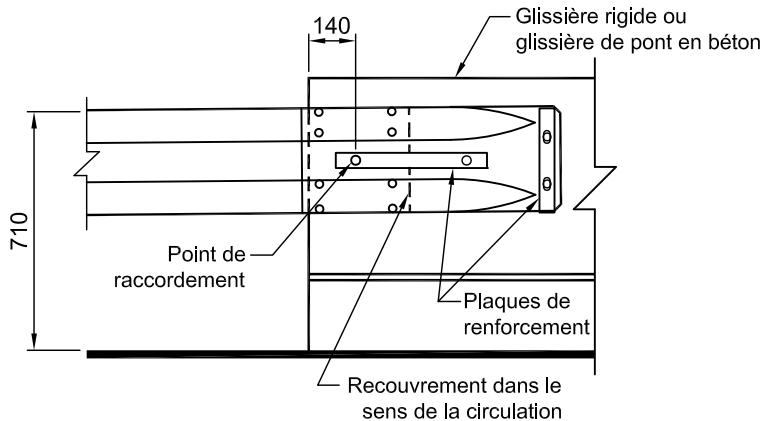
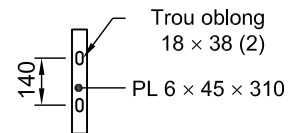
- |                                  |                                |
|----------------------------------|--------------------------------|
| Béton                            | — <i>Tome VII</i> , norme 3101 |
| • bordure coulée, type IV ou V   |                                |
| • bordure moulée, type VI ou VII |                                |

NORME

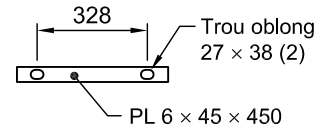
GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – RACCORDEMENT À LA FIN D'UNE GLISSIÈRE RIGIDE OU À LA SORTIE D'UN PONT



PLAN



ÉLEVATION



PLAQUES DE RENFORCEMENT

- ① La projection maximale du boulon doit être de 30 mm, mesurée à partir de la plaque de renforcement.
- ② Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87% de zinc métallique dans le film sec;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W, limite élastique minimale 260 MPa  
Boulons, tiges d'ancrage, écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation

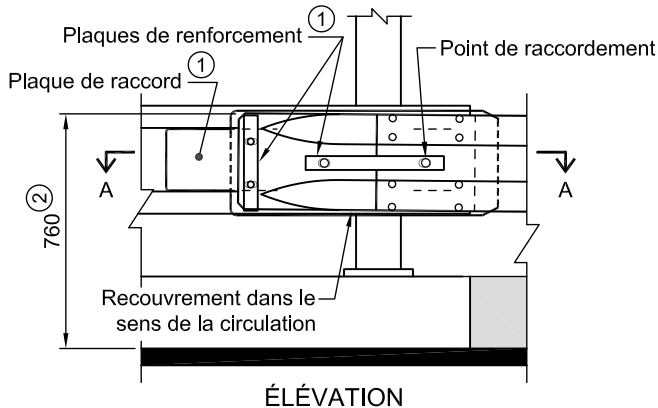
Tome VII, norme 6301  
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 020</b>
Date <b>2015 09 30</b>

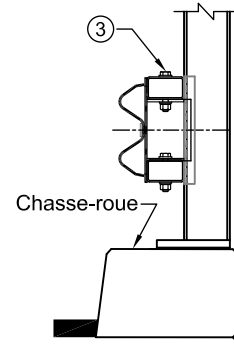
# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – RACCORDEMENT À UNE GLISSIÈRE DE PONT DE TYPE 43

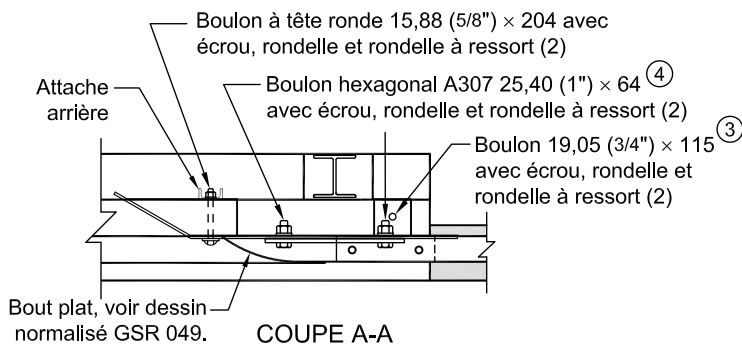
# NORME



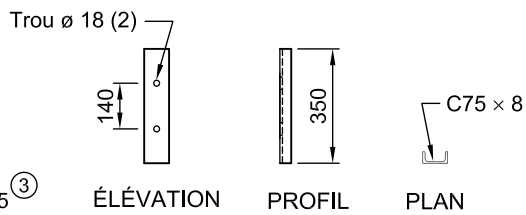
ÉLEVATION



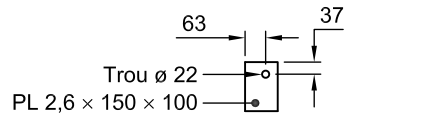
PROFIL



COUPE A-A



ATTACHE ARRIÈRE



CALE D'ESPACEMENT (5)

- ① Détail des plaques, voir le dessin normalisé GSR 021.
- ② En raison du raccordement avec la structure, la hauteur du profilé diffère de la hauteur fonctionnelle de 710 mm, mais elle demeure à l'intérieur de la tolérance de  $\pm 75$  mm. Cette transition de hauteur doit minimalement s'effectuer sur la dernière longueur de profilé (3810 mm).
- ③ La plaque de raccord est fixée à la glissière de pont en utilisant les trous prévus pour l'assemblage des bouchons à l'extrémité des tubes de la glissière de pont. Les boulons A325 existants doivent, au besoin, être remplacés par des boulons A325 plus longs afin de prendre en considération l'épaisseur de la plaque de raccord et des cales d'espacement.
- ④ Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").
- ⑤ Si l'espace libre entre les deux tubes du bas de la glissière de pont de type 43 est trop restreint pour permettre l'insertion de la plaque de raccord, il est possible d'augmenter cet espace en plaçant une ou plusieurs cales d'espacement entre le tube du centre et son support soudé au premier poteau de la glissière de pont. Inversement, si cet espace est trop important, il est possible de le réduire en insérant une ou plusieurs cales d'espacement entre le tube du bas et son support.

**Notes :**

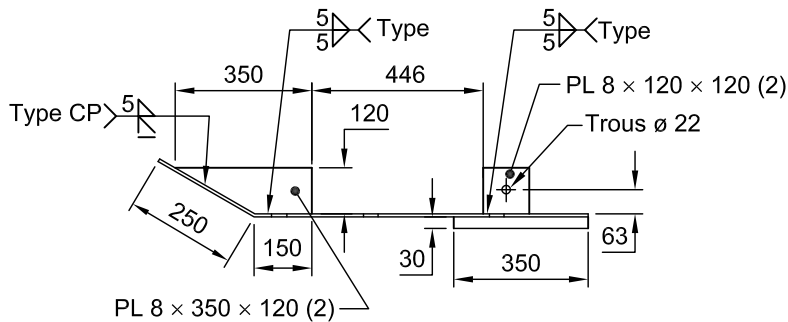
- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87 % de zinc métallique dans le film sec;
- après le serrage, l'extrémité filetée des boulons doit excéder l'écrou d'au moins 3 mm. Pour respecter cette exigence, les boulons de la glissière de pont doivent être remplacés par des boulons plus longs;
- à l'exception des boulons de la glissières de pont, les boulons sont des A307 (voir dessin normalisé GSR 050);
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

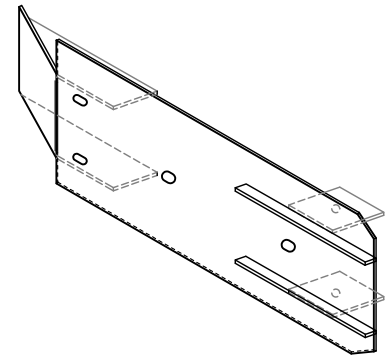
Aciers de construction, type W, limite élastique minimale 260 MPa	Tome VII, norme 6101	Éléments de glissement	Tome VII, norme 6301
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201	Galvanisation	ASTM A123/A123M

NORME

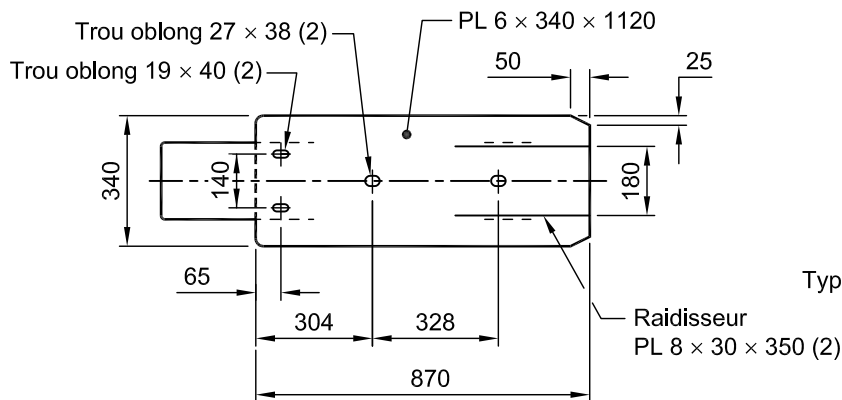
GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT À  
UNE GLISSIÈRE DE PONT DE TYPE 43,  
PLAQUE DE RACCORD



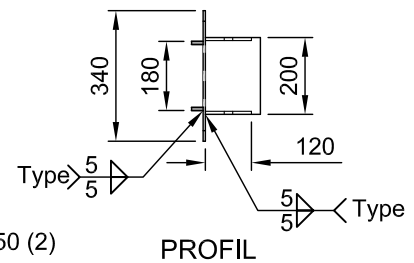
PLAN



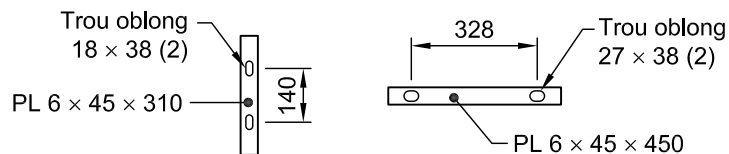
VUE ISOMÉTRIQUE



ÉLÉVATION



PROFIL



PLAQUES DE RENFORCEMENT

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa

Tome VII, norme 6101

Galvanisation  
Soudures

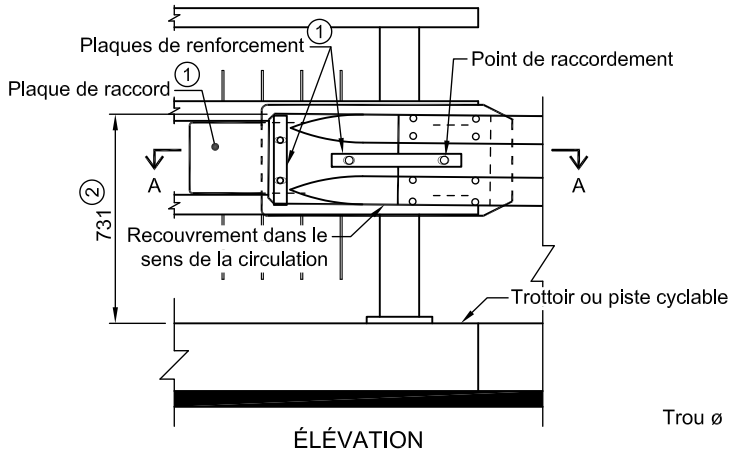
ASTM A123/A123M  
CSA W59

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 022</b>
Date <b>2015 09 30</b>

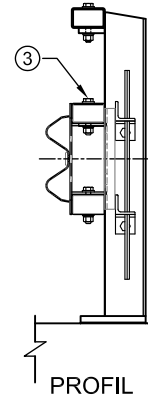
**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT  
À UNE GLISSIÈRE DE PONT DE  
TYPE 47B OU 47C**

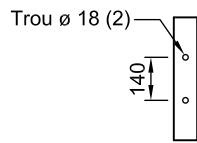
**NORME**



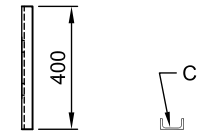
ÉLEVATION



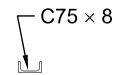
PROFIL



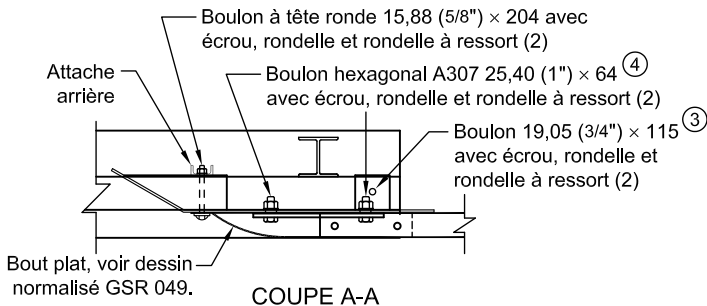
ÉLEVATION



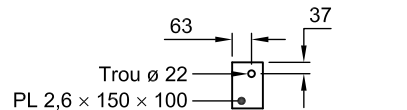
PROFIL



PLAN



COUPE A-A



CALE D'ESPACEMENT

- ① Détail des plaques, voir le dessin normalisé GSR 023.
- ② En raison du raccordement avec la structure, la hauteur du profilé diffère de la hauteur fonctionnelle de 710 mm, mais elle demeure à l'intérieur de la tolérance de  $\pm 75$  mm. Cette transition de hauteur doit minimalement s'effectuer sur la dernière longueur de profilé (3810 mm).
- ③ La plaque de raccord est fixée à la glissière de pont en utilisant les trous prévus pour l'assemblage des bouchons à l'extrémité des tubes de la glissière de pont. Les boulons A325 existants doivent, au besoin, être remplacés par des boulons A325 plus longs afin de prendre en considération l'épaisseur de la plaque de raccord et des cales d'espacement.
- ④ Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").
- ⑤ Si l'espace libre entre les deux tubes du bas de la glissière de pont de type 47 est trop restreint pour permettre l'insertion de la plaque de raccord, il est possible d'augmenter cet espace en plaçant une ou plusieurs cales d'espacement entre le tube du centre et son support soudé au premier poteau de la glissière de pont. Inversement, si cet espace est trop important, il est possible de le réduire en insérant une ou plusieurs cales d'espacement entre le tube du bas et son support.

**Notes :**

- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87 % de zinc métallique dans le film sec;
- après le serrage, l'extrémité filetée des boulons doit excéder l'écrou d'au moins 3 mm. Pour respecter cette exigence, les boulons de la glissière de pont doivent être remplacés par des boulons plus longs;
- à l'exception des boulons de la glissière de pont, les boulons sont des A307 (voir dessin normalisé GSR 050);
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,  
limite élastique minimale 260 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

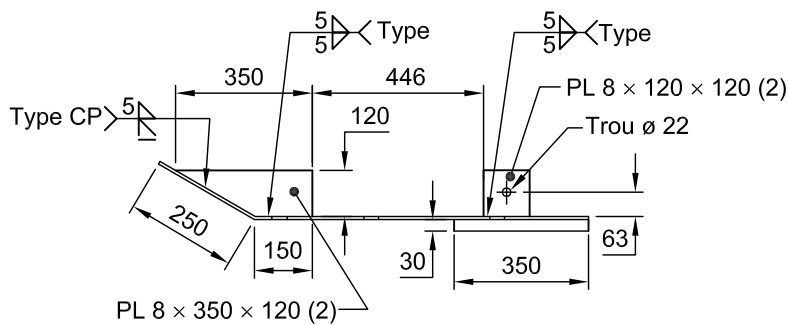
Tome VII, norme 6101  
Tome VII, norme 6201

Éléments de glissement  
Galvanisation

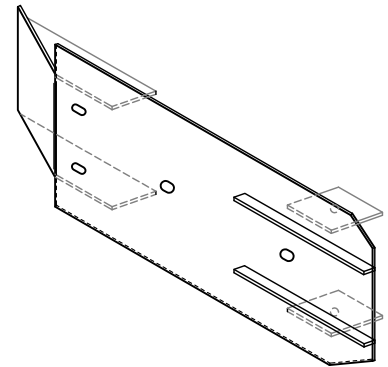
Tome VII, norme 6301  
ASTM A123/A123M

NORME

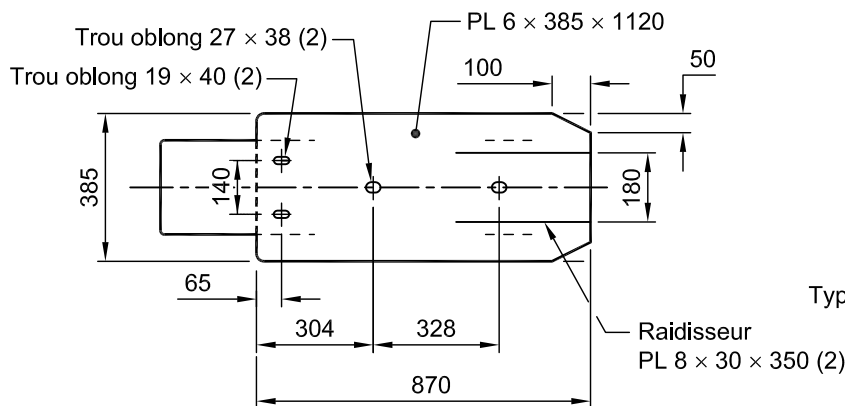
GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT À  
UNE GLISSIÈRE DE PONT DE TYPE  
47B OU 47C, PLAQUE DE RACCORD



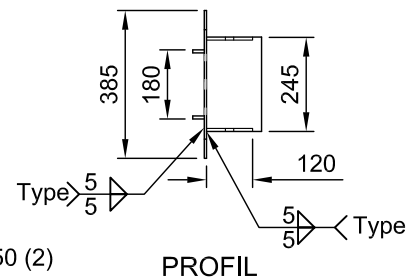
PLAN



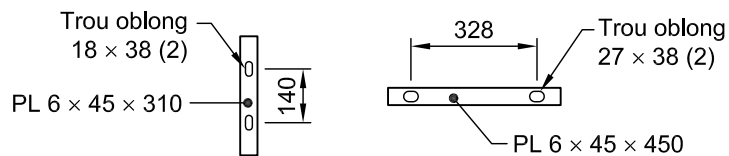
VUE ISOMÉTRIQUE



ÉLEVATION



PROFIL



PLAQUES DE RENFORCEMENT

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa

Tome VII, norme 6101

Galvanisation  
Soudures

ASTM A123/A123M  
CSA W59

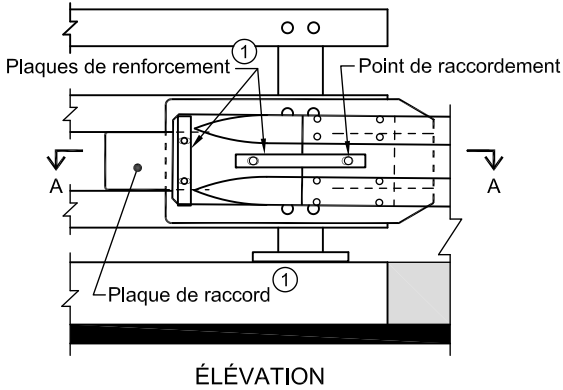


Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 024</b>
Date <b>2015 09 30</b>

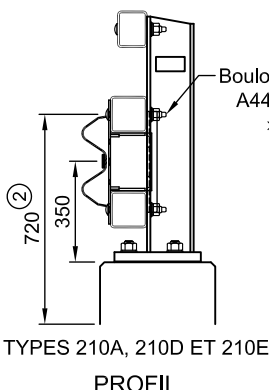
**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT  
AUX GLISSIÈRES DE PONT DE  
TYPE 210**

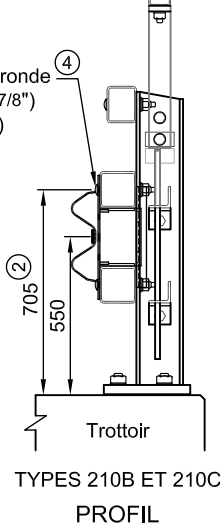
**NORME**



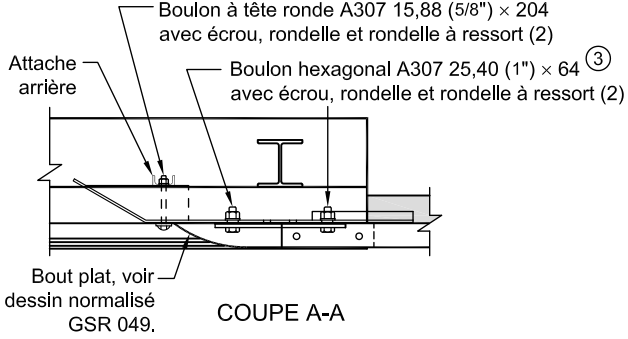
ÉLEVATION



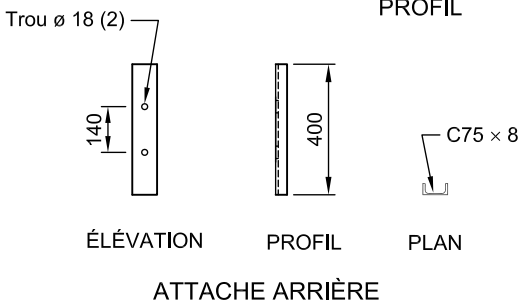
PROFIL



TYPES 210B ET 210C  
PROFIL



COUPE A-A



ÉLEVATION      PROFIL      PLAN

ATTACHE ARRIÈRE

- ① Détail des plaques, voir le dessin normalisé GSR 025.
- ② En raison du raccordement avec la structure, la hauteur du profilé diffère de la hauteur fonctionnelle de 710 mm, mais elle demeure à l'intérieur de la tolérance de  $\pm 75$  mm. Une transition de hauteur doit minimalement être effectuée sur la dernière longueur de profilé (3810 mm).
- ③ Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").
- ④ La plaque de raccord est fixée au moyen des boulons A449 servant à l'assemblage des tubes au premier poteau de la glissière de pont. Les boulons existants doivent, au besoin, être remplacés par des boulons A449 plus longs afin de prendre en considération l'épaisseur de la plaque de raccord.

