

Canada Parks Agency
REHABILITATION LACHINE CANAL WALLS
REPAIR AND REPLACEMENT OF THE CROWNING
WALLS AND SEAT REPAIRS
(Areas 13.1, 13.2, 13.3, 13.4, 13.5 and 13.6 – Reach No 4)
Project N° CLAC-1455-04
Addendum n° 02

THIS ADDENDUM COMPLETES, MODIFIES OR ELIMINATES CERTAIN ELEMENTS OF THE TENDER DOCUMENTS, WHICH THE ADDENDUM REFERS TO. IT IS AN INTEGRAL PART OF THE TENDER DOCUMENTS.

MODIFICATIONS ON PLANS AND SPECIFICATIONS

The current precisions are provided, following questions received from contractors during the site visit, and other written questions received.

1. EXISTING LIGHTING NETWORK PRECISION:

1.1 Existing lighting network :

- If the street lights conflict with the Contractor's work method, foresee temporary dismantling, storage and reinstallation. This includes labor, equipment, protection of the bases and power supply of the loop and any other elements required for such work;
- The power supply for the lamp posts (control panels) of each of the "J and H" loops is indicated on the drawings by the legend "PC". For example: The "H" loop power control panel is marked with "PCH" (see Contaminated Soil Leaflets in this addendum for location).
- If the street lights conflict with the Contractor's work method, they do not need to be working during the construction period.

1.2 Sequence of works :

- The work of the "J" floor lamp loop (wall section B4-N-34.b to B4-N-36.a) has to be completed seven (7) weeks after the award letter.

1.3 Snow Removal:

- Parks Canada does not plow. If this activity is necessary for the Contractor's work method, it will have to be done at his expense.

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2. PLANS

2.1 Replacement of the plans:

- Sheet 01 is cancelled and replaced by sheet 01 revision No. 01. See plan in annex of this addendum.
- Sheet 02 is cancelled and replaced by sheet 02 revision No. 01. See plan in annex of this addendum.
- Sheet 05 is cancelled and replaced by sheet 05 revision No. 01. See plan in annex of this addendum.
- Sheet 09 is cancelled and replaced by sheet 09 revision No. 01. See plan in annex of this addendum.
- Sheet 10 is cancelled and replaced by sheet 10 revision No. 01. See plan in annex of this addendum.
- Sheet 11 is cancelled and replaced by sheet 11 revision No. 01. See plan in annex of this addendum.
- Sheet 13 is cancelled and replaced by sheet 13 revision No. 01. See plan in annex of this addendum.
- Sheet 15 is cancelled and replaced by sheet 15 revision No. 01. See plan in annex of this addendum.

3. SPECIFICATIONS

3.1 Replacement of section 01 11 00 Summary of work:

The section 01 11 00 Summary of work is cancelled and replaced by the section 01 11 00 Summary of work revision 01. See the section appended to this addendum.

3.2 Replacement of section 01 29 00 Payment procedures:

The section 01 29 00 Payment procedures is cancelled and replaced by the section 01 29 00 Payment procedures revision 01. See the section appended to this addendum.

3.3 Replacement of section 01 35 43 Environmental procedures:

The section 01 35 43 Environmental procedures is cancelled and replaced by the section 01 35 43 Environmental procedures revision 01. See the section appended to this addendum.

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3.4 Replacement of section 01 52 00 Construction facilities:

The section 01 52 00 Construction facilities is cancelled and replaced by the section 01 52 00 Construction facilities revision 01. See the section appended to this addendum.

3.5 Replacement of section 31 23 33.01 Excavating, trenching and backfilling:

The section 31 23 33.01 Excavating, trenching and backfilling is cancelled and replaced by the section 31 23 33.01 Excavating, trenching and backfilling revision 01. See the section appended to this addendum.

3.6 Modifications of specifications, Addition of annex:

- Addition of annex V – Contaminated soil Plans. See the plans appended to this addendum.
- Addition of annex VI – List of trees. See the list appended to this addendum.
- Addition of annex VII – Details Guard Rail. See the details appended to this addendum.

4. TENDER FORM

4.1 Replacement of tender form :

The bilingual tender form is cancelled and replaced by the bilingual tender form revision 01. See tender form appended to this addendum.

5. QUESTIONS

5.1 Question no.01 : Following today's visit to the Lachine Canal (sections 13.1 to 13.6), it was mentioned that the required demolition of the seat (repair type 1) was of the order of 200 mm. However, in the 10/35 sheet it is mentioned that only a bush hammering (10 mm) is required. Please specify.

The required demolition depth of the seat is 200 mm minimum. See Plan 10 Revision # 01 to this Addendum.

5.2 Question no.02 : Specification, detail and section of the new lower and upper rail guards to provide: Outside Diameter, Wall Thickness and Detail of Sleeves.

Refer to section 2.2 of Section 01 11 00 Summary of Work and Annex VII - Details Body Guard.

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5.3 Question no.03 : Specification, detail and section of the new guardrails of the 2 stairs.

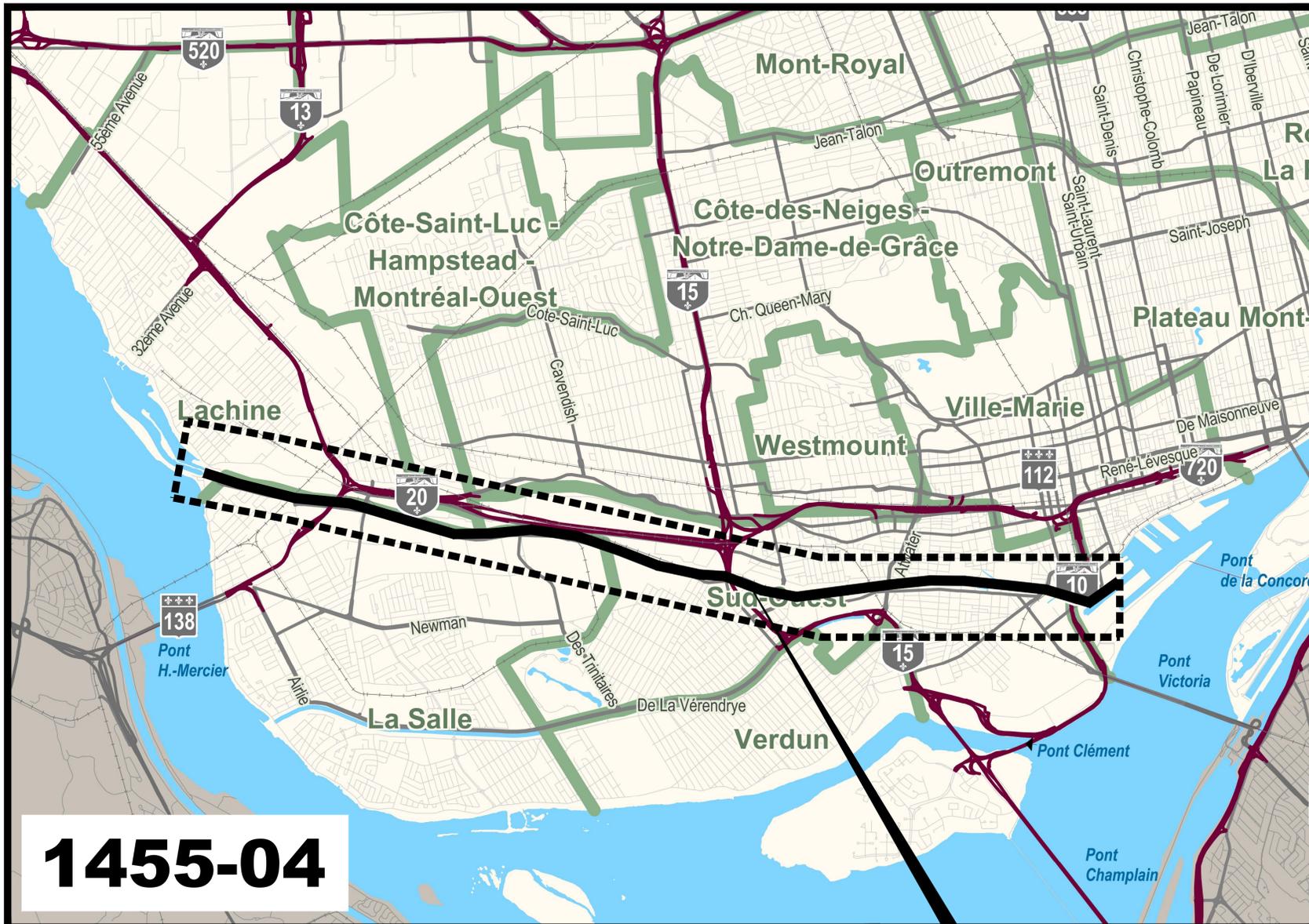
Refer to section 2.2 of Section 01 11 00 Summary of Work and Annex VII - Details Body Guard.

5.4 Question no.04 : Specification, detail and cross-section of the new railings to be supplied section 2 ' : External diameter, Wall thickness and Detail of the sleeves.

Refer to section 2.2 of Section 01 11 00 Summary of Work and Annex VII - Details Body Guard.

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Plans



1455-04

PLAN DE LOCALISATION / LOCATION PLAN

**CANAL DE LACHINE
LACHINE CANAL**

RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES (SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4)

REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 AND 13.6 / REACH No 4)

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DRAWING LIST:

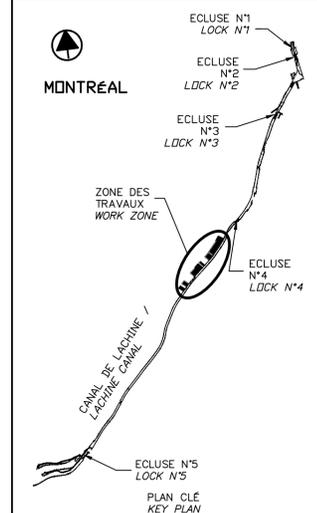
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N/D: 159000023 Stantec Experts-conseils Inc.



SCEAUX / SEALS

02	EMIS POUR ADDENDA #2 ISSUED FOR ADDENDUM #2	2017-09-07
01	ADDENDA #1 - CHANGEMENT DE DATE ADDENDUM #1 - CHANGE DATE	
00	EMIS POUR SOUMISSION ISSUED FOR SUBMISSION	2017-08-22
révisions / revisions		date

Projet / Project
**PARCS CANADA
PARKS CANADA**

**RÉPARATION ET REMPLACEMENT DE
MURS DE COURONNEMENT ET
RÉPARATION D'ASSISES**
(SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4)

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CROWNING WALLS AND SEAT REPAIR**
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Dessin / Drawing

**STRUCTURE
STRUCTURE**

PAGE FRONTISPICE

FRONT PAGE

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Martin Champagne, ing. 2017-02-09
Date

Dessiné par / Drawn by
Caroline Plouffe, Gabriel Blanchette 2017-02-09
Date

Approuvé par / Approved by
Jérôme Aubin, ing. 2017-02-09
Date

Soumission / Tender
Dominic Pierre, ing. 2017
Administrateur de projets APC / PCA Project Manager

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No feuillet / Drawing no
01 / 35

CE DOCUMENT NE DOIT PAS
ÊTRE UTILISÉ À DES FINS DE
CONSTRUCTION

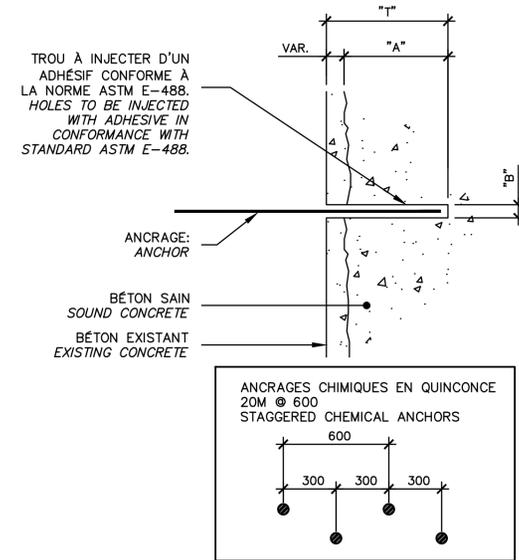
THIS DOCUMENT MUST NOT
BE USED FOR CONSTRUCTION

