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1550, Avenue d'Estimauville
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Québec
Québec
G1J 0C7

SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
TPSGC-PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

Title - Sujet Réfection Bastion St-Louis		
Solicitation No. - N° de l'invitation EE520-173040/A		Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client EE520-173040		Date 2017-03-28
GETS Reference No. - N° de référence de SEAG PW-\$QCM-032-17069		
File No. - N° de dossier QCM-6-39372 (032)	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-04-06		Time Zone Fuseau horaire Heure Avancée de l'Est HAE
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>		
Address Enquiries to: - Adresser toutes questions à: Girard, Isabelle		Buyer Id - Id de l'acheteur qcm032
Telephone No. - N° de téléphone (418) 649-2847 ()		FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Bastion St-Louis, Ville de Québec		

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

AMENDMENT 001

TITLE : Rehabilitation of the right and left sides of the Saint-Louis Bastion

Included in the present amendment:

1. Questions and Responses 1 to 12
 2. Drawing: Structure – Schematic Plan View General Planning Bastion St-Louis
 3. Information Session for Bidders Meeting Minutes
 4. Appendix 1 - Combined Price Form
 5. Addendum No. 1 - S01
-

QUESTIONS ET RESPONSES:

Question 1: Will the granite stones marked for preservation placed back into the wall or will they be replaced with new sandstones?

Response 1: The granite stones marked for preservation will be placed back in the siding exactly where they were located originally.

Question 2: Regarding the stones for the siding, can we base our price on 300 mm deep stones?

Response 2: You may base your price on 250 mm deep stones. However, no additional payment or credit will be managed at the construction site for average stone depths other than 250 mm because this item is paid in a lump sum. The average depth of the stones will be determined at the construction site for the purpose of calculating the actual depth of the backing to be built.

Question 3: Regarding key stones, is there a percentage of stones or a number of square feet in the wall for pricing purposes?

Response 3: This information regarding existing stones is not available. However, key stones are not to be taken into account in terms of stone replacement. If one of the stones to replace is indeed a key stone, it will be replaced with a 250 mm deep stone.

Question 4: Regarding the belt course, will it be accurate as to alignment or as the existing belt course, which has various measurements?

Response 4: If we understand the question correctly, the belt course will be rebuilt exactly as the existing one, i.e. at the same geodetic elevation.

Question 5: Regarding the belt course, may we base our price on a 300 mm seat depth?

Response 5: For bidding purposes, you may base your price on a 250 mm seat depth.

Question 6: Has a volume been determined for bidding purposes regarding the limestones related to item 25 of page S08 of the bid document?

Response 6: No. This item is paid in a lump sum based on the size of the buttresses shown on the plans.

Question 7: Details on soil anchors – According to our suppliers, the stainless steel bolts and washers are not compatible with the galvanized steel rods. Is this correct?

Response 7: The bolts and the tapered washers may be made of galvanized steel.

Question 8: Tapered washer – There are not details in terms of size. Could we have more details?

Response 8: Sizes are not indicated because the washers are usually provided in standard sizes by the threaded anchors suppliers.

Question 9: Repointing of stone walls marked for preservation – In addition to the exterior stone siding, are the cleared walls and stone walls on the interior side to be repointed as well?

Response 9: On the exterior side, the ends of the left and right sides that are not to be disassembled and reassembled are to be cleaned and repointed as shown on pages S04 to S06. As for the interior siding, as shown on pages S07 and S08, it will be disassembled and reassembled as indicated in Note 3. The parapets do not require masonry work.

Question 10: May the new concrete coping consist of sections of precast concrete or must it be poured on site (rather complicated design)?

Response 10: The new concrete coping will be poured on site and will not consist of precast concrete.

Question 11: The detail entitled NEW CONCRETE COPING scaled 1:10, on page S11 is +/- 900 mm wide and the cross-sections details are 7' (p. 508) and 4' (p.509) scaled 1:30 and 1250 mm wide. I believe the correct width is 1250 mm. Please confirm.

Response 11: The correct width is indeed ± 1250 mm.

Question 12: Price requested for item 21 Exterior elements around the "Croix du sacrifice" in the price schedule – The plans do not include details to cost this item, only a short description. Could you provide additional details or provide a budget for the execution of the work?

Response 12: Section 01 29 00 of the specifications mentions several items to consider for pricing purposes. The detail of the planting pit on page S13 also provides information. Although the plans for the irrigation system to be re-built in this area are not available, we believe that the Contractor can still provide a lump sum that he is comfortable with based on the information provided in the plans and specifications.

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Amd. No. – N° de la modif.
001
File No. – N° du dossier
QCM-6-39372

Buyer ID – Id de l’acheteur
QCM032

DRAWING: STRUCTURE – SCHEMATIC PLAN VIEW GENERAL PLANNING BASTION ST-LOUIS:

The drawing is available in electronic attachments.

INFORMATION SESSION FOR BIDDERS MEETING MINUTES:

See document “MEETING MINUTES” provided herein after.

APPENDIX 1 - COMBINED PRICE FORM:

Item 23 “Appendix 1 - COMBINED PRICE FORM” (page 12 and 13 of 20 of the Invitation to Tender) had been added.

Therefore you must :

DELETE : “APPENDIX 1 - COMBINED PRICE FORM” in its entirety.

INSERT : The following “APPENDIX 1 - COMBINED PRICE FORM” :

APPENDIX 1 - COMBINED PRICE FORM (2 pages)

- 1) The prices per unit shall govern in establishing the Total Extended Amount. Any arithmetical errors in this Appendix will be corrected by Canada.
- 2) Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

UNIT PRICES TABLE

The Unit Price Table designates Work to which a Unit Price Arrangement applies.

- (a) Work included in each item is as described in the referenced specification section.
- (b) The Price per Unit shall not include any amounts for Work that is not included in that unit price Item.

Item	Class of Labour, Plant or Material	Unit of Measure-ment	Estimated Quantity	Price per Unit	Extended amount
1	Sandstone for the replacement of the exterior siding (supply only)	m ²	355	\$	\$
2	Sandstone for the replacement of interior siding (supply only)	m ²	95	\$	\$
3	Sandstones to be repaired, case #1	Unit	20	\$	\$
4	Sandstones to be repaired, case #2	Unit	20	\$	\$
5	Sandstones to be repaired, case #3	Unit	20	\$	\$
6	Masonry backing, left side of the bastion	m ³	515	\$	\$
7	Masonry backing, right side of the bastion	m ³	360	\$	\$
TOTAL EXTENDED AMOUNT (TEA) Excluding applicable taxes					\$

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LUMP SUM PRICES TABLE

The Lump Sum Amount designates Work to which a Lump Sum Arrangement applies.