**Notes :**

- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87% de zinc métallique dans le film sec;
- après le serrage, l'extrémité filetée des boulons doit excéder l'écrou d'au moins 3 mm. Pour respecter cette exigence, les boulons de la glissière de pont doivent être remplacés par des boulons plus longs;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

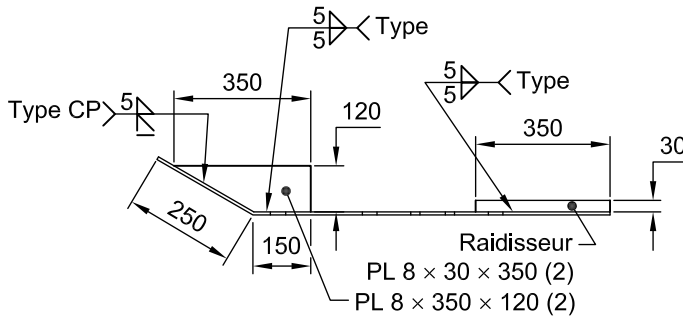
**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W, limite élastique minimale 260 MPa Boulons, tiges d'ancrage, écrous et rondelles	<i>Tome VII</i> , norme 6101  <i>Tome VII</i> , norme 6201	Éléments de glissement Galvanisation	<i>Tome VII</i> , norme 6301 ASTM A123/A123M
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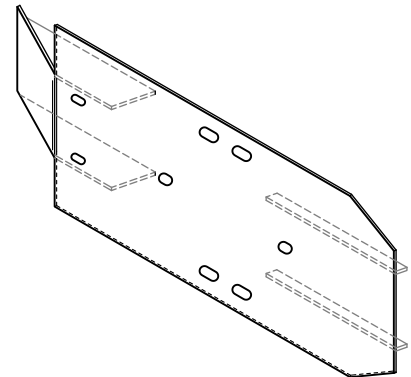


GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ  
D'ACIER À DOUBLE ONDULATION –  
RACCORDEMENT AUX GLISSIÈRES  
DE PONT DE TYPE 210,  
PLAQUE DE RACCORD

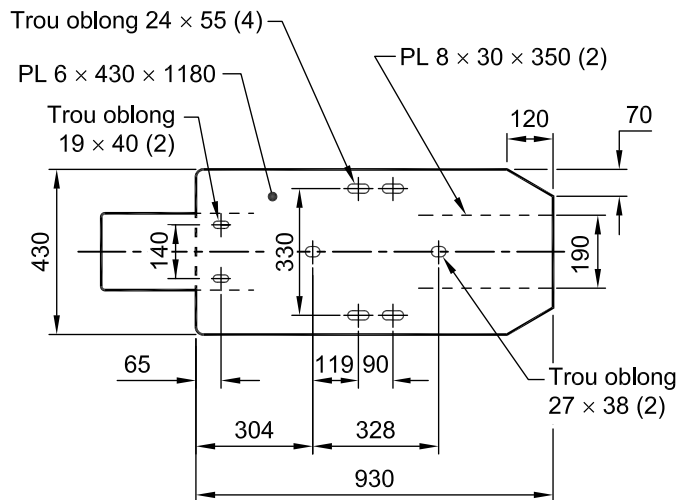
NORME



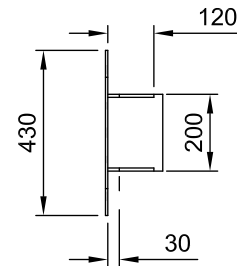
PLAN



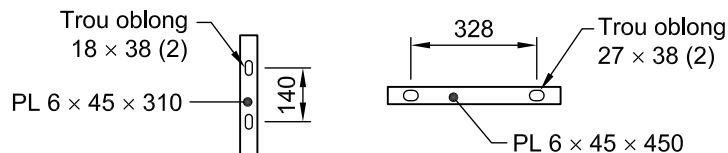
VUE ISOMÉTRIQUE



ÉLÉVATION



PROFIL



PLAQUES DE RENFORCEMENT

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa

Tome VII, norme 6101

Galvanisation  
Soudures

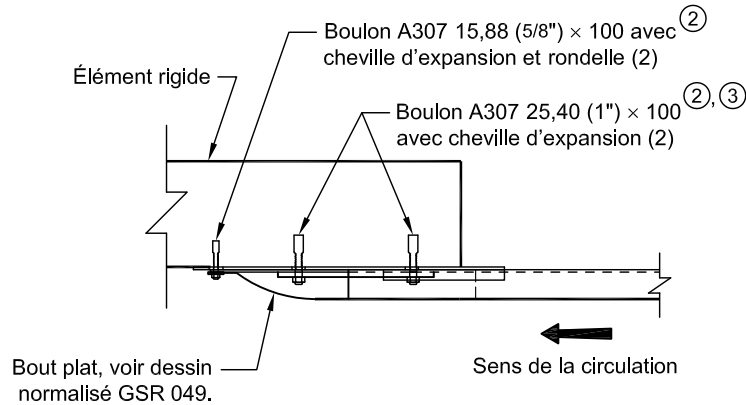
ASTM A123/A123M  
CSA W59

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 026A</b>
Date <b>2014 09 30</b>

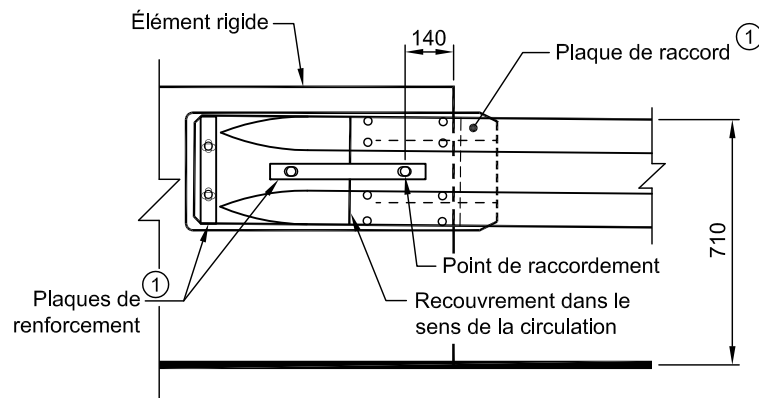
**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – RACCORDEMENT  
SANS CHEVAUCHEMENT**

**NORME**



PLAN



ÉLÉVATION

- ① Détail des plaques, voir le dessin normalisé GSR 026B. La plaque de raccord n'est pas requise lorsque la vitesse affichée de la route est inférieure ou égale à 50 km/h.
- ② La projection maximale du boulon doit être de 30 mm, mesurée à partir de la plaque de renforcement.
- ③ Le trou du profilé doit être agrandi à 27 mm pour recevoir le boulon de 25,40 mm (1").

**Notes :**

- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87% de zinc métallique dans le film sec;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

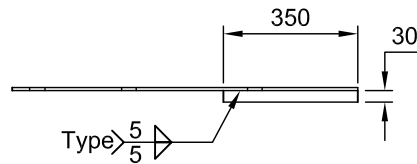
Aciers de construction, type W,  
limite élastique minimale 260 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

*Tome VII, norme 6101*  
*Tome VII, norme 6201*

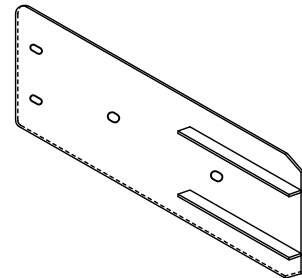
Éléments de glissement  
Galvanisation

*Tome VII, norme 6301*  
*ASTM A123/ A123M*

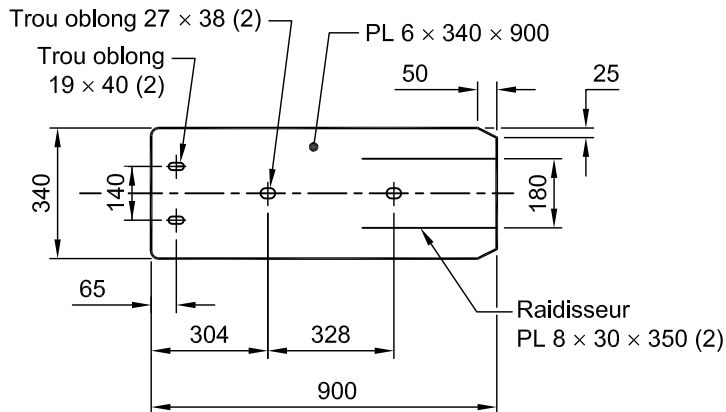
NORME



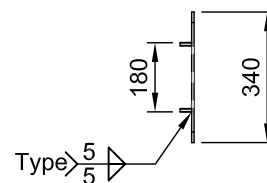
PLAN



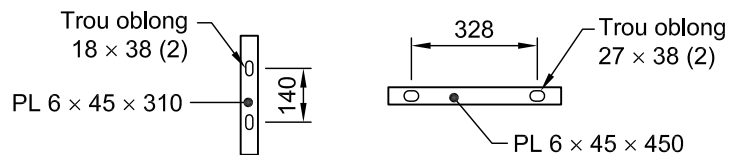
VUE ISOMÉTRIQUE



ÉLÉVATION



PROFIL



PLAQUES DE RENFORCEMENT

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa

Tome VII, norme 6101

Galvanisation  
Soudures

ASTM A123/A123M  
CSA W59





# NORME

## DESSIN NORMALISÉ

### GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ D'ACIER À DOUBLE ONDULATION – TRAITEMENT DES EXTRÉMITÉS ET PROTECTION DU CÔTÉ ARRIÈRE DANS UN TERRE-PLEIN

Tome

VIII

Chapitre

3

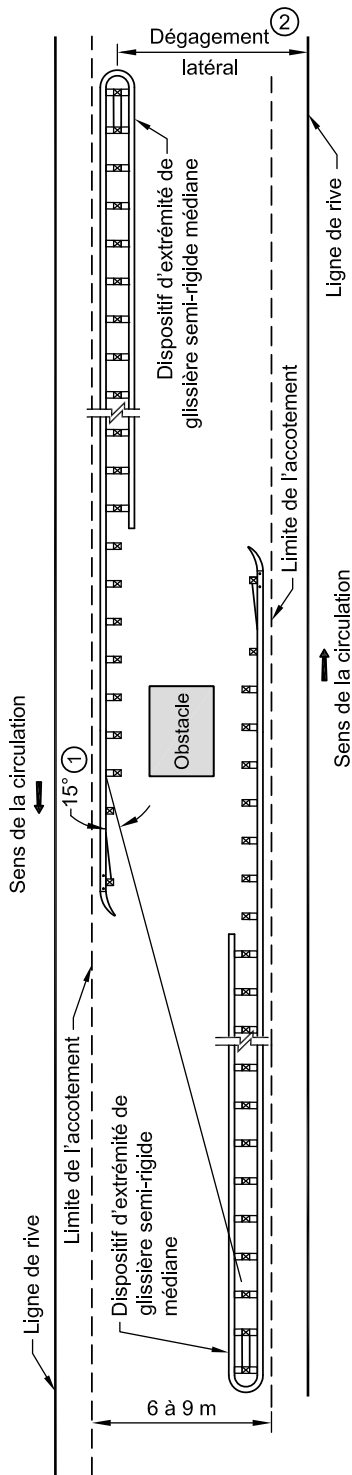
Numéro

GSR 027

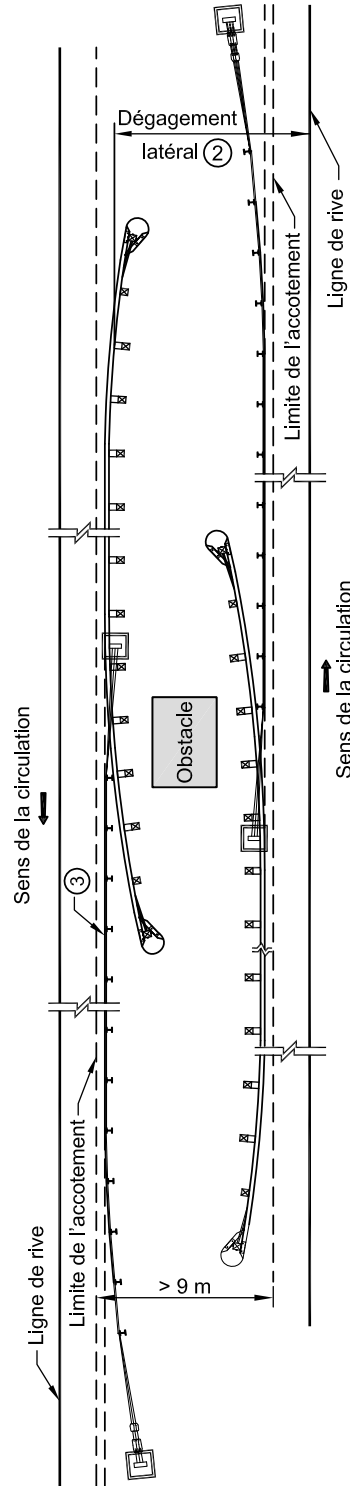
Date

2013 09 30

Contenu normatif



TERRE-PLEIN DE 6 À 9 M



TERRE-PLEIN DE PLUS DE 9 M

- ① Pour déterminer la longueur minimale de glissière semi-rigide médiane à installer, la projection d'un angle de 15° mesuré à partir de la fin de la section efficace de la glissière dans le sens de la circulation doit être utilisée.
- ② Si l'origine ou l'arrière de la glissière installée avant un objet fixe dans un sens de la circulation se trouve à l'intérieur de la zone de dégagement latéral pour l'autre sens de circulation (section 2.4.1 « Présence d'un objet fixe » du présent tome), cette section de glissière doit être sécurisée.
- ③ La longueur nécessaire de glissière flexible avec câbles d'acier est déterminée conformément à la section 2.4.1 « Présence d'un objet fixe » du présent tome.

**Note :**

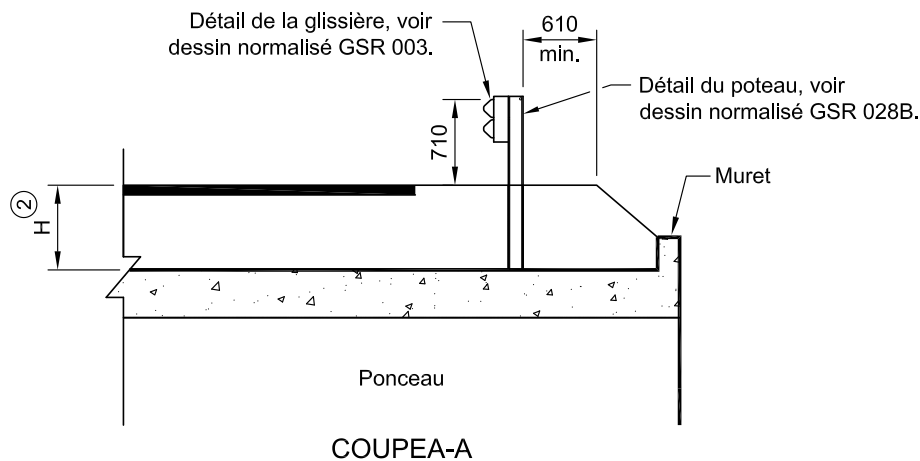
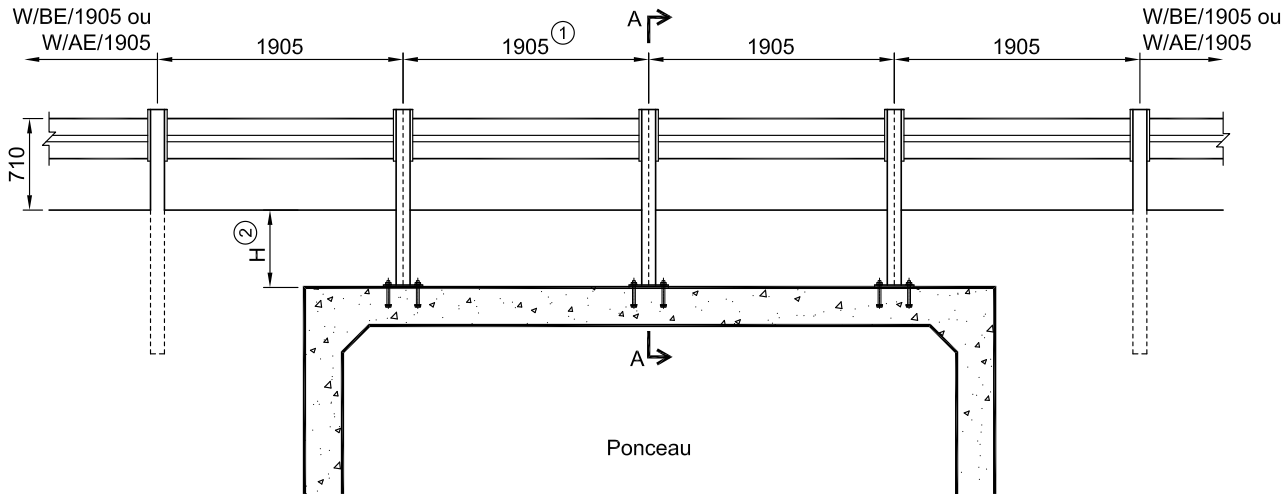
- même si aucune transition de rigidité n'est nécessaire entre deux glissières de déformation dynamique croissante, le traitement des extrémités à la jonction des deux glissières est le même (voir dessin normalisé GF 008).

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 028A</b>
Date <b>2015 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – INSTALLATION  
SUR UN PONCEAU RECTANGULAIRE  
EN BÉTON ARMÉ**

**NORME**



- ① L'espacement des poteaux peut être réduit à 952 mm afin de diminuer la déformation dynamique de la glissière.
- ② Ce mode d'installation ne peut être utilisé que dans le cas où la hauteur de remblai (H) est inférieure à 1100 mm. Bien que les essais d'impact aient été effectués avec une hauteur de remblai de 230 mm, la hauteur de remblai minimale doit toutefois respecter les exigences prescrites au *Tome III – Ouvrages d'art*, chapitre 4 « Ponceaux ».

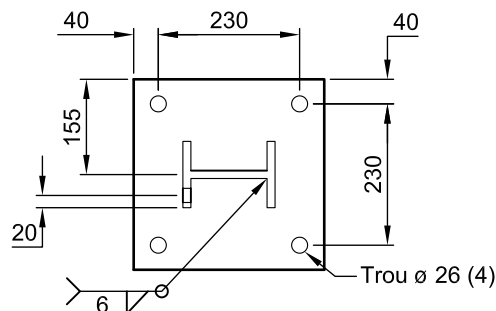
**Note :**

- les cotes sont en millimètres.

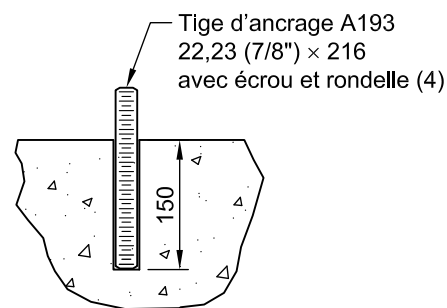


GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – INSTALLATION SUR  
UN PONCEAU RECTANGULAIRE EN  
BÉTON ARMÉ, DÉTAIL DU POTEAU

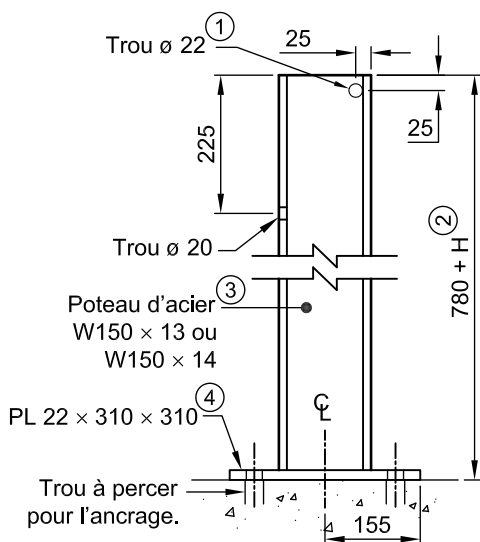
NORME



PLAN



ANCRAGE



ÉLÉVATION

- ① Ce trou est requis aux fins de la galvanisation de la pièce.
- ② La hauteur de remblai (H) doit être inférieure à 1100 mm.
- ③ Limite élastique minimale 350 MPa.
- ④ Limite élastique minimale 260 MPa.

Notes :

- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (Tome VII, norme 6101);
- le poteau doit être fixé au ponceau à l'aide de quatre tiges d'ancrage filetées galvanisées et d'une résine RE500 de Hilti ou d'un équivalent approuvé;
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 6201

Galvanisation

ASTM A123/A123M

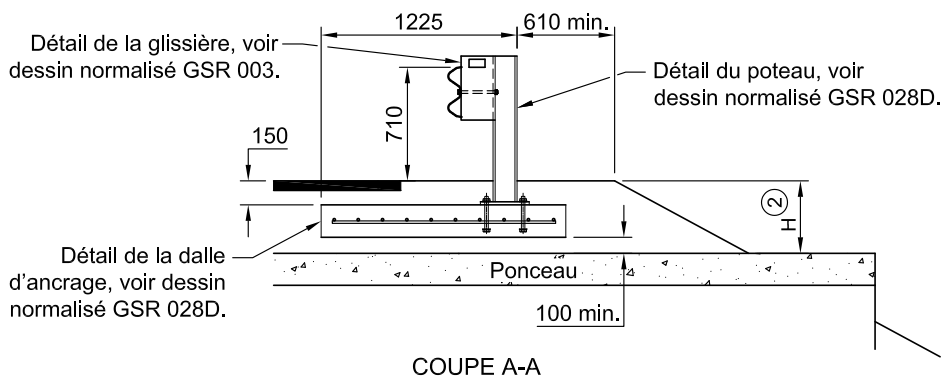
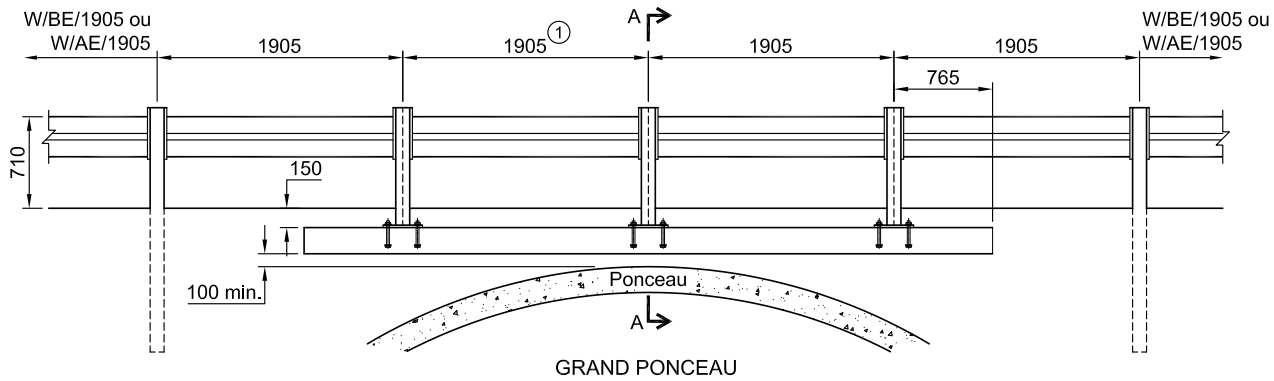
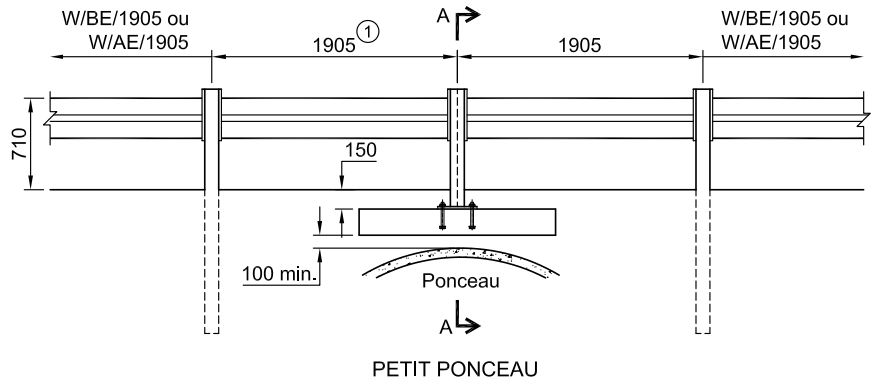


Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 028C</b>
Date <b>2015 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – INSTALLATION  
AU-DESSUS D'UN PONCEAU  
CIRCULAIRE OU VOÛTÉ**

**NORME**



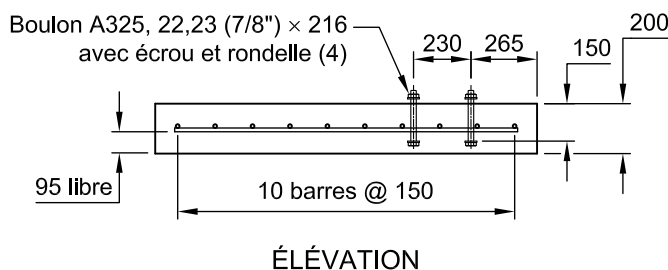
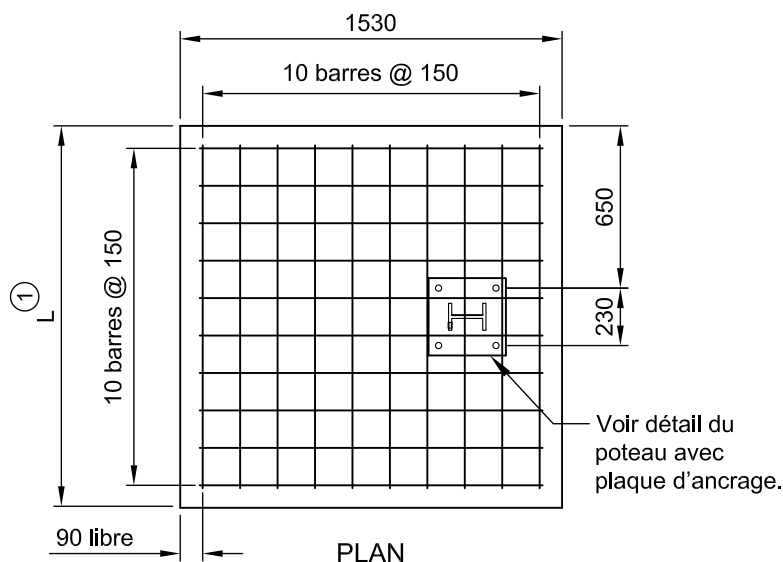
- ① L'espacement des poteaux peut être réduit à 952 mm afin de diminuer la déformation dynamique de la glissière.
- ② Ce mode d'installation ne peut être utilisé que dans le cas où la hauteur de remblai (H) est inférieure à 1100 mm. Bien que les essais d'impact aient été effectués avec une épaisseur de 100 mm de matériau granulaire sous la dalle d'ancrage, la hauteur de remblai minimale doit toutefois respecter les exigences prescrites au *Tome III – Ouvrages d'art*, chapitre 4 « Ponceaux ».