NOTES GÉNÉRALES

- TOUS LES TRAVAUX DOIVENT ÊTRE EXÉCUTÉS CONFORMÉMENT AUX CODES DE CONSTRUCTION EN VIGUEUR (PROVINCIAL ET FÉDÉRAL).
- SE RÉFÉRER UNIQUEMENT AUX DIMENSIONS INDIQUÉES AUX PLANS. NE PAS MESURER LES PLANS À L'ÉCHELLE. TOUTES LES DIMENSIONS SONT EN MILLIMÈTRES ET APPROXIMATIVES, SAUF INDICATIONS CONTRAIRES.
- TOUTES LES DIMENSIONS DOIVENT ÊTRE VÉRIFIÉES AU CHANTIER PAR L'ENTREPRENEUR. L'ENTREPRENEUR GÉNÉRAL ET/OU SES SOUS-TRAITANTS NE SONT PAS AUTORISÉS À INTERPRÉTER, S'IL Y A LIEU, LES OMISSIONS OU CONTRADICTIONS ENTRE LES PLANS ET DEVIS DES PROFESSIONNELS. SEULE UNE QUESTION ÉCRITE DE LA PART DE L'ENTREPRENEUR SERA CONSIDÉRÉE ET RÉPONDUE PAR ADDENDA LORS DE LA PÉRIODE DE SOUMISSION PAR LES PROFESSIONNELS. SI DES INTERPRÉTATIONS SONT SOULEVÉES LORS DES TRAVAUX, L'AVIS DES PROFESSIONNELS SEUL PRÉVAUDRA.
- L'ENTREPRENEUR DEVRA, À SES FRAIS, DÉPLACER TOUT OBSTACLE NUISANT À LA RÉALISATION DE SES TRAVAUX ET REMETTRE LES LIEUX AINSI QUE LES ÉQUIPEMENTS DANS LEURS ÉTATS ORIGINAUX ET CE, À LA SATISFACTION DU CLIENT.
- L'ENTREPRENEUR DOIT VISITER LES LIEUX ET S'Y FAMILIARISER COMPLÈTEMENT AVANT DE SOUMISSIONNER.
- L'ENTREPRENEUR GÉNÉRAL DOIT VÉRIFIER TOUTES LES DIMENSIONS SUR LE CHANTIER, ÉTABLIR LA COORDINATION ENTRE LES DIVERSES DISCIPLINES ET AVISER L'INGÉNIEUR DE TOUTE NON CONCORDANCE POUR REVERIFICATION.
- DURANT LES TRAVAUX, L'ENTREPRENEUR EST RESPONSABLE DE TOUT DOMMAGE CAUSÉ AUX OUVRAGES EXISTANTS PAR SES EMPLOYÉS OU D'AUTRES PERSONNES SOUS SES ORDRES ET IL DOIT LES RÉPARER À SES FRAIS DURANT L'EXÉCUTION DES TRAVAUX. L'ENTREPRENEUR DOIT GARDER LES LIEUX PROPRES ET LIBRES DE TOUS DÉBRIS.
- UTILISER UNE SCIE LORSQUE LA DÉMOLITION DOIT SUIVRE UNE LIGNE OU UN PLAN.
- L'ENTREPRENEUR EST TENU D'AVISER LE PROPRIÉTAIRE DE TOUTE DÉFECTUOSITÉ OU DÉTERIORATION DANS L'EXISTANT À CONSERVER PENDANT LES TRAVAUX DE DÉMOLITION.
- À L'ENDROIT OÙ DES TRAVAUX DE DÉMOLITION SONT À EFFECTUER PRÈS DES OUVRAGES EXISTANTS, L'ENTREPRENEUR DEVRA PRENDRE LES PRÉCAUTIONS NÉCESSAIRES POUR NE PAS DÉRANGER OU ENDOMMAGER D'AUCUNE FAÇON CES OUVRAGES. L'ENTREPRENEUR EST RESPONSABLE DE TOUT BRIS ET DOIT RÉPARER À SES FRAIS.
- LES MATÉRIAUX DE DÉMOLITION DEVIENNENT LA PROPRIÉTÉ DE L'ENTREPRENEUR ET DOIVENT ÊTRE ÉVACUÉS HORS DU SITE QUOTIDIENNEMENT, EN RESPECTANT LES EXIGENCES DES AUTORITÉS COMPÉTENTES.
- ENTREPRENDRE LA DÉMOLITION DES OUVRAGES DANS L'ÉTAT OÙ ILS SONT AU MOMENT DE L'INSPECTION DU CHANTIER SELON LE RELEVÉ PHOTOGRAPHIQUE AU DEVIS.
- L'ENTREPRENEUR DEVRA PRÉVOIR UN SYSTÈME DE PROTECTION AFIN D'ÉVITER LA CHUTE DE DÉBRIS, OU DEVERSEMENT D'EAU USÉE DANS LE CANAL. (AUCUN DÉBRIS, NI EAU USÉE NE SERA ACCEPTÉ DANS LE CANAL).
- JOINTS : L'ENTREPRENEUR NE POURRA EN AUCUN CAS AJOUTER, RETRANCHER OU DÉPLACER UN JOINT DE CONSTRUCTION, DE DILATATION OU DE CONTRÔLE SANS AUTORISATION ÉCRITE DE L'INGÉNIEUR.
- TOUT L'ACIER D'ARMATURE EXISTANT APPARENT DEVRA ÊTRE NETTOYÉ AU JET DE SABLE AVANT LA MISE EN PLACE DU NOUVEAU BÉTON.
- IL EST DE LA RESPONSABILITÉ DE L'ENTREPRENEUR DE VÉRIFIER LA PRÉSENCE DE TOUS LES SERVICES PUBLICS SUR LE SITE DES TRAVAUX (BELL, GAZ METRO, CSEM, HQ, ETC.) ET DE LES PROTÉGER.
- LA POSITION DES LIMITES DE BÉTON EST APPROXIMATIVE. UNE VALIDATION SUR PLACE DOIT ÊTRE EFFECTUÉE PAR L'ENTREPRENEUR AVANT DE DÉBUTER LES TRAVAUX. CETTE VALIDATION DEVRA ÊTRE FAITE CONJOINTEMENT AVEC LE REPRÉSENTANT DU MINISTÈRE.
- LA POSITION, LE DIAMÈTRE, LE PLIAGE ET LA QUANTITÉ DES BARRES D'ARMATURE EXISTANTES SONT INCONNUS ET DOIVENT ÊTRE VALIDÉS AU CHANTIER.
- LA MÉTHODE DE TRAVAIL DE L'ENTREPRENEUR DOIT ÊTRE INDÉPENDANTE DU NIVEAU DE L'EAU DANS LE CANAL.
- L'ENTREPRENEUR DOIT PRÉVOIR L'ENLÈVEMENT PARTIEL ET LA RÉINSTALLATION DE SECTIONS DE GLISSIÈRES MÉTALLIQUES AFIN D'ACCÉDER AUX ZONES DE TRAVAUX.
- AUCUN TIRANT DE COFFRAGE APPARENT NE PEUT ÊTRE MIS EN PLACE SAUF POUR LES RÉPARATIONS SANS SURÉPAISSEUR.
- LES CHANFREINS DOIVENT ÊTRE ARRONDIS TEL QUE L'EXISTANT, LE DIAMÈTRE DES CHANFREINS N'EST PAS STANDARD. L'ENTREPRENEUR DOIT VALIDER LE DIAMÈTRE DES ARRONDIS.
- ENLÈVEMENT DU BÉTON LÂCHE ET NETTOYAGE DES CAVITÉS (TYP.).
- TOUT L'ACIER DOIT ÊTRE GALVANISÉ.
- À NOTER QUE LA PEINTURE DES GARDE-CORPS (LISSES ET POTEAUX) ET BOLLARDS CONTIENT DU PLOMB. L'ENTREPRENEUR DOIT ADAPTER SON PRIX POUR TENIR COMPTE DES EXIGENCES DE LA CNESST EN MATIÈRE D'EXPOSITION AU PLOMB.
- LE MUR DOIT AVOIR LE MÊME EMPLACEMENT, ALIGNEMENT ET LE MÊME FORMAT QU'À L'ORIGINE. CERTAINS COURONNEMENT SONT DÉVERSÉS, L'ENTREPRENEUR DOIT ARPENTER LA BASE DE COURONNEMENT AFIN DE DÉTERMINER L'ALIGNEMENT D'ORIGINE.
- LES PENTES ET PROFILS EXISTANTS MONTRES SUR LES PLANS SONT À TITRE INDICATIF SEULEMENT. LES PENTES ET PROFILS EXISTANTS SONT VARIABLES ET DOIVENT ÊTRE RELEVÉS PRÉCISÉMENT PAR L'ENTREPRENEUR POUR LA PRÉPARATION DES DESSINS D'ATELIER.
- POUR LES LIMITES DE PROPRIÉTÉS DE L'AGENCE PARCS CANADA ET DES ZONES DE MOBILISATION AUTORISÉES SUR LES TERRAINS DE L'AGENCE PARCS CANADA, SE RÉFÉRER AUX ANNEXES DU DEVIS.

GENERAL NOTES

- ALL WORK MUST BE CARRIED OUT IN ACCORDANCE WITH IN EFFECT CONSTRUCTION CODE (PROVINCIAL AND FEDERAL).
- REFER SOLELY TO THE DIMENSIONS INDICATED ON PLANS. DO NOT MEASURE THE PLANS TO SCALE. ALL DIMENSIONS ARE IN MILLIMETRES AND APPROXIMATIVE, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR MUST VERIFY ALL DIMENSIONS ON-SITE. THE GENERAL CONTRACTOR AND/OR HIS SUBCONTRACTORS ARE NOT AUTHORIZED TO INTERPRET, IF APPLICABLE, OMISSIONS OR CONTRADICTIONS BETWEEN THE PLANS AND SPECIFICATIONS PREPARED BY THE PROFESSIONALS. ONLY QUESTIONS SUBMITTED IN WRITING BY THE CONTRACTOR WILL BE CONSIDERED AND ANSWERED BY THE PROFESSIONALS IN THE FORM OF AN ADDENDUM DURING THE TENDER PERIOD. IF INTERPRETATIONS ARE PUT FORTH DURING THE EXECUTION OF THE WORK, THE OPINION OF THE PROFESSIONAL SHALL PREVAIL.
- THE CONTRACTOR MUST, AT HIS EXPENSE, DISPLACE ANY OBSTACLE IMPEDING HIS WORK AND RESTORE THE PREMISES AND EQUIPMENT TO THEIR ORIGINAL STATE AND TO THE CLIENT'S SATISFACTION.
- THE CONTRACTOR MUST VISIT THE SITE AND FAMILIARIZE HIMSELF COMPLETELY WITH SITE CONDITIONS BEFORE SUBMITTING A BID.
- THE GENERAL CONTRACTOR MUST VERIFY ALL OF THE DIMENSIONS ON-SITE, ENSURE COORDINATION BETWEEN THE VARIOUS DISCIPLINES AND NOTIFY THE ENGINEER OF ANY INCONSISTENCIES FOR RE-VERIFICATION.
- DURING THE WORKS, THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE CAUSED TO EXISTING STRUCTURES BY HIS EMPLOYEES OR BY OTHER PERSONS UNDER HIS SUPERVISION, AND MUST REPAIR THEM AT HIS EXPENSE. THE CONTRACTOR MUST KEEP THE PREMISES CLEAN AND FREE OF ALL DEBRIS.
- USE A SAW WHEN THE DEMOLITION MUST FOLLOW A LINE OR A PLANE.
- THE CONTRACTOR IS REQUIRED TO NOTIFY THE OWNER OF ANY DEFECT OR DETERIORATION IN THE EXISTING STRUCTURE TO BE PRESERVED DURING THE DEMOLITION WORK.
- WHERE DEMOLITION WORK IS REQUIRED NEAR EXISTING STRUCTURES, THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS SUCH AS NOT TO DISTURB OR DAMAGE THESE STRUCTURES IN ANY WAY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE AND WILL REPAIR THESE AT HIS EXPENSE.
- DEMOLITION MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR AND MUST BE TAKEN OFF-SITE ON A DAILY BASIS, IN COMPLIANCE WITH THE REQUIREMENTS OF COMPETENT AUTHORITIES.
- UNDERTAKE THE DEMOLITION OF THE STRUCTURES AS THEY WERE AT THE TIME OF THE SITE INSPECTION WHICH WAS CARRIED OUT PRIOR TO SUBMITTING THE BID.
- THE CONTRACTOR MUST FORESEE A PROTECTION SYSTEM TO AVOID FALLING DEBRIS OR WASTE WATER DEVERSEMENT IN THE CANAL. (DEBRIS AND WASTE WATER WILL NOT BE ACCEPTED IN THE CANAL.)
- JOINTS: IN NO CASE MAY THE CONTRACTOR ADD, REMOVE OR MOVE A CONSTRUCTION, EXPANSION OR CONTROL JOINT WITHOUT THE ENGINEER'S WRITTEN AUTHORIZATION.
- ALL EXISTING AND APPARENT STEEL REINFORCEMENTS MUST BE CLEANED WITH A SAND BLAST BEFORE POURING NEW CONCRETE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE PRESENCE OF ALL THE PUBLIC SERVICES ON SITE (BELL, GAZ METRO, CSEM, HQ, ETC.) AND TO PROTECT THEM.
- THE POSITION OF THE CONCRETE LIMITS ARE APPROXIMATE. A VALIDATION ON SITE MUST BE PERFORMED BY THE CONTRACTOR WITH THE MINISTRY REPRESENTATIVE BEFORE BEGINNING THE WORKS.
- THE POSITION, THE DIAMETER, THE BENDING AND THE QUANTITY OF EXISTING REBARS ARE UNKNOWN AND SHALL BE VALIDATED ON SITE.
- THE CONTRACTOR'S WORKING METHOD MUST BE INDEPENDANT FROM THE CANAL'S WATER LEVEL.
- THE CONTRACTOR MUST FORESEE THE PARTIAL REMOVAL AND REINSTALLATION OF METALLIC RAILINGS TO BE ABLE TO ACCESS TO WORKING ZONE.
- NO VISIBLE FORMWORK TIE-RODS MAY BE INSTALLED EXCEPT FOR THE REPARATION WITHOUT EXTRA THICKNESS.
- CHAMFER AND ROUNDING MUST BE AS PER EXISTING, THE DIAMETER OF CHAMFER IS NOT STANDARD. THE CONTRACTOR HAVE TO VALIDATE THE ROUNDING DIAMETER.
- REMOVAL OF LOOSE CONCRETE AND CAVITY CLEANING (TYP.)
- ALL REINFORCING STEEL MUST BE GALVANISED.
- NOTE THE PAINT OF RAILINGS (GUARDRAILS AND POST) AND BOLLARDS CONTAINS LEAD. THE CONTRACTOR HAVE TO ADAPT HIS PRICE TO TAKE ACCOUNT THE CNESST REQUIREMENTS IN TERM OF LEAD EXPOSURE.
- THE WALL MUST TO HAVE THE SAME LOCATION, ALIGNMENT AND THE SAME SIZE AS ORIGINALLY. SOME CROWNING WALL ARE OVERTURNED, THE CONTRACTOR MUST SURVEY THE BASE OF THE CROWNING WALL IN ORDER TO DETERMINE THE ORIGINAL ALIGNMENT.
- THE EXISTING SLOPES AND PROFILES SHOWN ON PLANS ARE FOR INFORMATION ONLY. REAL PROFILES AND SLOPES ARE VARIABLES AND MUST BE SURVEYED BY THE CONTRACTOR FOR THE PREPARATION OF SHOP DRAWING.
- REFER TO THE APPENDIX OF THE SPECIFICATION FOR PROPERTY LIMIT AND AUTHORIZED ACCESS ZONE OF PARCS CANADA.



NOTE A:
LES PROFONDEURS D'ENFONCEMENT FOURNIES DANS LE TABLEAU 2 ONT ÉTÉ DÉTERMINÉES EN FONCTION DE LA QUALITÉ ANTICIPÉE DU SUBSTRAT EXISTANT. LA LONGUEUR DES ANCRAGES EFFECTIVE DEVRA ÊTRE SUFFISANTE POUR PERMETTRE L'ATTEINTE DE LA LIMITE ÉLASTIQUE DES BARRES INDIQUÉE AU TABLEAU. LA PROFONDEUR EFFECTIVE DE L'ANCRAGE DEVRA ÊTRE AJUSTÉE EN FONCTION DU SUBSTRAT ET DE SA QUALITÉ.

EMBEDMENT DEPTHS PROVIDED IN THE TABLE 2 WERE DETERMINED ACCORDING TO THE QUALITY OF THE EXISTING SUBSTRATUM. THE EFFECTIVE LENGTH OF THE ANCHORS MUST BE SUFFICIENT TO REACH THE ELASTIC LIMIT OF THE BARS INDICATED IN THE TABLE. THE EMBEDMENT DEPTH MUST BE ADJUSTED ACCORDING TO THE EXISTING CONDITION AND SUBSTRATUM.

NOTE B:
LE DIAMÈTRE DES TROUS DOIT ÊTRE CONFORME AUX RECOMMANDATIONS DU MANUFACTURIER.
THE DIAMETER OF HOLES MUST RESPECT THE RECOMMANDATIONS OF THE MANUFACTURER.

NOTE C:
LES PROFONDEURS D'ENFONCEMENT DU TABLEAU NE COUVRENT PAS LES ANCRAGES 15M DE RÉPARATION DE COURONNEMENT. VOIR PLAN DE RÉPARATION DE COURONNEMENT POUR DÉTAIL.
EMBEDMENT DEPTHS IN TABLE 2 DO NOT INCLUDE THE 15M ANCHORS OF CROWNING REHABILITATION. SEE DRAWING OF CROWNING REHABILITATION FOR DETAIL.

**ANCRAGE - DÉTAIL TYPIQUE
ANCHOR - TYPICAL DETAIL**

NON À L'ÉCHELLE NOT TO SCALE

DIAMÈTRE DES BARRES BAR DIAMETERS	BÉTON CONCRETE EXIST.	"A" (mm)	LIMITE ÉLASTIQUE ELASTIC LIMIT (kN)	"B" (mm)
10M	400	5	40	14
15M	730	5	80	20
20M	1000	5	120	25
25M	1720	5	200	28
30M	1960	5	280	37
35M	2290	5	400	40

*VOIR NOTE A "SEE NOTE A"
*VOIR NOTE B "SEE NOTE B"

**TABLEAU - PROFONDEUR D'ENFONCEMENT
EMBEDMENT DEPTH - TABLE**

NON À L'ÉCHELLE NOT TO SCALE

PARTIES DE L'OUVRAGE WORK PARTS	TYPE DE BÉTON DE CIMENT CEMENT CONCRETE TYPE	RÉSISTANCE @ 28 JOURS-MPa STRENGTH @ 28 DAYS-MPa
MUR DE COURONNEMENT ET CHASSE ROUE CROWNING WALL AND CURB	V-S	35
RÉFECTION DU MUR DE COURONNEMENT REHABILITATION OF THE CROWNING WALL	V-S	35
RÉPARATION DES ASSISES REPAIR OF CONCRETE SEATS	BÉTON PROJETÉ PAR PROCÉDÉ HUMIDE SHOTCRETE SPRAYED BY WET MIX METHOD	35

NOTE:
COUSSIN DE SUPPORT: BÉTON 1MPa OU ÉQUIVALENT APPROUVÉ SUPPORT PAD: CONCRETE 1MPa OR APPROVED EQUIVALENT

**TABLEAU DES CARACTÉRISTIQUES DU NOUVEAU BÉTON
NEW CONCRETE SPECIFICATIONS TABLE**

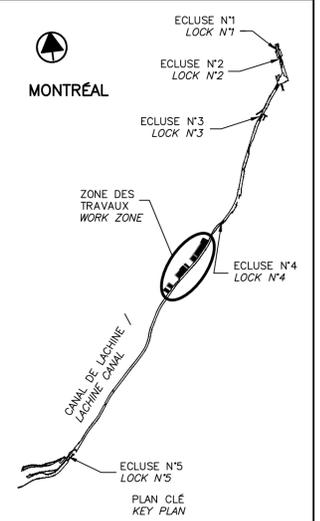
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Laval (Québec) H7V 2E4



SCEAUX SEALS

02	EMIS POUR ADDENDA #2 ISSUED FOR ADDENDUM #2	2017-09-07
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révisions revisions		date

Projet **PARCS CANADA PARKS CANADA** Project
RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES (SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4)
REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 AND 13.6 / REACH No 4)