(a) Work included in the Lump Sum Amount represents all work not included in the unit price table.

Item	Description	Total fixed price (\$)
8	Construction site organization	\$
9	Removal or protection of various existing items at the worksite	\$
10	Excavation and backfilling of walls, and drainage	\$
11	Temporary stabilization of the right side of the bastion	\$
12	Temporary stabilization of the left side of the bastion with soil anchors	\$
13	Disassembly of the masonry wall (left side of bastion)	\$
14	Disassembly of the masonry wall (right side of bastion)	\$
15	Reconstruction of the masonry walls, right side of the bastion	\$
16	Reconstruction of the masonry walls, left side of the bastion	\$
17	Reconstruction of the buttresses, right side of the bastion	\$
18	Repointing of the wall sections to be preserved	\$
19	Demolition and reconstruction of the coping	\$
20	Cleaning of the masonry and of the stone siding spalling	\$
21	Exterior landscaping elements around the "Croix Du Sacrifice"	\$
22	Landscaping and exterior elements	\$
23	Stringcourse replacement (supply only)	\$
LUMP SUM AMOUNT (LSA) Excluding applicable taxes		\$

TOTAL BID AMOUNT (TEA + LSA) Excluding applicable taxes	\$
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***** All other clauses and conditions remain unchanged *****

MEETING MINUTES

Project: REHABILITATION OF THE “BASTION ST-LOUIS”

Project #:	29501TTE	Client:	PWGSC.
Date:	2017-03-24	Client Reference:	R.081116.001/R.079763.001
Time:	10h30 à 11h30	Revision:	00
Location:	Bureaux de T.P.S.G.C. 3, Passage du Chien-d'Or, 3 ^e étage Québec (Québec) G1R 3Z8	Issued on:	2017-03-27

Attending:

- Mr. Jean Lévesque – APC (jean.levesque@pc.gc.ca)
- Ms. Caroline Larouche - APC (caroline.larouche@pc.gc.ca)
- Mr. Jean-Benoit Saint-Laurent (partial attendance) – PWGSC
(jean-benoit.saint-laurent@tpsgc-pwgsc.gc.ca)
- Mr. Pier-Frédéric Brillant – PWGSC (pier-frédéric.brillant@tpsgc-pwgsc.gc.ca)
- Mr. Philippe M. Laverdière – PWGSC (philippe.murphy-laverdiere@tpsgc-pwgsc.gc.ca)
- Mr. Daniel Brochu – Tetra Tech (daniel.brochu@tetrattech.com)
- Mr. Mathieu Bouchard – Tetra Tech (mathieu.bouchard@tetrattech.com)

Distribution (Attendees plus the following): N/A

Subject:

Information meeting for bidders – Bastion Saint-Louis

Prepared by:	Daniel Brochu, Eng. Tetra Tech	Philippe M. Laverdière, Eng. T.P.S.G.C.	
Next meeting:			

Note: Unless otherwise specified in writing, the content of this Meeting Minutes will be considered as faithful to the comments held in the meeting and an integral part of the project. If these meeting minutes are not in accordance with the comments made during the meeting or conference call, please contact the editor as soon as possible.

<i>Minutes of Meeting #1 (Continued)</i>	<i>Action</i>	<i>Date</i>
1. Presentation of the Participants		
<ul style="list-style-type: none"> PWGSC presented the various parties involved in the project, both from the client's team and from the Tetra Tech team. 		
2. Presentation by PWGSC		
<ul style="list-style-type: none"> PWGSC showed a presentation which described the work, the schedule, and specific requirements, as well as the site configuration and the technical stakes involved. 		
<ul style="list-style-type: none"> Tetra Tech summarized the interventions planned for the structures and raised a few salient technical points, such as the temporary protection of the structures during construction, the temporary shoring of the masonry walls, etc. 		
3. Questions from Contractors		
<ul style="list-style-type: none"> A question was asked regarding the thickness of the new stones, which is not mentioned in the plans and specifications. The thickness of the stones will be addressed in an upcoming addendum. 		
<ul style="list-style-type: none"> A question was asked as to whether or not sandstones with greyish hues rather than the greenish hues described in the specifications would be acceptable. In response, it was stated that it was difficult to judge without examining samples. It was agreed that samples will be presented at the beginning of construction in order to determine which sandstone hues will be acceptable. 		
<ul style="list-style-type: none"> A question was asked regarding the location of the banners to be installed on the construction site fences. This issue will be addressed in an upcoming addendum. 		
<ul style="list-style-type: none"> A question was asked as to whether or not the replacement of the belt course could be paid based on a unit price. The answer was no. However, an upcoming addendum will address the payment of the new stones for the belt course. 		
<ul style="list-style-type: none"> A question was asked as to whether or not it will be possible to use precast concrete for the coping. The answer was no. The concrete coping will be poured on site in order to ensure that it will rest evenly on the membrane and on the crest of the wall. 		
4. New Items to Address Following the Meeting		
<ul style="list-style-type: none"> Invitation documents: The bid documents and related modifications are available on Achatsetventes.gc.ca. 		

<i>Minutes of Meeting #1 (Continued)</i>	<i>Action</i>	<i>Date</i>
<ul style="list-style-type: none"> ▪ Bid receiving: The address where the bids are to be submitted is indicated at the top left corner of page 1 of the Request for Proposals, i.e.: Bid Receiving - PWGSC / Bid Receiving – PWGSC 1550, avenue d'Estimauville, Quebec City, Quebec, G1J 0C7. 		
<ul style="list-style-type: none"> ▪ Procurement Business Number (PBN): A PBN is not required to submit a bid, but a PBN is required to be awarded a contract. Questions about obtaining a PBN will be addressed to Ms. Isabelle Girard, Procurement Officer, whose contact information is indicated in the bid documents. 		
<ul style="list-style-type: none"> ▪ Results of the bidding invitation process: The results of the bidding process will be made available late afternoon via our answering machine at 418-649-2888. 		
<ul style="list-style-type: none"> ▪ Questions: All requests for information and other communications before the closing of the call for tenders will be addressed SOLELY to Ms. Isabelle Girard, Procurement Officer, via email at isabelle.girard@tpsgc-pwgsc.gc.ca. Failure to comply with these instructions may render the bid inadmissible, resulting in disqualification. Requests for information must be received no later than March 30, at 2:00 PM. 		
<ul style="list-style-type: none"> ▪ Bid Security Requirements: The bidder will include bid security in his submittal, which will take the form of a bid bond or security deposit. An original bid bond is required. Copies will not be accepted. 		