**Note :**  
– les cotes sont en millimètres.



GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ  
D'ACIER À DOUBLE ONDULATION –  
INSTALLATION AU-DESSUS D'UN  
PONCEAU CIRCULAIRE OU VOÛTÉ, DALLE  
D'ANCRAGE ET DÉTAIL DU POTEAU

NORME



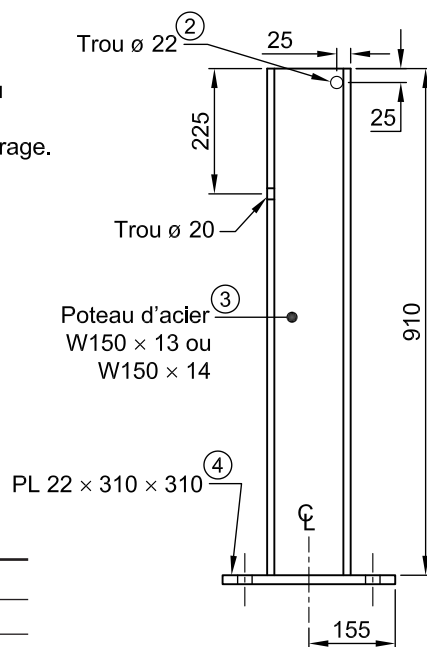
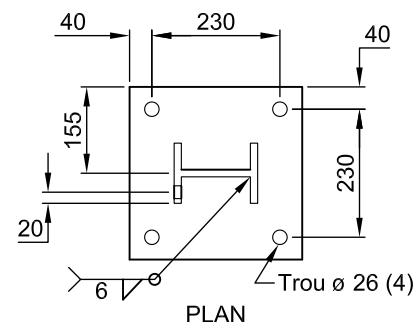
Espacement (mm)	Nombre de poteaux				
	1905	1	2	3	4
952	1	3	5	7	9
Longueur (L)	1530	3435	5340	7245	9150 <sup>(1)</sup>

1. Longueur de dalle maximale permise.

- ① La longueur de la dalle d'ancrage (L) varie en fonction du nombre de poteaux ne pouvant pas être installés à leur pleine longueur et de leur espacement.  
 ② Ce trou est requis aux fins de la galvanisation de la pièce.  
 ③ Limite élastique minimale 350 MPa.  
 ④ Limite élastique minimale 260 MPa.

Notes :

- le diamètre des barres d'armature est 15M;
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.



DÉTAIL DU POTEAU AVEC  
PLAQUE D'ANCRAGE

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W  
Armature galvanisée, type W,  
limite élastique minimale 400 MPa  
Béton, types IV, V, V-P et XIV-C

Tome VII, norme 6101  
Tome VII, norme 5101  
Tome VII, norme 3101

Boulons, tiges d'ancrage,  
écrous et rondelles  
Galvanisation

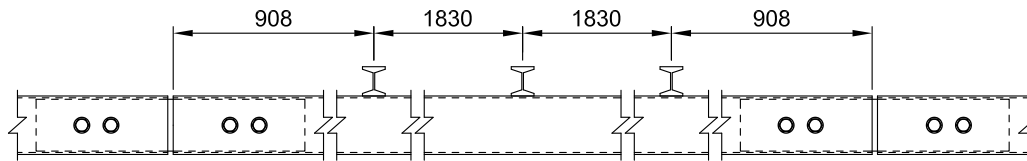
Tome VII, norme 6201  
ASTM A123/A123M



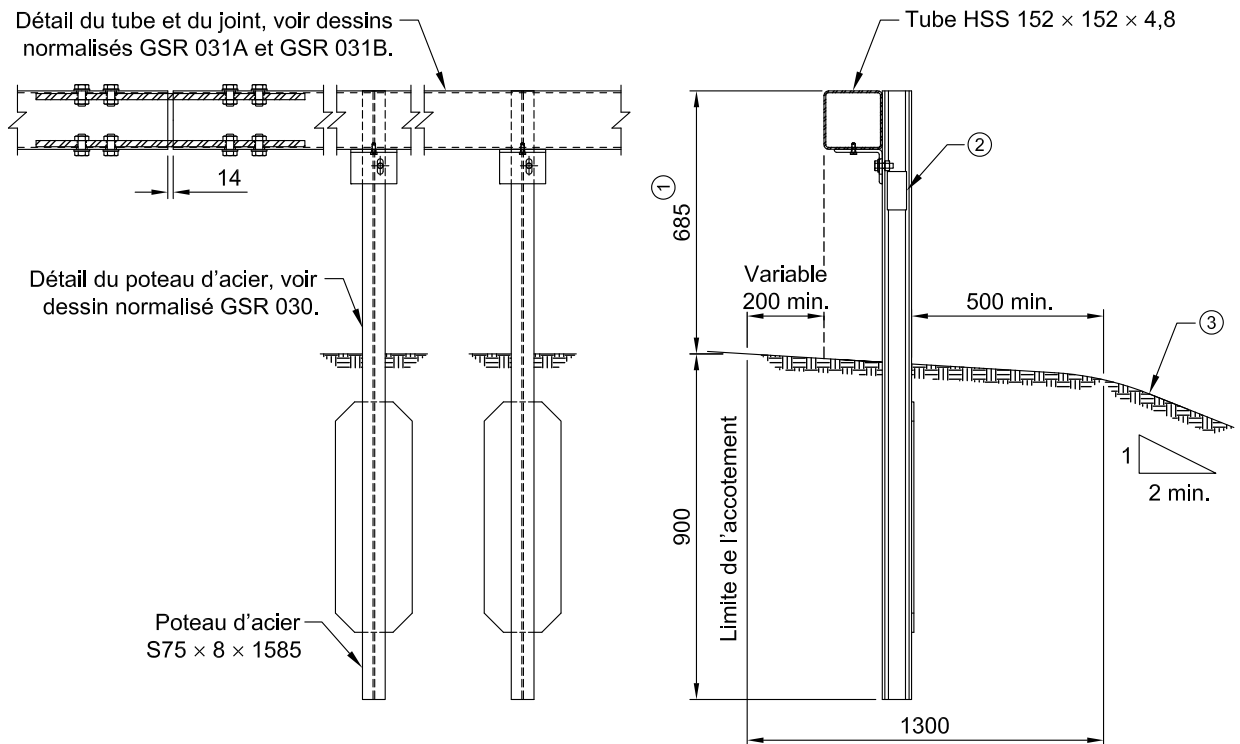


NORME

GLISSIÈRE SEMI-RIGIDE  
AVEC TUBE D'ACIER



PLAN



ÉLÉVATION

T/A/1830

- ① En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.
- ② Sur tous les deux poteaux, une plaque rétro réfléchissante de 50 × 100 mm (pellicule autoadhésive) doit être posée. La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ③ Pente de 1V:2H ou plus douce. Dans le cas d'une pente plus abrupte, les poteaux doivent être placés de manière à ce que la distance entre la face avant de l'élément de glissement et le bord du talus soit égale ou supérieure à la déformation dynamique de la glissière.

Notes :

- le traitement des extrémités doit être effectué conformément aux dessins normalisés GSR 032 ou GSR 033;
- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21;
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W  
Éléments de glissement

Tome VII, norme 6101  
Tome VII, norme 6301

Galvanisation  
Pellicules rétro réfléchissantes, type XI

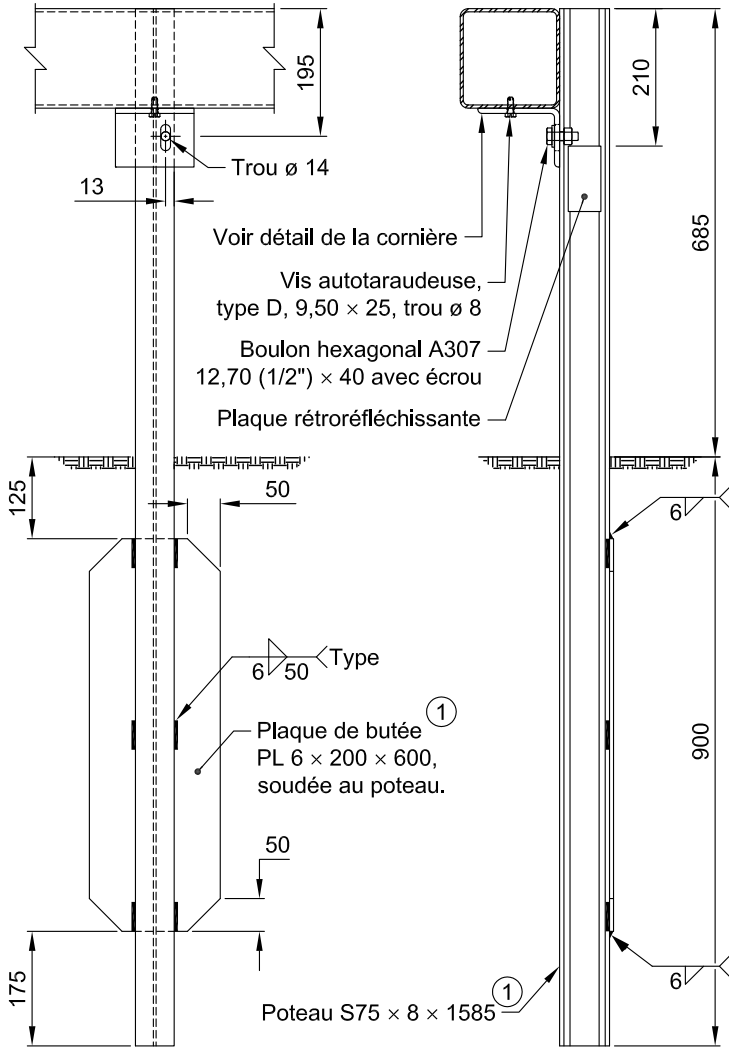
ASTM A123/A123M  
Tome VII, norme 14101

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 030</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

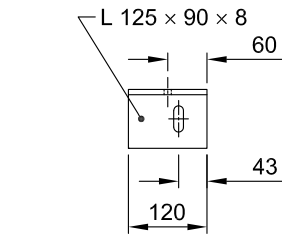
**GLISSIÈRE SEMI-RIGIDE  
AVEC TUBE D'ACIER –  
DÉTAIL DU POTEAU D'ACIER**

**NORME**

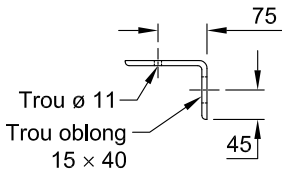


ÉLÉVATION

PROFIL



ÉLÉVATION



PROFIL

DÉTAIL DE LA CORNIÈRE <sup>②</sup>

- ① Limite élastique minimale de 260 MPa.
- ② Limite élastique minimale de 300 MPa.

**Notes :**

- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21;
- toutes les pièces doivent être galvanisées;
- les cotes sont en millimètres.

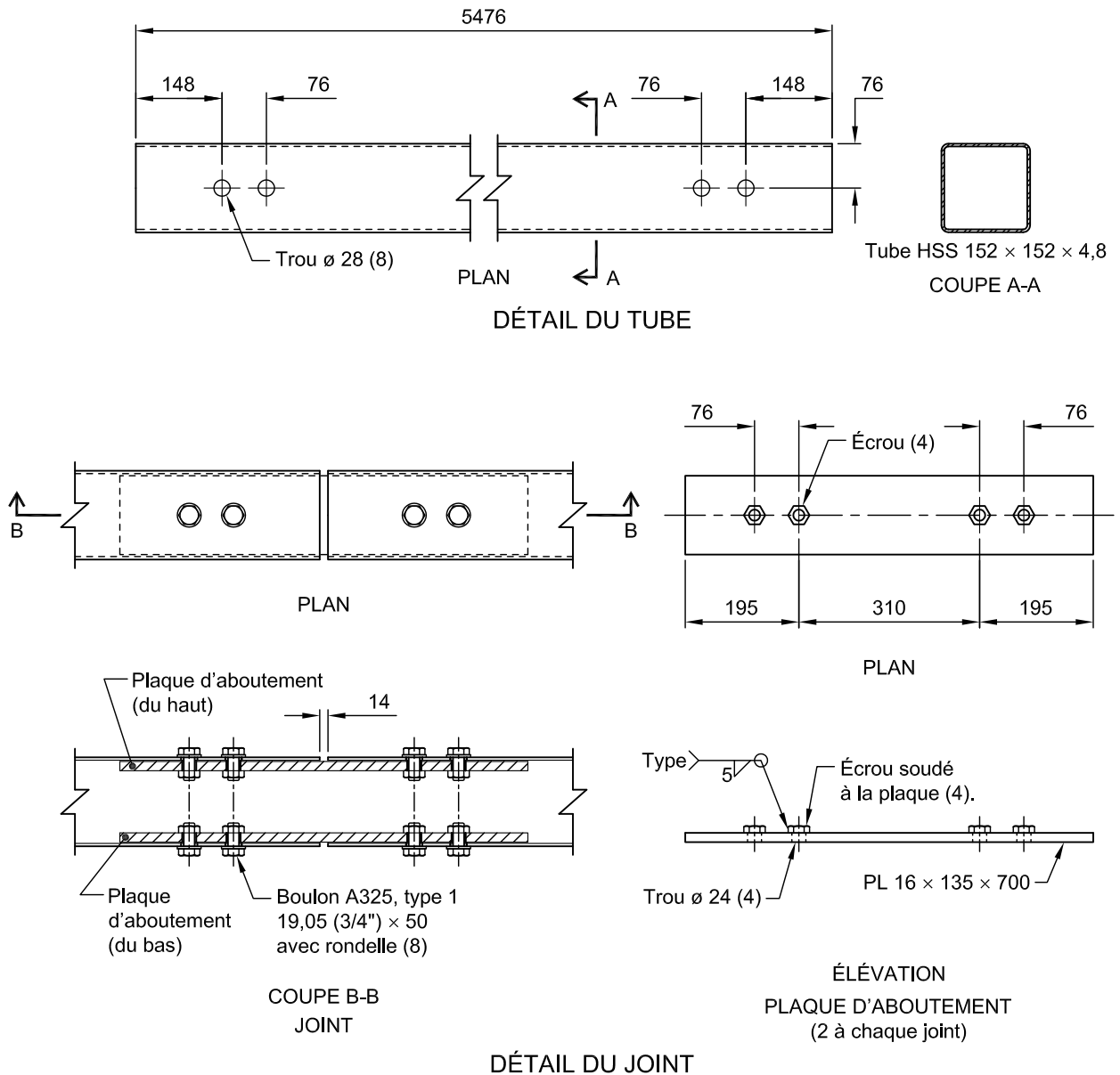
**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W	Tome VII, norme 6101	Éléments de glissement	Tome VII, norme 6301
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201	Galvanisation	ASTM A123/A123M
		Pellicules rétro réfléchissantes, type XI	Tome VII, norme 14101
		Soudures	CSA W59



NORME

GLISSIÈRE SEMI-RIGIDE  
AVEC TUBE D'ACIER –  
DÉTAIL DU TUBE ET DU JOINT



Notes :

- toutes les pièces doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Soudures

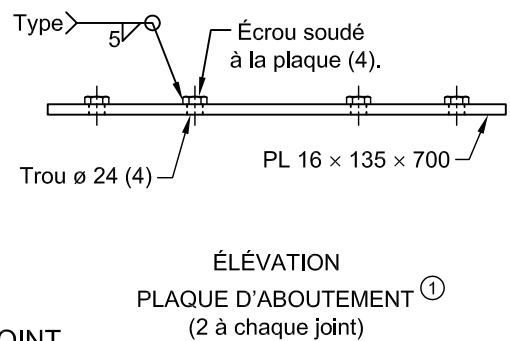
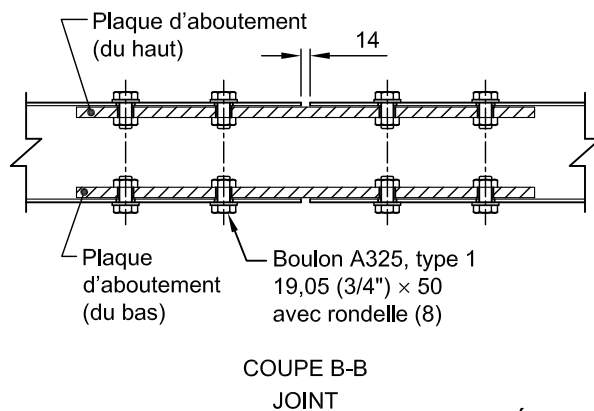
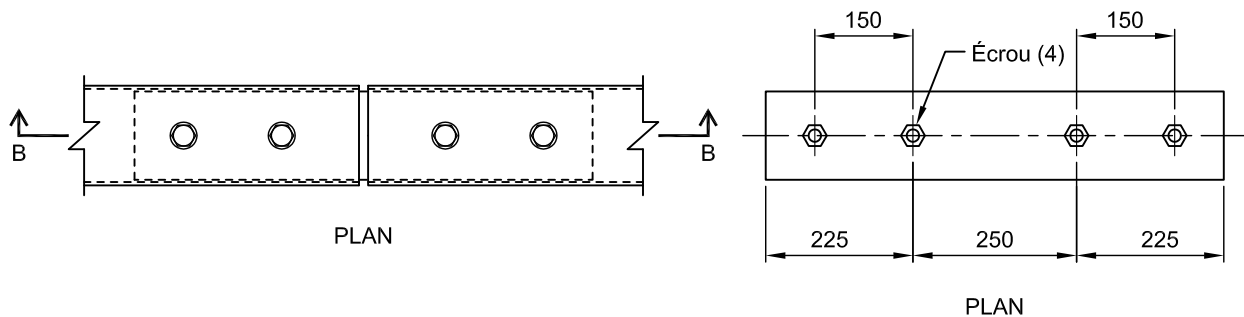
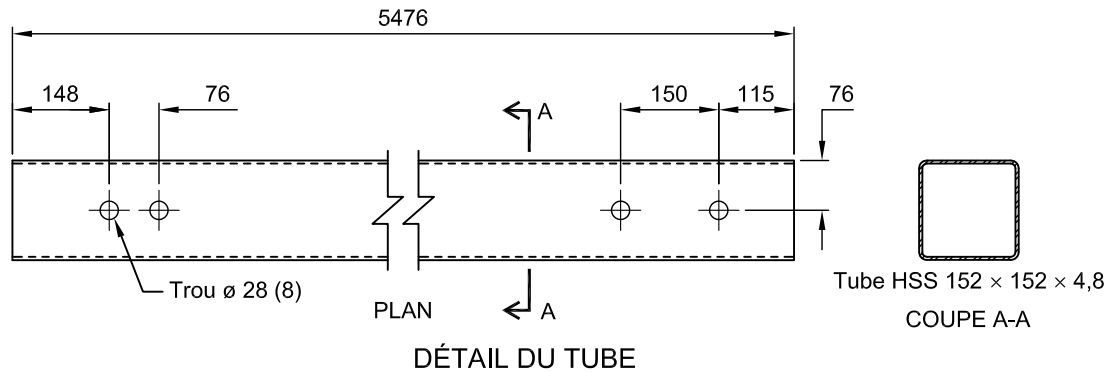
Tome VII, norme 6301  
ASTM A123/A123M  
CSA W59





GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – DÉTAIL DU TUBE  
DE RACCORD ET DU JOINT À UN  
DISPOSITIF D'EXTRÉMITÉ

NORME



DÉTAIL DU JOINT

① Selon le modèle de dispositif d'extrémité de glissière semi-rigide à mettre en place, les plaques d'aboutement sont optionnelles.

Notes :

- toutes les pièces doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Soudures

Tome VII, norme 6301  
ASTM A123/A123M  
CSA W59

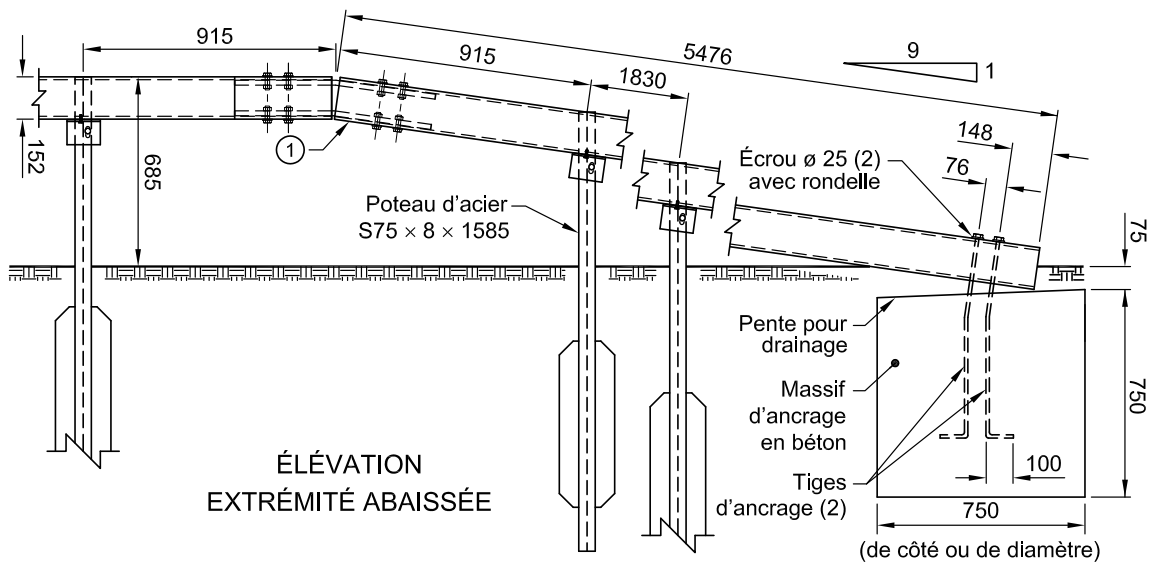
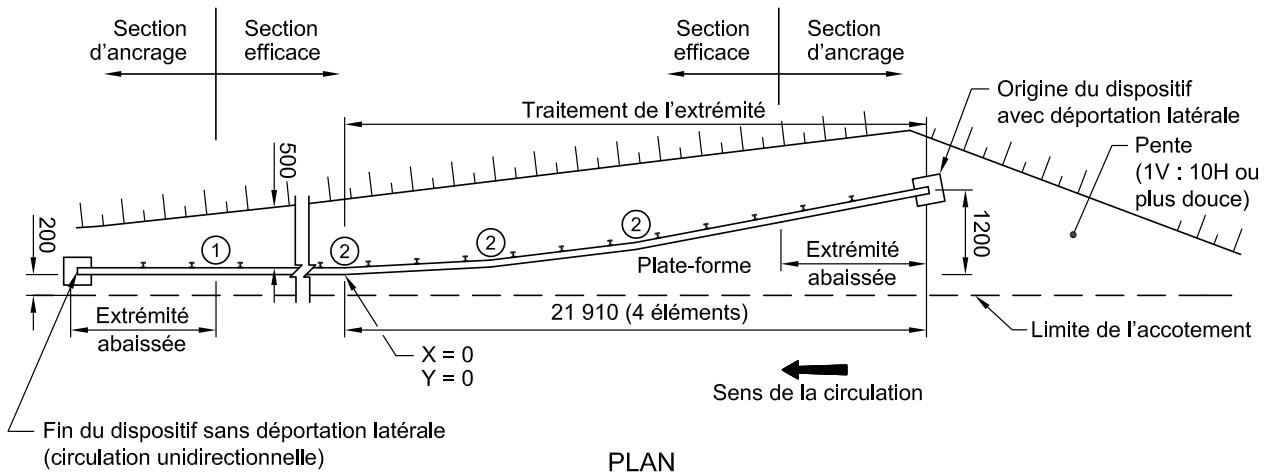


Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 032</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – TRAITEMENT DES  
EXTRÉMITÉS (50 km/h ET MOINS)**

**NORME**



- ① Pour le détail, voir le dessin normalisé GSR 034.
- ② Pour le détail, voir le dessin normalisé GSR 035.