Dessin **STRUCTURE STRUCTURE** Drawing

NOTES GÉNÉRALES
GENERAL NOTES

Conçu par **Martin Champagne, ing.** 2017-02-09
Date

Dessiné par **Caroline Plouffe, Gabriel Blanchette** 2017-02-09
Date

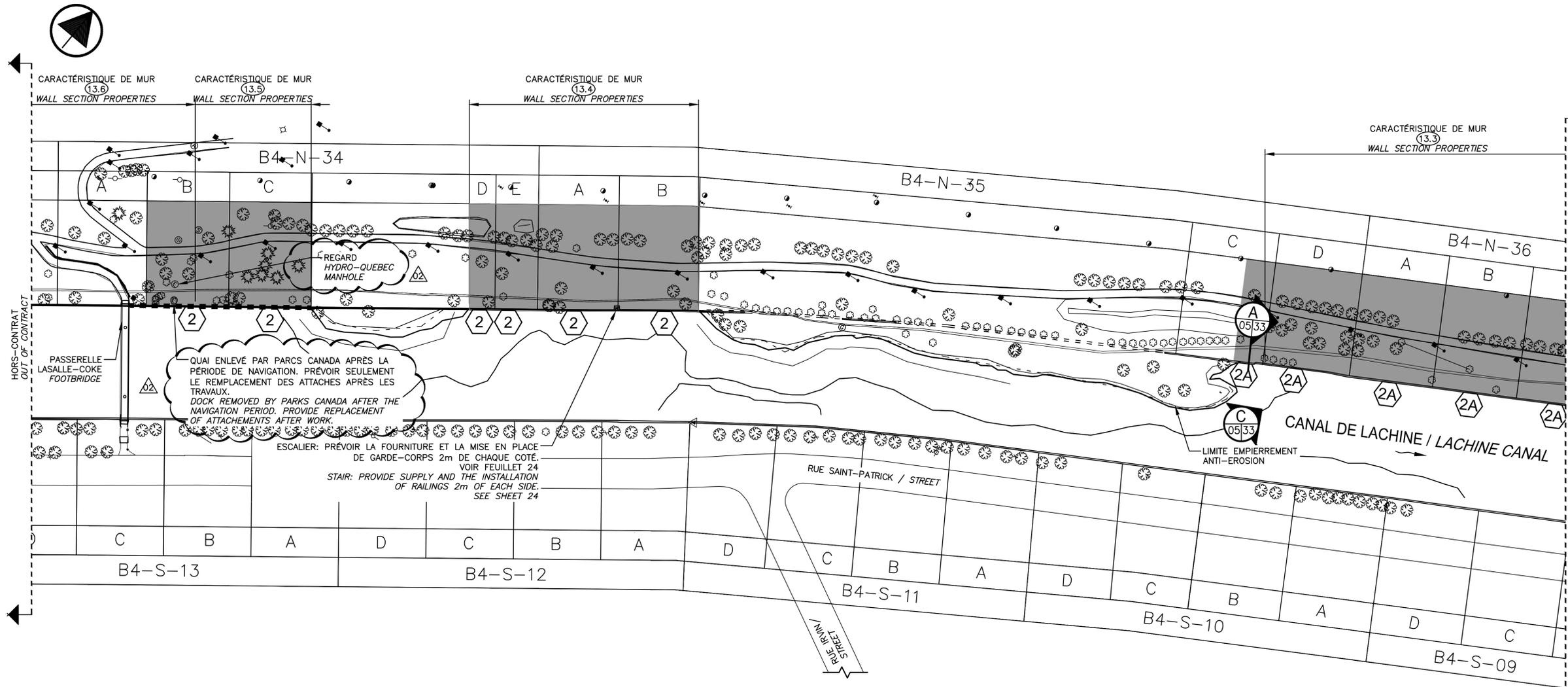
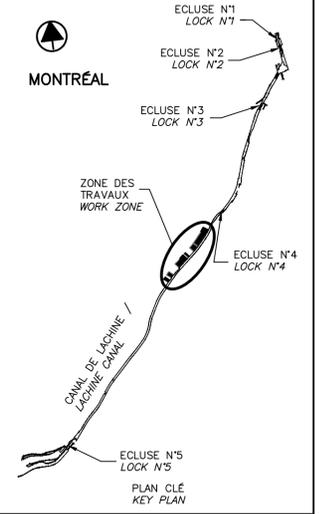
Approuvé par **Jérôme Aubin, ing.** 2017-02-09
Date

Soumission **Dominic Pierre, ing.** 2017
Tender Administrator de projets APC PCA Project Manager

No de projet **1455-04** Project number No de contrat Contract number APC PCA

Nom du fichier **CLAC-(1455-04)** File name No de classement

No de plan ou dessin **CL-32-117.02** File name No feuillet Drawing no



- = TYPE DE RÉPARATION OU DE REMPLACEMENT
= REPAIR OR REPLACEMENT TYPE
- = POTEAUX À RECONDITIONNER ET NOUVELLES LISSES À INSTALLER
= POST TO RECONDITION AND INSTALLED NEW GUARDRAILS

VUE EN PLAN AGRANDIE EXISTANT
 ENLARGED PLAN VIEW EXISTING
 ÉCH./SCALE 1:1000

révisions / revisions	date
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00	EMIS POUR SOUMISSION ISSUED FOR SUBMISSION 2017-08-22

Projet	PARCS CANADA / PARKS CANADA
Dessin	STRUCTURE

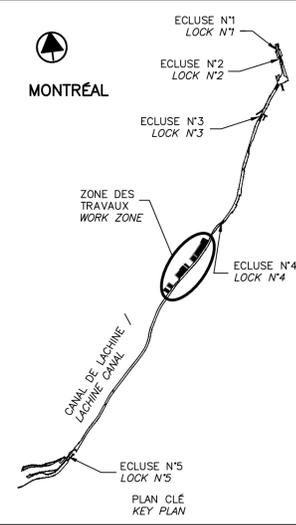
RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES
 (SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4)
 REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR
 (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 AND 13.6 / REACH No 4)

Conçu par Martin Champagne, ing. 2017-02-09
 Dessiné par Caroline Plouffe, Gabriel Blanchette 2017-02-09
 Approuvé par Jérôme Aubin, ing. 2017-02-09
 Soumission Dominic Pierre, ing. 2017
 Administrateur de projets APC PCA Project Manager

No de projet / Project number	1455-04	No de contrat / Contract number	
Nom du fichier / File name	CLAC-(1455-04)	No de classement / File no	
No de plan ou dessin / File name	CL-32-117.05	No feuillet / Drawing no	05/35

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SOUS-SECTION / SUB-SECTION	ITEMS SPÉCIFIQUES / SPECIFIC ITEMS	SOUS-SECTION / SUB-SECTION	ITEMS SPÉCIFIQUES / SPECIFIC ITEMS
B4-N-34-B	3 X ⊗, 1 X ○	B4-N-40-A	3 X ⊗
B4-N-34-C	3 X ⊗	B4-N-40-B	3 X ⊗, 1 X ■, 1 X ○
B4-N-34-D	1 X ⊗	B4-N-41-A	3 X ⊗, 2 X ■, 3 X ○, 1 X ▲
B4-N-34-E	3 X ⊗	B4-N-41-B	3 X ⊗, 3 X ○
B4-N-35-A	2 X ⊗, 1 X ■, 1 X ⊞	B4-N-41-C	3 X ⊗, 2 X ○
B4-N-35-B	2 X ⊗, 1 X ■	B4-N-41-D	3 X ⊗
B4-N-35-C	1 X ■	B4-N-42-A	3 X ⊗, 1 X ○
B4-N-35-D	3 X ⊗, 3 X ■, 1 X ○	B4-N-42-B	3 X ⊗, 2 X ■, 2 X ○, 2 X ⊞
B4-N-36-A	2 X ⊗, 3 X ■, 1 X ○	B4-N-42-C	2 X ⊗, 1 X ○
B4-N-36-B	3 X ⊗, 3 X ■, 1 X ○	B4-N-42-D	3 X ⊗, 2 X ○
B4-N-36-C	2 X ⊗, 3 X ■, 1 X ○	B4-N-43-A	3 X ⊗, 1 X ○
B4-N-36-D	3 X ⊗, 3 X ■, 1 X ○	B4-N-43-B	3 X ⊗, 1 X ○
B4-N-37-A	2 X ⊗, 3 X ■, 1 X ○	B4-N-43-C	3 X ⊗, 1 X ◆
B4-N-37-B	2 X ⊗, 3 X ■, 1 X ○	B4-N-43-D	3 X ⊗, 1 X ◆, 2 X ○, 1 X ⊞
B4-N-37-C	3 X ⊗, 3 X ■, 1 X ○	B4-N-44-A	1 X ⊗, 2 X ◆, 1 X ○, 1 X ⊞
B4-N-38-A	3 X ⊗, 3 X ■, 1 X ○	B4-N-44-B	1 X ⊗, 1 X ■, 3 X ◆
B4-N-38-B	2 X ⊗, 1 X ○	B4-N-44-C	—○—○—
B4-N-38-C	—○—○—, 1 X ○	B4-N-44-D	—○—○—
B4-N-38-D	—○—○—	B4-N-45-A	—○—○—
B4-N-39-A	—○—○—	B4-N-45-B	—○—○—
B4-N-39-C	3 X ⊗, 1 X ■, 1 X ○		
B4-N-39-D	2 X ⊗, 2 X ■, 1 X ○, 1 X ⊞		

LÉGENDE / LEGEND:

- xx-xxx : ÉLEVATION DU DESSUS DE MUR EN MÈTRE (m) / ELEVATION OF TOP OF WALL IN METER (m)
- : BOLLARD EXISTANT / EXISTING BOLLARD
- ▲ : CONDUITE EXISTANTE / EXISTING OUTLET
- : DRAIN CARRÉ EXISTANT / EXISTING SQUARE DRAIN
- ◆ : DRAIN ROND EXISTANT / EXISTING ROUND DRAIN
- ⊗ : * ÉCHELONS EXISTANTS / EXISTING GRAB BAR
- ⊞ : DRAIN COLMATÉ / SEALED DRAIN
- ⊠ : STATION DE POMPAGE KRUGER / PUMPING STATION
- +++ : CHEMIN DE FER / RAILROAD TRACK
- ⊗ : ARBRE / TREE
- ⊞ : GRILLE/PRISE D'EAU COLMATÉE / SEALED SCREEN/WATER INTAKE
- : GARDE-CORPS EXISTANT / EXISTING RAILING
- ⊞ : ESCALIER EXISTANT / EXISTING STAIR
- ⊞ : ÉCHELLE EXISTANT / EXISTING LADDER

* LE NOMBRE DE RANG PAR ÉCHELON EST VARIABLE / THE NUMBER OF RANKS PER GRAB BAR IS VARIABLE

TABLEAU DES ITEMS SPÉCIFIQUES / TABLE OF SPECIFIC ITEMS 12

SOUS-SECTION / SUB-SECTION	LONGUEUR / LENGTH	SOUS-SECTION / SUB-SECTION	LONGUEUR / LENGTH	SOUS-SECTION / SUB-SECTION	LONGUEUR / LENGTH	SOUS-SECTION / SUB-SECTION	LONGUEUR / LENGTH
	REPLACEMENT / REMPLACEMENT 1		REPLACEMENT / REMPLACEMENT 2		REPLACEMENT / REMPLACEMENT 2'		RÉPARATION / REPAIR 2A
B4-N-40-A	±35m	B4-N-34-B	±36m	B4-N-43-C	±39m	B4-N-35-C	±13m
B4-N-40-B	±34m	B4-N-34-C	±36m	B4-N-43-D	±38m	B4-N-35-D	±44m
B4-N-41-A	±28m	B4-N-34-D	±11m			B4-N-36-A	±37m
B4-N-41-B	±38m	B4-N-34-E	±19m			B4-N-36-B	±37m
B4-N-41-C	±38m	B4-N-35-A	±35m			B4-N-36-C	±37m
B4-N-41-D	±37m	B4-N-35-B	±35m			B4-N-36-D	±37m
B4-N-42-A	±37m	B4-N-39-C	±39m			B4-N-37-A	±37m
B4-N-42-B	±38m	B4-N-39-D	±45m			B4-N-37-B	±37m
B4-N-42-C	±38m	B4-N-44-A	±36m			B4-N-37-C	±37m
B4-N-42-D	±36m	B4-N-44-B	±25m			B4-N-38-A	±20m
B4-N-43-A	±40m					B4-N-38-B	±20m
B4-N-43-B	±40m						
TOTAL	= 439m	TOTAL	= 317m	TOTAL	= 77m	TOTAL	= 356m

TABLEAU DES LONGUEURS DE REMPLACEMENT ET DE RÉPARATION / TABLE OF REPLACEMENT AND REPAIR LENGTHS 13

NON À L'ÉCHELLE / NOT TO SCALE

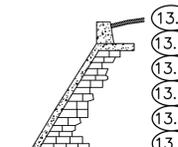
COURONNEMENT: BÉTON / CROWNING WALL: CONCRETE	(13.1)		(13.1)
MUR: PIERRE OU ROC RECOUVERT DE BÉTON / WALL: STONE OR ROCK COVERED WITH CONCRETE	(13.2)		(13.2)
	(13.3)		(13.3)
	(13.4)		(13.4)
	(13.5)		(13.5)
	(13.6)		(13.6)

TABLEAU DES CARACTÉRISTIQUES DES MURS / TABLE OF WALLS SECTION PROPERTIES 14

NON À L'ÉCHELLE / NOT TO SCALE

BIEF / AREA	NIVEAU NAVIGATION / NAVIGATION LEVEL	NIVEAU HORS NAVIGATION AUTOMNALE / AUTUMN NAVIGATION OFF LEVEL	NIVEAU HORS NAVIGATION HIVERNALE / WINTER NAVIGATION OFF LEVEL
1	±10.72m	±8.59m	±9.72m
2	±13.80m	±11.67m	±9.67m
3	±16.40m	±14.07m	±12.07m
4	±19.90m	±16.50m	±18.90m

NOTES:

- 1- PÉRIODE DE NAVIGATION: VENDREDI PRÉCÉDENT LA FÊTE DE LA REINE JUSQU'AU LUNDI DE L'ACTION DE GRÂCE.
- 2- LE DÉBUT DE L'ABAISSEMENT DÉBUTERA 7 À 10 JOURS APRÈS LA FIN DE LA PÉRIODE DE NAVIGATION
- 3- PRÉVOIR 3 À 5 JOURS D'ABAISSEMENT ET DE REHAUSSEMENT DES EAUX ENTRE LES PÉRIODES.
- 4- VOIR BATHYMETRIE POUR INFORMATION SUR LES FONDS DU CANAL.
- 5- VOIR SECTION DEVIS 01 11 00 SOMMAIRE DES TRAVAUX.

1- NAVIGATION PERIOD: PREVIOUS FRIDAY OF THE QUEEN'S DAY TO MONDAY OF THE THANKSGIVING.

2- DECREASING OF LEVEL START 7 TO 10 DAYS AFTER THE END OF NAVIGATION PERIOD.

3- PLAN 3 AT 5 DAYS FOR INCREASE OR DECREASE OF WATER LEVEL BETWEEN THE PERIODS.

4- SEE BATHYMETRY FOR INFORMATION ON THE BOTTOM OF THE CANAL.

5- SEE SECTION SPECIFICATIONS 01 11 00 SUMMARY OF WORK.