Project n° : R.081006.001 (TPSGC)
Project : Restoration of Bastion St-Louis, Right & Left face
Date : 2017-03-27

The following information supplements, modifies and/or supersedes the bid documents issued on March 03, 2017.

STRUCTURE

Specifications :

01 29 00 Addition paragraph 23.

04 03 42 Update of paragraph 2.4.

32 01 90.33 General update.

Drawings :

S-01 Point 6 de la légende/lexique. Remplacer par : Prévoir une passerelle de bois surélevée de 50 mm au-dessus de la terre existante afin de ne pas se déposer sur les racines de l'arbre. Prévoir une montée à chaque extrémité de la passerelle ayant une pente de 1/12. Conception et fabrication par l'Entrepreneur (voir feuille S01).
Number 6 of legend/lexicon. Replace by: Provide a wooden bridge 50mm above the existing ground so it is not settle on existing tree roots. Provide a ramp at each end of the walkway with a slope of 1/12. Design and manufacturing by the Contrator (See sheet S01).

S-01 La localisation des bannières à installer sur la clôture de chantier est précisée (voir feuille S01).
The banners location to be installed on the site fence is specified (See Sheet S01).

S-05 Un point est ajouté à la légende (voir croquis).
Point is added in legend (see sketch).

S-06 Une mauvaise traduction est corrigée au chainage 5 (voir croquis).
Correction of a bad translation at chainage 5 (see sketch).

S-07 La limite d'excavation est corrigée à la coupe 7 (voir croquis).
Correction of excavation section in section 7 (see sketch).

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- S-08 Coupe 7'. La cote de 1 200 mm dans le contrefort représente la position de la coupe des barres d'armatures existantes par rapport au derrière du contrefort.
Section 7': The 1 200 mm dimension in the buttress represents the cut location of the existing rebar bars relative to the back of the buttress.
- S-08 Coupe A-A. La cote de 300 mm entre la face extérieure du contrefort et le derrière de la pierre de parement est remplacée par une cote de 550 mm allant du devant de la pierre de parement à la face extérieure du nouveau contrefort (voir croquis).
Section A-A: The 300 mm dimension between the outer face of the buttress and the back of the face stone is replaced by a dimension of 550 mm from the front of the face stone to the outer face of the new buttress (see sketch).
- S-10 Détail d'ancrage à sol (face gauche seulement) : L'écrou et la rondelle biseautée doivent être galvanisés (voir croquis).
Backfill anchor detail (Left face only): Nut and bevelled washer shall be galvanized (see sketch).
- S-11 Détail typique, pierre de cordon : La pierre de cordon doit avoir 250 mm de profondeur. Les autres dimensions doivent être tel que l'existant (voir croquis).
Belt course stone, typical section: Belt course stone shall be 250 mm depth. All others dimensions shall be such as existing belt course stone (see sketch).
- S-11 Le détail du nouveau chaperon est précisé (voir croquis).
New coping detail is modify (see sketch).

Daniel Brochu, ing.
OIQ : 5007020
DB/lb

PART 1 - GENERAL

1.1 UNIT OR OVERALL PRICES

1. Each unit or overall price in the contract is a lump sum; the Contractor commits to executing the work at this unit price, regardless of profit or loss. The unit or overall price for a structure or construction package must include all expenses, work, disbursements, payments, direct and indirect expenses, mobilizations, demobilizations, as well as any acts, facts, responsibilities, obligations, omissions and errors associated with the construction of this structure that may be incurred by the Contractor.
2. Unless otherwise indicated on the drawings and specifications, the Contractor will provide, for this unit or overall price, the materials, labour, equipment and accessories necessary to build the structure.
3. The unit or overall price must also include the transportation and application of materials, as well as all general company expenses including administration, insurance, contributions, interest, rentals, taxes and any incidental expenses. It must also include losses and damages that may occur due to the nature of the work, fluctuations in prices and salaries, business risks, strikes, delays not attributable to the Departmental Representative, restrictions relating to transportation, accidents and acts of nature.

1.2 OVERALL PRICE: DEFINITION

1. When work has been identified in a precise and detailed manner, and a price has been agreed upon and accepted by both parties for everything.

1.3 UNIT PRICE: DEFINITION

1. When specifications relating to the work have been determined in a precise and detailed manner, and all of the quantities or certain quantities indicated on the bid sheet have been provided as estimates.

1.4 DESCRIPTION OF THE ITEMS ON THE PRICES SCHEDULE

PART A – UNIT PRICES

1. SANDSTONE TO BE REPLACED ON THE EXTERIOR SIDING

The sandstone for the exterior siding will be paid per square meter of exposed face. The price covers only the delivery at the construction site of embossed sandstone with a pattern identical to the original stone, as indicated in relevant sections of these specifications and/or shown on the plans. The stones for the stringcourse will not be paid under this item.

2. SANDSTONES TO BE REPLACED ON THE INTERIOR SIDING

The sandstone for the interior siding will be paid per square meter of apparent of filled face. The price only covers the delivery at the construction site of embossed sandstone with a pattern identical to the original stone, as indicated in relevant sections of these specifications and/or shown on the plans. The stones for the stringcourse will be paid under this item.

3. SANDSTONE TO BE REPAIRED, CASE #1

Case #1 sandstones to be repaired will be paid per stone. The price covers the material, equipment and labour necessary to execute the work, as well as any incidental expenses, as indicated in the relevant sections of these specifications and/or shown on the plans.



of these specifications and/or shown on the plans. Terms of payment for this item will be progress payments.

21. EXTERIOR LANDSCAPING ELEMENTS AROUND THE “CROIX DU SACRIFICE”

This item will be paid in a lump sum. The price covers the expenses associated with the exterior elements and landscaping around the “Croix du Sacrifice” monument. The price covers, without being limited to, the demolition of the existing planting pit and the disposal of the plants, the removal of the existing irrigation system, which will be handed to the Departmental Representative, the construction of a new planting pit, the installation of the aluminium edging, as well as any other work related to the rehabilitation of the exterior elements around the “Croix du Sacrifice”. The labour, equipment and material, as well as any incidental expenses are also included, as indicated in the relevant sections of these specifications and/or shown on the plans. Terms of payment for this item will be progress payments.