**Notes :**

- tiges d'ancrage : ø 25 x 750 mm de longueur, filetées sur une longueur minimale de 100 mm;
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

<b>Éloignement de la glissière</b>	
<b>X</b>	<b>Y</b>
0	0
5490	133
10 980	400
16 450	800
21 960	1200

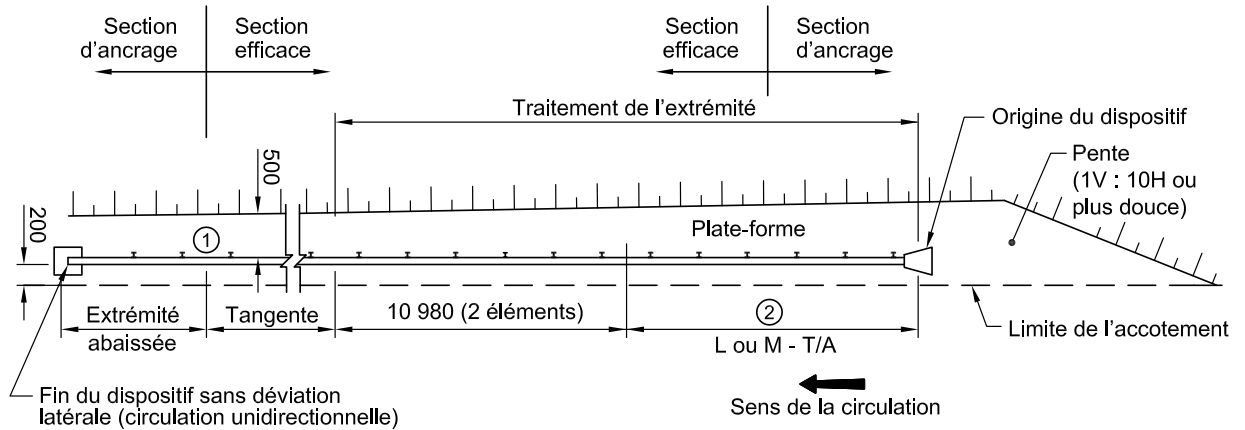
**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W	Tome VII, norme 6101	Éléments de glissement	Tome VII, norme 6301
Béton, type I	Tome VII, norme 3101	Galvanisation	ASTM A123/ A123M
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201		

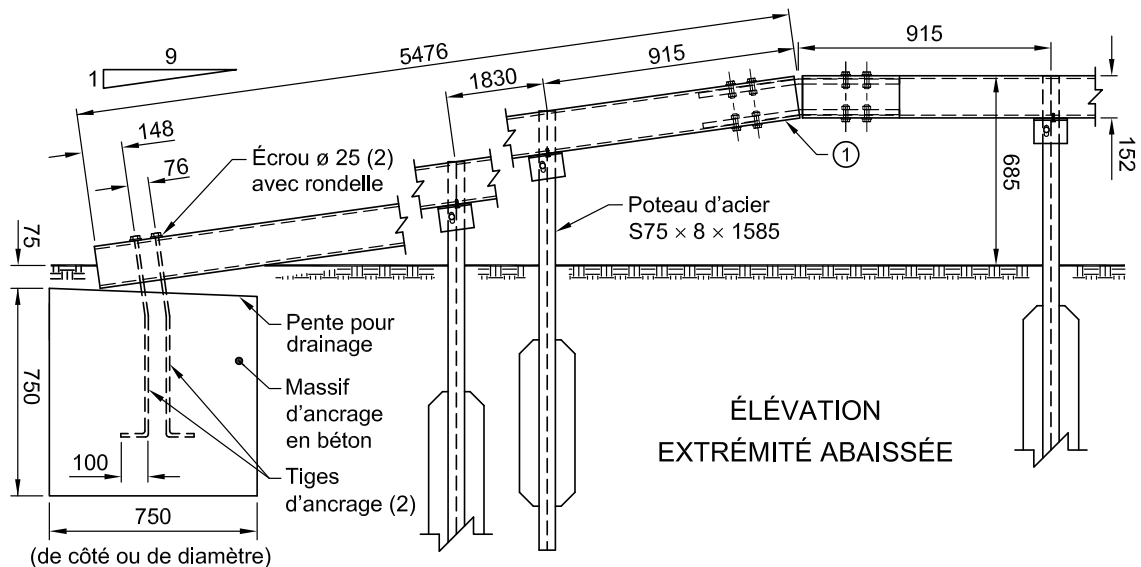


NORME

GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – TRAITEMENT DES  
EXTRÉMITÉS (PLUS DE 50 km/h)



PLAN



ÉLÉVATION  
EXTRÉMITÉ ABAISSÉE

- ① Pour le détail du joint à angle vertical, voir le dessin normalisé GSR 034.
- ② Une déviation latérale minimale de 300 mm de l'extrémité d'origine doit être prévue en configuration latérale. Le tube de raccord et le joint entre la glissière et le dispositif d'extrémité doivent être conformes aux dessins normalisés GSR 031B pour une configuration latérale ou GSR 038B pour une configuration médiane. Voir le chapitre 4 « Dispositifs de retenue frontaux » du présent tome.

Notes :

- tiges d'ancrage :  $\varnothing 25 \times 750$  mm de longueur, filetées sur une longueur minimale de 100 mm;
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W  
Béton, type I  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 3101  
Tome VII, norme 6201

Éléments de glissement  
Galvanisation

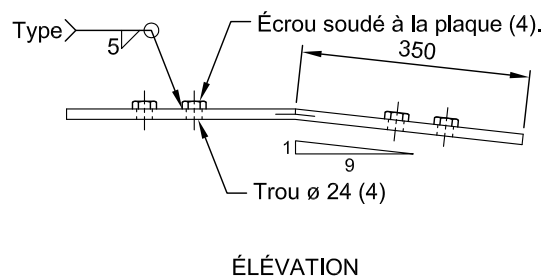
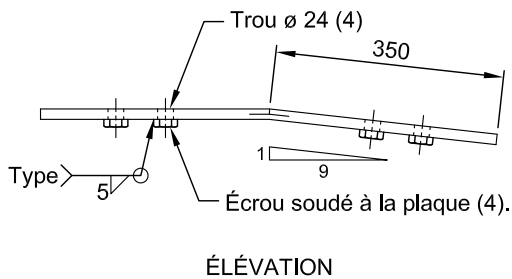
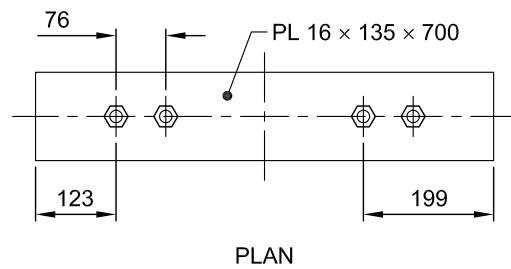
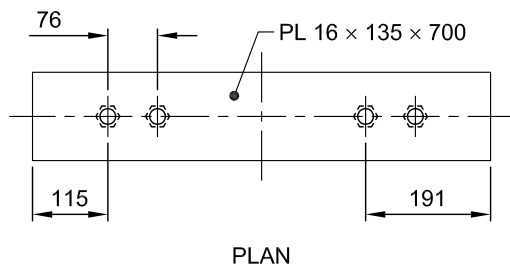
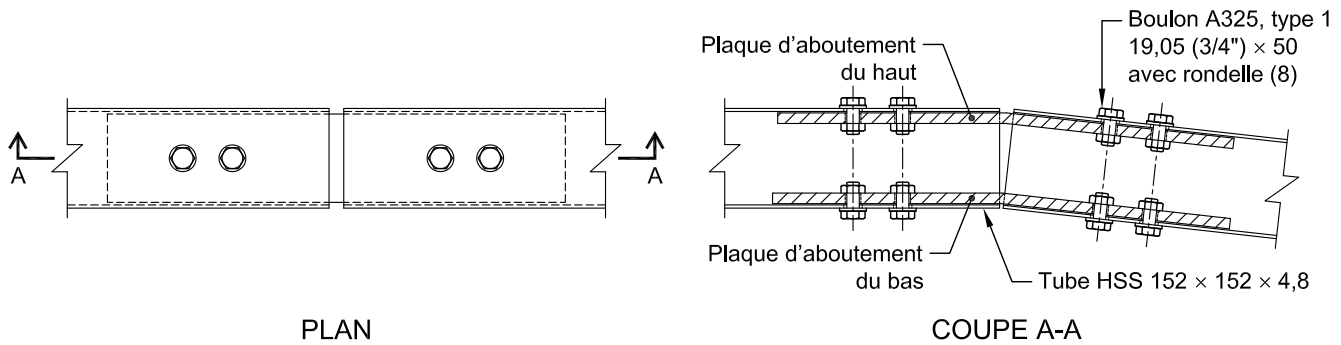
Tome VII, norme 6301  
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 034</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE  
AVEC TUBE D'ACIER – DÉTAIL  
DU JOINT À ANGLE VERTICAL**

**NORME**



**PLAQUE D'ABOUTEMENT  
DU HAUT**

**PLAQUE D'ABOUTEMENT  
DU BAS**

**Notes :**

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

*Tome VII*, norme 6101  
*Tome VII*, norme 6201

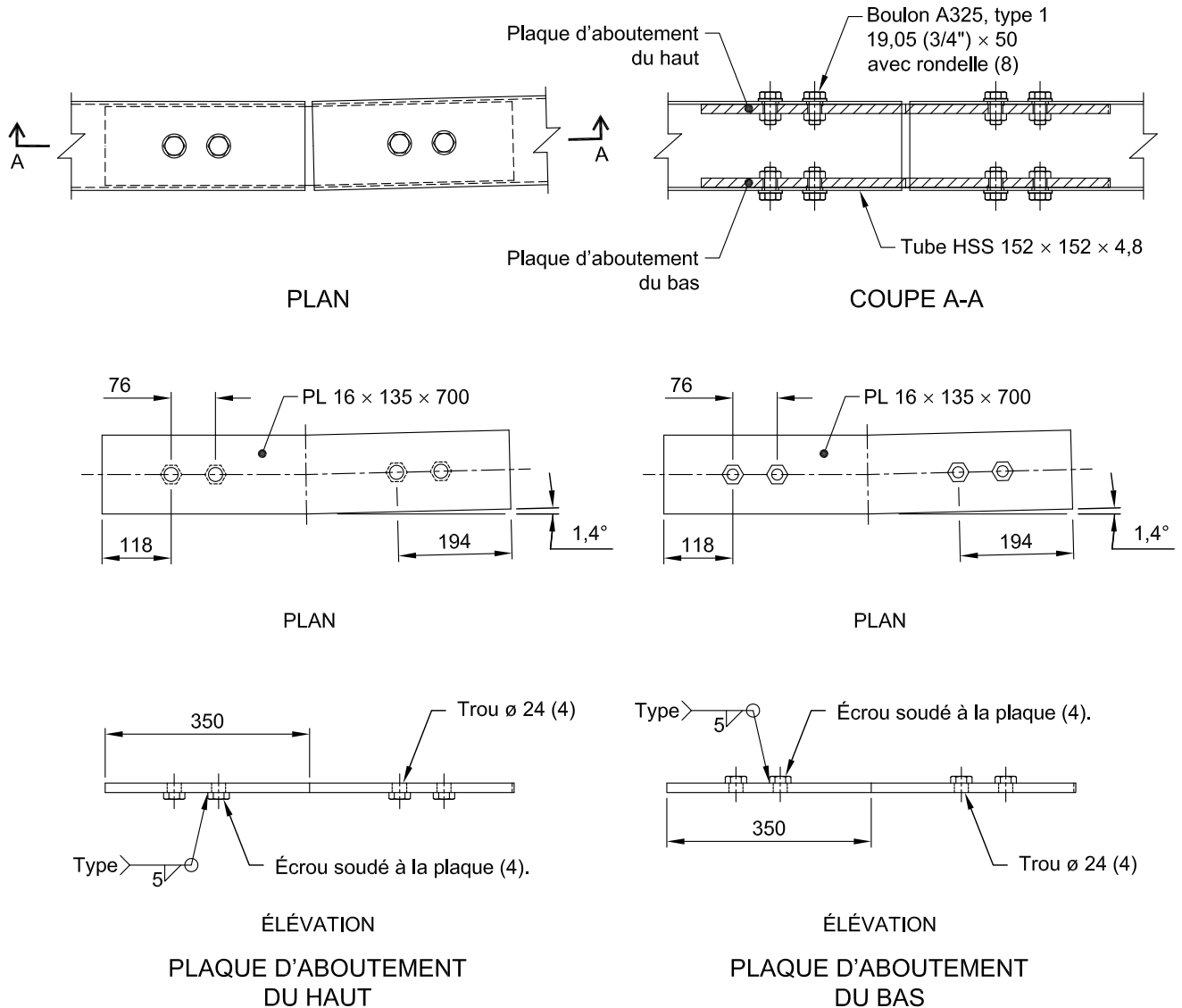
Éléments de glissement  
Galvanisation  
Soudures

*Tome VII*, norme 6301  
ASTM A123/A123M  
CSA W59



GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – DÉTAIL DU JOINT  
À ANGLE HORIZONTAL

NORME



Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Soudures

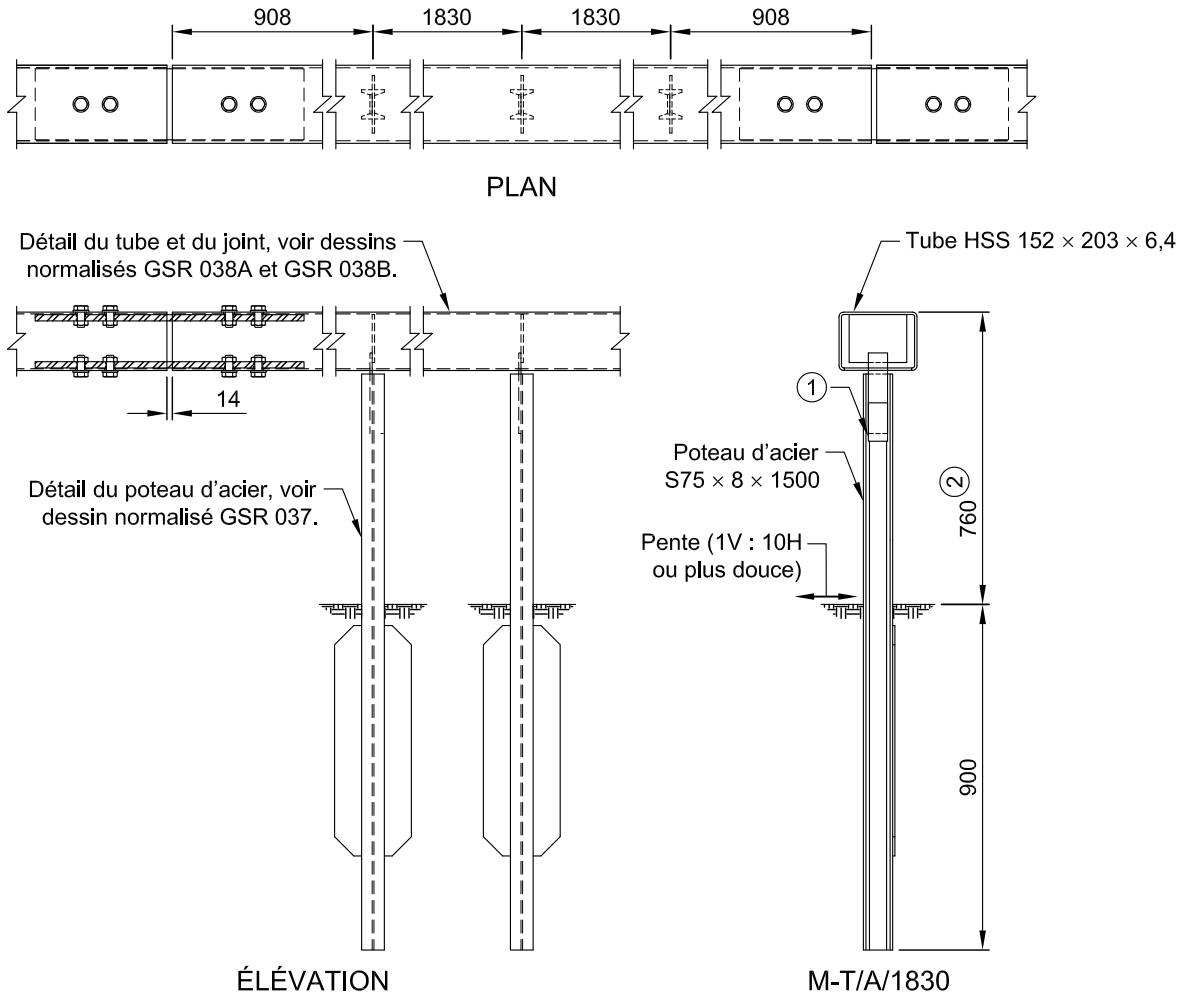
Tome VII, norme 6301  
ASTM A123/A123M  
CSA W59

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 036</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE MÉDIANE  
AVEC TUBE D'ACIER**

**NORME**



- ① Sur tous les deux poteaux, une plaque rétrofléchissante de 50 × 100 mm (pellicule autoadhésive) doit être posée. La pellicule est de couleur blanche à droite de la route et jaune à gauche. Lorsque l'installation de la plaque rétrofléchissante est en conflit avec un boulon ou un écrou, la plaque rétrofléchissante doit être perforée pour permettre l'adhérence adéquate de la pellicule.
- ② En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.

**Notes :**

- le choix du dispositif d'extrémité de glissière semi-rigide dépend des conditions du site. Son installation doit être effectuée conformément aux exigences du fabricant. Une déviation latérale de 300 mm de l'ancrage est recommandée. Voir le chapitre 4 « Dispositifs de retenue frontaux » du présent tome;
- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (*Tome VII*, norme 6101);
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

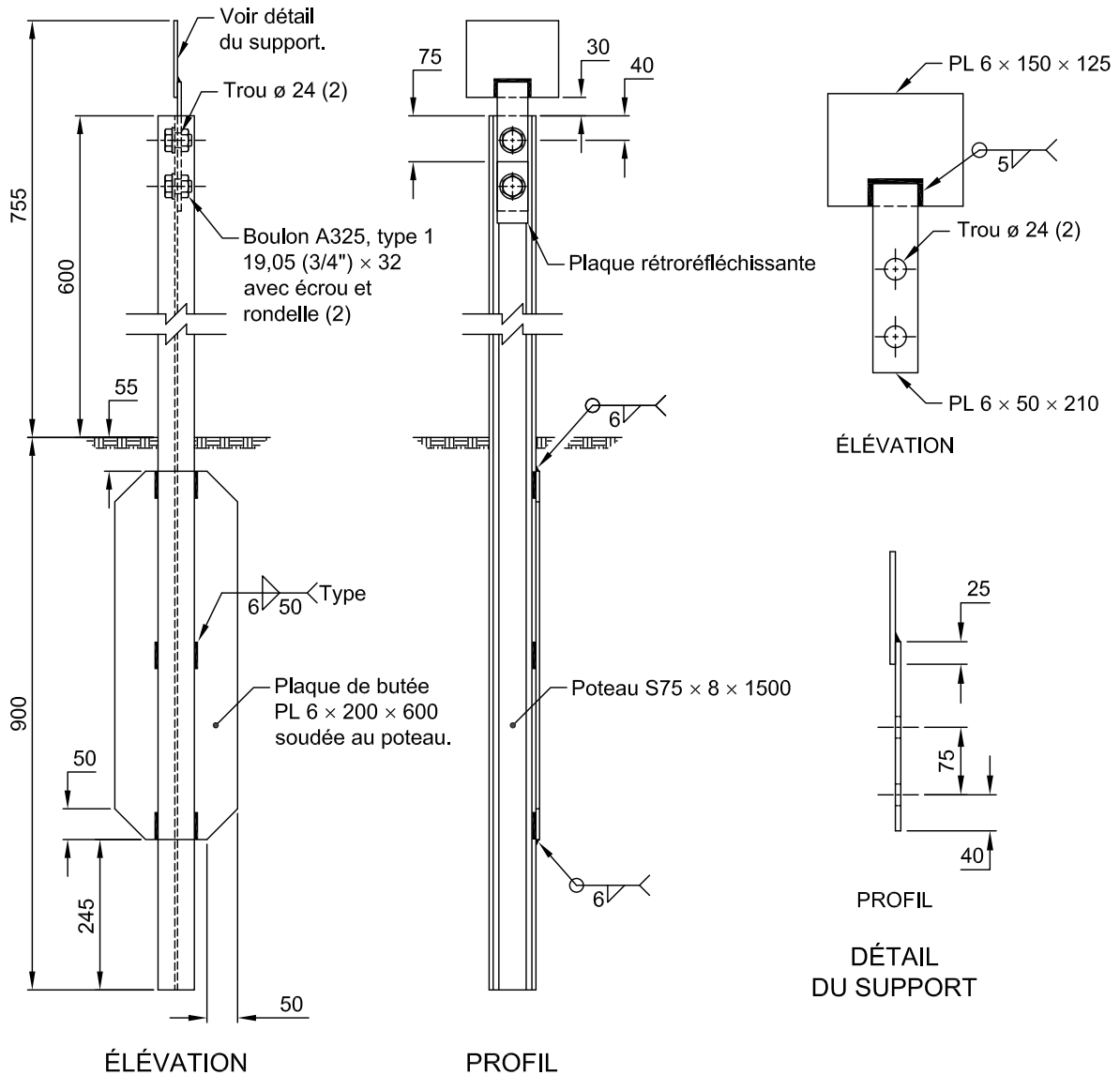
**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W, limite élastique minimale 260 MPa Éléments de glissement	<i>Tome VII</i> , norme 6101 <i>Tome VII</i> , norme 6301	Galvanisation Pellicules rétrofléchissantes, type XI Soudures	ASTM A123/A123M <i>Tome VII</i> , norme 14101 CSA W59
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GLISSIÈRE SEMI-RIGIDE MÉDIANE  
AVEC TUBE D'ACIER –  
DÉTAIL DU POTEAU D'ACIER

NORME



**Notes :**

- lorsque l'installation de la plaque rétroréfléchissante est en conflit avec un boulon ou un écrou, la plaque rétroréfléchissante doit être perforée pour permettre l'adhérence adéquate de la pellicule;
- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (Tome VII, norme 6101);
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,  
limite élastique minimale 260 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Pellicules rétroréfléchissantes, type XI  
Soudures

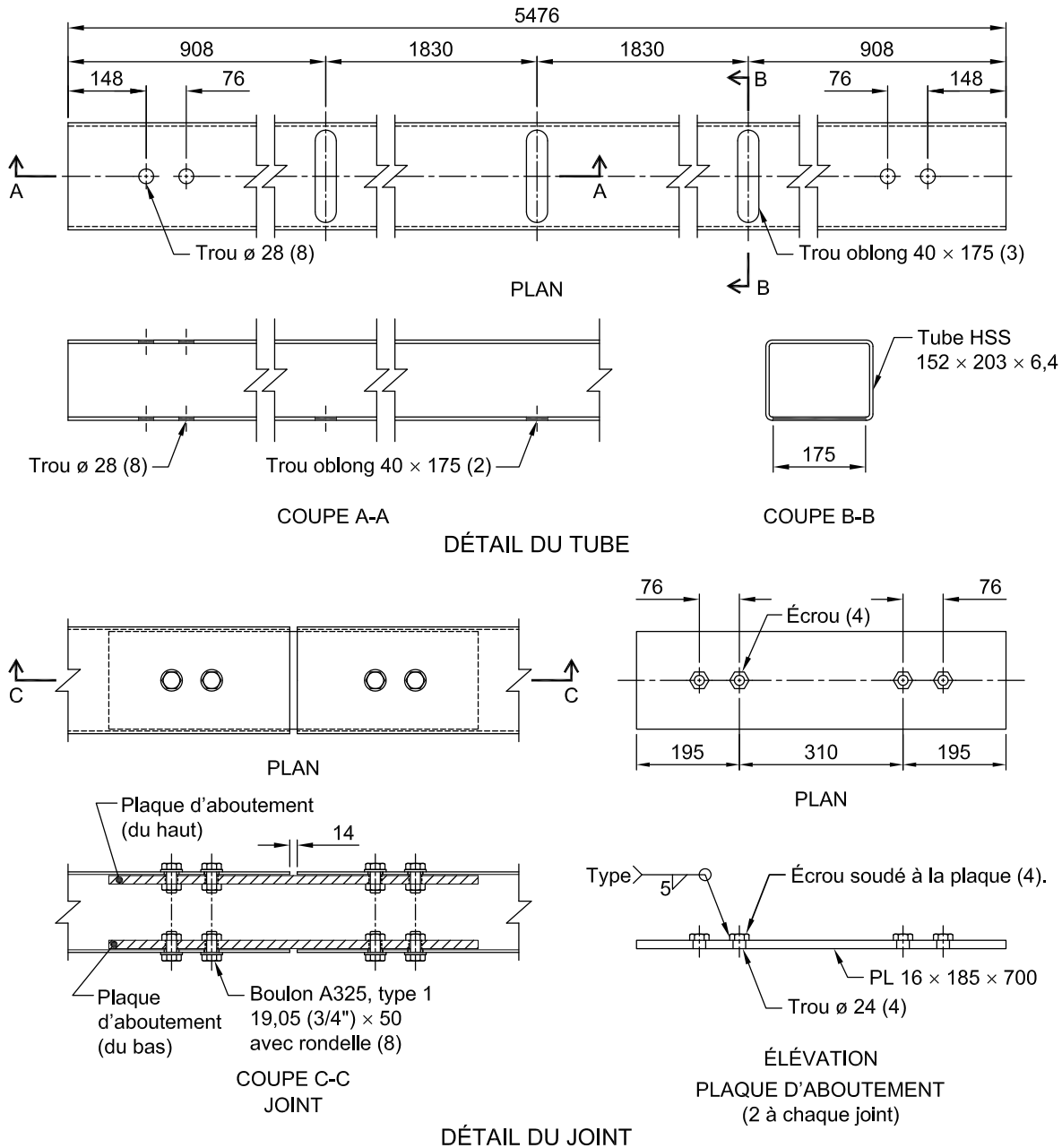
Tome VII, norme 6301  
ASTM A123/A123M  
Tome VII, norme 14101  
CSA W59