TABLEAU DES PÉRIODE DE NAVIGATION ET NIVEAU D'EAU / TABLE OF NAVIGATION PERIOD AND WATER LEVEL 15

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révisions / revisions		date

Projet / Project: PARCS CANADA / PARKS CANADA

RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES / REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASIN No 4)

Dessin / Drawing: STRUCTURE / STRUCTURE

TABLEAUX / TABLE

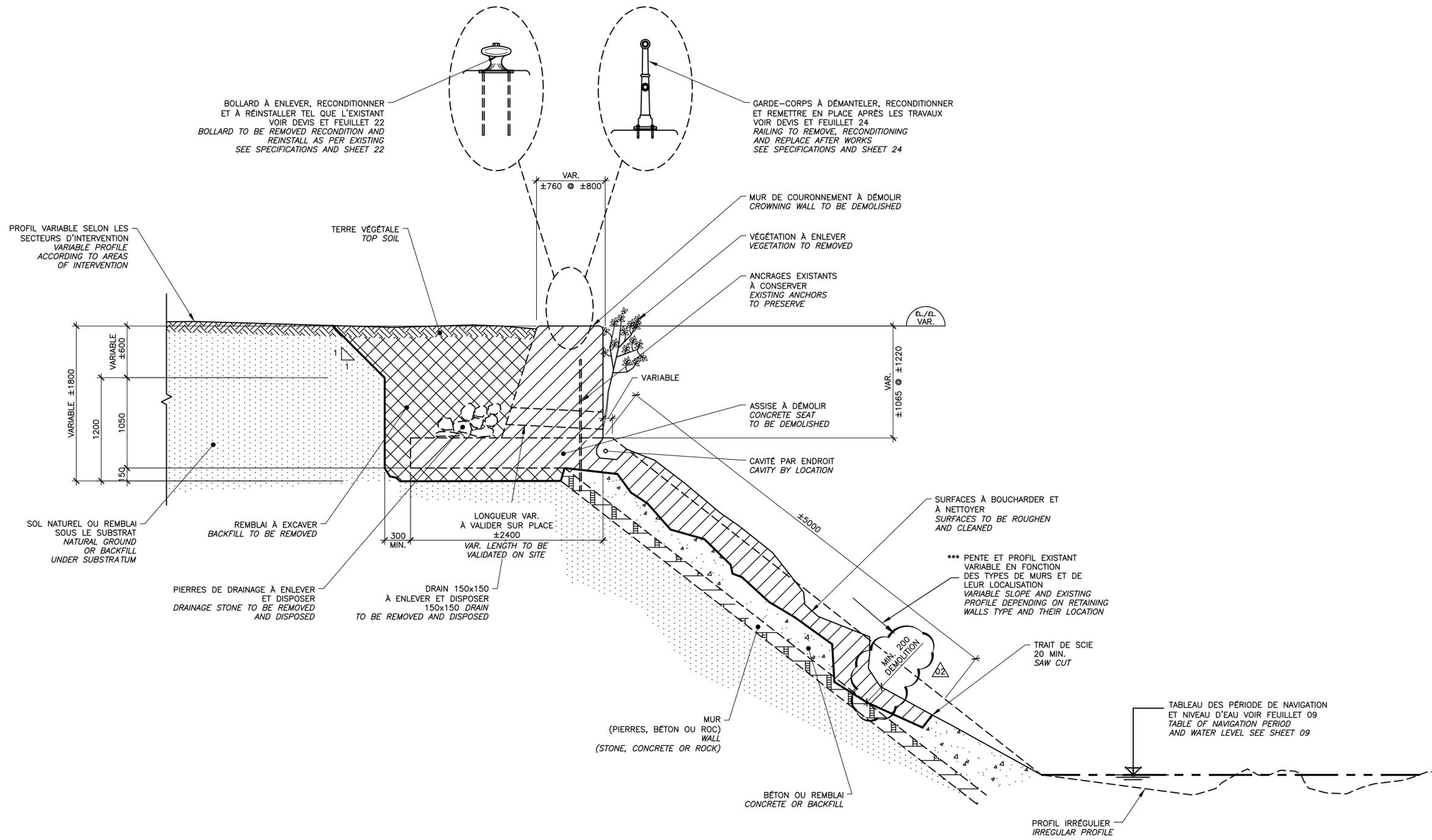
Conçu par / Designed by: Martin Champagne, ing.	2017-02-09	Date
Dessiné par / Drawn by: Caroline Plouffe, Gabriel Blanchette	2017-02-09	Date
Approuvé par / Approved by: Jérôme Aubin, ing.	2017-02-09	Date
Soumission / Tender: Dominic Pierre, ing.	2017	Date
Administrateur de projets APC / PCA Project Manager		

No de projet / Project number: 1455-04	No de contrat / Contract number:
Nom du fichier / File name: CLAC-(1455-04)	No de classement:

No de plan ou dessin / File name: CL-32-117.09	No feuillet / Drawing no: 09/35
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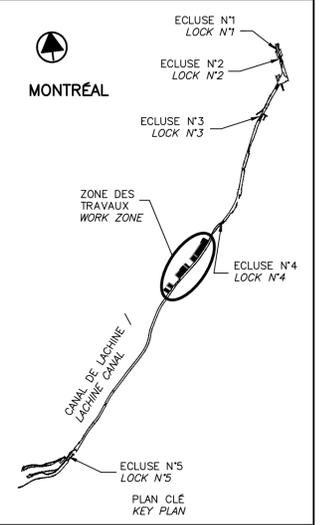
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RÉPARATION D'ASSISE ET REMPLACEMENT DE COURONNEMENT TYPE 1
TYPE 1 SEAT REPAIR AND CROWNING WALLS REPLACEMENT
SECTEUR 13.1 / AREA 13.1

COUPE TYPIQUE DE DÉMOLITION /
 TYPICAL SECTION DEMOLITION

COUPE / SECTION 16
 ÉCH./SCALE 1:25



SCEAUX	SEALS

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00	EMIS POUR SOUMISSION ISSUED FOR SUBMISSION	2017-08-22
révisions revisions		date

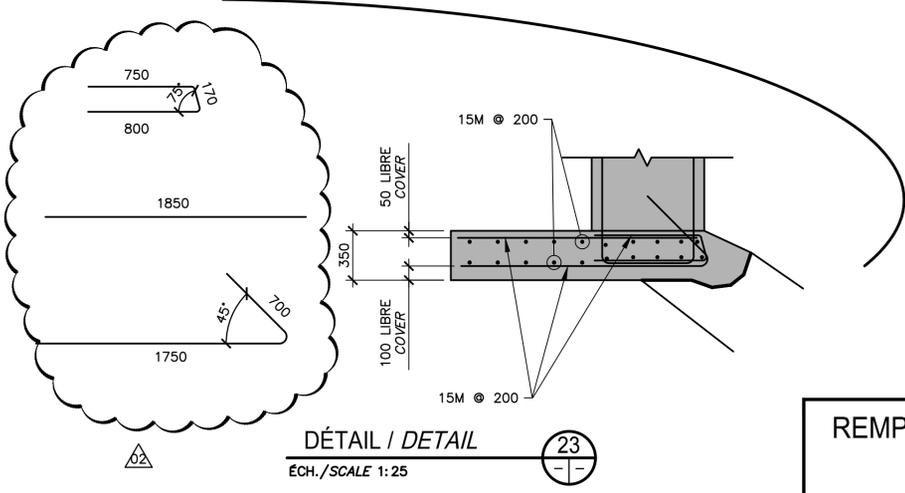
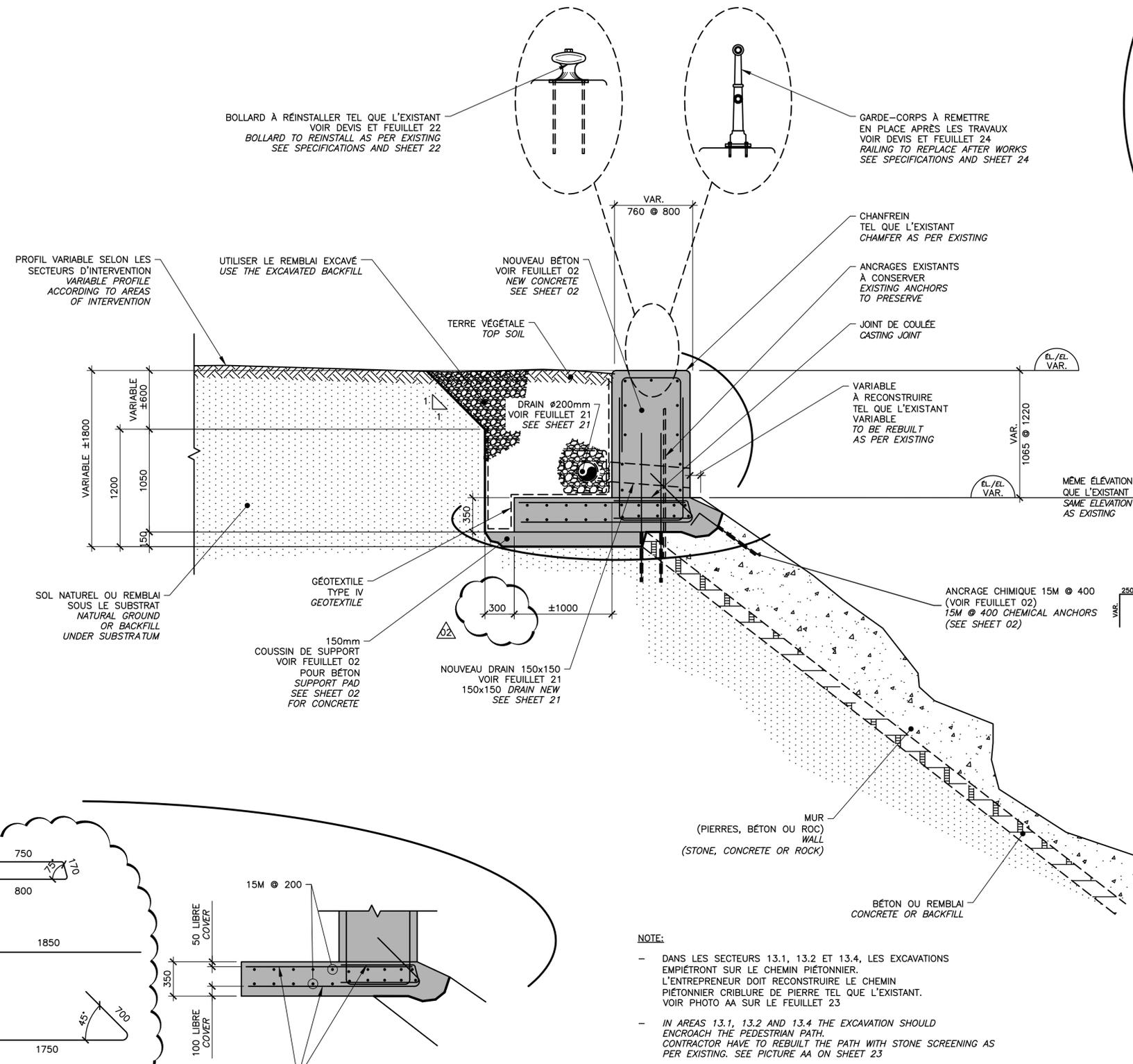
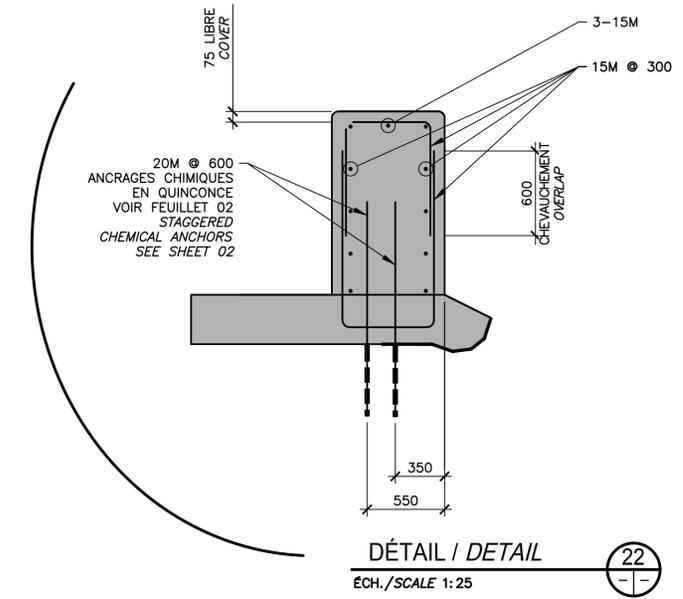
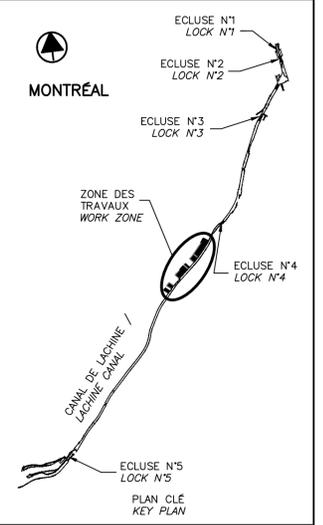
Projet **PARCS CANADA** / **PARKS CANADA**
RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES
 (SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4)
REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR
 (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 AND 13.6 / REACH No 4)

Dessin **STRUCTURE**
STRUCURE
 RÉPARATION D'ASSISE ET REMPLACEMENT DE COURONNEMENT TYPE 1, SECTEUR 13.1 DÉMOLITION
TYPE 1 SEAT REPAIR AND CROWNING WALLS REPLACEMENT AREA 13.1 DEMOLITION

Conçu par Martin Champagne, ing. 2017-02-09
 Dessiné par Caroline Plouffe, Gabriel Blanchette 2017-02-09
 Approuvé par Jérôme Aubin, ing. 2017-02-09
 Soumission Dominic Pierre, ing. 2017
 Administrateur de projets APC PCA Project Manager

No de projet 1455-04	Project number 1455-04	No de contrat 	Contract number
Nom du fichier CLAC-(1455-04)	File name CLAC-(1455-04)	No de classement 	
No de plan ou dessin CL-32-117.10	File name CL-32-117.10	No feuillet 10	Drawing no 35

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NOTE:

- DANS LES SECTEURS 13.1, 13.2 ET 13.4, LES EXCAVATIONS EMPIÉTRONT SUR LE CHEMIN PIÉTONNIER. L'ENTREPRENEUR DOIT RECONSTRUIRE LE CHEMIN PIÉTONNIER CRIBLURE DE PIERRE TEL QUE L'EXISTANT. VOIR PHOTO AA SUR LE FEUILLET 23
- IN AREAS 13.1, 13.2 AND 13.4 THE EXCAVATION SHOULD ENCR OACH THE PEDESTRIAN PATH. CONTRACTOR HAVE TO REBUILT THE PATH WITH STONE SCREENING AS PER EXISTING. SEE PICTURE AA ON SHEET 23

REPLACEMENT DE COURONNEMENT TYPE 2 / TYPE 2 CROWNING WALL REPLACEMENT
 SECTEURS 13.1, 13.2, 13.4, 13.5 ET 13.6 / AREAS 13.1, 13.2, 13.4, 13.5 AND 13.6

COUPE TIPIQUE DE CONSTRUCTION / TYPICAL SECTION CONSTRUCTION

COUPE / SECTION 21

ECH./SCALE 1:25

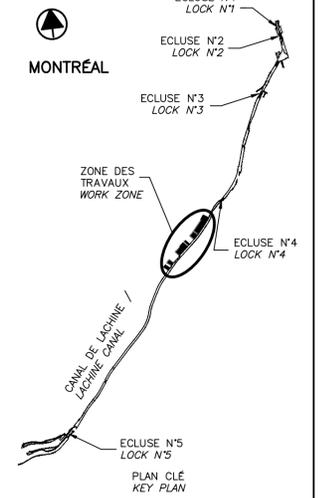
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No de projet / Project number	No de contrat / Contract number		
1455-04			
Nom du fichier / File name		No de classement	
CLAC-(1455-04)			
No de plan ou dessin / File name	No feuillet / Drawing no		
CL-32-117.13	13/35		

révisions / revisions	date
02	EMIS POUR ADDENDA #2 ISSUED FOR ADDENDUM #2 2017-09-07
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Projet / Project	PARCS CANADA / PARKS CANADA
RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES / REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR	
(SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4) / (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 AND 13.6 / REACH No 4)	

Dessin / Drawing	STRUCTURE
REEMPLACEMENT DE COURONNEMENT TYPE 2 / SECTEURS 13.1, 13.2, 13.4, 13.5 ET 13.6 - CONSTRUCTION	
TYPE 2 CROWNING WALL REPLACEMENT / AREAS 13.1, 13.2, 13.4, 13.5 AND 13.6 - CONSTRUCTION	

Conçu par / Designed by	Martin Champagne, ing.	2017-02-09	Date
Dessiné par / Drawn by	Caroline Plouffe, Gabriel Blanchette	2017-02-09	Date
Approuvé par / Approved by	Jérôme Aubin, ing.	2017-02-09	Date
Soumission / Tender	Dominic Pierre, ing.	2017	Date
Administrateur de projets APC / PCA Project Manager			



SCEAUX SEALS

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révisions revisions		date

Projet	PARCS CANADA PARKS CANADA	Project
RÉPARATION ET REMPLACEMENT DE MURS DE COURONNEMENT ET RÉPARATION D'ASSISES (SECTEURS 13.1, 13.2, 13.3, 13.4, 13.5 ET 13.6 / BASSIN No 4) REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT REPAIR (AREAS 13.1, 13.2, 13.3, 13.4, 13.5 AND 13.6 / REACH No 4)		
Dessin	STRUCTURE REPLACEMENT DE COURONNEMENT TYPE 2' SECTEUR 13.1 CONSTRUCTION TYPE 2' CROWNING WALL REPLACEMENT AREA 13.1 CONSTRUCTION	Drawing

Conçu par	Martin Champagne, ing.	2017-02-09	Designed by	Date
Dessiné par	Caroline Plouffe, ing.	2017-02-09	Drawn by	Date
Approuvé par	Jérôme Aubin, ing.	2017-02-09	Approved by	Date

Soumission	Dominic Pierre, ing.	2017	Tender
Administrateur de projets APC PCA Project Manager			
No de projet	1455-04	No de contrat	
APC	PCA	Contract number	
Nom du fichier	CLAC-(1455-04)	No de classement	
File name		File no	
No de plan ou dessin	CL-32-117.15	No feuillet	15/35
File name		Drawing no	



DESSOUS DES POUTRES DU PONT DU BOUL. MONK
UNDER OF GILDERS BRIDGE'S MONK BLVD

FONDATION GRANULAIRE MG-20, 95% PM
GRANULAR SUB-BASE MG-20, 95% PM

PAVÉ DE BRIQUES À RÉINSTALLER
BRICK PAVING TO BE RE-INSTALLED

VOIR DÉTAIL RECONSTRUCTION PAVÉ
SEE DETAIL RECONSTRUCTION PAVING

150mm COUSSIN DE SUPPORT VOIR FEUILLET 02
SUPPORT PAD FOR CONCRETE SEE SHEET 02

NOUVEAU BÉTON, VOIR FEUILLET 02
NEW CONCRETE, SEE DRAWING 02

DRAIN À 2000 c/c, VOIR DÉTAIL 27
DRAIN TO 2000 c/c, SEE DETAIL 27

NEZ À RECONSTRUIRE, TEL QUE L'EXISTANT, VAR.
NOSE TO BE REBUILT, AS PER EXISTING, VAR.