22. LANDSCAPING AND EXTERIOR ELEMENTS

This item will be paid in a lump sum. The price covers the expenses associated with the rehabilitation of the exterior elements and landscaping, including, without being limited to, the reconstruction of the paved and gravel path, repairs to the paved sidewalk, repairs to the wall near the “Croix du Sacrifice” monument, the placement of topsoil and sod, as well as any element damaged by the Contractor during construction. The price also includes equipment and material, as well as any incidental expenses, as indicated in the relevant sections of these specifications and/or shown on the plans. Terms of payment for this item will be progress payments.

23. REPLACEMENT OF STRINGCOURSE

This item will be paid in a lump sum. The price covers only the delivery at the construction site of stringcourse with a pattern identical to the original stone, as indicated in relevant sections of these specifications and/or shown on the plans.



END OF SECTION

1. Maximum width of the quartz vein: 3 mm.
2. Presence of a maximum of two (2) quartz veins in stones less than 450 mm wide.
3. Presence of a maximum of three (3) quartz veins in stones more than 450 mm wide.
4. Stone for backing
 1. All stones not reusable for the siding will be used to assemble the new backing.
 2. The new stones of the backing will be sandstone reused from stone siding or limestone.
 3. The size of the stones used for the backing will range between 100 mm and 400 mm in diameter.
 4. All the faces of the stones used for the backing, whether new or reused, will be uneven with split faces.

2.2 FABRICATION

1. Shape and size the stone based on the measurements and profiles of the existing stone. All of the stones marked for replacement will be of the same size as the existing stones.
2. Cut and lay the stone so that it rests on its natural bed (sediment layers will be horizontal).
3. Finish the stone by hand in order to obtain the final profile. The stones' appearance and profile will match that of the existing stone. Guillotine cut stones will not be accepted.
4. Match the variations in finish with those of the existing stone, as approved by the Departmental Representative.
5. Keep all of the free stones marked for replacement to make shims to repair existing damaged stones marked for preservation. These reused stones will also be used to assemble the backing.
6. Cut the back of the stones so that they nest in the back.

2.3 STONE CHARACTERISTICS

1. Sandstone
 1. The stone must be free of sediment layers, delamination and quartz veins exceeding the criteria listed in item 2.1.3.
 2. Absorption: 0.5% maximum (in accordance with the ASTM C-97 standard).
 3. Density: 2 600 kg/m³ minimum (in accordance with the ASTM C-97 standard).
 4. Compressive strength: 110 MPa minimum (in accordance with the ASTM C-170 standard).
 5. Colour: green.

2.4 STONE SIZE CHARACTERISTICS

1. The size and shape of the stones are provided for reference purposes. The stones will be of the same size, shapes, and finish as the stones marked for replacement. The following list is not limited.
2. Stones for exterior siding:
 1. Bond pattern: Already decided.
 2. Height: Such as the existing.
 3. Width: Such as the existing.
 4. Depth: 250 mm. No key stone is to provide.





PART 1 - GENERAL

1.1 SUMMARY

1. Section Includes:
 1. Materials and installation for preserving plants affected by changing grades or excavation and by masonry work on walls.

1.2 RELATED REQUIREMENTS

1. The clauses for general conditions and additional general conditions fully applies to the present section as if they were always reproduced.
2. The list of Work in this division is indicative but non-limiting. It does not exclude Work described in other specification divisions shown on the drawings or required for full execution of the Work as intended on the drawings.
3. Section 32 91 19.13 – Topsoil Placement and Grading.
4. Grading, excavation: see engineering sections.

1.3 REFERENCES

1. Department of Justice Canada (Jus).
 1. Canadian Environmental Protection Act, 1999, ch. 33.
 2. Fertilizers Act (R.S. 1985, c. F-10).
 3. Fertilizers Regulations (C.R.C., c. 666).
 4. Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.
2. Health Canada - Pest Management Regulatory Agency (PMRA).
 1. National Standard for Pesticide Education, Training and Certification in Canada (1995).
3. Good practice standards of the Société internationale d'arboriculture Québec (SIAQ).

1.4 QUALITY ASSURANCE

1. Take necessary construction occupational health and safety measures.
2. The Contractor must be a commercial member in good standing of the SIAQ (Société internationale d'arboriculture Québec).

1.5 SCHEDULING

1. Obtain approval from Departmental Representative of schedule indicating beginning of Work.

1.6 IDENTIFICATION

1. The Contractor and Departmental Representative must identify the plantings on site to be preserved and protected. The Contractor must apply measures in accordance with the Departmental Representative's instructions.



1.7 PROTECTION

1. Do not damage plantings, site features, markers, existing buildings, public utility services that must remain in place. Repair damage.
2. The following is not allowed without written consent from the Departmental Representative.
 1. Removal, pulverization, fertilization, pruning, above or below ground, disturbance or modification of trees.
 2. Objects or materials interfering with supply of water, air or nutrients to root systems.
 3. Marking, puncture or removal of tree bark, including any action likely to damage the tree bark.
 4. Attaching objects to trees.
 5. Attaching devices to protect or support.
 6. Exposing trees to toxic or hazardous substances in gas, liquid or solid form.
 7. Exposing trees to heat from fire or other source.
 8. Changing slopes and drainage, creating obstacles to water, air and nutrient supply to trees.
 9. Attaching materials to trees and leaning materials on trees while executing work in their vicinity.
 10. Removing or displacing tree protection.
 11. Interfering with openings in tree protection, creating obstacles to water, air and nutrient supply to trees.
 12. Excavating, disturbing or compacting soil inside drip line of trees.
 13. Depositing construction, excavation materials and debris inside drip line.
 14. Digging ditches, tunnels or trenches, building or covering walkways inside drip line, or at a distance from a tree's trunk equal to 10 times its diameter, measured at 1.40 metres from the ground with a minimal distance of 100 cm.
3. Meet with Departmental Representative prior to carrying out work near trees to avoid items listed in 1.3.2. A procedure will be provided at the meeting specifying the work methods to be used near the trees and protective measures.
4. The procedure will be issued before and during the contract's execution and will be automatically integrated into the contract with no additional financial compensation.

PART 2 - PRODUCT

2.1 MATERIALS

1. Materials
 1. High density polyethylene fencing, 1,200 mm high, orange.
 2. Steel T stake, 2,500 mm.
 3. Wood to protect tree trunks: softwood (spruce, pine or balsam), utility grade, 38 x 65 x 1,830 mm.
 4. Metal straps as needed and approved by Departmental Representative.
 5. White geotextile.
 6. Steel rod or stake, 600 mm.
 7. Soil: refer to specifications under Section 32 91 19.13 – Topsoil Placement and Grading.