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 038A</b>
Date <b>2014 09 30</b>

# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE MÉDIANE AVEC TUBE D'ACIER – DÉTAIL DU TUBE ET DU JOINT

# NORME



**Notes :**

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 6201

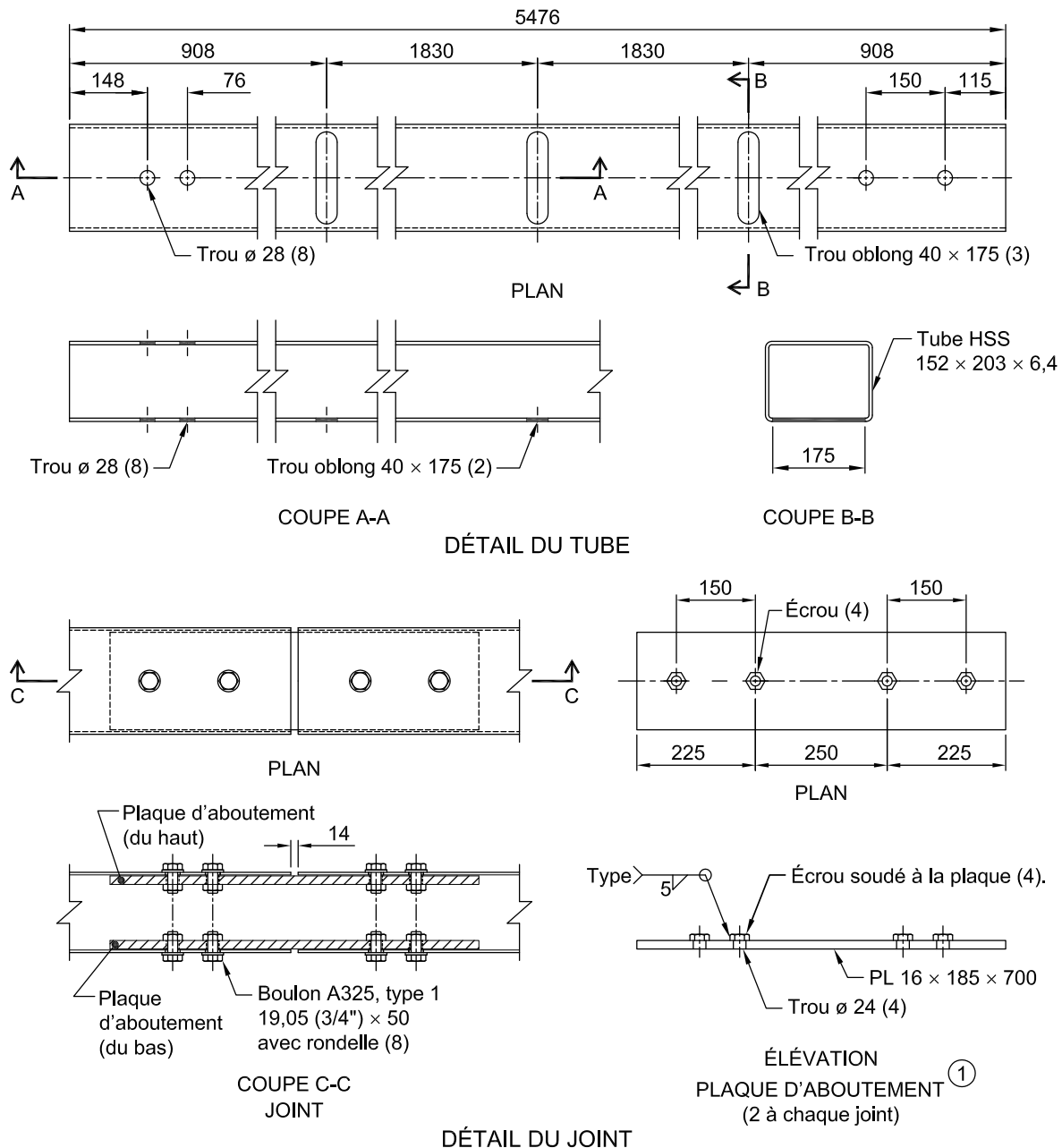
Éléments de glissement  
Galvanisation  
Soudures

Tome VII, norme 6301  
ASTM A123/A123M  
CSA W59



GLISSIÈRE SEMI-RIGIDE MÉDIANE  
AVEC TUBE D'ACIER – DÉTAIL DU  
TUBE DE RACCORD ET DU JOINT  
À UN DISPOSITIF D'EXTRÉMITÉ

NORME



Notes :

- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.

① Selon le modèle de dispositif d'extrémité de glissière semi-rigide à mettre en place, les plaques d'aboutement sont optionnelles.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation  
Soudures

Tome VII, norme 6301  
ASTM A123 / A123M  
CSA W59







# NORME

## DESSIN NORMALISÉ

### GLISSIÈRE SEMI-RIGIDE AVEC TUBE D'ACIER – TRANSITION DE RIGIDITÉ

Tome

VIII

Chapitre

3

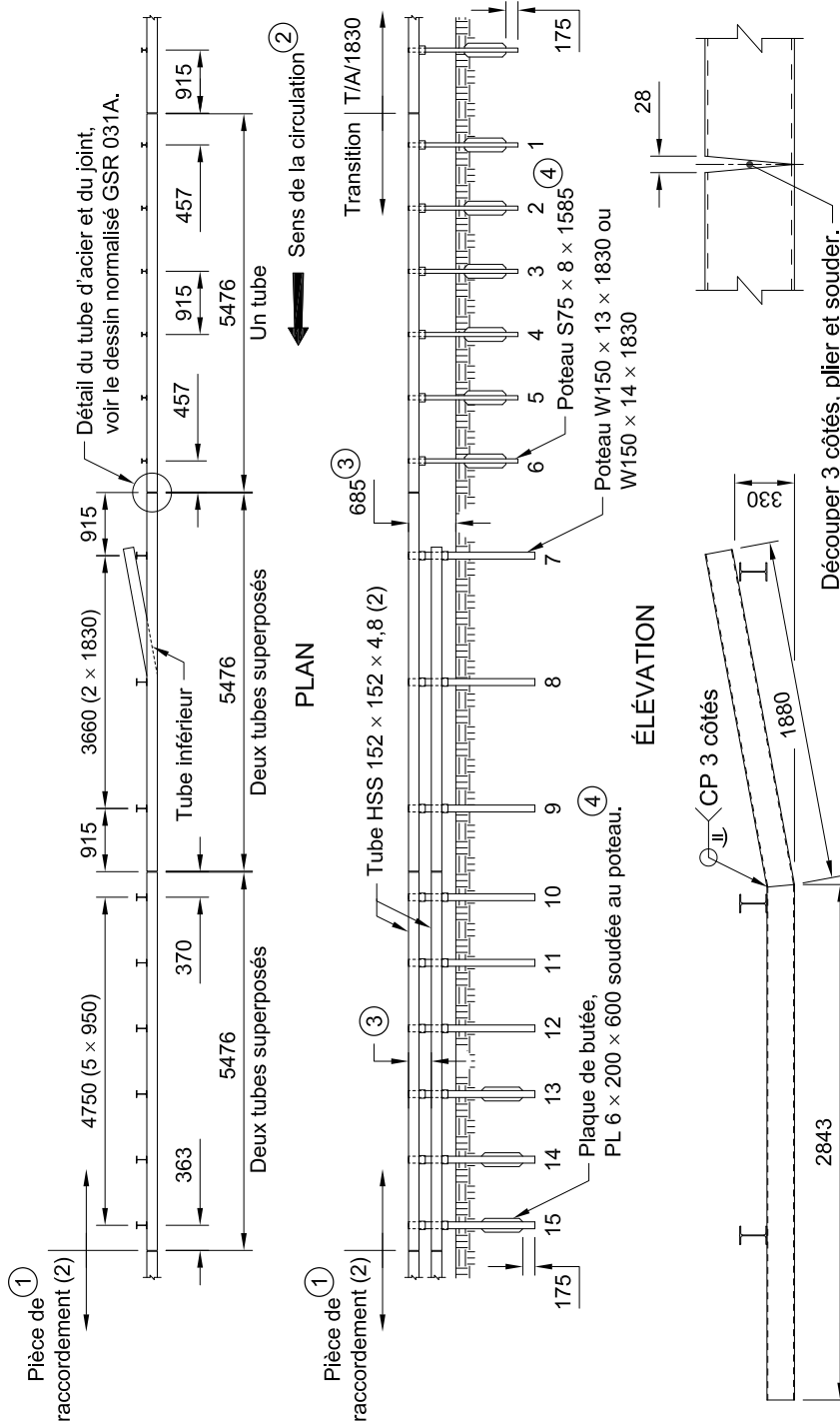
Numéro

GSR 039

Date

2014 09 30

Contenu normatif



#### DÉTAIL DU TUBE INFÉRIEUR

#### DÉTAIL DE LA DÉCOUPE

- ① Pour le raccordement à la glissière de pont, voir les dessins normalisés GSR 041 à GSR 044. Les dimensions de la pièce de raccordement varient en fonction du modèle de glissière de pont.
  - ② Pour les routes unidirectionnelles où la circulation se fait dans le sens contraire de celui qui est indiqué, aucune transition de rigidité n'est nécessaire.
  - ③ La hauteur et l'espacement des tubes de la transition doivent être ajustés selon le type de glissière de pont auquel la transition est raccordée. La hauteur est ajustée progressivement à partir du deuxième joint de la transition.
  - ④ La plaque de butée est requise aux poteaux 13, 14 et 15, lorsque la glissière est raccordée à une glissière de pont de type 47B.  
Pour le détail des poteaux, voir le dessin normalisé GSR 030.
- Notes :**
- pour le détail des poteaux W150 x 13 ou W150 x 14, voir le dessin normalisé GSR 040;
  - les cotes sont en millimètres.

#### MATÉRIAUX — NORMES APPLICABLES

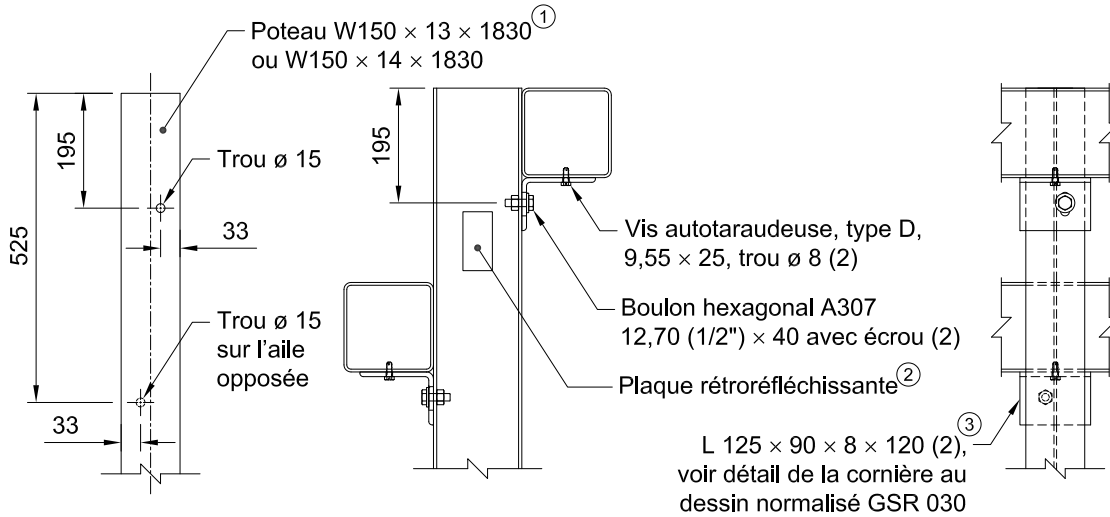
Aciers de construction, type W      *Tome VII, norme 6101*  
Éléments de glissement              *Tome VII, norme 6301*  
Galvanisation                              *ASTM A123 / A123M*  
Soudures                                      *CSA W59*

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 040</b>
Date <b>2014 09 30</b>

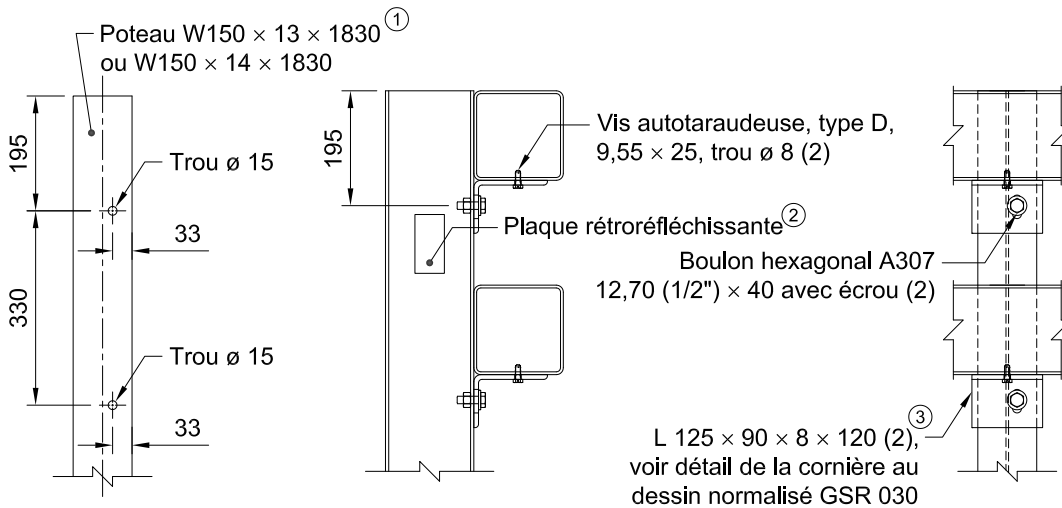
# DESSIN NORMALISÉ

## GLISSIÈRE SEMI-RIGIDE AVEC TUBE D'ACIER – TRANSITION DE RIGIDITÉ, DÉTAIL DES POTEAUX D'ACIER

# NORME



**POTEAU 7**



**POTEAUX 8 À 15**

- ① Limite élastique minimale de 260 MPa.
- ② Sur tous les deux poteaux, on trouve une plaque rétroréfléchissante de 50 × 100 mm (pellicule autoadhésive). La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ③ Limite élastique minimale de 300 MPa.

**Notes :**

- la norme ASTM A36/A36M est acceptable en remplacement de la norme CSA G40.20/G40.21 (*Tome VII*, norme 6101);
- toutes les pièces doivent être galvanisées;
- les cotes sont en millimètres.

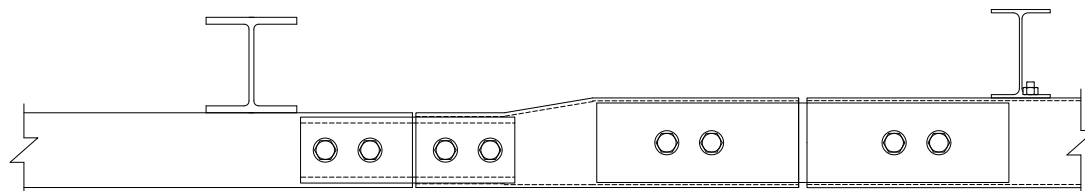
**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W	Tome VII, norme 6101	Éléments de glissement	Tome VII, norme 6301
Boulons, tiges d'ancrage, écrous et rondelles	Tome VII, norme 6201	Galvanisation	ASTM A123/A123M
		Pellicules rétroréfléchissantes, type XI	Tome VII, norme 14101

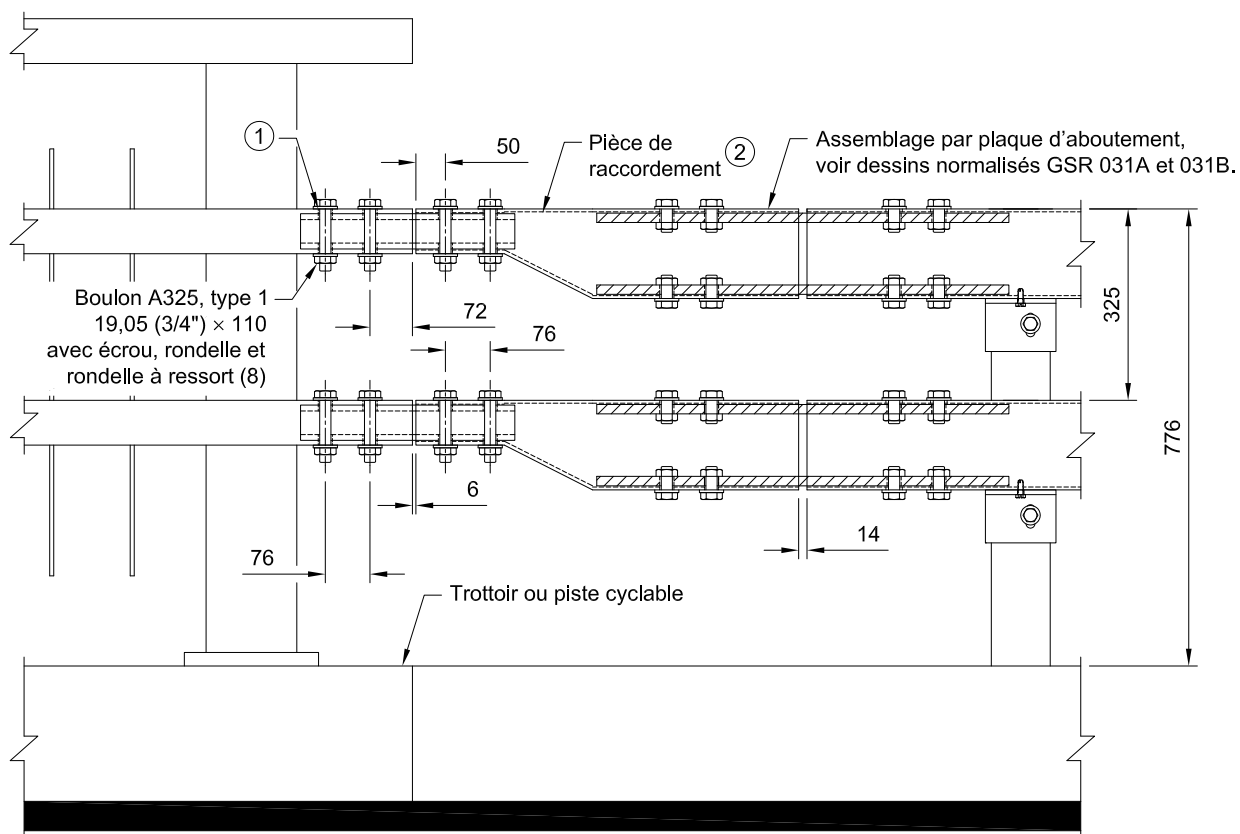


GLISSIÈRE SEMI-RIGIDE AVEC TUBE  
D'ACIER – RACCORDEMENT À UNE  
GLISSIÈRE DE PONT DE TYPE  
43, 47B OU 47C

NORME



PLAN



ÉLÉVATION

- ① Trou  $\varnothing$  24 à percer au chantier.
- ② Voir le dessin normalisé GSR 042.

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- la réparation de la galvanisation doit être effectuée en appliquant, au pinceau, deux couches d'un enduit riche en zinc avec une teneur minimale de 87 % de zinc métallique dans le film sec;
- des pièces de raccordement symétriques à celle-ci doivent être prévues à l'autre extrémité de la glissière de pont si une transition de rigidité y est nécessaire (section 2.4.2 « Approches de pont » du présent tome).  
Si la transition n'est pas nécessaire, un seul élément est requis afin d'assurer la continuité des glissières;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101  
Tome VII, norme 6201

Éléments de glissement  
Galvanisation

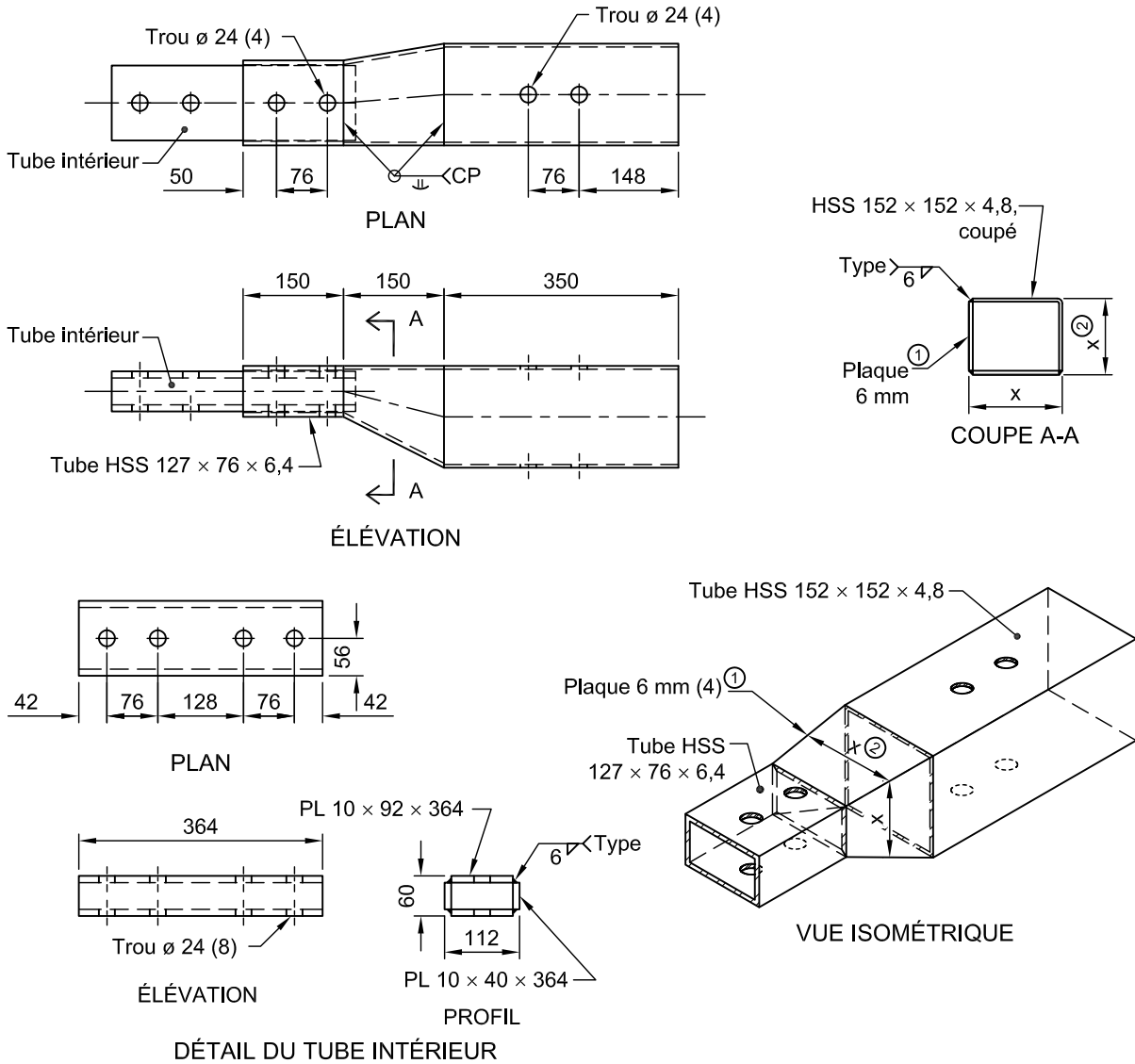
Tome VII, norme 6301  
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 042</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – DÉTAIL DU  
RACCORDEMENT À UNE GLISSIÈRE  
DE PONT DE TYPE 43, 47B OU 47C**

**NORME**



- ① La transition de forme est faite de plaques de 6 mm d'épaisseur. Les joints longitudinaux sont soudés à angle et arrondis par meulage.
- ② La dimension « x » diffère selon la position le long de la transition et peut varier de 76 à 152.