ANCRAGE CHIMIQUE 15M @ 400 (VOIR FEUILLET 02)
15M @ 400 CHEMICAL ANCHORS (SEE SHEET 02)

TÔLE PLIÉE, CALIBRE 18
BENT PLATE, GAUGE 18

GRILLAGE SOUDÉE 25x25, TIGE #3 mm À SOUDER À L'INTÉRIEUR DU DEMI-ROND (TIGES PLIÉES)
WELDED GRATING 25x25, BAR 3 mm TO BE WELDED INSIDE THE HALF ROUND (BEND BARS)

DÉTAIL DRAIN GALV. / DETAIL DRAIN GALV. 27

ÉCH./SCALE 1:2.5

CONSTRUCTION AU-DESSUS DU NIVEAU D'EAU
CONSTRUCTION ABOVE WATER LEVEL

TABLEAU DES PÉRIODE DE NAVIGATION VOIR FEUILLET 09
TABLE OF NAVIGATION PERIOD SEE SHEET 09

REPLACEMENT DE COURONNEMENT TYPE 2' / TYPE 2' CROWNING WALL REPLACEMENT
SECTEUR 13.1 / AREA 13.1

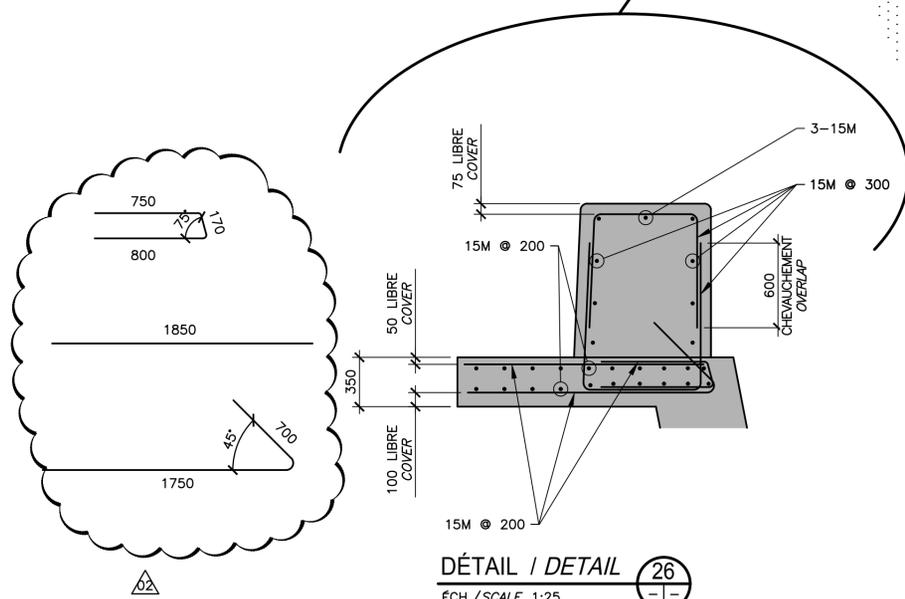
COUPE TYPIQUE DE CONSTRUCTION
TYPICAL SECTION CONSTRUCTION

COUPE / SECTION 25

ÉCH./SCALE 1:25

CE DOCUMENT NE DOIT PAS ÊTRE UTILISÉ À DES FINS DE CONSTRUCTION

THIS DOCUMENT MUST NOT BE USED FOR CONSTRUCTION



DÉTAIL / DETAIL 26

ÉCH./SCALE 1:25

Canada Parks Agency
REHABILITATION LACHINE CANAL WALLS
REPAIR AND REPLACEMENT OF THE CROWNING
WALLS AND SEAT REPAIRS
(Areas 13.1, 13.2, 13.3, 13.4, 13.5 and 13.6 – Reach No 4)
Project N° CLAC-1455-04
Addendum n° 02

Specifications

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 41 99 – Demolition for minor works
- .2 Section 03 10 00 – Concrete Forming and Accessories
- .3 Section 03 20 00 – Concrete Reinforcing
- .4 Section 03 30 00 – Cast-in-Place Concrete
- .5 Section 03 30 03 – Concrete Repair
- .6 Section 03 37 13 – Shotcrete
- .7 Section 05 50 00 – Metal Fabrications
- .8 Section 09 97 19 – Painting Exterior Metal Surfaces
- .9 Section 31 05 16 – Aggregate Materials
- .10 Section 31 11 00 – Clearing and Grubbing
- .11 Section 31 23 33.01 – Excavating, Trenching and Backfilling
- .12 Section 31 32 19 – Geotextiles
- .13 Section 31 04 31 – Historic Subgrade, Shoring and Bracing
- .14 Section 32 14 13 – Precast concrete pavers
- .15 Section 32 91 19.13 – Topsoil Placement and Grading
- .16 Section 32 92 23 – Sodding
- .17 Section 35 59 29 – Mooring Devices

1.2 DEFINITIONS

- .1 Navigation period: from the Friday preceding Victoria day until thanksgiving.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- .1 The Work covered by this contract includes the restoration of the Lachine Canal walls on the section(s) indicated in the Tender Form and on drawings.
 - .1 The restoration works can include one or more of the following activities, without limitation:
 - .1 Replacement or rehabilitation of crowning walls (Retaining wall) and seats;
 - .2 Any other repair details shown on drawings and proposed in the current contract,

- .3 Perform a detailed list of walls to be repaired or replaced. Validate precise dimensions, and profiles of walls subject to the current contract. Validate the alignment starting from the base of existing crowning wall. Perform all required survey.
 - .4 Provide detailed shop drawings, showing existing profiles of wall that must be repaired or replaced in addition to final profiles, for the Departmental Representative's approval. Submitted profiles must be consistent with existing profiles.
 - .5 Note all existing drains, pipes, scales, bollards and railings in the work zone and locate them in the shop drawings. These items must be reinstalled or conserved as existing.
 - .6 The Contractor is responsible for providing appropriate platforms and temporary supports, required to undertake work shown on the plans, specifications, and tender form. No additional fees will be allotted to the contractor if he must modify his access system during work.
 - .7 Provide and install confinement chambers to allow concrete pouring in winter conditions,
 - .8 The Contractor is responsible to provide, at his own expenses, all required shelters, and heating systems, to be able to perform work in winter conditions.
 - .9 The Departmental Representative will film certain stages of work. By bidding on this contract, the Contractor is aware of this circumstance and can in no case oppose the films being recorded during the execution of work.
 - .10 Perform landscaping work.
 - .11 A navigation corridor will have to be put in place on the encroachment line in the canal (ref plan 8#24) Contractor must install navigation buoy at the end of each work zone and an additional one in the middle. The navigation buoys must be all green on the port (left) side when moving upstream direction and red on the starboard (right) side when moving upstream direction. In addition to the navigation buoys, security buoys (yellow) must be put in place to maintain a cable up flow. Installation of buoys must be in accordance with Transport Canada regulation.
-
- .2 All construction, demolition, and related temporary work, must be performed in accordance with standards, including the security code for construction S-2.1, r.6, CSA S350 and other applicable safety regulations put in place by the owner.
 - .3 The Contractor must provide all required labour, materials, and equipment to perform work shown in the drawings.
 - .4 Perform demolition work as shown on the drawings. The section shown in the drawings specify either additional demolition, removal of loose concrete or cleaning cavities.
 - .5 In zones affected by the demolition works, the contractor assumes all responsibilities in regards to the protection against dust, the danger of demolition, and others.

- .6 Provide, for verification purposes, the drawings, graphics, and details indicating the dismantling order of the work, shoring parts, and temporary work.
- .7 All temporary work drawings must be certified by a competent engineer, recognized in the province of Quebec.
- .8 Take all necessary precautions to prevent any movement or collapse of structures that must be conserved to avoid any damage. Provide and install all parts required for shoring and reinforcement. Perform all necessary remedial work as required. Put in place all necessary precautions to ensure the safety of workers throughout the work.
- .9 Anchors must be installed in accordance with the recommendation of the Departmental Representative in the presence of his authorised representative.
- .10 The Contractor must coordinate his work in accordance with the existing dimensions and profiles, and must provide profiles adapted to the existing ones for the Departmental Representative's approval. The Contractor must provide shop drawings showing final profiles and variants for comment.
- .11 Marking required for any encroachment in the canal during the navigation period.

1.4 CONTRACT METHOD

- .1 Construction work is under lump-sum contract and unit price contract, in accordance with the articles presented in the Tender Form.

1.5 WORK BY OTHERS

- .1 Not used.

1.6 FUTURE WORK

- .1 Not used.

1.7 WORK SEQUENCE

.1 Deadlines

- .1 The works under this contract including planning of banks, lands and paths used by the contractor must be completed 26 weeks after the receipt of the award letter.
- .2 The work of the "J" floor lamp loop (wall section B4-N-34.b to B4-N-36.a) has to be completed seven (7) weeks after the award letter.
- .3 The normal navigational water level of the Canal shall be lowered between October 18, 2017 and December 17, 2017 inclusively. For the winter period, the water level in the Canal will be raised to approximately 1 meter below the navigation level. It will be refilled to the navigation level during Victoria day of 2018. The Contractor shall use this window to complete the seat repair work (Type 1). *The Contractor must ensure an appropriate work method and the necessary laborers to complete the work in the required delay.*
- .4 The final demobilization must be completed ten (10) opening day after the acceptance by the owner of the declaration of substantial completion of works.



- .5 All other activities must be completed within the 26 weeks deadline.

.2 Scheduling

.1 Construction Facilities

- .1 At the kick-off meeting, the Contractor must submit the Construction Facilities Layout Plan to the Departmental Representative for approval.
 - .1 In the five (5) days following of submittal of the layout plan, the Departmental Representative shall return a reviewed copy of the plan, along with any comments to the Contractor.
 - .2 Within five (5) days following the acceptance of the Construction Facilities Layout Plan, the Contractor shall have completed the installation of the construction trailers.

.2 Restoration of the Lachine Canal Walls

- .1 At the kick-off meeting, the Contractor must submit to the Departmental Representative the Work Sequence for the wall restoration with a justification for each phase of the works.
 - .1 The Work Sequence for the wall restoration shall be prepared by prioritizing certain work to allow the execution of other work, in favour of the execution time.
 - .2 In the five (5) days following the submittal of the Work Sequence for the restoration work, the Departmental Representative shall return to the Contractor, a reviewed copy of the document, along with any comments.
- .2 At the kick-off meeting, the Contractor must submit to the Departmental Representative the Construction Schedule, considering the information contained in the Work Sequence.
 - .1 Prepare the Construction Schedule in accordance with the timeframes specified in the present specifications section and in the Tender Form.
 - .2 In the five (5) days following the submittal of the Construction Schedule, the Departmental Representative shall return to the Contractor a reviewed copy of the schedule, along with any comments.
- .3 Perform all repair works in accordance with the Work Sequence and the Construction Schedule approved by the Departmental Representative.
- .4 At the kick-off meeting, submit to the Departmental Representative the Temporary Signage drawings for traffic management during the execution of the wall restoration work.
 - .1 In the five (5) days following the submittal of the Temporary Signage drawings for traffic management, the Departmental Representative shall return to the Contractor a reviewed copy of the drawings, along with any comments.

- .2 Within five (5) days following the acceptance of Temporary Signage drawings, the Contractor shall have completed the installation of these drawings on the site.
- .5 At the kick-off meeting, submit to the Departmental Representative the shop drawings of the Temporary Access System for the execution of the wall restoration works.
 - .1 In the five (5) days following the submittal of the Temporary Access System shop drawings, the Departmental Representative shall return to the Contractor a reviewed copy of the drawings, along with any comments.
 - .2 Immediately after having received the acceptance of the Temporary Access System shop drawings, and once the temporary signage has been installed and approved by the Departmental Representative, the Contractor shall implement the Temporary Access System on the site.
- .6 In the seven (7) days following the kick-off meeting, submit to the Departmental Representative the shop drawings required for the execution of the wall restoration works.
 - .1 In the five (5) days following the submittal of the shop drawings, the Departmental Representative shall return to the Contractor a reviewed copy of the drawings, along with any comments.
 - .2 Within five (5) days following the acceptance of the shop drawings, the Contractor shall deliver the necessary materials to the site.

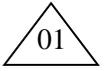
1.8 INSTRUCTIONS TO THE CONTRACTOR

- .1 By accepting this Contract, the Contractor accepts all the responsibilities normally assigned to the Prime Contractor under the workplace health and safety regulations. Before starting the works, the Contractor must perform the following activities:
 - .1 Submit to the Departmental Representative a Health and Safety Plan and a mechanical inspection certificate for each piece of machinery used on site.
 - .2 Ensure that workers on the site have received the training and information required to perform the work safely and that all required tools and protective equipment are available, in compliance with all standards, laws, and regulations.
 - .3 Comply at all times with the provisions of the occupational health and safety regulations and safety codes.
 - .4 Inform your employees of their right to refuse any work that is dangerous to their health or safety.
 - .5 Identify and barricade the work area and control access to the site.
 - .6 In the case of an unforeseen incident, take all necessary measures, including stopping work, to protect the health and safety of the workers and the public, and immediately contact the Departmental Representative.

- .2 Execute the work to provide for continuous public usage. Maintain access to the public places as long as an alternative has not been developed when the progress of the works is an impediment to the free movement of the public.

1.9 CONTRACTOR USE OF PREMISES

- .1 The work area can be used continuously until substantial completion. The construction sites are restricted to the areas mentioned on the plans.



- .2 Site access points cannot be used as storage or site facility areas.
- .3 The use of the premises is restricted to the areas necessary for the execution of the work and those areas made available to the Contractor for the installation of the Construction Facilities and for the storage of the equipment and materials required for the works. The Contractor shall allow access to these areas outside the work zones to the PCA to allow:

- .1 Maintenance of equipment;
- .2 Partial Owner occupancy, if required;
- .3 Work by other contractors.

- .4 Coordinate use of premises under direction of the Departmental Representative.
- .5 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .6 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .7 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by the Departmental Representative.
- .8 The Contractor cannot use existing structures for the execution of his work. He shall take the necessary precautions to protect existing structures and shall assume complete responsibility of any claims resulting in the damages that are attributed to him. An authorization from the Departmental Representative is necessary before any installation (fixations etc.) on an existing structure. Upon completion of the work, the existing structure must be in an equivalent or superior state than it was at the beginning of the work.
- .9 Boats and navigation within the scope of the contract shall be limited to the areas specified in the plans. If the contractor wants for the needs of the site to set up barges in the last few decades being confined to the perimeter. Sporadic transport of barges and equipment to meet Transport Canada standards. Under these conditions, it is possible to be accepted on presentation of an out-of-stock procedure.

1.10 OWNER OCCUPANCY

- .1 The Owner will occupy the premises (outside the work zones) during the entire construction period for execution of normal operations.
- .2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.11 PARTIAL OWNER OCCUPANCY

- .1 Schedule and substantially complete designated portions of Work for Owner's occupancy prior to Substantial Performance of entire Work.
- .2 Execute Certificate of Substantial Performance for each designated portion of Work prior to Owner occupancy. The Contractor must allow access to the premises to the Owner at all times.
- .3 On occupancy, Owner will provide for occupied areas:
 - .1 Maintenance.
 - .2 Security.
- .4 Execute Partial Interim Certificate of Completion for each designated portion of Work prior to partial Owner occupancy. Following, allow access to the premises to the Owner.

1.12 PRE-PURCHASED EQUIPMENT

- .1 Not used.

1.13 OWNER FURNISHED ITEMS

- .1 Not used.

1.14 ALTERATIONS, ADDITIONS, OR REPAIRS TO EXISTING BUILDING

- .1 Not used.