2. Peatmoss:
 1. Derived from partially decomposed species of Sphagnum Mosses.
 2. Elastic and homogeneous.
 3. Free of wood and deleterious material which could prohibit growth.
 4. Shredded minimum particle size: 5 mm.
3. Fertilizer:
 1. To Canada Fertilizer Act and Fertilizers Regulations.
 2. Complete, commercial, slow release with 35% of nitrogen content in water-insoluble form.
4. Anti-desiccant: commercial, wax-like emulsion.
5. Filter Cloth:
 1. Type 1: 100% non-woven needle punched polyester, 2.75 mm thick, 240 g/m² mass.
 2. Type 2: biodegradable burlap.
6. Welded wire fabric (WWF): 100 x 100mm, to CSA G30.5.
7. Wood posts: 38 x 89 x 2 400 mm length.
8. Fill:
 1. Type (A): clean, natural river sand and gravel material, free from silt, clay, loam, friable or soluble materials and organic matter.
 2. Type (B): excavated, pervious soil, free from roots, rocks larger than 75 mm, building debris, and toxic ingredients (salt, oil, etc). Excavated material shall be approved by Departmental Representative before use as fill.
9. Coarse washed stones: 35-75 mm diameter clean round hard stone.

PART 3 - EXECUTION

3.1 IDENTIFICATION AND PROTECTION

1. Take necessary construction occupational health and safety measures.
2. Identify with Departmental Representative plantings to be preserved and protected. Apply measures as indicated by Departmental Representative.
3. Protect plant and root systems from damage, compaction and contamination resulting from construction as approved by Departmental Representative.
4. Ensure no pruning is done inside drip line. If pruning inside drip line is required consult an arborist or Canadian Certified Horticultural Technician (CCHT) as approved by Departmental Representative.
5. Departmental Representative must inspect Contractor's protective measures prior to beginning work. If necessary the Departmental Representative will request to have branches over work zone trimmed by specialized personnel. Trimming must be supervised based on guidelines provided to the workers.
6. The Contractor will be penalized if trees to be preserved are damaged. A sum of money has been determined for each injury to the trees, as indicated below:



1. Surface of injury ranging between 0 and 100 cm² 150,00 \$
2. Surface of injury ranging between 100 and 200 cm² 300,00 \$
3. Surface of injury larger than 200 cm² 600,00 \$
7. If an injury is larger than 50% of the total circumference of the tree trunk, the Departmental Representative will consider the tree a total loss and compensation will be established according to the method used by the International Society of Arboriculture - Québec inc. (Resolution CE-86-1682).
8. Protective measures must be applied during the construction period for work exceeding two days.
9. Contractor must install construction fence 1.2 metres high and 3 metres minimum distance from trunk, wooded area, tree or trees and shrubs to be preserved, as indicated by Departmental Representative. Fencing may also be located outside drip line, as specified by Consultant. Fencing (high density polyethylene 35 KN) must be attached to steel stakes spaced every two metres.
10. Where fencing cannot be installed, trees identified by the supervisor with 1.8 metre planks around the trunks. Secure planks with plastic or steel straps cushioned with rubber such as tire rubber.
11. If trees are damaged during work, the Contractor shall take full responsibility including financial compensation for the loss of value of the damaged trees based on the method used by the Société internationale d'arboriculture – Québec inc. (resolution CE-86-1682). Repairs are at the Contractor's expenses. The Departmental Representative shall determine the cost without recourse.
12. Remove tree and shrub roots exposed or damaged by excavation or removal of existing structures by specialized personnel and as indicated by Departmental Representative. Use clean cuts or tree surgery.

3.2 PROTECTIVE FENCING

1. Use fence to identify tree protection zone. Mobile fencing is allowed inside work zone provided root systems are protected inside drip line.
2. Orange plastic snow fence, approximately 1,200 mm high supported by steel stakes. Maintain throughout work.

3.3 TRUNK PROTECTION

1. Prior to work carried out near trees and as indicated by Departmental Representative, protect tree trunks from ground level to tree limbs using planks installed around trunk and secured with metal straps. Rubber bands must be installed between the trunk and the wooden parts.

3.4 SOIL COMPACTION PREVENTION

1. All of the trees located near the excavation area will be protected, whenever possible, with fences around the perimeter of the tree root protection zone (the circumference of the tree crown projected to the ground). In the traffic areas within the tree root protection zone, the Contractor will place a 300 mm thick layer of material that will not compact the soil, e.g. wood chips, steel sheets, crushed stone or a combination of the two, on top of a geotextile membrane pervious to air and water, in accordance with the recommendations of the CCBN' representative.

3.5 ROOT CURTAIN SYSTEM

1. Identify limits for required construction excavation as approved by Departmental Representative. Notify the latter at least 48 hours in advance in order to ensure the attendance of the CCBN arborist.
2. Prior to construction excavation, 300 mm wide x 600 mm deep, along perimeter of excavation limits.



3. Contractor will prune exposed roots cleanly at side of trench nearest plants to be preserved according to the recommendations of the CCBN arborist. CCBN arborist must be on site when cut of roots bigger than 25mm of diameter is made. The Contractor will have to apply a wax for the wounds of some interventions that will be more important.
4. Install wooden posts and welded wire fabric against construction edge of trench.
5. Securely attach Type 2 filter fabric on plant side of wire mesh.
6. Prepare homogeneous mixture of fertilizer, parent material and organic matter.
 1. Add organic matter to mixture to achieve 7-9% organic matter content by weight.
 2. Incorporate with mixture grade 2:12:8 ratio fertilizer (dry) at rate of 1.5]kg/m³.
7. Backfill with homogeneous mixture between curtain wall and plants to be preserved in layers not exceeding 150 mm in depth. Compact each layer to 85% Standard Proctor Density.
8. Protect root curtain from damage during construction operations.
9. Water plants and root curtain sufficiently during construction to maintain optimum soil moisture condition until backfill operations are complete.
10. Protect root curtain before and during backfill operations.