**Notes :**

- toutes les pièces doivent être galvanisées;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Éléments de glissement

Tome VII, norme 6101  
Tome VII, norme 6301

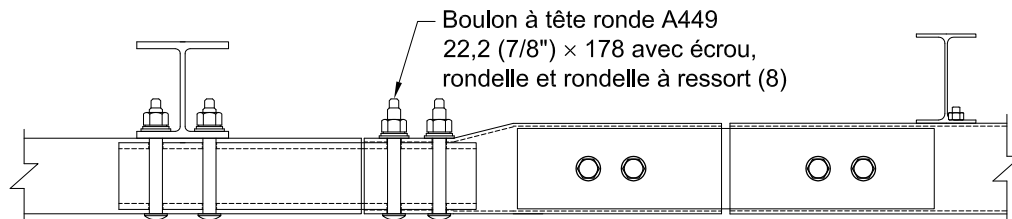
Galvanisation  
Soudures

ASTM A123/A123M  
CSA W59

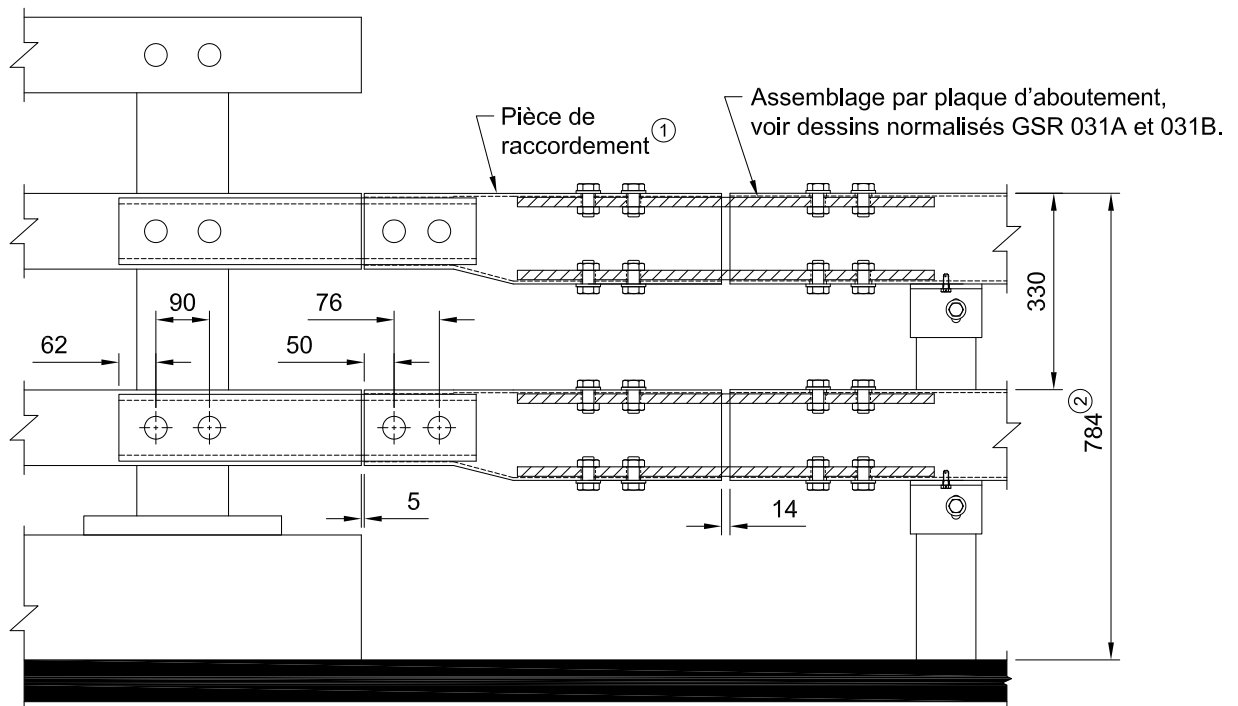


GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – RACCORDEMENT  
AUX GLISSIÈRES DE PONT  
DE TYPE 210

NORME



PLAN



ÉLÉVATION

① Voir le dessin normalisé GSR 044.

② En raison du raccordement à la structure, la hauteur du tube supérieur diffère de la hauteur fonctionnelle de 685 mm. Les glissières de pont de types 210A, 210D et 210E sont mesurées à partir du revêtement alors que les glissières de pont de types 210B et 210C sont mesurées à partir du trottoir ou de la piste cyclable. Voir le dessin normalisé GSR 039 pour la transition de hauteur.

Notes :

- toutes les pièces métalliques doivent être galvanisées;
- des pièces de raccordement symétriques à celle-ci doivent être prévues à l'autre extrémité de la glissière de pont si une transition de rigidité y est nécessaire (section 2.4.2 « Approches de pont » du présent tome). Si la transition n'est pas nécessaire, un seul élément est requis afin d'assurer la continuité des glissières;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation

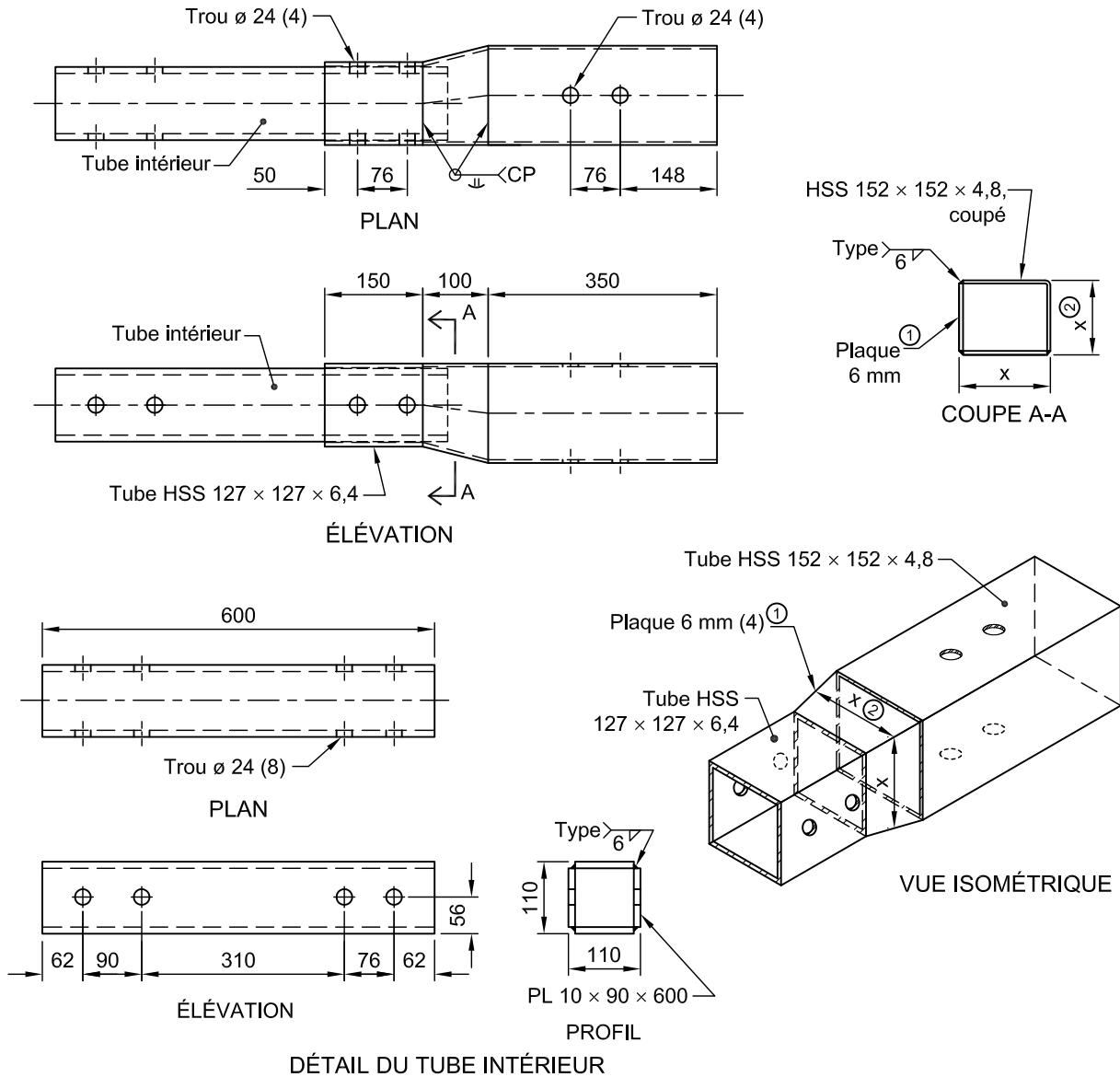
Tome VII, norme 6301  
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 044</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
TUBE D'ACIER – DÉTAIL DU  
RACCORDEMENT AUX GLISSIÈRES  
DE PONT DE TYPE 210**

**NORME**



- ① La transition de forme est faite de plaques de 6 mm d'épaisseur. Les joints longitudinaux sont soudés à angle et arrondis par meulage.
- ② La dimension « x » diffère selon la position le long de la transition et peut varier de 127 à 152.

**Note :**

– les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Aciers de construction, type W,  
limite élastique minimale 350 MPa  
Éléments de glissement

Tome VII, norme 6101  
Tome VII, norme 6301

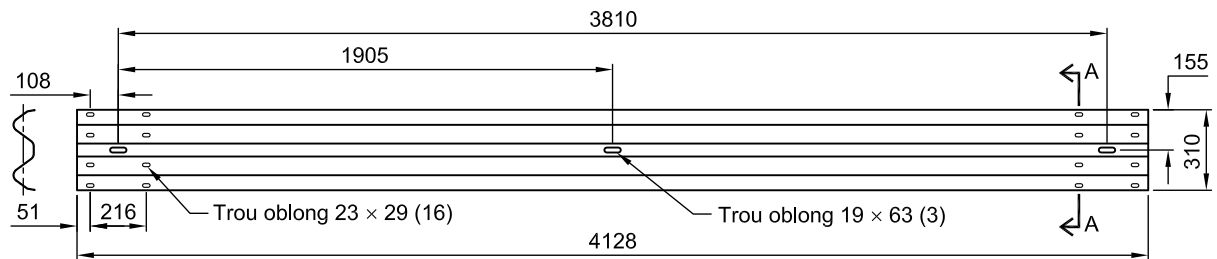
Galvanisation  
Soudures

ASTM A123/A123M  
CSA W59

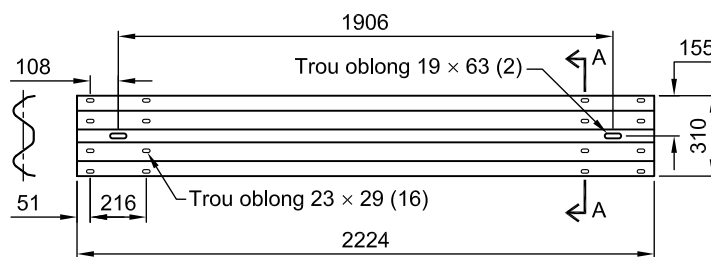


NORME

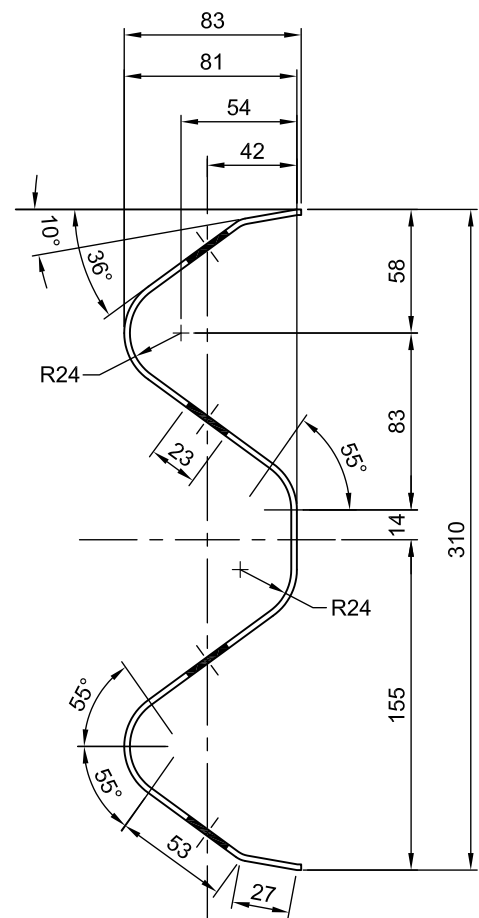
PROFILÉ D'ACIER À  
DOUBLE ONDULATION



PROFILÉ DE 3810 mm<sup>①</sup>



PROFILÉ DE 1905 mm



COUPE A-A

- ① Si requis, le profilé peut être courbé selon les rayons de courbure minimaux suivants :
- forme concave : 3000 mm;
  - forme convexe : 1500 mm.

Notes :

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation du profilé doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de  $\pm 6$  mm pour les dimensions et de  $\pm 3$  mm pour le positionnement des trous;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Éléments de glissement

Tome VII, norme 6301 | Galvanisation

ASTM A123/A123M



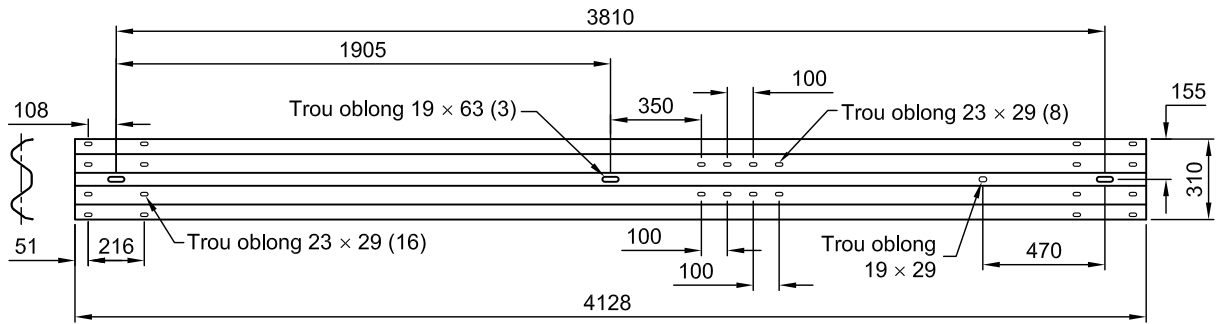
Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 046</b>
Date <b>2014 09 30</b>

**DESSIN NORMALISÉ**

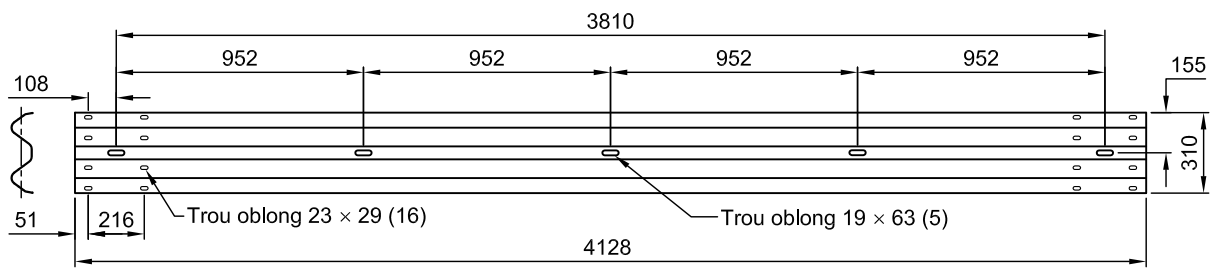
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**PROFILÉ D'ACIER À  
DOUBLE ONDULATION –  
USAGE PARTICULIER**

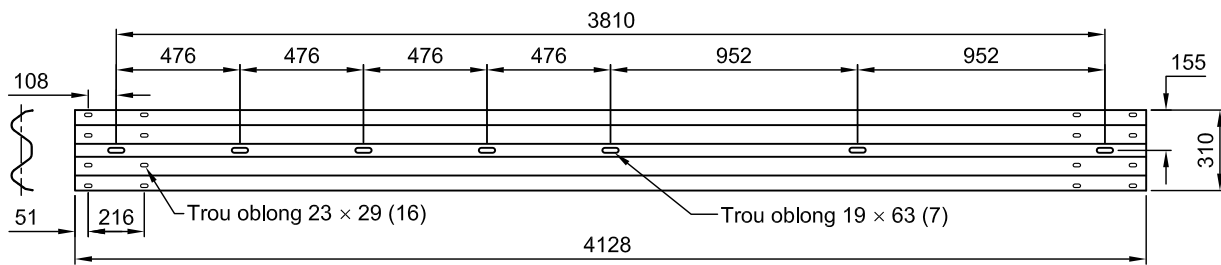
**NORME**



**PROFILÉ D'ANCRAGE**



**PROFILÉ DE RÉDUCTION DE LA DÉFORMATION <sup>①</sup>  
DYNAMIQUE ET DE TRANSITION DE RIGIDITÉ**



**PROFILÉ DE TRANSITION DE RIGIDITÉ TL-3**

- ① Si requis, le profilé peut être courbé selon les rayons de courbure minimaux suivants :
- forme concave : 3000 mm;
  - forme convexe : 1500 mm.

**Notes :**

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation du profilé doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de ±6 mm pour les dimensions et de ±3 mm pour le positionnement des trous;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

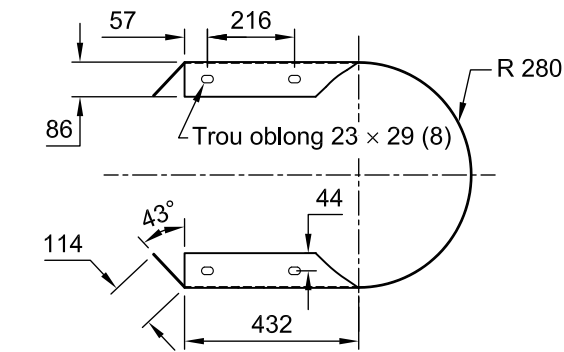
Éléments de glissement

Tome VII, norme 6301 | Galvanisation

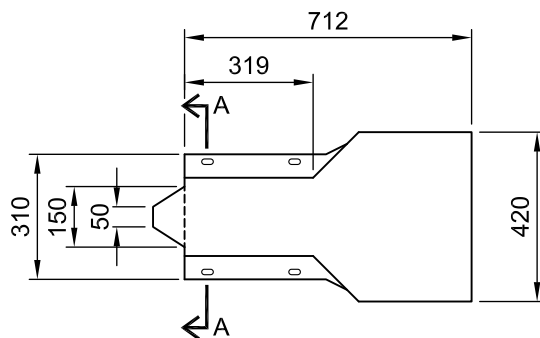
ASTM A123/A123M

NORME

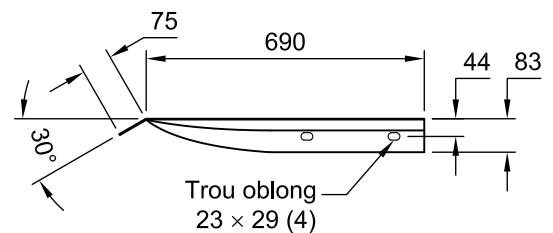
PROFILÉ D'ACIER À DOUBLE ONDULATION – BOUT ROND TAMPON



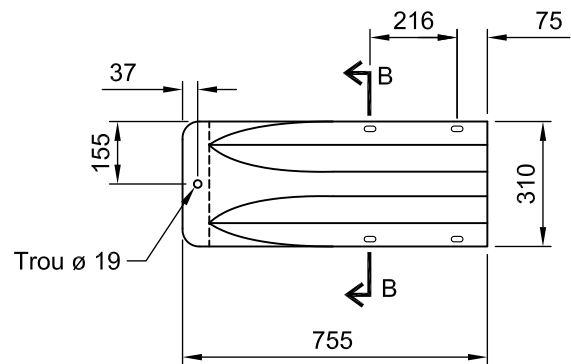
PLAN



ÉLÉVATION BOUT ROND

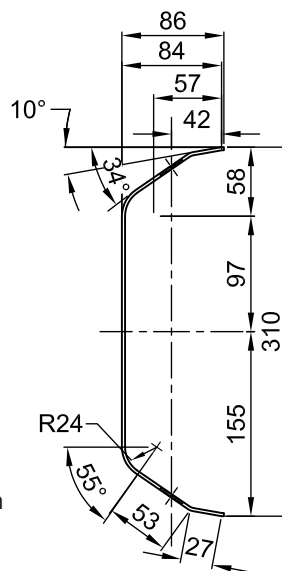


PLAN

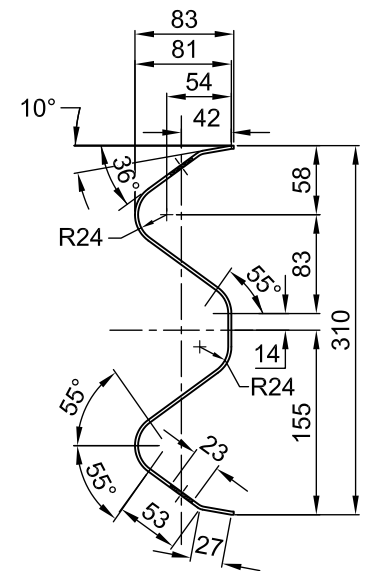


ÉLÉVATION

BOUT PLAT POUR BOUT ROND TAMPON



COUPE A-A



COUPE B-B

Notes :

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation des pièces doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de  $\pm 6$  mm pour les dimensions et de  $\pm 3$  mm pour le positionnement des trous;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Éléments de glissement  
Galvanisation

Tome VII, norme 6301  
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 048</b>
Date <b>2014 09 30</b>

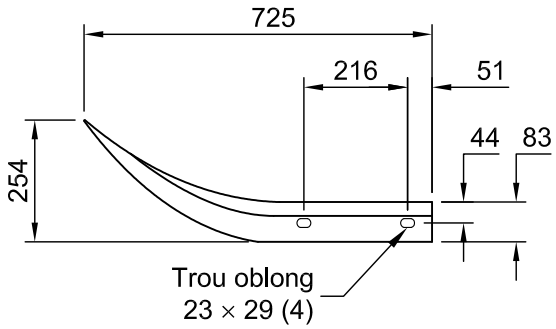
**DESSIN NORMALISÉ**

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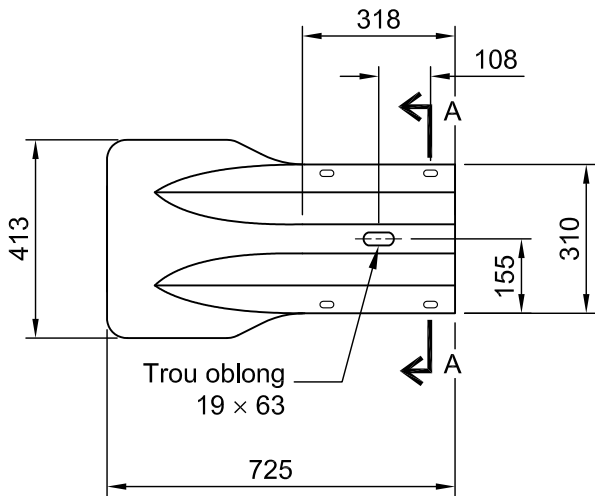
**PROFILÉ D'ACIER À  
DOUBLE ONDULATION –  
BOUT EFFILÉ**