1.15 EXISTING SERVICES

- .1 Submit schedule to and obtain approval from the Departmental Representative at least seven (7) days in advance for any shut-down or closure of active services or facilities including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .2 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.

1.16 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 List of Outstanding Shop Drawings.
 - .6 Change Orders.
 - .7 Other Modifications to Contract.
 - .8 Field Test Reports.
 - .9 Copy of Approved Work Schedule.

- .10 Health and Safety Plan and Other Safety Related Documents.
- .11 Other documents as specified.

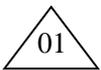
Part 2 Products

2.1 Survey marker

- .1 Installation: Provide and install a Legal survey marker to replace the one identified on the drawings. The exact localisation of the new survey marker needs to be implemented and transmitted after installation
- .2 Payment: The probe is paid in accordance to the section 01 29 00 – Payment Procedures

2.2 METALLIC RAILINGS 2 GUARDRAILS

- .1 The dimensions of the elements below must be validated, with existing conditions, on site by the Contractor.
- .2 Posts :
 - .1 Metal posts, 1.02 meter (3'-4 ") high, weighing 30 kg (66 lbs) each.
 - .2 Note : Pole holes (posts) should be checked before ordering pipe sizes and boring may be required.
- .3 Galvanized transom ~~metal sleepers~~:
 - .1 Straight pipes with lengths of more or less 3 meters.
 - .1 Bottom rail: 38 mm dia. (1.5 ") \pm 4mm thick wall.
 - .2 Top rail: 52 mm dia. (2 ") \pm 4 mm wall thickness.
- .4 Galvanized steel sleeves:
 - .1 Metal hose in accordance with CSA Standard B63-1971 and design details.
 - .1 Length: 305 mm
 - .2 Transom diameter of 38 mm dia. (1.5 ") : \pm 30 mm dia.
 - .3 Transom diameter of 52 mm dia. (2 ") : \pm 38 mm dia.
 - .2 Each sleeve shall have: A notch at each end of 38x13 mm (bxh) at 25.4 mm (1 ") from the ends.
- .5 Galvanized closing piece:
 - .1 Metal caps in accordance with CSA Standard B63-1971 and design details.
 - .1 Transom diameter of 38 mm dia. (1.5 ") nominal;
 - .2 Transom diameter of 52 mm dia. (2 ").



Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

.1 Not used.

Part 2 Explanation of the Bid Form prices

2.1 Item 1. – Government Representative Site Office, Environment, and General Items

.1 Item 1.1 – Construction Facilities

.1 Payment item 1.1 of the *Schedule of Prices* is a fixed lump sum amount to compensate all necessary expenses incurred in the execution of the works as well as any other expenses not included in the other *Schedule of Prices* items, in accordance with the requirements of the specifications.

.2 The amount includes, but is not limited to, the following:

.1 All that is described in Section 01 52 00, *Construction Facilities*, such as:

.1 Electricity, water, and lighting on site.

.2 Construction site offices; Furnishings, telephone and related services (internet, pagers, fax, etc.), microwave and small refrigerator (9 cubic feet minimum), cold and hot water dispenser, including drinking water, heating and air conditioning of the site offices.

.3 Access roads including the necessary deforestation, clearing-up, removal of scrub, vines, dead wood, trees and shrub whose trunk diameter is less than 50 mm (measured from the diameter at chest height), the removal of all brush at the junction of the crowning walls and seat, the removal of fences and vines on the edge of the crowning wall, 30 exploration wells for additional sampling of contaminated soils at the start of the project, the moving and replacing of urban furniture (tables, benches, garbage cans, etc.), sanitary facilities, rigid site fencing (minimum height of 8 feet) must be installed, warehouse, scaffolding, site signs and maintenance, in accordance with the requirements of the specifications and drawings, and as directed by the Government Representative.

.4 The required coordination with the City of Montreal and other stakeholders, including obtaining all necessary permits to carry out the work.

.5 The maintenance of the worksite and of its access routes.

.6 All that is required in the following sections and is not directly attributed or related to one of the other items of the Bid Form:

Section 01 11 00 Summary of Work

Section 01 31 19 Project Meetings

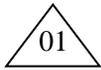
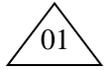
Section 01 32 16.07 Construction Progress Schedule



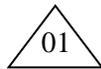
Section 01 33 00	Submittal Procedures
Section 01 35 29.06	Health and Safety Requirements
Section 01 52 00	Construction Facilities
Section 01 52 00	Construction Facilities
Section 01 56 00	Temporary Barriers and Enclosures
Section 01 73 00	Execution
Section 01 74 11	Cleaning
Section 01 74 21	Construction/Demolition Waste Management and Disposal
Section 01 77 00	Closeout Procedures
Section 07 78 00	Closeout Submittals

- .7 All costs associated with surveying and staking the works and all other site take-offs and measurements that are not allocated to any of the other items of the *Schedule of Prices* .
- .8 The costs of providing a security guard or other means of supervision for the site (if required).
- .9 Rental costs of land and/or space for the storage of materials.
- .10 The protection of existing public utilities within the work site during construction. If the Contractor damages these installations during his work, he must replace them at his expense.
- .11 All fees pertaining to the supply of water and electricity for the duration of the work.
- .12 Expenses for all means taken to avoid damage to earthworks, trees, shrubs, paving, bed of the river and its banks, etc.
- .13 The rehabilitation of the premises:
 - .1 All work to restore the temporary sites used (access road, storage area, etc.) to their natural state;
 - .2 All work to restore street furniture (benches, tables, garbage cans, etc.) to their original condition;
 - .3 All work to restore vegetation by grassing of sites damaged by work;
 - .4 All work permitting the repair of all other damages and damages that the Contractor caused to the site of the works, to the public or private property affected by its works.
- .14 The Contractor shall repair all damage caused in the performance of its work to the satisfaction of the Owners concerned and that of the Government Representative. The work site must be returned in a similar or better condition to that existing before the work begins.
- .3 A portion equal to 20 % of the total amount bid for this item will be paid with the first progress claim, provided that the work has begun.

- .4 Other progress payments under this item will be paid to a percentage consistent with the general progress of work for each progress claim period except for the last payment which shall be paid to an amount up to 85% of the general progress of the work.
 - .5 The last progress claim equivalent to 15% shall be paid with the payment emitted during the "*Substantial Performance of the Work*".
- .2 Item 1.2 – Environmental Protection Measures
- .1 Payment item 1.2 of *Schedule of Prices* is a fixed lump sum amount to compensate all necessary expenses incurred for measures to protect the environment in accordance with the requirements of the specifications.
 - .2 The amount includes, but is not limited to, the following:
 - .1 All that is described in Section 01 35 43, *Environmental Procedures* such as the preparation, presentation, and implementation of the environmental protection plan;
 - .2 The preparation, presentation, and implementation of :
 - .1 The emergency spill plan;
 - .2 The construction facilities location plan location;
 - .3 The work zone plans;
 - .4 The air pollution prevention plan;
 - .5 The contamination prevention plan;
 - .6 The wastewater management plan;
 - .7 The plan for the designation and protection of wetlands and historical, archaeological, cultural, and biological resources;
 - .8 The preparation, presentation, and implementation of a plan to protect the historical and heritage character of the site.
 - .3 Vegetation protection measures (trees, plants, etc.);
 - .4 Temporary facilities for pollution prevention;
 - .3 A portion equal to 20 % of the total amount bid for this item will be paid with the first progress claim, provided that the work has begun.
 - .4 Other progress payments under this item will be paid to a percentage consistent with the general progress of work for each progress claim period.
- .3 Item 1.3 - Sediment Barrier
- .1 Payment item 1.3. of the *Schedule of Prices* is per linear meter (m. Lin.) for all costs incurred for the supply and the installation of sediment barrier in accordance with the requirements of the plans and specifications
 - .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of the Work Plan;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;

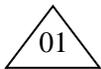


- .3 Supply including geotextile, transportation, handling, warehousing and placing;
 - .4 Servicing and maintenance of barriers for the duration of the work;
 - .5 Dismantling of the sediment barrier;
 - .6 Cleaning of the premises at the end of work;
 - .7 Any incidental expense.
- .3 The submitted price is paid as shown below:
- .1 80% of the price after the installation of the Sediment Barrier to the satisfaction of the ministry representative;
 - .2 20% of the price after the removal of all materials composing the Sediment Barrier, out of the work site.



.4 Item 1.4 - Turbidity curtain (confinement)

- .1 Payment item 1.4 of the *Schedule of Prices* is per linear meter (m. Lin.) for all costs incurred for the supply and the installation of a turbidity curtain for the duration of the work in accordance with the requirements of the plans and specifications
- .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction, of the Work Plan and shop drawings;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The supply, transportation, handling, storage, and operation;
 - .4 Maintenance and retention of the curtain for the duration of the work;
 - .5 Dismantling of the curtain;
 - .6 Cleaning of premises at the end of work;
 - .7 Any incidental expense.



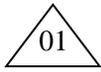
- .3 The submitted price is paid as shown below:
- .1 80% of the price after the installation of the Turbidity curtain (confinement) with the satisfaction of the ministry representative;
 - .2 20% of the price after the evacuation of all materials composing the Turbidity curtain (confinement), out of the work site.

.5 Item 1.5 – Deforestation of the excavation zone

- .1 Payment items 1.5.1 to 1.5.5 – Deforestation of trees with diameters superior to 200 mm (measured from the diameter at chest height)
 - .1 Payment items 1.5.1 to 1.5.5 of the *Schedule of Prices* are priced per unit for all the costs incurred for the deforestation of trees according to their dimensions, in accordance with the requirements of the plans and specifications.

- .2 This item applies only to trees in the excavation area or the trees identified by the ministry representative.
- .3 The price includes, but is not limited to, the following:
 - .1 Preparation, presentation, and correction of the Work Plan;
 - .2 The mobilization of labour, tools, and equipment required to carry out the work;
 - .3 Supply, transport, handling, maintenance, and removal of access required for clearing works;
 - .4 The clearing of areas identified by the Government Representative;
 - .5 Loading, transporting and disposing of debris to a site in accordance with current policies;
 - .6 Cleaning at the end of the works;
 - .7 Any incidental expenses.
- .6 Item 1.6 – Removal, Painting and Repositioning of Guardrails
 - .1 Payment item 1.6 of the *Schedule of Prices* is priced per linear meter (m. Lin.) for the removal, the surface preparation, painting and repositioning of guardrails in accordance with the requirements of the plans and specifications.
 - .2 The guardrail posts have to be removed, repainted and reinstalled. The guardrail posts are made of cast iron. **Note that the existing guardrail paint contain lead.** The Contractor must adapt his price to take into account the requirement of CNESST in terms of lead exposition during stripping.
 - .3 The surface preparation and the paint stripping containing lead can't be done in the field work zone. The works must be done inside a factory.
 - .4 The guardrails must be removed et be disposed. The Contractor have to supply and install new guardrails of same diameter of the existing. The new guardrails must be galvanised and painted according to the specifications.
 - .5 The quantities on the price schedule include also the activities above for the guardrails outside of the replacement and repair areas as shown on the drawings.
 - .6 The quantities on the price schedule include also the installation of a new railing for the stairs (see drawings). The posts of the new railing are supplied by Parks Canada. The Contractor have to supply, paint and install the new guardrails and also paint, and install the posts supplied by Parks Canada.
 - .7 Price includes, but is not limited to, the following:
 - .1 The lengths and dimensions survey of the guardrails and the post localisation, the preparation, presentation, and correction of shop drawings, the paint stripping procedure containing lead, the painting procedure, samples, and technical data sheets required;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Removal, transportation, handling, storage of guardrail;

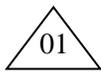
- .4 The supply and transportation of the new guardrails;
- .5 The supply, handling, transport and use of materials (anchors, grout, paint, etc.);
- .6 All costs incurred in the surface preparations;
- .7 Painting of guardrails (posts and guardrails);
- .8 The lead paint removal wastes disposition;
- .9 The restoration of the guardrails, including the new anchors of the same size as the existing one;
- .10 Leveling the guardrails, if necessary, with cementitious grout;
- .11 In the event of damage, immediately repair the affected items and at the Contractor's expense;
- .12 Any incidental expenses.



- .8 The submitted price is paid as shown below:
 - .1 40% of the price after the removal of the Guardrails to the satisfaction of the ministry representative;
 - .2 60% of the price after the restoration of the Guardrails, to the satisfaction of the ministry representative.

.7 Item 1.7 - Platforms and Access System

- .1 Payment items 1.7.1 and 1.7.2 – Platforms and access system for seats and crowning walls



- .1 Payment item 1.7.1 and 1.7.2 of the *Schedule of Prices* is priced per linear meter (m. Lin.) of wall intervention for the supply, installation for the duration of the work and removal of the access platforms and system in accordance with the requirements of plans and specifications. The unit price for the platforms and access system (in linear meter) includes the equivalent of the intervention length, regardless of the number of vertical displacements required. Only the equivalent of the intervention length will be paid. If the Contractor puts two platforms at two different heights on the same repair section of 1 m, only one platform of 1 m will be paid and not 2 m.
- .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings and design calculations;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The supply, transport, handling, installation, maintenance and removal of platforms and access systems;
 - .4 Any incidental expenses.
- .3 The submitted price is paid as shown below for each item:
 - .1 60% of the price after the installation of the platform with the satisfaction of the ministry representative;

- .2 40% of the price after the evacuation of all materials composing the platform, out of the work site.

2.2 Item 2. – Replacement of the Crowning Walls

.1 Item 2.1 – Excavations and stockpiling

- .1 Payment item 2.1 of the *Schedule of Prices* is priced per cubic meter (m³) for excavated and stockpiled backfilled material. The volume shall be calculated based on a joint statement of the excavations in accordance with the requirements of the plans and specifications.
- .2 Price includes, but is not limited to, the following:
 - .1 Mobilization of labor, tools and equipment required for the execution of the work;
 - .2 Complete removal of stumps and roots in excavation areas and the disposition;
 - .3 Drying and drainage of the excavation bottom;
 - .4 Excavation, loading, transport and stockpiling of the backfilled material;
 - .5 Any incidental expenses.

.2 Item 2.2 – Disposal of Contaminated Soil

.1 Item 2.2.1 to 2.2.4 – Range <A, A-B, B-C, C+

- .1 Payment items 2.2.1 to 2.2.4 of the *Schedule of Prices* are priced per tonnes (t) of evacuated soil for the disposal of different types of contaminated soils range <A, A-B, B-C and C+, in accordance with the requirements of the specifications and drawings, and as directed by the Government Representative.
- .2 The amount includes, but is not limited to, the following:
 - .1 Disposal of contaminated soil contaminated soils <A, A-B, B-C, C+, as directed by the Government Representative.
 - .2 Loading, transport off site and treatment as prescribed by Section 01 74 21 *Construction / Demolition Waste Management and Disposal* and by section 01 35 13.43, *Special project procedures for contaminated sites*;
 - .3 Stockpiling and off-site disposal
 - .4 Clean-up;
 - .5 Any incidental expenses.

- .3 The post of disposal of contaminated soils <A includes the loading and off site disposal of pebbles with a diameter equal to or greater than 300 mm present in the embankments and those with a diameter equal to or greater than 150 mm in the last layer of 300 mm.

- .3 Items 2.3, –Demolition and/or removal of collapsed walls
 - .1 The line item 2.3 of the Schedule of Prices are priced per cubic meter (m³) of concrete demolished, in accordance with the requirements of the specifications and drawings, and as directed by the Government Representative.
 - .2 The amount includes, but is not limited to, the following:
 - .1 Preparation, presentation, and correction of the Work Plan regarding the demolition of the wall;
 - .2 The mobilization of labour, tools, and equipment required to carry out the work;
 - .3 All required saw cuts;
 - .4 The demolition of defective and sound concrete as directed by the Government Representative;
 - .5 Cleaning, surface preparation and disposition of debris;
 - .6 Cleaning the reinforcing steel to be retained;
 - .7 Cleaning of the concrete substrate;
 - .8 The collection and treatment of demolition materials as prescribed by Section 01 74 21 *Construction / Demolition Waste Management and Disposal*;
 - .9 Any incidental expenses.

- .4 Item 2.4 - Galvanized reinforcement
 - .1 The price to the payment item 2.4, of the *Schedule of Prices* is priced per kilogram (kg) of steel according to the quantities placed in the formwork, in accordance with the requirements of the drawings and specifications.
 - .2 This item includes also the reinforcement needed for the stairs reconstruction has shown on the drawings.
 - .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation and correction of the Work Plan for the Installation of Steel Bars;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The preparation, presentation, and correction, if required, of the shop drawings and the slip of the frames;
 - .4 The supply of reinforcing bars and the shaping thereof,
 - .5 Galvanization where stipulated in the plans and specifications;
 - .6 The cuts and adjustment on site;
 - .7 Installation of reinforcing steel required;
 - .8 Any incidental expenses.