3.6 TRENCHING AND TUNNELING FOR UNDERGROUND SERVICES

1. Centre line location and limits of trench/tunnel excavation to be approved by Departmental Representative prior to excavation. Notify the Departmental Representative at least 48 hours in advance in order to ensure the attendance of the CCBN arborist.
2. Excavate manually within zone of root system. Contractor will prune the roots in accordance with the excavation work according to the recommendations of the CCBN arborist. At no time will the Contractor sever roots himself during construction without presence of CCBN arborist.
3. Backfill for tunnel and trench to 85% Standard Proctor Density. Avoid damage to trunk and roots of tree.
4. Complete tunnelling and backfilling at tree within 2 weeks of beginning Work.

3.7 LOWERING GRADE AROUND EXISTING TREES

1. Begin Work in accordance with schedule approved by Departmental Representative.
2. Cut slope not less than 500 mm from tree trunk to new grade level or retaining wall.
3. Excavate to depths as indicated. Protect from damage root zone which is to remain.
4. Contractor will prune the roots in accordance with the recommendation of the CCBN arborist.
5. Prepare homogeneous soil mixture consisting by volume of:
 1. 60% excavated soil cleaned of roots, plant matter, stones, debris.
 2. 25% coarse, clean sterile sand.
 3. 15% organic matter.
 4. Grade 6-6-6 fertilizer at rate of 1.5 kg/m³.
6. Place soil mixture over area of excavation to finished grade level. Compact to 85%



7. Water entire root zone to optimum soil moisture level.
8. Install surface cover of sodding in accordance with Section 32 92 23 - Sodding.

3.8 PRUNING

1. If applicable, the Contractor will identify the branches located in areas where operating machinery may damage them. Pruning will be carried out solely by the CCBN with the Contractor in attendance prior to the latter's mobilization efforts. The Contractor will not permit pruning at the construction site. If additional pruning is required during construction, the Contractor will submit a written request to the Departmental Representative so that the latter may coordinate the work with the CCBN, which will carry out the additional pruning at the Contractor's expense.

3.9 WATERING

1. Water root system to prevent soil from drying along excavated areas.
2. Water root systems of trees as indicated by supervisor if weather conditions dry soil too quickly.
3. Water inside drip line minimum 15 cm deep, in stages until water has penetrated soil, to minimize run-off.
4. Water root systems two times per week and at the request of the CCBN during construction period or excavation when roots systems have been exposed. Water each tree 250 litres. However, the exact quantity will be evaluated by CCBN on site. The type of watering may be modified during construction based on site conditions.
5. The Contractor will water during the entire construction period. The installation of an automatic irrigation system with timer is required.

3.10 ROOT PROTECTION

1. Prior to construction, the Contractor will submit a tree root protection plan to the Departmental Representative, for approval. The plan will be produced by an arborist hired by the Contractor.

3.11 FERTILISATION

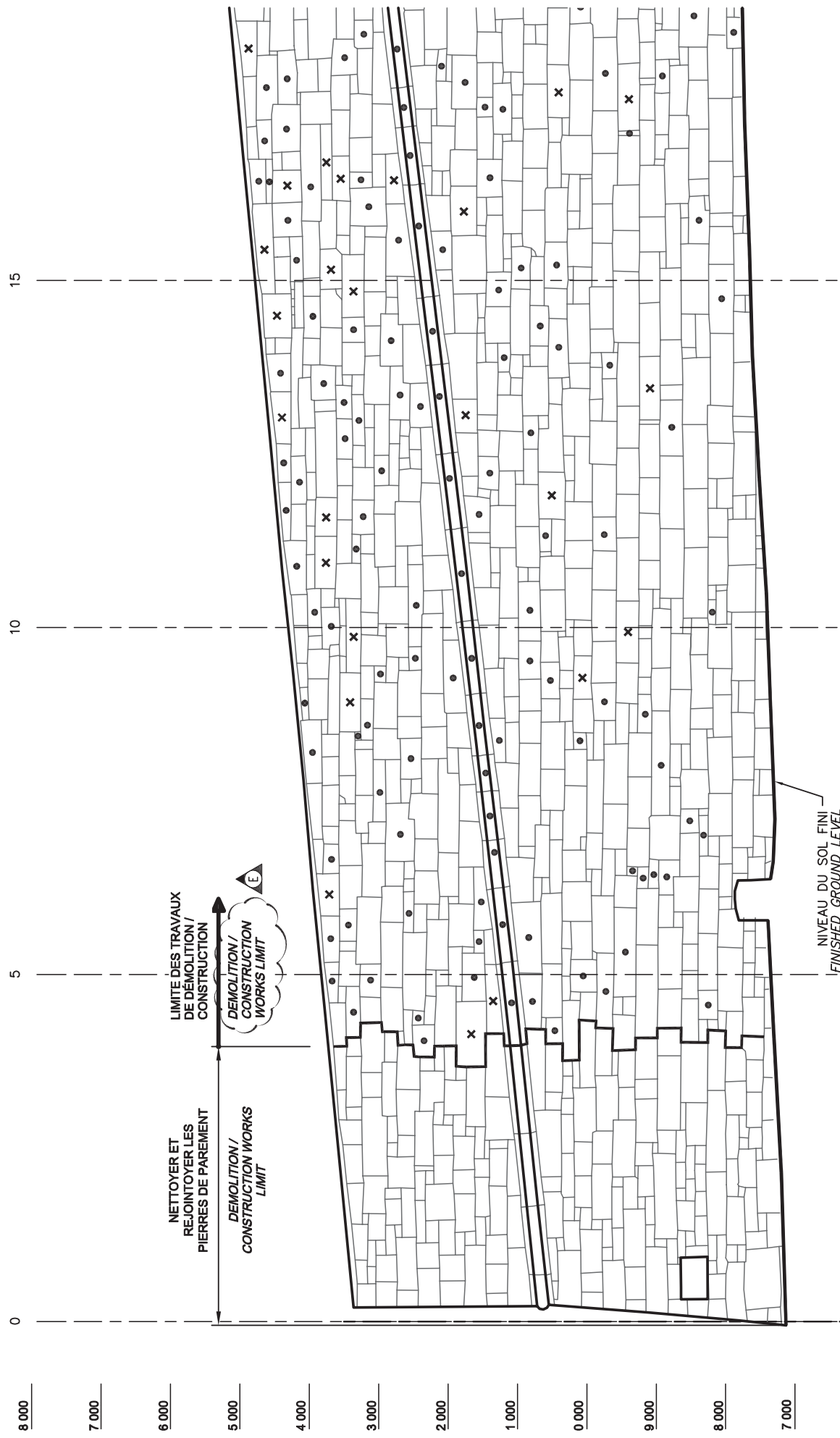
1. For the entire construction period, the CCBN arborist or the CCBN will visit the site in order to fertilize the trees. The Contractor will provide him with the necessary access.