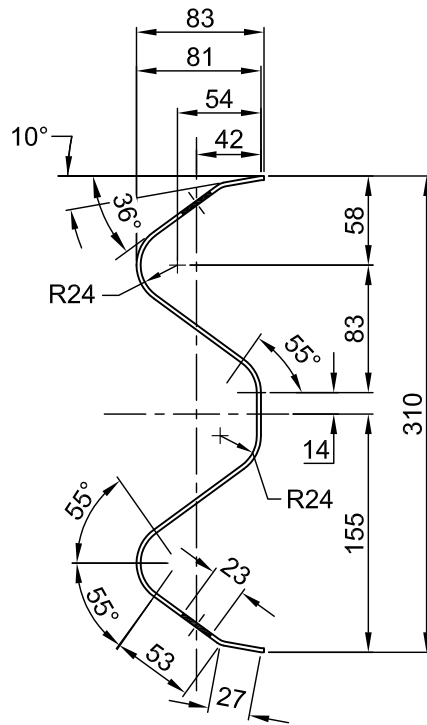
**NORME**



PLAN



ÉLEVATION



COUPE A-A

**Notes :**

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation de la pièce doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de  $\pm 6$  mm pour les dimensions et de  $\pm 3$  mm pour le positionnement des trous;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

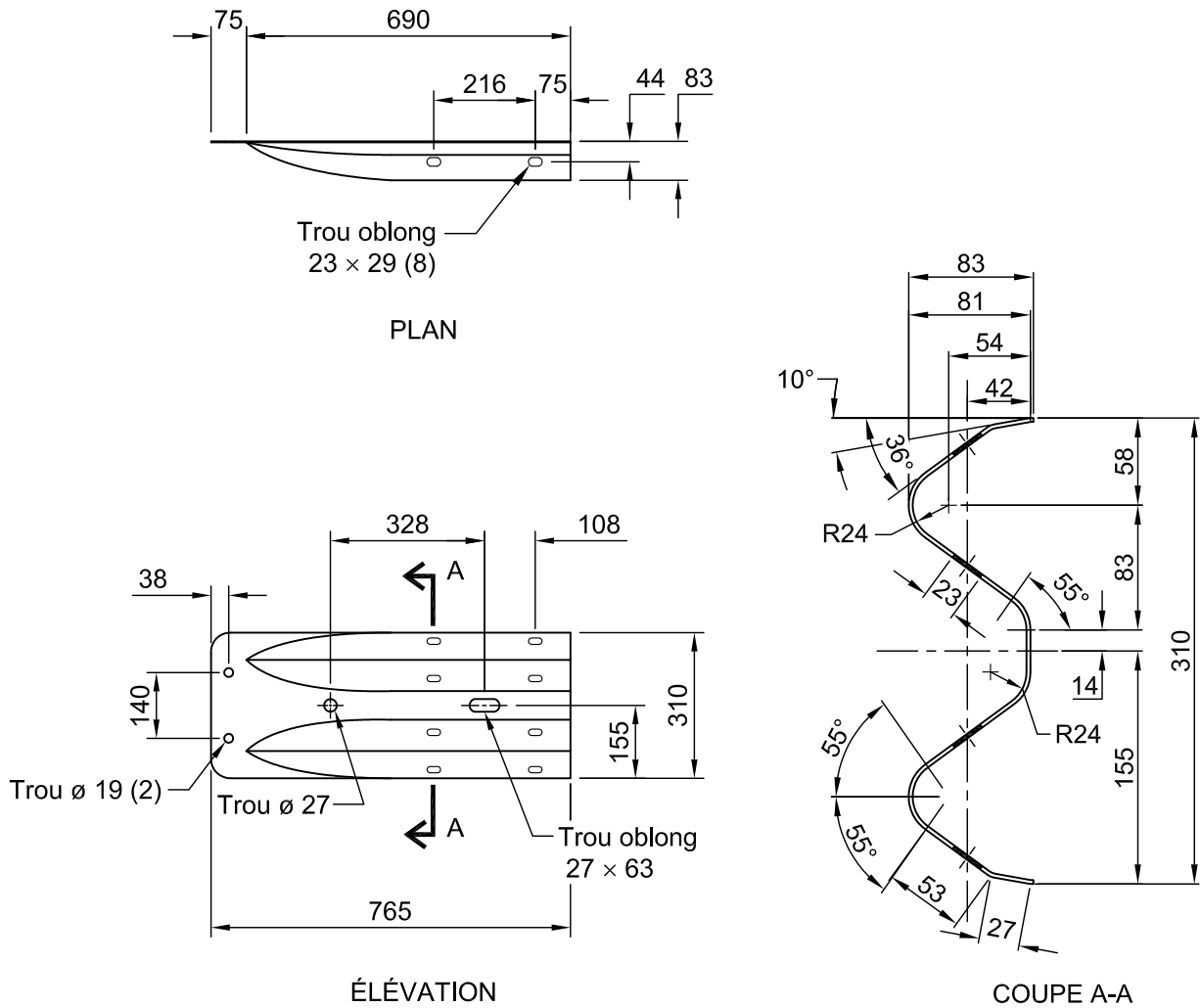
Éléments de glissement

Tome VII, norme 6301 | Galvanisation

ASTM A123/A123M



NORME



**Notes :**

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation de la pièce doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de  $\pm 6$  mm pour les dimensions et de  $\pm 3$  mm pour le positionnement des trous;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Éléments de glissement

Tome VII, norme 6301 | Galvanisation

ASTM A123/A123M

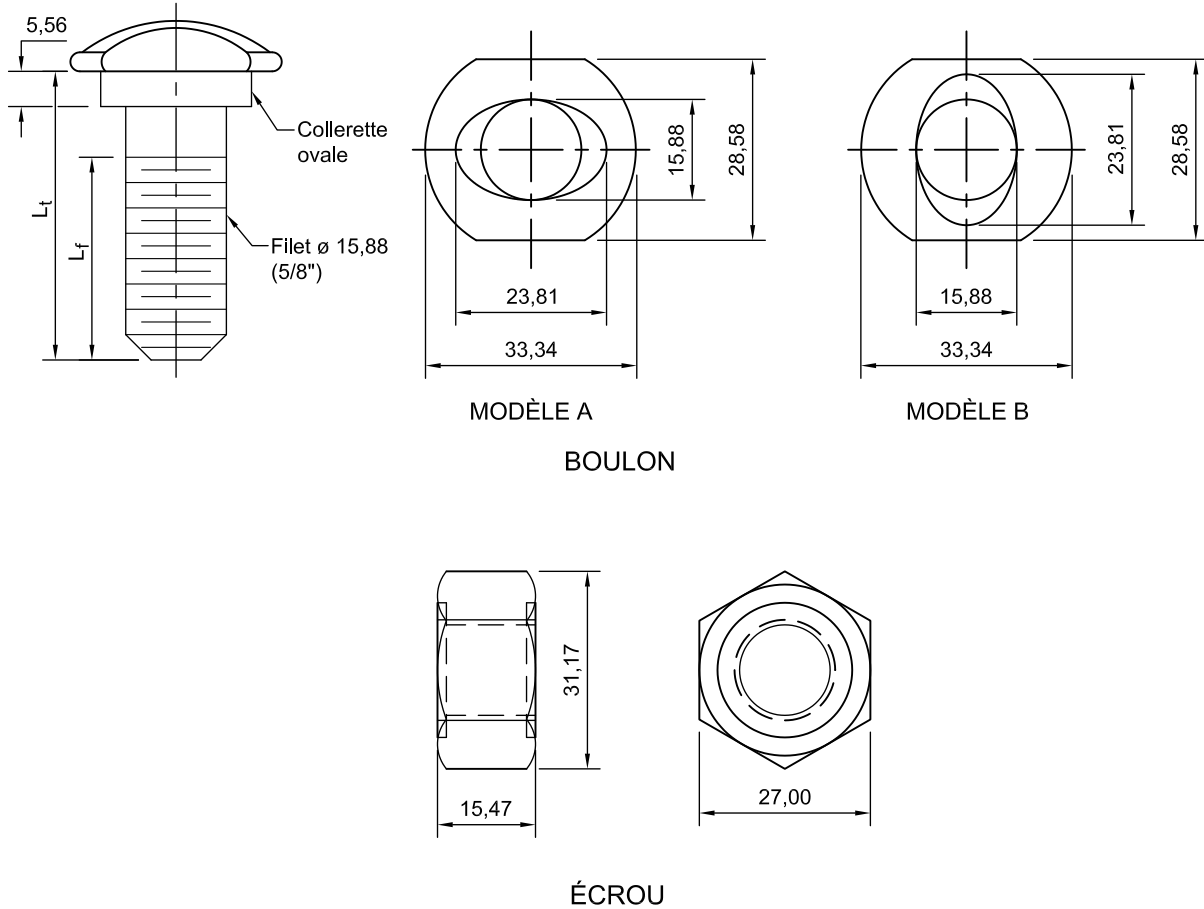
Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 050</b>
Date <b>2015 09 30</b>

**DESSIN NORMALISÉ**

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**PROFILÉ D'ACIER À  
DOUBLE ONDULATION –  
BOULON A307**

**NORME**



**Dimensions des boulons A307 selon l'usage**

Usage	Diamètre	Longueur totale (L <sub>t</sub> )	Longueur du filet (L <sub>f</sub> )
Fixation des profilés	15,88 (5/8")	32	26
Fixation des tubes compressible <sup>(1)</sup>	15,88 (5/8")	50	45
Glissière latérale ou médiane sur poteaux d'acier	15,88 (5/8")	267	102
Glissière latérale sur poteaux de bois	15,88 (5/8")	457	102
Glissière médiane sur poteaux de bois	15,88 (5/8")	660	102

1. Transition de rigidité à une glissière rigide avec aménagement de l'origine.

**Note :**

– les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

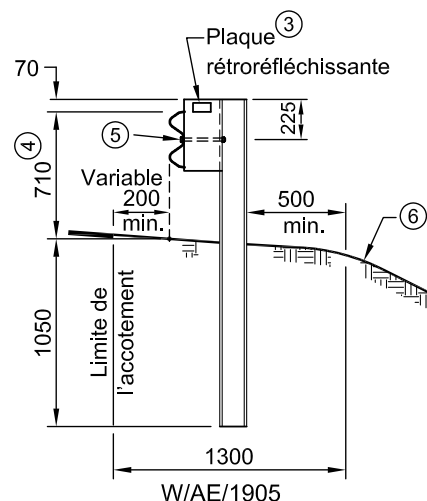
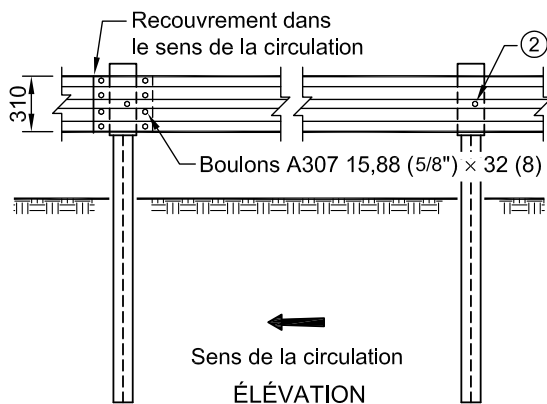
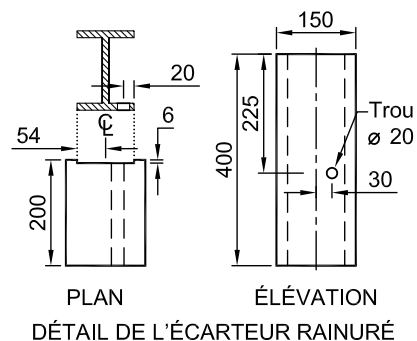
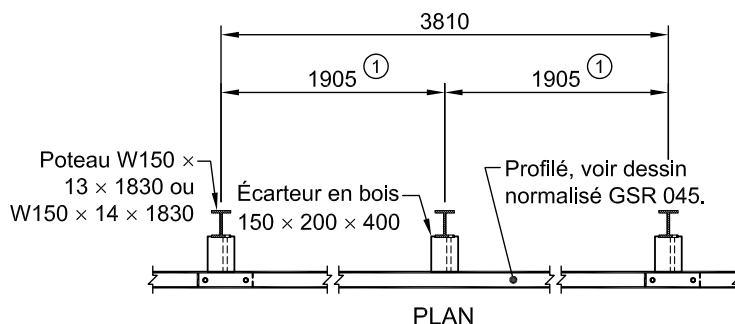
Boulons, tiges d'ancrage,  
écrous et rondelles

*Tome VII, norme 6201*



NORME

GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION SUR POTEAUX D'ACIER



①	<b>Espacement des poteaux (mm)</b>	1905	952
	<b>Déformation dynamique (mm)</b>	900	600

- ② La position du boulon est celle qui est indiquée sur le dessin, quel que soit le sens de la circulation.
- ③ Sur tous les deux poteaux, une plaque rétro réfléchissante de 50 x 100 mm doit être posée. La pellicule autoadhésive est fixée sur un support d'aluminium dont le dos est peint. Elle est maintenue à l'aide de clous de 20 mm (4). La pellicule est de couleur blanche à droite de la route et jaune à gauche.
- ④ En présence d'une bordure, la hauteur fonctionnelle de la glissière doit être mesurée conformément à la figure 3.4-2.
- ⑤ L'assemblage nécessite un boulon A307 15,88 (5/8) x 267 mm, avec écrou et rondelle.
- ⑥ Pente de 1V:2H ou plus douce. Dans le cas d'une pente plus abrupte, les poteaux doivent être placés de manière à ce que la distance entre la face avant de l'élément de glissement et le bord du talus soit égale ou supérieure à la déformation dynamique de la glissière.

Notes :

- le traitement des extrémités pour une route où la vitesse affichée est de 50 km/h et moins doit être effectué conformément au dessin normalisé GSR 004. Pour une route où la vitesse affichée est supérieure à 50 km/h, un dispositif d'extrémité de glissière semi-rigide doit être utilisé;
- toutes les pièces métalliques doivent être galvanisées;
- le détail des boulons est indiqué au dessin normalisé GSR 050;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W,  
limite élastique minimale 260 MPa  
Bois  
Boulons, tiges d'ancrage,  
écrous et rondelles

Tome VII, norme 6101

Tome VII, norme 11101

Tome VII, norme 6201

Éléments de glissement  
Galvanisation

Pellicules rétro réfléchissantes, type XI

Tome VII, norme 6301  
ASTM A123/A123M

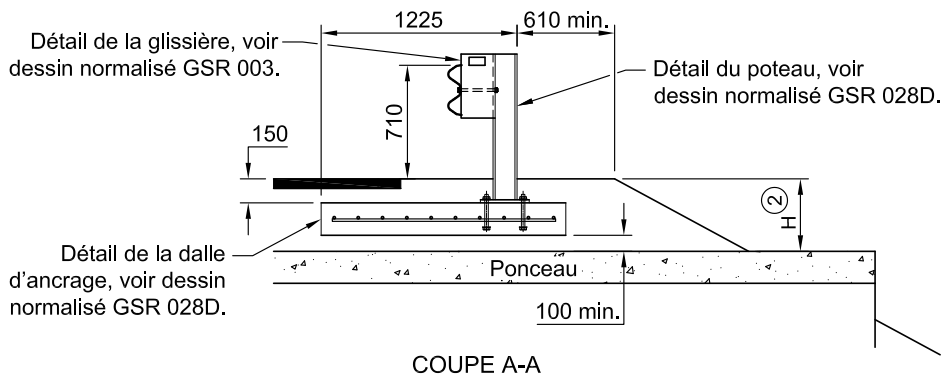
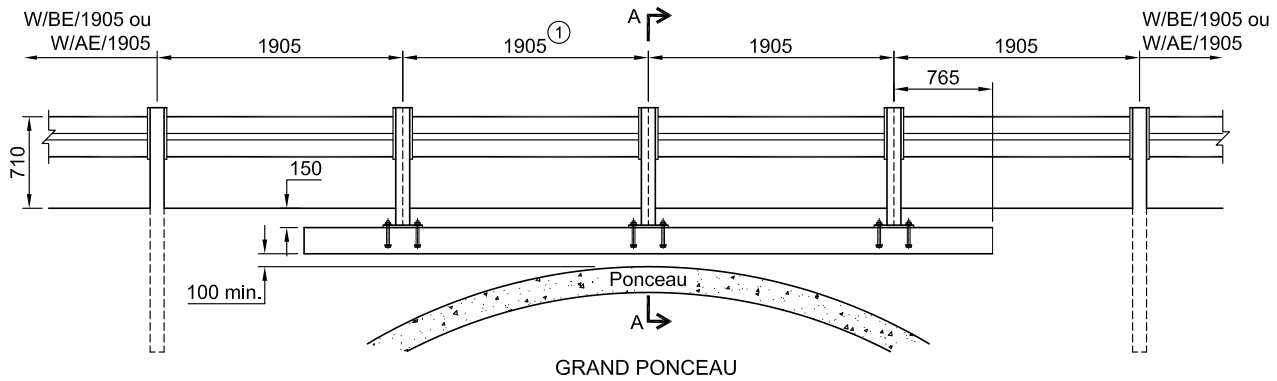
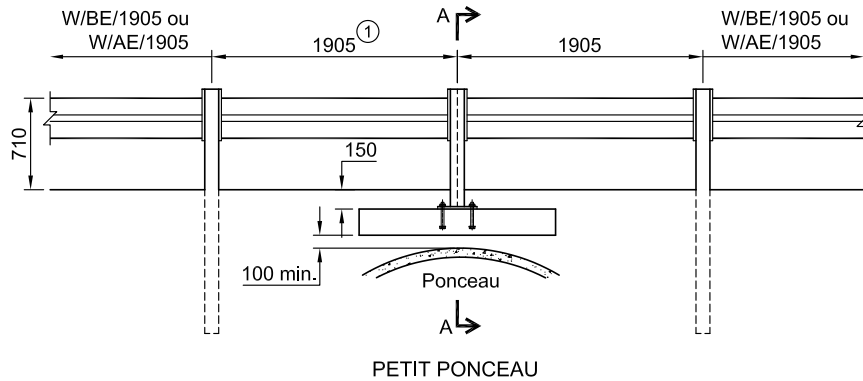
Tome VII, norme 14101

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 028C</b>
Date <b>2015 09 30</b>

**DESSIN NORMALISÉ**

**GLISSIÈRE SEMI-RIGIDE AVEC  
PROFILÉ D'ACIER À DOUBLE  
ONDULATION – INSTALLATION  
AU-DESSUS D'UN PONCEAU  
CIRCULAIRE OU VOÛTÉ**

**NORME**



- ① L'espacement des poteaux peut être réduit à 952 mm afin de diminuer la déformation dynamique de la glissière.
- ② Ce mode d'installation ne peut être utilisé que dans le cas où la hauteur de remblai (H) est inférieure à 1100 mm. Bien que les essais d'impact aient été effectués avec une épaisseur de 100 mm de matériau granulaire sous la dalle d'ancrage, la hauteur de remblai minimale doit toutefois respecter les exigences prescrites au *Tome III – Ouvrages d'art*, chapitre 4 « Ponceaux ».

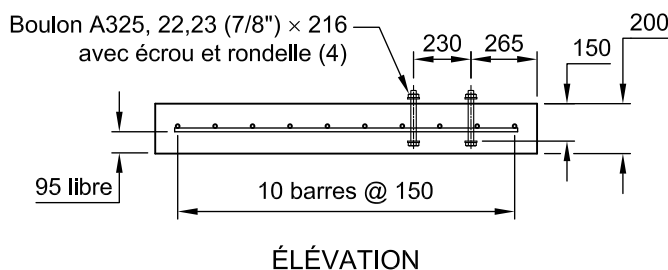
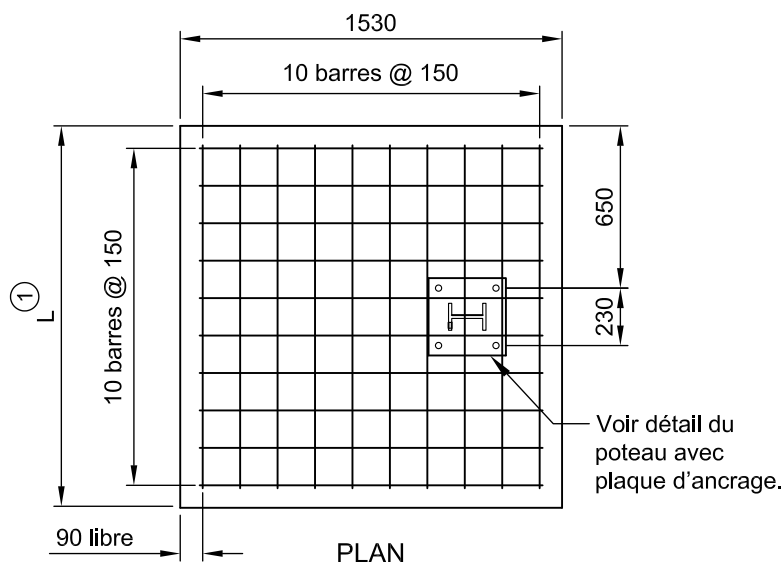
**Note :**

– les cotes sont en millimètres.



GLISSIÈRE SEMI-RIGIDE AVEC PROFILÉ  
D'ACIER À DOUBLE ONDULATION –  
INSTALLATION AU-DESSUS D'UN  
PONCEAU CIRCULAIRE OU VOÛTÉ, DALLE  
D'ANCRAGE ET DÉTAIL DU POTEAU

NORME



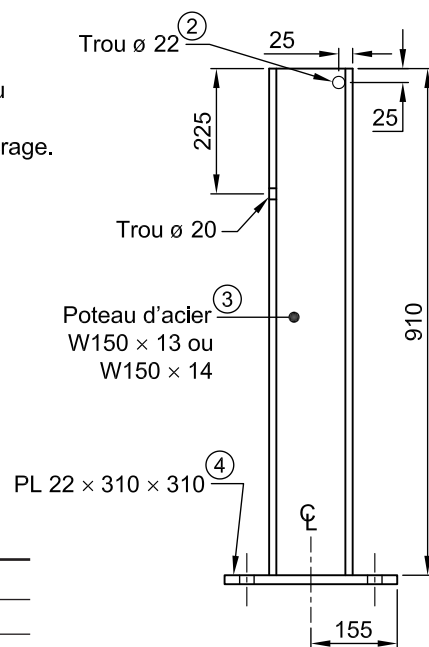
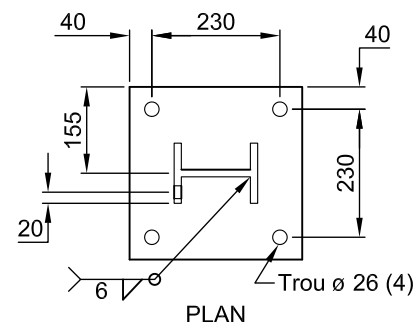
Espacement (mm)	Nombre de poteaux				
	1905	1	2	3	4
952	1	3	5	7	9
Longueur (L)	1530	3435	5340	7245	9150 <sup>(1)</sup>

1. Longueur de dalle maximale permise.

- ① La longueur de la dalle d'ancrage (L) varie en fonction du nombre de poteaux ne pouvant pas être installés à leur pleine longueur et de leur espacement.  
② Ce trou est requis aux fins de la galvanisation de la pièce.  
③ Limite élastique minimale 350 MPa.  
④ Limite élastique minimale 260 MPa.

Notes :

- le diamètre des barres d'armature est 15M;
- toutes les pièces métalliques doivent être galvanisées;
- les cotes sont en millimètres.