- .5 Items 2.5 - Chemical anchorage
 - .1 Item 2.5.1 and 2.5.2 – Chemical anchorage 15M, Chemical anchorage 20M
 - .1 The price to the payment items 2.5.1 and 2.5.2 of the Schedule of Prices are priced per unit of chemical anchor, in accordance with the requirements of the plans and specifications.
 - .2 This item includes also the anchorage needed for the stairs reconstruction has shown on the drawings.
 - .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings and anchor chemical technical sheet;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Drilling and cleaning of holes for the installation of chemical anchors;
 - .4 The supply, handling, transport and installation of steel anchor rods and anchor chemicals;
 - .5 The execution of tests on control anchorages, in accordance with Section 03 30 03;
 - .6 Any incidental expenses.
 - .4 The following items are excluded from this item:
 - .1 Anchors, used to replace the formwork tie-rods, used to hold the formwork in place, and which are required for placing concrete on existing concrete, are not covered by any item in the slip. All costs incurred by the Contractor for the construction of these works are included in the price of the formwork;
- .6 Positions 2.6 – Cast-in-Place Concrete
 - .1 The price in item 2.6 of the Schedule of Prices is priced per cubic meter (m³) of wall concrete, the quantities shall be calculated according to the theoretical dimensions in accordance with the requirements of the plans and specifications.
 - .2 This item includes the concrete for the stairs reconstruction as shown on the drawings.
 - .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction, if required, of shop drawings, the concreting procedure, the descriptions of the mixtures and the technical data sheets required;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Supply, installation and dismantling of formwork;
 - .4 Supply and installation of chamfers;
 - .5 The supply and application of mold release agent;
 - .6 Supply and installation of formwork ties;

- .7 The supply and application of repair mortar to the location of the formwork ties;
 - .8 The anchors, used to replace the formwork tie-rods, used to hold the formwork in place and required for the placement of concrete on existing concrete.
 - .9 Supply and installation of steel wire;
 - .10 The supply, transport, handling and placing of the drain 150 mm x 150 mm;
 - .11 The supply, transport, handling and placing of the steel components incorporated in the concrete, as shown in the drawings;
 - .12 Treatment of substrate before concreting;
 - .13 Supply, installation, vibration, finishing, wet curing of concrete;
 - .14 The execution of the saw-strokes shown in the drawings;
 - .15 Cleaning of concrete surfaces adjacent to the concreting area;
 - .16 At the end of the work, off-site evacuation of the formwork materials and correction of defective repairs;
 - .17 Concrete Finishing
 - .18 Treatment of surplus materials in accordance with Section 01 74 21, *Construction / Demolition Waste Management and Disposal*;
 - .19 Any incidental expenses.
- .7 Position 2.7 - Bollards
- .1 The price at item 2.7 of the Schedule of Prices is unit priced for the removal, surface preparation, painting and replacing of the bollards in accordance with the requirements of the drawings and specifications.
 - .2 **Note that the existing bollard paint contain lead.** The Contractor must adapt his price to take into account the requirement of CNESST in terms of lead exposition during stripping.
 - .3 The surface preparation and the paint stripping containing lead can't be done in the field work zone. The works must be done inside a factory.
 - .4 Price includes, but is not limited to, the following:
 - .1 The survey of the bollard localisation, the preparation, presentation, and correction, if required, of shop drawings, the paint stripping procedure containing lead, the painting procedure, samples and technical data sheets required;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Removal, transportation, handling, storage of bollards;
 - .4 The supply, handling, transport and use of materials;
 - .5 All costs incurred in the preparation of surfaces;
 - .6 The lead paint removal wastes disposition;

- .7 Painting of the bollards
- .8 Repositioning bollards, including new anchors of the same size as the existing one (same localisation them existing);
- .9 In the event of damage, immediately repair the affected items and at the Contractor's expense;
- .10 All costs related to the work in section 35 59 29 - Mooring equipment;
- .11 Any incidental expenses.
- .5 The submitted price is paid as shown below:
 - .1 40% of the price after the removal of the Bollards to the satisfaction of the ministry representative;
 - .2 60% of the price after the restoration of the Bollards, to the satisfaction of the ministry representative.
- .8 Posts 2.8 - Rungs
 - .1 The price at item 2.8 of the Schedule of Prices is unit priced for the establishment of a series of steps in accordance with the requirements of the plans and specifications.
 - .2 The unit rungs include steps similar to the existing conditions. The sets of steps are composed with holes for the feet and galvanized reinforced steel in front and on top of the walls as described on the plans. The price also includes the support to hold the bars.
 - .3 The existing conditions is composed of four ranks on the front face and one on the top. In case of variation, the rungs will be paid proportionally.
 - .4 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings, samples, and technical data sheets;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The supply, transport, handling and setting of the echelons, such as the existing ones;
 - .4 Any incidental expenses.
- .9 Item 2.9- Excavation backfilling
 - .1 The price at item 2.9 of the Schedule of Prices is priced per cubic meter (m³) for the materials who, according to the laboratory test results, are adequate for reuse. The volume shall be calculated based on a joint statement of the of the backfilled excavation.
 - .2 Price includes, but is not limited to, the following:
 - .1 Mobilization of labor, tools and equipment required for the execution of the work;
 - .2 The loading, the transport, the execution of the backfill;

- .3 Compaction;
 - .4 Cleaning of premises;
 - .5 Any incidental expenses.
- .10 Item 2.10- Type 1 borrowing materials, MG-20
- .1 The price at item 2.10 of the Schedule of Prices is priced per tonne (t) for the borrowed materials in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 This item covers materials that replace materials deemed unsuitable by the Government Representative.
 - .2 Transportation of loan materials to the site.
 - .3 The supply and installation of borrowed materials in accordance with the plans, specifications, and instructions of the Government Representative.
 - .4 Compaction;
 - .5 Cleaning of premises;
 - .6 Any incidental expenses.
- .11 Item 2.11 - Concrete for support pad (Concrete 1 MPa)
- .1 The price at item 2.11 of the Schedule of Prices is priced per cubic meter (m³) for the backfill concrete in accordance with the requirements of the plans and specifications and the instructions of the Government Representative.
 - .2 The concrete of the support pad is a pumpable concrete with a minimum compression resistance of 1 MPa.
 - .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings, the concreting procedure, the descriptions of the mixtures and the technical data sheets required;
 - .2 Supply, installation and dismantling of formwork;
 - .3 Carrying concrete for the support pad to the site.
 - .4 Purchase and installation of support pad per plans and specifications.
 - .5 Treatment of surplus materials in accordance with Section 01 74 21, *Construction / Demolition Waste Management and Disposal*
 - .6 Cleaning of premises;
 - .7 Any incidental expenses.

- .12 Item 2.12 - Perforated drain 200 mm and geotextile, PVC (type 1) or PVC COEX (type 1) or PE (type 2), 180 kPa min.
- .1 The price at item 2.12 of the Schedule of Prices is priced per linear meter (m. Lin.) for the perforated drain in accordance with the requirements of the plans and specifications.
 - .2 The drainage system to install behind the crowning wall must have a diameter of 200mm.
 - .3 Price includes, but is not limited to, the following:
 - .1 The supply of materials, the installation of drains including the installation of the geotextile, the preparation of the foundation, the clear stone support cushion, the connection of the elements and all accessories required for the installation Such as joints between the various sections;
 - .2 The execution of the slope needed for drainage;
 - .3 Cleaning of premises;
 - .4 Any incidental expenses.
- .13 Item 2.13- Top Soil
- .1 The price at item 2.13 of the Schedule of Prices is priced per square meter (m²), based on the area covered in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 Stripping, loading, transport and storage of topsoil;
 - .2 The preparation of the ground for the placement of the topsoil;
 - .3 The supply of the material, loading, transport, spreading, leveling, stripping, removal of woody debris and waste, and any amendments necessary to make the material conform to plans and specifications;
 - .4 Loading, transport and use of topsoil;
 - .5 Any incidental expenses.
- .14 Item 2.14 – Laying Sod
- .1 The price at item 2.14 of the Schedule of Prices is priced per square meter (m²) for laying sod and shall be used to measure the maintenance of the sodded area during the guarantee period in square meters in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 The supply, implementation of materials in accordance with the plans and directives of the Government Representative;
 - .2 Recovery of sodding of portions of covered surfaces by less than 75% shoot height 150 mm (including watering)
 - .3 Cleaning of premises;
 - .4 First lawn mowing;

- .5 Any incidental expense
- .3 It is noted that only the area above the excavated trench is included in this payment item. Costs related to all other areas damaged by the work are considered miscellaneous and are included in the reclamation price.

.15 Posts 2.15 - Geotextile

- .1 The price at item 2.15 of the Schedule of Prices is priced per square meter (m²) based on the actual surface area covered, without addition for overlap, for the geotextile required for the excavations, in accordance with the requirements of the plans and specifications.
- .2 Price includes, but is not limited to, the following:
 - .1 The provision of warehousing, handling, transport, laying, assembling of slicks, fixing anchorages, and the use of materials in accordance with drawings and specifications;
 - .2 Cleaning and shimming;
 - .3 Any incidental expenses.

2.3



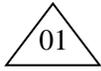
Item 3. - Repair of the crowning wall without overlay

.1 Item 3.1 - Cast -in-Place Concrete

- .1 The price at item 3.1 of the Schedule of Prices is priced per cubic meter (m³) of wall concrete, the quantities are calculated according to the actual quantities put in place, in accordance with the requirements of the plans and specifications.
- .2 The type 2A are repairs to be done continuously on all length of selected sections.
- .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation and correction, if required, of the Work Plan for the demolition of the wall;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The demolition of defective and sound concrete, as directed by the Government Representative;
 - .4 The 300 mm excavation at the back of the wall, if applicable;
 - .5 Loading, transport and storage of excavated material;
 - .6 Loading, transport and installation of the embankment with the excavated material;
 - .7 Saw lines required;
 - .8 Cleaning of reinforcing steel to be retained;
 - .9 Cleaning and surface preparation,
 - .10 Supply, installation and dismantling of formwork;
 - .11 Supply and installation of chamfers;

- .12 The supply and application of mold release agent;
 - .13 Supply and installation of formwork ties;
 - .14 The supply, transport, handling and placing of the steel components incorporated in the concrete, as shown in the drawings;
 - .15 Supply, installation, vibration, finishing, wet curing of concrete (including additional concrete at bollard localisation);
 - .16 The collection of demolition materials, their disposal outside the building site and their treatment in accordance with the requirements of Section 01 74 21, *Construction/Demolition Waste Management and Disposal*;
 - .17 Any incidental expenses.
- .4 The submitted price is paid as shown below:
- .1 100% of the price after the concrete curing has been completed to the satisfaction of the ministry representative;
- .2 Item 3.2 - Galvanized reinforcement
- .1 The price to the payment item 3.2 of the *Schedule of Prices* is priced per kilogram (kg) of steel according to the quantities placed in the formwork, in accordance with the requirements of the drawings and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation and correction of the Work Plan for the Installation of Steel Bars;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The preparation, presentation, and correction, if required, of the shop drawings and the slip of the frames;
 - .4 The supply of reinforcing bars and the shaping thereof,
 - .5 Galvanization where stipulated in the plans and specifications;
 - .6 The cuts and adjustment on site;
 - .7 Installation of reinforcing steel required;
 - .8 Any incidental expenses.
- .3 Items 3.3 - Chemical anchorage
- .1 The price to the payment item 3.3 of the *Schedule of Prices* is priced per unit of chemical anchor, in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings and anchor chemical technical sheet;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Drilling and cleaning of holes for the installation of chemical anchors;

- .4 The supply, handling, transport and installation of steel anchor rods and anchor chemicals;
- .5 The execution of tests on control anchorages, in accordance with Section 03 30 03;
- .6 Any incidental expenses.
- .3 This item excludes the following items:
 - .1 Anchors, used to replace formwork tie-rods, which are used to hold the formwork in place and are required for the placement of concrete on existing concrete, are not covered by any item in the slip and All costs incurred by the Contractor for the construction of these works are included in the price of the formwork;
- .4 Position 3.4 - Bollards
 - .1 The price at item 3.4 of the Schedule of Prices is unit priced for the removal, surface preparation, painting and replacing of the bollards in accordance with the requirements of the drawings and specifications.
 - .2 The contractor has to demolish deeper in the concrete at each bollard localisation to be able to remove it.
 - .3 **Note that the existing bollard paint contain lead.** The Contractor must adapt his price to take into account the requirement of CNESST in terms of lead exposition during stripping.
 - .4 The surface preparation and the paint stripping containing lead can't be done in the field work zone. The works must be done inside a factory.
 - .5 Price includes, but is not limited to, the following:
 - .1 The survey of the bollard localisation, the preparation, presentation, and correction, if required, of shop drawings, the paint stripping procedure containing lead, the painting procedure, samples and technical data sheets required;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Removal (including local concrete demolition), transportation, handling, storage of bollards;
 - .4 The supply, handling, transport and use of materials;
 - .5 All costs incurred in the preparation of surfaces;
 - .6 The lead paint removal wastes disposition;
 - .7 Painting of the bollards
 - .8 Repositioning bollards, including new anchors of the same size as the existing one (same localisation them existing);
 - .9 In the event of damage, immediately repair the affected items and at the Contractor's expense;
 - .10 All costs related to the work in section 35 59 29 - Mooring equipment;
 - .11 Any incidental expenses.



- .6 The submitted price is paid as shown below:
- .1 40% of the price after the removal of the Bollards to the satisfaction of the ministry representative;
 - .2 60% of the price after the restoration of the Bollards, to the satisfaction of the ministry representative.

.5 Posts 3.5 - Rungs

- .1 The price at item 3.5 of the Schedule of Prices is priced per unit for the establishment of a series of steps in accordance with the requirements of the plans and specifications.
- .2 The unit rungs include steps similar to the existing conditions. The sets of steps are composed with whole for the feet and galvanized reinforced steel in front and on top of the walls as described on the plans. The price also includes the support to whole the bars.
- .3 The existing conditions is composed of four ranks on the front face and one on the top. In case of variation, the rungs will be paid proportionally.
- .4 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation and correction, if required, of shop drawings, samples and technical data sheets;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The supply, transport, handling and installation of steps including new anchorages of the same size as the existing one;
 - .4 Any incidental expenses.

.6 Item 3.6 – Laying Sod

- .1 The price at item 3.6 of the Schedule of Prices is priced per square meter (m²) for laying sod and shall be used to measure the maintenance of the sodded area during the guarantee period in square meters in accordance with the requirements of the plans and specifications.
- .2 Price includes, but is not limited to, the following:
 - .1 The supply, implementation of materials in accordance with the plans and directives of the Government Representative;
 - .2 Recovery of sodding of portions of covered surfaces by less than 75% shoot height 150 mm (including watering)
 - .3 Cleaning of premises;
 - .4 First lawn mowing;
 - .5 Any incidental expense

- .3 It is noted that only the area above the excavated trench is included in this payment item. Costs related to all other areas damaged by the work are considered miscellaneous and are included in the reclamation price.