END OF SECTION

LÉGENDE / LEGEND

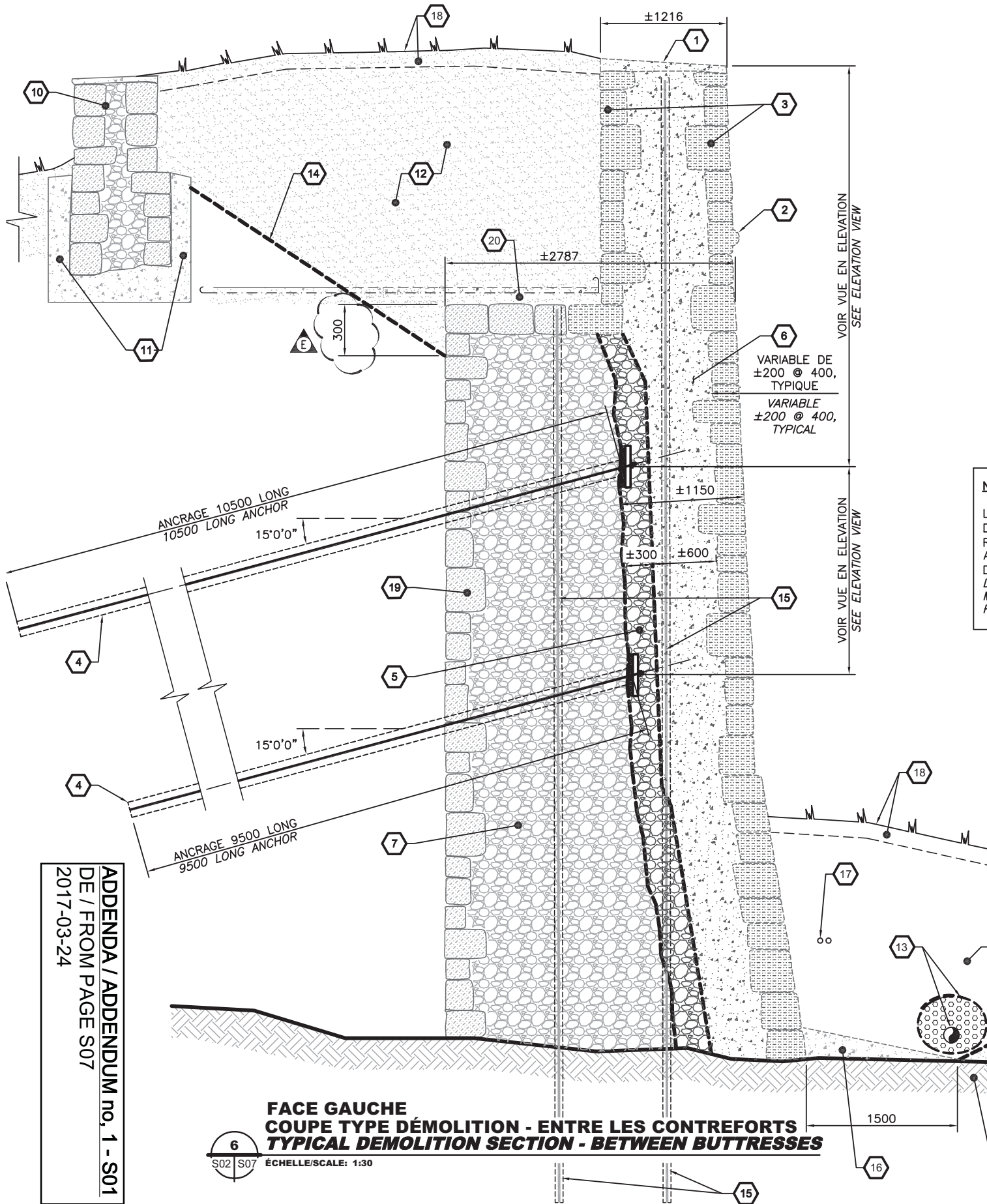
- PIERRE À REMPLACER
STONE TO REPLACE
- ✘ PIERRE DE GRANITE À CONSERVER
GRANIT STONE TO PRESERVE
- TROU DE BOULIN À REPRODUIRE
PUTLOG HOLE TO REPRODUCE