DÉTAIL DU POTEAU AVEC  
PLAQUE D'ANCRAGE

MATÉRIAUX — NORMES APPLICABLES

Aciers de construction, type W  
Armature galvanisée, type W,  
limite élastique minimale 400 MPa  
Béton, types IV, V, V-P et XIV-C

Tome VII, norme 6101  
Tome VII, norme 5101  
Tome VII, norme 3101

Boulons, tiges d'ancrage,  
écrous et rondelles  
Galvanisation

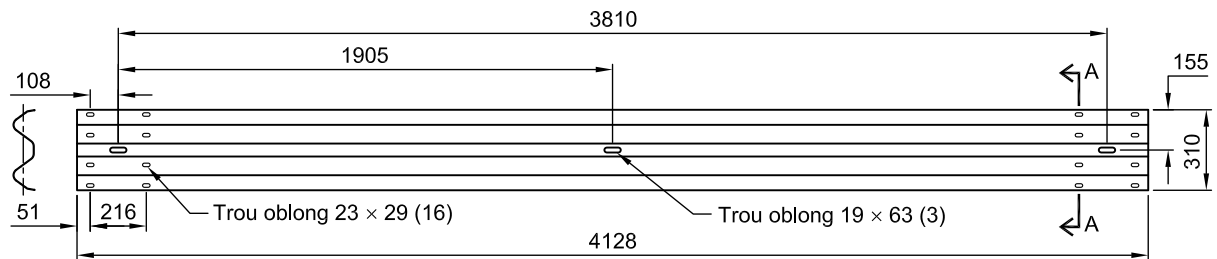
Tome VII, norme 6201  
ASTM A123/A123M



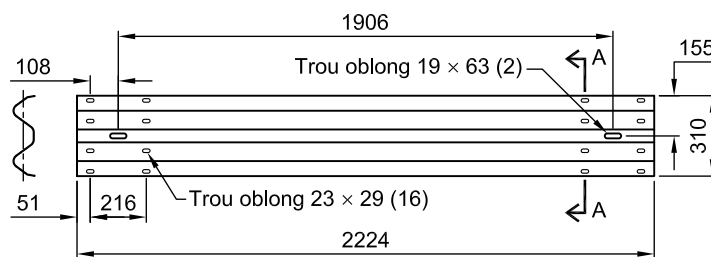


NORME

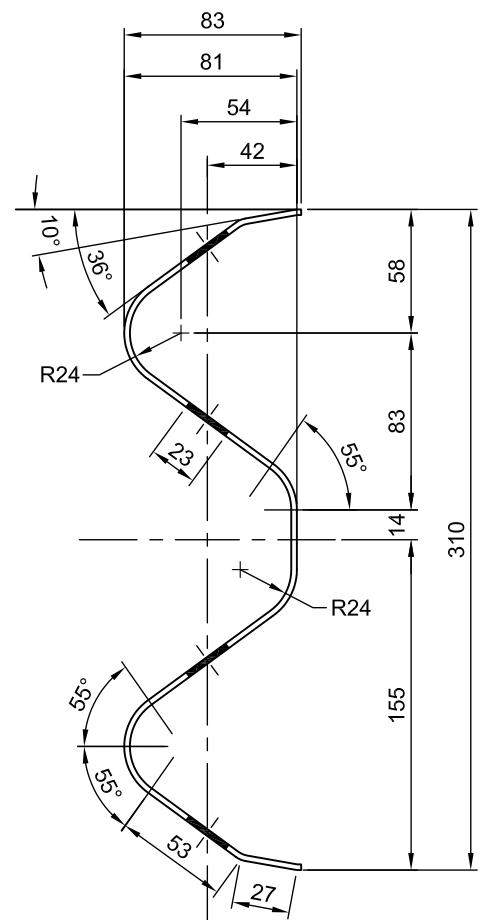
PROFILÉ D'ACIER À  
DOUBLE ONDULATION



PROFILÉ DE 3810 mm<sup>①</sup>



PROFILÉ DE 1905 mm



COUPE A-A

- ① Si requis, le profilé peut être courbé selon les rayons de courbure minimaux suivants :
- forme concave : 3000 mm;
  - forme convexe : 1500 mm.

Notes :

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation du profilé doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de  $\pm 6$  mm pour les dimensions et de  $\pm 3$  mm pour le positionnement des trous;
- les cotes sont en millimètres.

MATÉRIAUX — NORMES APPLICABLES

Éléments de glissement

Tome VII, norme 6301 | Galvanisation

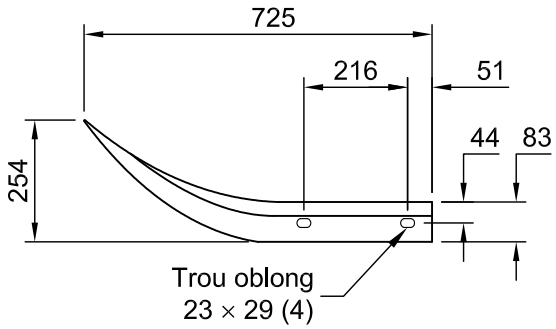
ASTM A123/A123M

Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 048</b>
Date <b>2014 09 30</b>

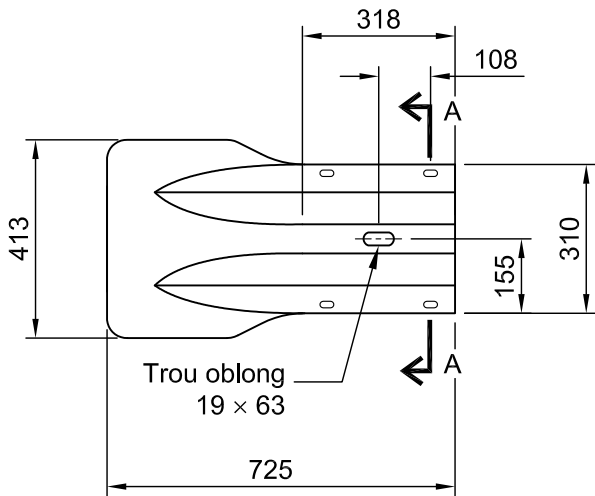
**DESSIN NORMALISÉ**

**PROFILÉ D'ACIER À  
DOUBLE ONDULATION –  
BOUT EFFILÉ**

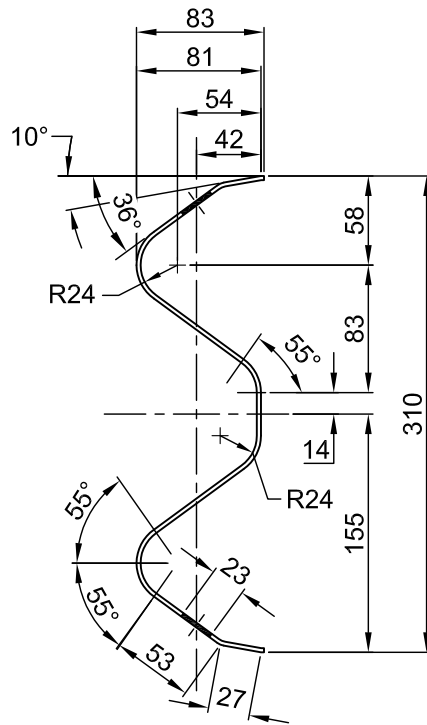
**NORME**



PLAN



ÉLEVATION



COUPE A-A

**Notes :**

- l'épaisseur de l'acier du profilé, avant galvanisation, est de 2,65 mm;
- la galvanisation de la pièce doit être faite après le pliage, la coupe et le perçage;
- les tolérances de fabrication sont de  $\pm 6$  mm pour les dimensions et de  $\pm 3$  mm pour le positionnement des trous;
- les cotes sont en millimètres.

**MATÉRIAUX — NORMES APPLICABLES**

Éléments de glissement

Tome VII, norme 6301 | Galvanisation

ASTM A123/A123M

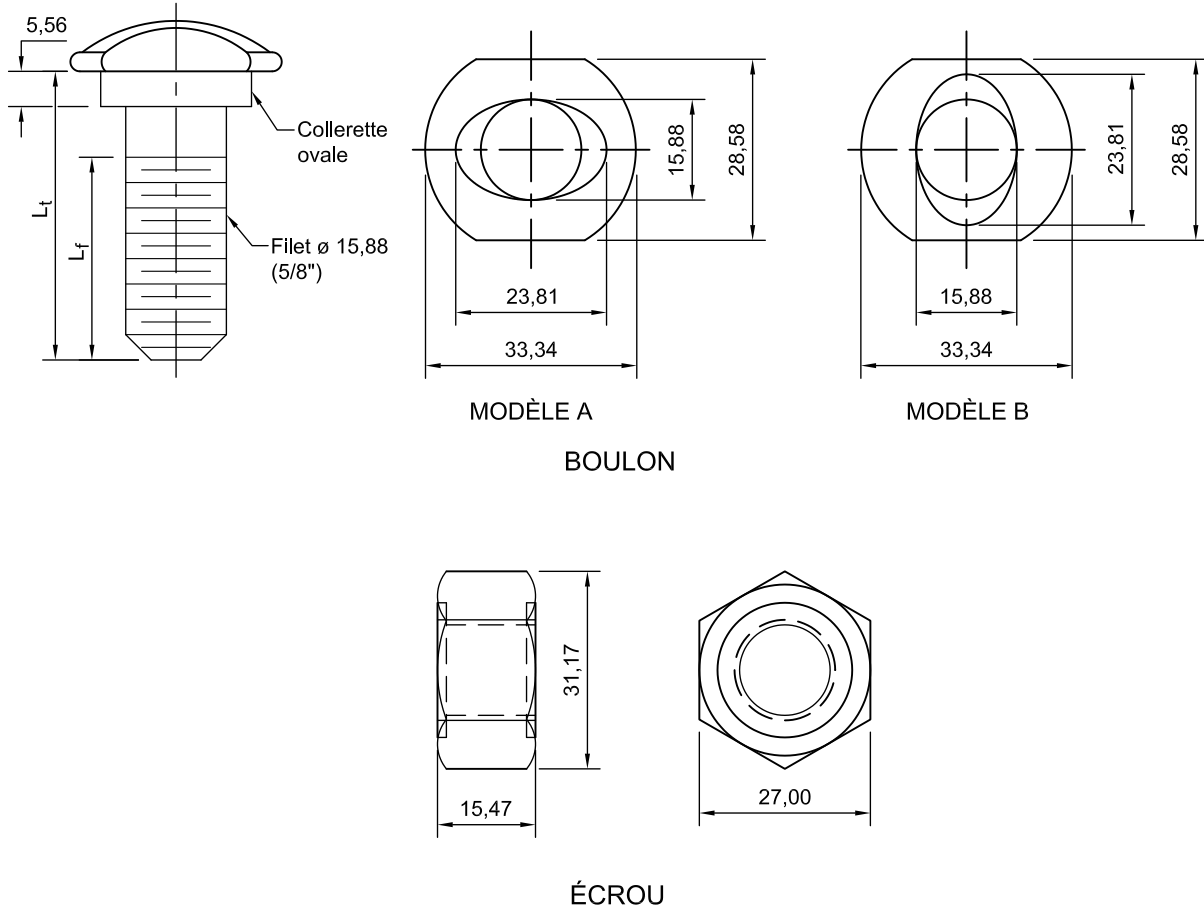
Tome <b>VIII</b>
Chapitre <b>3</b>
Numéro <b>GSR 050</b>
Date <b>2015 09 30</b>

**DESSIN NORMALISÉ**

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**PROFILÉ D'ACIER À  
DOUBLE ONDULATION –  
BOULON A307**

**NORME**



**Dimensions des boulons A307 selon l'usage**

Usage	Diamètre	Longueur totale (L <sub>t</sub> )	Longueur du filet (L <sub>f</sub> )
Fixation des profilés	15,88 (5/8")	32	26
Fixation des tubes compressible <sup>(1)</sup>	15,88 (5/8")	50	45
Glissière latérale ou médiane sur poteaux d'acier	15,88 (5/8")	267	102
Glissière latérale sur poteaux de bois	15,88 (5/8")	457	102
Glissière médiane sur poteaux de bois	15,88 (5/8")	660	102

1. Transition de rigidité à une glissière rigide avec aménagement de l'origine.



**Note :**

– les cotes sont en millimètres.



**MATÉRIAUX — NORMES APPLICABLES**

Boulons, tiges d'ancrage,  
écrous et rondelles


*Tome VII, norme 6201*

Pour glissière semi-rigide (GSR) latérale avec profilé d'acier à double ondulation Type 1 (avec déviation latérale de l'extrémité)				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<p><b>SRT 350</b></p> <p>Date d'homologation: 2002-06-12</p>  <p><a href="#">GUQ-0393</a></p>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	<p>Équipements Stinson inc. 1675 Gladstone Montréal, (Qc) H4E 1C6</p> <p>Tél.: 514 766-3567 Télec.: 514 766-5438 <a href="http://www.stinsonqc.com/">www.stinsonqc.com/</a></p>	<p>Trinity Highway Products LLC É.-U. <a href="http://www.highwayguardrail.com/">www.highwayguardrail.com/</a></p>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	8 poteaux de bois		
	<u>Déviation latérale permise :</u>	915 à 1220 mm		
	<u>Codification :</u>	L-W/B-1		
<p><b>SRT-27</b></p> <p>Date d'homologation temporaire 2013-09-10</p>  <p><a href="#">GUQ-1722</a></p>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	<p>Équipements Stinson inc. 1675 Gladstone Montréal, (Qc) H4E 1C6</p> <p>Tél.: 514 766-3567 Télec.: 514 766-5438 <a href="http://www.stinsonqc.com/">www.stinsonqc.com/</a></p>	<p>Trinity Highway Products LLC É.-U. <a href="http://www.highwayguardrail.com/">www.highwayguardrail.com/</a></p>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	6 poteaux d'acier (1 poteau frontal CRP et 5 poteaux affaiblis SYTP)		
	<u>Déviation latérale permise :</u>	1220 mm		
	<u>Codification :</u>	L-W/A-1		




<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)

Pour glissière semi-rigide (GSR) latérale avec profilé d'acier à double ondulation Type 1 (avec déviation latérale de l'extrémité)				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<b>FLEAT-SP</b>  Date d'homologation: 2011-09-21   <a href="#">GUQ-1311</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Les Entreprises Steeve Couture inc. 169, 181 <sup>e</sup> rue Beauceville (QC) G5X 2S9  Tél. : 418 774-5073 Téléc. : 418 774-5070 <a href="http://www.escinc.ca">www.escinc.ca</a>	Gregory Industries, É.-U. <a href="http://www.gregorycorp.com">www.gregorycorp.com</a>  (sous licence de Road Systems inc) <a href="http://www.roadsystems.com/">www.roadsystems.com/</a>
	<u>Capacité redirectionnelle ::</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	7 poteaux d'acier (2 poteaux articulés et 5 poteaux standards)		
	<u>Déviation latérale permise :</u>	760 à 1220 mm		
	<u>Codification :</u>	L-W/A-1		
<b>FLEAT 350</b>  Date d'homologation: 2002-06-12   <a href="#">GUQ-0390</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Les Entreprises Steeve Couture inc. 169, 181 <sup>e</sup> rue Beauceville (QC) G5X 2S9  Tél. : 418 774-5073 Téléc. : 418 774-5070 <a href="http://www.escinc.ca">www.escinc.ca</a>	Gregory Industries, É.-U. <a href="http://www.gregorycorp.com">www.gregorycorp.com</a>  (sous licence de Road Systems inc) <a href="http://www.roadsystems.com/">www.roadsystems.com/</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	7 poteaux de bois		
	<u>Déviation latérale permise :</u>	760 à 1220 mm		
	<u>Codification :</u>	L-W/B-1		



<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)

Pour glissière semi-rigide (GSR) latérale avec profilé d'acier à double ondulation Type 1 (avec déviation latérale de l'extrémité)				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<b>X-LITE FLARED</b>  Date d'homologation 2012-09-19   <a href="#">GUQ-1629</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Barrière QMB 4295, boul. Saint-Elzéar Ouest Laval (Qc) H7P 4J3  Tél.: 450 978-1818 Téléc.: 450 978-9340 <a href="http://www.qmb.ca">www.qmb.ca</a>	Lindsay Corporation, É-U  <a href="http://www.lindsay.com/transportation-solutions">http://www.lindsay.com/transportation-solutions</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	6 poteaux d'acier		
	<u>Déviation latérale permise :</u>	1220 mm		
	<u>Codification :</u>	L-W/A-1		

<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)

Pour glissière semi-rigide (GSR) latérale avec profilé d'acier à double ondulation Type 2 (sans déviation latérale de l'extrémité)				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<b>ET PLUS</b>  Date d'homologation: 2002-06-12   <a href="#">GUQ-0394</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Équipements Stinson inc. 1675 Gladstone Montréal, (Qc) H4E 1C6  Tél.: 514 766-3567 Téléc.: 514 766-5438 <a href="http://www.stinsonqc.com/">www.stinsonqc.com/</a>	Trinity Highway Products LLC É.-U. <a href="http://www.highwayguardrail.com/">www.highwayguardrail.com/</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	8 poteaux de bois		
	<u>Déviation latérale permise :</u>	0 à 610 mm		
	<u>Codification :</u>	L-W/B-2		
<b>ET PLUS</b> à poteaux d'acier  Date d'homologation temporaire: 2014-09-15   <a href="#">GUQ-1723</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Les Entreprises Steeve Couture inc. 169, 181 <sup>e</sup> rue Beauceville (QC) G5X 2S9  Tél. : 418 774-5073 Téléc. : 418 774-5070 <a href="http://www.escinc.ca">www.escinc.ca</a>	Gregory Industries, É.-U. <a href="http://www.gregorycorp.com">www.gregorycorp.com</a>  (sous licence de Road Systems inc) <a href="http://www.roadsystems.com/">www.roadsystems.com/</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	8 poteaux d'acier (1 poteau frontal HBA et 7 poteaux affaiblis SYTP)		
	<u>Déviation latérale permise :</u>	0 à 610 mm		
	<u>Codification :</u>	L-W/A-2		
<b>SKT 350</b>  Date d'homologation: 2002-06-12   <a href="#">GUQ-0477</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Les Entreprises Steeve Couture inc. 169, 181 <sup>e</sup> rue Beauceville (QC) G5X 2S9  Tél. : 418 774-5073 Téléc. : 418 774-5070 <a href="http://www.escinc.ca">www.escinc.ca</a>	Gregory Industries, É.-U. <a href="http://www.gregorycorp.com">www.gregorycorp.com</a>  (sous licence de Road Systems inc) <a href="http://www.roadsystems.com/">www.roadsystems.com/</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	8 poteaux de bois		
	<u>Déviation latérale permise :</u>	0 à 610 mm		
	<u>Codification :</u>	L-W/B-2		

<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)

Pour glissière semi-rigide (GSR) latérale avec profilé d'acier à double ondulation Type 2 (sans déviation latérale de l'extrémité)				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<b>SKT-SP</b>  Date d'homologation: 2011-09-21   <a href="#">GUQ-1310</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)		
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	7 poteaux d'acier (2 poteaux articulés et 6 poteaux standards)		
	<u>Déviations latérales permises :</u>	0 à 610 mm		
	<u>Codification :</u>	L-W/A-2		
<b>X-LITE TANGENT</b>  Date d'homologation 2012-09-19   <a href="#">GUQ-1628</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Barrière QMB 4295, boul. Saint-Elzéar Ouest Laval (Qc) H7P 4J3  Tél.: 450 978-1818 Téléc.: 450 978-9340 <a href="http://www.qmb.ca">www.qmb.ca</a>	Lindsay Corporation, É-U  <a href="http://www.lindsay.com/transportation-solutions">http://www.lindsay.com/transportation-solutions</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	8 poteaux d'acier		
	<u>Déviations latérales permises :</u>	0 à 610 mm		
	<u>Codification :</u>	L-W/A-2		

<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)



**Pour glissière semi-rigide (GSR) latérale avec tube d'acier**

PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<p><b>BEAT</b></p> <p>Date d'homologation: 2011-09-21</p>  <p><a href="#">GUQ-1312</a></p>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	<p>Les Entreprises Steeve Couture inc. 169, 181<sup>e</sup> rue Beauceville (QC) G5X 2S9</p> <p>Tél. : 418 774-5073 Télec. : 418 774-5070 <a href="http://www.escinc.ca">www.escinc.ca</a></p>	<p>Gregory Industries, É.-U. <a href="http://www.gregorycorp.com">www.gregorycorp.com</a></p> <p>(sous licence de Road Systems inc) <a href="http://www.roadsystems.com/">www.roadsystems.com/</a></p>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	5 poteaux d'acier		
	<u>Déviation latérale permise :</u>	0 à 195 mm		
	<u>Codification :</u>	L-T/A		



<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)

## LISTE D'HOMOLOGATION

Programme HOM 5660-101

### « Dispositifs d'extrémité de glissière de sécurité semi-rigide »

Mise à jour du : 2016-07-15

Pour glissière semi-rigide (GSR) médiane avec profilé d'acier à double ondulation				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<p><b>CAT 350</b></p> <p>Homologation temporaire : 2002-08-01</p>  <p><a href="#">GUQ-0396</a></p>	<u>Niveau de performance :</u>	TL-3 (100 Km/h)	<p>Équipements Stinson inc. 1675 Gladstone Montréal, (Qc) H4E 1C6</p> <p>Tél.: 514 766-3567 Télé.: 514 766-5438 <a href="http://www.stinsonqc.com/">www.stinsonqc.com/</a></p>	<p>Trinity Highway Products LLC É.-U <a href="http://www.highwayguardrail.com/">www.highwayguardrail.com/</a></p>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	6 poteaux de bois		
	<u>Codification :</u>	M-W/B		
<p><b>BRAKEMASTER 350</b></p> <p>Date d'homologation : 2006-06-05</p>  <p><a href="#">GUQ-0406</a></p>	<u>Niveau de performance :</u>	TL-3 (100 Km/h)	<p>Tél.: 514 766-3567 Télé.: 514 766-5438 <a href="http://www.stinsonqc.com/">www.stinsonqc.com/</a></p>	<p>Trinity Highway Products LLC, É.-U <a href="http://www.highwayguardrail.com/">www.highwayguardrail.com/</a> Energy Absorption Systems inc. <a href="http://www.energyabsorption.com/">www.energyabsorption.com/</a></p>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	5 poteaux d'acier		
	<u>Codification :</u>	M-W/A		

<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)



## LISTE D'HOMOLOGATION

Programme HOM 5660-101

### « Dispositifs d'extrémité de glissière de sécurité semi-rigide »

Mise à jour du : 2016-07-15

Direction des contrats

Pour glissière semi-rigide (GSR) médiane avec profilé d'acier à double ondulation				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<b>FLEAT MT</b> Date d'homologation : 2008-01-22  <a href="#">GUQ-0734</a>	<u>Niveau de performance :</u>	TL-3 (100 Km/h)	Les Entreprises Steeve Couture inc. 169, 181 <sup>e</sup> rue Beauceville (QC) G5X 2S9 Tél. : 418 774-5073 Téléc. : 418 774-5070  <a href="#">www.escinc.ca</a>	Gregory Industries, É.-U. <a href="#">www.gregorycorp.com</a>  (sous licence de Road Systems inc)  <a href="#">www.roadsystems.com/</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	7 poteaux de bois		
	<u>Codification :</u>	M-W/B		
	<u>Usage restreint :</u>	Glissière médiane séparant des voies en sens opposé.		
<b>X-TENSION</b> Date d'homologation : 2011-09-14  <a href="#">GUQ-1044</a>	<u>Niveau de performance :</u>	TL-3 (100 Km/h)	Barrière QMB Canada inc. 4295, boul. St-Elzéar Ouest Laval (QC) H7P 4J3  Tél.: 450 978-1818 Téléc.: 450 978-9340 <a href="#">www.qmb.ca</a>	Lindsay Corporation, É-U  <a href="http://www.lindsay.com/transportation-solutions">http://www.lindsay.com/transportation-solutions</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	6 poteaux d'acier		
	<u>Codification :</u>	M-W/A		


<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)

## LISTE D'HOMOLOGATION

Programme HOM 5660-101

### « Dispositifs d'extrémité de glissière de sécurité semi-rigide »

Mise à jour du : 2016-07-15

Pour glissière semi-rigide (GSR) médiane avec tubes d'acier				
PRODUIT	DESCRIPTION / SPÉCIFICATIONS		ENTREPRISE <sup>1</sup>	FABRICANT
<b>BEAT MT</b> Date d'homologation : 2011-09-21  <a href="#">GUQ-1313</a>	<u>Niveau de performance :</u>	TL-3 (100 km/h)	Les Entreprises Steeve Couture inc. 169, 181 <sup>e</sup> rue Beauceville (QC) G5X 2S9  Tél. : 418 774-5073 Téléc. : 418 774-5070 <a href="http://www.escinc.ca">www.escinc.ca</a>	Gregory Industries, É.-U. <a href="http://www.gregorycorp.com">www.gregorycorp.com</a>  (sous licence de Road Systems inc) <a href="http://www.roadsystems.com/">www.roadsystems.com/</a>
	<u>Capacité redirectionnelle :</u>	OUI		
	<u>Extrémité franchissable :</u>	OUI		
	<u>Poteaux :</u>	5 poteaux d'acier		
	<u>Codification :</u>	M-T/A		

La codification du dispositif d'extrémité telle qu'établie dans la norme Tome VIII – *Dispositifs de retenue*, le chapitre 4 - *Dispositifs de retenue frontaux* :

(X) – (Y) / (Z) – (T)

(X) Configuration de la glissière :	L : latéral;	M : médian
(Y) Nature de l'élément de glissement:	W : profilé d'acier à double ondulation;	T : tube d'acier
(Z) Nature des poteaux :	B : poteaux de bois;	A : poteaux d'acier
(T) Déviation latérale :	1 : avec déviation;	2 : sans déviation importante

<sup>1</sup> La demande d'homologation a été présentée par cette entreprise. Différentes entreprises peuvent proposer le produit homologué lors des activités contractuelles  
Guichet unique de qualification des produits (GUQ)