ÉLEVATION — MUR D'ESCARPE — FACE DROITE — PARTIE 1
ELEVATION — SCARP WALL — RIGHT FACE — PART 1
ÉCHELLE/SCALE: 1:50

ADDENDA / ADDENDUM no, 1 - S01
DE / FROM PAGE S06
2017-03-24



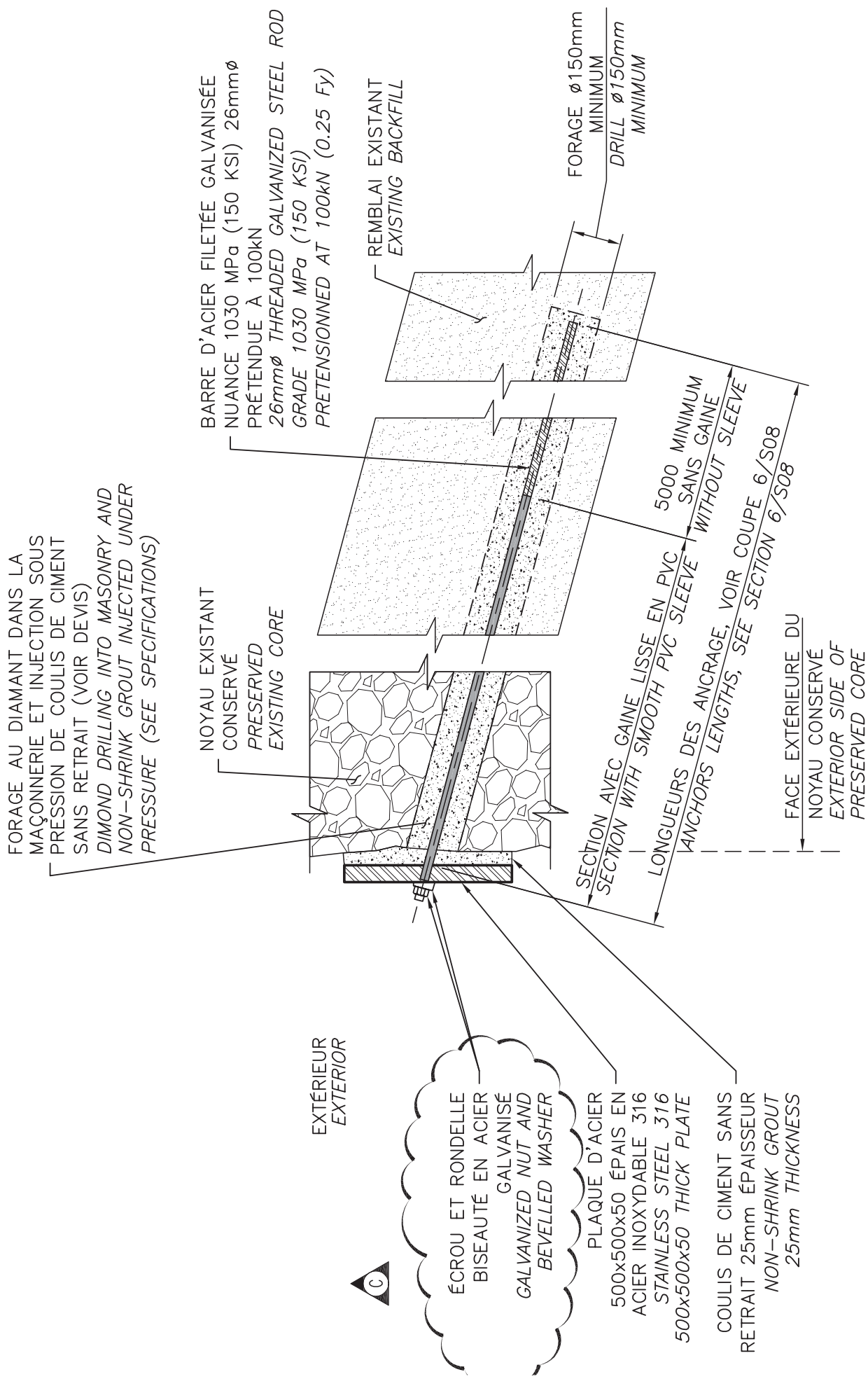
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ADDENDA / ADDENDUM no. 1 - S01
DE / FROM PAGE S07
2017-03-24



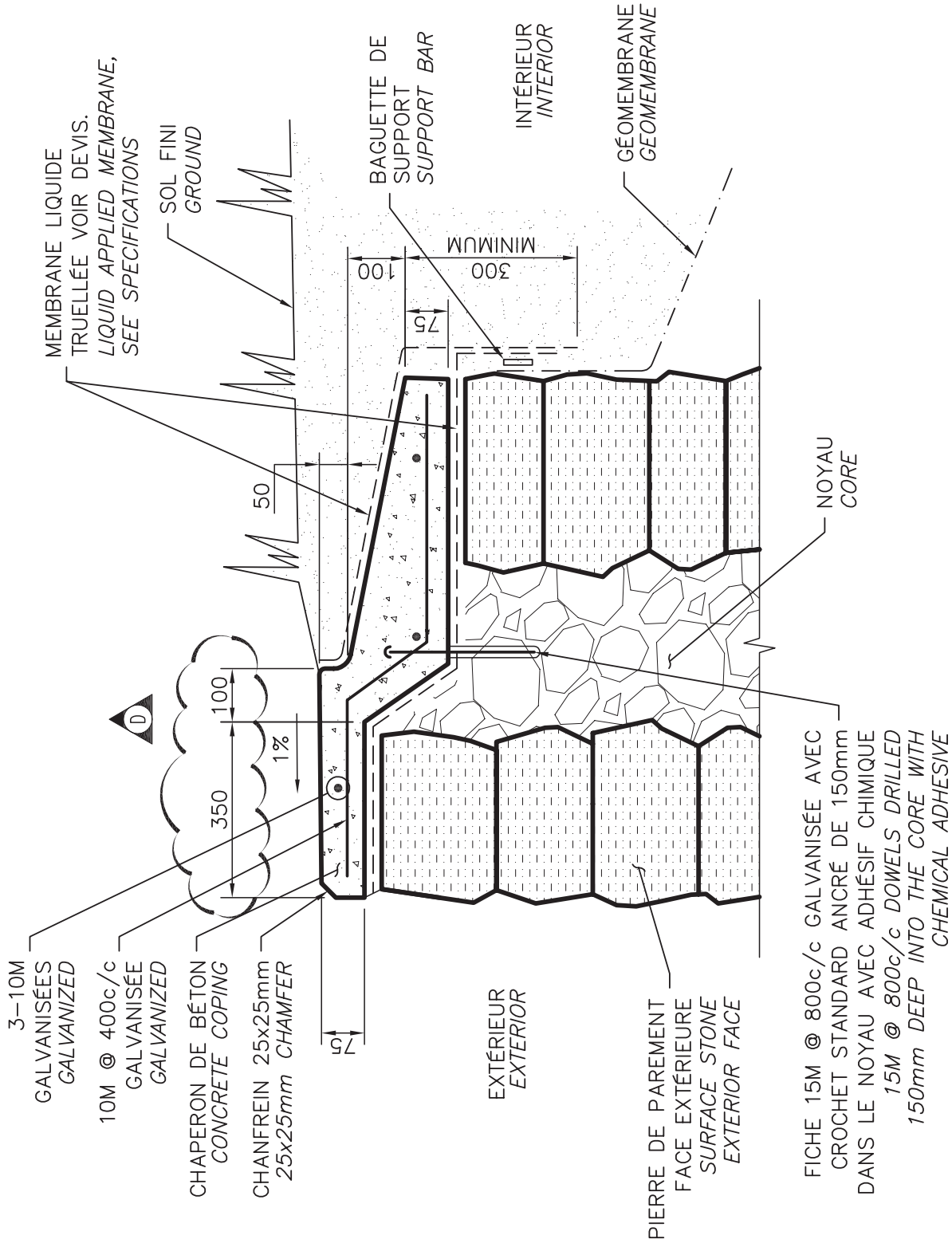
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2017-03-24



DÉTAIL D'ANCRAGES À SOL (FACE GAUCHE SEULEMENT BACKFILL ANCHOR DETAIL (LEFT FACE ONLY))

ÉCHELLE/SCALE: 1:15



DÉTAIL NOUVEAU CHAPERON NEW COPING DETAIL

ÉCHELLE/SCALE: -

ADDENDA / ADDENDUM no, 1 - S01

DE / FROM PAGE S11

2017-03-24



ÉCHELLE/SCALE: -