2.4 Item 4. – Repair of concrete seat and/or crevices

- .1 Items 4.1 – Concrete Demolition
- .1 The price at item 4.1 of the Schedule of Prices is priced per square meter (m²) of demolish seat concrete surface area, in accordance with the requirements of the specifications and drawings, and as directed by the Government Representative.
- .2 The amount includes, but is not limited to, the following:
- .1 Preparation, presentation, and correction of the Work Plan regarding the demolition of the seat surface;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 All required saw cuts;
 - .4 The demolition of defective and sound concrete as directed by the Government Representative;
 - .5 The cleaning of steel reinforcement to be conserved;
 - .6 The cleaning of concrete substrate to be conserved and disposition of debris;
 - .7 The collection and treatment of demolition materials as prescribed by Section 01 74 21 *Construction / Demolition Waste Management and Disposal*;
 - .8 Any incidental expenses.
- .2 Items 4.2 – Galvanized wire mesh 51x51 MW9,1xMW9,1
- .1 The price at item 4.2 of the Schedule of Prices is priced per square meter of wire mesh, in accordance with the requirements of the specifications and drawings and as directed by the Government Representative.
- .2 The amount includes, but is not limited to, the following:
- .1 The preparation, presentation, and correction of the Work Plan for the installation of wire mesh;
 - .2 The mobilization of labour, tools, and equipment required to carry out the work;
 - .3 The supply of wire mesh flat sheets;
 - .4 Installation of required wire mesh including overlap;
 - .5 Steel wire used to connect the wire mesh sheets;
 - .6 Any incidental expenses.
- .3 Item 4.3 - Galvanized reinforcement

- .1 The price to the payment item 4.3 of the *Schedule of Prices* is priced per kilogram (kg) of steel according to the quantities placed in the formwork, in accordance with the requirements of the drawings and specifications.
- .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation and correction of the Work Plan for the Installation of Steel Bars;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The preparation, presentation, and correction, if required, of the shop drawings and the slip of the frames;
 - .4 The supply of reinforcing bars and the shaping thereof,
 - .5 Galvanization where stipulated in the plans and specifications;
 - .6 The cuts and adjustment on site;
 - .7 Installation of reinforcing steel required;
 - .8 Any incidental expenses.
- .4 Items 4.4 - Chemical anchorage
 - .1 The price to the payment item 4.4 of the Schedule of Prices is priced per unit of chemical anchor, in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings and anchor chemical technical sheet;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 Drilling and cleaning of holes for the installation of chemical anchors;
 - .4 The supply, handling, transport and installation of steel anchor rods and anchor chemicals;
 - .5 The execution of tests on control anchorages, in accordance with Section 03 30 03;
 - .6 Any incidental expenses.
- .5 Items 4.5 – Shotcrete
 - .1 The price to the payment item 4.5 of the Schedule of Prices is priced per Cubic meter (m³) of wall concrete, in accordance with the requirements of the specifications and drawings, and as directed by the Government Representative.
 - .2 For the quantity calculation, an average thickness of 300mm has been used.
 - .3 Price includes, but is not limited to, the following:
 - .1 Costs related to the cooling of concrete or other approved method of implementation of concrete in hot weather must be included in the unit price of concrete;

- .2 The preparation, presentation, and correction of shop drawings, the concreting procedure, the descriptions of the mixtures and the technical data sheets required;
- .3 The certification of the spray gun operator;
- .4 The mobilization of labour, tools, and equipment required to carry out the work;
- .5 The supply, installation, and dismantling of required formwork;
- .6 The identification, marking and adjustment of the projected slope;
- .7 Supply, installation, vibration, finishing, and wet curing of concrete;
- .8 The moulds for the manufacture of the samples;
- .9 Implementation, finishing and treatment of surfaces and cleaning surfaces abutting;
- .10 At the end of the work, repair of the defective zone;
- .11 Saw cut as shown on the drawing;
- .12 Cleaning of adjacent concrete surface;
- .13 Treatment of surplus materials in accordance with the requirements of Section 01 74 21 Construction / Demolition Waste Management and Disposal;
- .14 Any incidental expenditure.

2.5 Item 5. – Traffic maintenance end temporary signage

The temporary signage and the dimensions of signs on the bike path and streets have to be compliant with Annexe F – Liste des panneaux de signalisation pour les voies cyclables, with chapter 7 – Voies cyclables and with tome V – Signalisation routière – Volume 1, 2 and 3 of road works published by “Les publications du Québec”.

The signs used for this project have to be obligatory bilinguals.

- .1 Item 5.1- Traffic Maintenance and Temporary Signage
 - .1 The price at item 5.1 is a daily price for traffic and temporary signaling in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 Maintenance of traffic and temporary signaling of the cycling path as presented in the specification annexe;
 - .2 The preparation of all signaling plans The plans must be signed by an engineer member of the “ordre des ingénieurs du Québec”;
 - .3 Mobilisation maintenance and dissembling of the temporary signaling;
 - .4 Maintenance of access to properties;
 - .5 The provision of signalers as required;

- .6 The provision, mobilization, maintenance, replacement in the event of breakage or vandalism, the commissioning or disengagement, the displacement and demobilization of the temporary signaling required to carry out work on the entire site in accordance with the requirements of this document;
 - .7 Maintenance of signs and traffic lanes including inspections requested;
 - .8 Temporary signaling, tools, equipment, vehicle and manpower required for the complete execution of all works;
 - .9 Modification and rehabilitation of existing signage;
 - .10 Closing of the two pedestrian accesses by Monk boulevard as shown in the specification annexe and the required signs for the pedestrian detour;
 - .11 Closing of the bike path with signaling personnel for the implementation and dismantling of the deviation path and work areas;
 - .12 Bilingualism of the temporary signs;
 - .13 As well as other costs relating to the special requirements for traffic control;
 - .14 Any incidental expenses.
- .3 The submitted price is paid as shown below:
- .1 A portion equal to 20 % of the total amount bid for this item will be paid with the first progress claim, provided that the work has begun.
 - .2 Other progress payments under this item will be paid to a percentage consistent with the general progress of work for each progress claim period.
- .2 Item 5.2 – Temporary deviation of the cycling path
- .1 The price at item 5.2 of the Schedule of Prices is a lump sum for the conformity and installation of a temporary deviation of the cycling path in accordance with the requirements of the specifications.
 - .2 The Linear length of the deviation is about 230m. The contractor have to foresee the following installation steps:
 - .1 Removing of the existing laying sod under the temporary path;
 - .2 Installation of a geotextile membrane type III;
 - .3 Installation and compaction of a layer of MG-20 of thickness 150mm on all the length;
 - .4 Installation and compaction of a layer of temporary pavement ESC-10 (PG 50-28) on all the length.
 - .3 Price includes, but is not limited to, the following:
 - .1 Mobilization of labor, tools and equipment required for the execution of the work;
 - .2 Removing, transportation and disposition of the laying sod;
 - .3 Transportation and supply of all materials to the work zone (geotextile, MG-20, pavement, etc.);

- .4 Implementation, preparation and compaction of materials;
 - .5 Temporary marking of the temporary path with a water base paint according to MTQ tome V;
 - .6 Demobilization at the end of the contract;
 - .7 Transportation and disposition of the materials;
 - .8 Supply, transport and install the new laying sod layer;
 - .9 Cleaning of the area;
 - .10 Any incidental expenses.
- .4 The submitted price is paid as shown below:
- .1 60% of the price after the installation of the Temporary deviation of the cycling path to the satisfaction of the ministry representative;
 - .2 40% of the price after the removal of all materials composing the Temporary deviation of the cycling path, out of the work site.
- .3 Item 5.3 - Special Panels
- .1 The price at item 5.3 of the Schedule of Prices is priced per square meter (m²) for the conformity and installation of special panels and signs in accordance with the requirements of the drawings and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation and correction of shop drawings signed and sealed by a member engineer in good standing of the Ordre des ingénieurs du Québec;
 - .2 Obtaining all required certificates;
 - .3 The supply, shaping, transportation and handling of the materials required for the application of the special panels and signs;
 - .4 Mobilization of labor, tools and equipment required for the execution of the work;
 - .5 The provision of accessories required for the installation of panels and signs such as poles, braces, hardware;
 - .6 Implementation, maintenance, replacement in case of accident, breakage or vandalism of special panel;
 - .7 Demobilization of special panels and signs at the end of the work;
 - .8 Turning the traffic sign on or off, as often as required;
 - .9 Temporary signage required during operations;
 - .10 Any incidental expenses.

2.6 Item 6 – Precast concrete pavers

.1 Item 6.1 – Precast concrete pavers (B4-N-43-D)

- .1 The price at item 6.1 of the Schedule of Prices is priced per square meter (m².) for the construction of a new precast concrete pavers in accordance with the plans and specifications.
- .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of shop drawings and technical sheets of all materials and products used;
 - .2 The supply of paving samples and all other requirements describe at specification section 32 14 13;
 - .3 Mobilization of labor, tools and equipment required for the execution of the work;
 - .4 The removing and storage of existing pavers in zone 1 as shown on the drawing 26 of 34;
 - .5 The removing, transportation and disposition of the existing pavement as shown on drawing 26 of 34;
 - .6 The removing, transportation and disposition of the existing sand bed and existing foundation on a thickness of 300mm in the zones 1 and 2 as shown on drawing 26 of 34;
 - .7 Transportation and supply of all materials to the work zone and implementation (Geotextile, MG-20, sand bed, concrete pavers, polymeric joints, anchors, PVC borders, etc.);
 - .8 Compaction of the granular foundation MG-20;
 - .9 Cleaning of the surface;
 - .10 Any incidental expenses.
- .1 The submitted price is paid as shown below:
 - .1 40% of the price after the removal of Precast concrete pavers to the satisfaction of the ministry representative;
 - .2 60% of the price after the restoration of Precast concrete pavers, to the satisfaction of the ministry representative.

2.7 Item 7. - Provision for winter conditions - Concreting in cold weather

.1 Item 7.1 - Temporary Shelter for Concrete Work

- .1 The price at item 7.1 of the Schedule of Prices is priced per linear meter (m. Lin.) to offset all costs incurred for the temporary shelter for concrete work in accordance with the requirements of the plans and specifications.
- .2 Temporary shelter is payable only if it is required in writing by the Government Representative.
- .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction of the shop drawings and the description of the shelter.

- .2 Mobilization of labor, tools and equipment required for the execution of the work;
- .3 The supply, handling and transportation of the materials required to construct the shelter;
- .4 Installation, maintenance during construction and dismantling at the end of the temporary shelter;
- .5 Heating the temporary shelter during the work;
- .6 Off-site transportation of materials;
- .7 Any incidental expenses.
- .4 The bid price is paid as follows:
 - .1 60% of the amount after assembly of the shelter to the satisfaction of the Representative of the Ministry;
 - .2 40% of the amount after the evacuation of the materials that made up the shelter, outside the building site.
- .2 Item 7.2 - Insulation (RSI 0.40 per coat)
 - .1 The price at item 7.2 of the Schedule of Prices is priced per square meter (m²) of new uncut concrete surface covered with insulation in accordance with the requirements of the plans and specifications.
 - .2 Insulation layers shall be payable only if required in writing by the Government Representative.
 - .3 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction, if required of the description of the composition of the insulating layer;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The supply, handling, transportation, installation, maintenance during construction, removal, and disposal of insulation layers at the end of the work;
 - .4 The cost of insulation protection of concrete required because of the correction of defective works shall be borne by the Contractor.
 - .5 Any incidental expenses.
 - .4 The bid price is paid as follows:
 - .1 60% of the amount after installation of the insulation layers requested;
 - .2 40% of the post after the removal of the insulating materials from the building site.
- .3 Item 7.3 - Heating of Concrete Components
 - .1 The price at item 7.3 of the Schedule of Prices is priced per cubic meter (m³) of concrete or cement slurry installed, the components of which are heated in accordance with the requirements of the drawings and specifications.

- .2 Price includes but is not limited to:
 - .1 Heating of the mixing water (between 40 ° C and 80 ° C) used for the manufacture of the concrete;
 - .2 Heat aggregates to remove frozen pieces, snow, and ice;
 - .3 The cost of heating the concrete or grout components without the need for shrinkage because of the correction of defective work shall be borne by the Contractor;
 - .4 Any incidental expenses.

2.8 Item 8 - Specialty Supplies

- .1 Item 8.1 - Installation of a legal survey marker
 - .1 The price at item 8.1 of the Schedule of Prices is priced per unit in accordance with the requirements of the plans and specifications.
 - .2 Price includes, but is not limited to, the following:
 - .1 The preparation, presentation, and correction, if required, of the technical specification of the marker;
 - .2 Mobilization of labor, tools and equipment required for the execution of the work;
 - .3 The supply manutention transport and installation of the survey marker;
 - .4 Any incidental expenses.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 41 99 – Demolition for minor works
- .2 Section 03 10 00 – Concrete Forming and Accessories
- .3 Section 03 20 00 – Concrete Reinforcing
- .4 Section 03 30 00 – Cast-in-Place Concrete
- .5 Section 03 30 03 – Concrete Repair
- .6 Section 03 37 13 – Shotcrete
- .7 Section 05 50 00 – Metal Fabrications
- .8 Section 09 97 19 – Painting Exterior Metal Surfaces
- .9 Section 31 05 16 – Aggregate Materials
- .10 Section 31 11 00 – Clearing and Grubbing
- .11 Section 31 23 33.01 – Excavating, Trenching and Backfilling
- .12 Section 31 32 19 – Geotextiles
- .13 Section 31 04 31 – Historic Subgrade, Shoring and Bracing
- .14 Section 32 14 13 – Precast concrete pavers
- .15 Section 32 91 19.13 – Topsoil Placement and Grading
- .16 Section 32 92 23 – Sodding
- .17 Section 35 59 29 – Mooring Devices

1.2 REFERENCES

- .1 Definitions:
 - .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally, and/or historically.
 - .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Prevention of pollution and damages to the environment covers the protection of soil, water, air, biological and cultural resources; it also includes management of visual aesthetics, noise, solid, chemical, gaseous, and liquid wastes, radiant energy, radioactive materials, and other pollutants.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - *Submittal Procedures*.

- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature, and data sheets that include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - *Health and Safety Requirements*.
- .3 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by the Government Representative. The Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 The actions included in the Environmental Protection Plan shall be presented with a level of detail that is consistent with the environmental concerns and the construction works to be performed.
- .6 Include in Environmental Protection Plan:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
 - .3 Names and qualifications of persons responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program.
 - .5 Drawings showing the location of temporary excavations or site trails landscaped with backfill, materials, construction, sanitation facilities, deposits of surplus materials or contaminated materials; drawings showing the methods to be used to control runoff and to contain materials on the site.
 - .6 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather.
 - .1 Plans to include measures to minimize amount of material transported onto paved public roads by vehicles or runoff.
 - .7 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .8 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .9 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
 - .10 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
 - .11 Waste Water Management Plan identifying methods and procedures for management discharge of waste waters which are directly derived from

- construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .12 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources, and wetlands.
 - .13 If required a Pesticide treatment plan approved by the APC process.
 - .14 A plan to prevent erosion and sediment transport, indicating the measures to be implemented, including the production of reports to verify compliance with federal, provincial, and municipal laws and regulations;
 - .15 A plan of the work area, showing the activities in every part of the work area and indicating areas of restricted and prohibited use; the plan must include measures for marking the limits of the useable areas and methods of protection of the elements found within the work areas that must be preserved;
- .7 Mitigation and/or compensation measures described in Appendix must be implemented to the satisfaction of the Government Representative.

1.4 FIRES

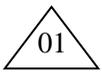
- .1 Fires and burning of rubbish on site is not permitted.

1.5 SEDIMENT BARRIER

- .1 Establish a sediment barrier for use in an aquatic environment consisting of a membrane suspended from a float and weighted at the base by chains or other weights to isolate the rest of the body of water from the part disturbed by work in progress in an effort to prevent suspended sediments from spreading over a wider area. This curtain shall comply with the requirements of the competent authorities. The turbidity curtain must remain in place until the supervisor authorizes its dismantling. The turbidity curtain must be removed or dismantled at the end of the work.
- .2 There is no specific material to be used for the turbidity curtain. The curtain should be carried out on suspended sediments to go into the water. A bathymetric survey is provided to the plane and the channel current is low and wave-free.
- .3 Regularly inspect the turbidity curtain in place to ensure that there is no current movement, upkeep and maintain the curtain in good condition to be effective at all times.
- .4 Remove turbidity curtain when required.

1.6 BARRIER FOR EROSION AND SEDIMENT CONTROL

- .1 All work that consequently leaves a non-consolidated soil exposed (excavated, disturbed or remodeled soil, stored materials, etc.) must be accompanied by erosion and sediment control measures to avoid sediment in water environments. As the work is completed, all redesigned areas must be permanently stabilized. If a delay is required before permanent stabilization, temporary erosion and sediment control measures must remain in place until the supervisor authorizes their dismantling. Temporary measures must be removed at the end of the work.



- .2 Establishing a barrier for erosion and sediment control to prevent soil loss from storm water runoff or wind erosion or transport of this soil on adjacent properties and footpaths. Such means shall comply with the requirements of the competent authorities.
- .3 Any temporary piles of un-consolidated material, such as earth, located within 30 m of a water environment for a period of more than 24 hours, shall be protected by a sediment barrier to avoid the transport of sediments to the water environment.
- .4 Inspect the installation and maintenance until permanent vegetation is established, to ensure efficiency at all times.
- .5 Removal and timely remediation and stabilization of surfaces stirred during the work.

1.7 DRAINAGE

- .1 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .2 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.8 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated by the Government Representative.
- .2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m minimum.
- .3 Restrict tree removal to areas indicated unless having received a written authorization from the Parks Canada Agency manager before beginning the work.
- .4 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid driving and uselessly unloading or storing materials over the root zone of the protected trees.
- .5 Minimize stripping of topsoil and vegetation.

1.9 WORK ADJACENT TO WATERWAYS

- .1 The streams must remain free of debris, and scrap materials.
- .2 No debris or waste waters should be thrown into the Canal.
- .3 No borrowing material can be extracted from the bed of the Canal.
- .4 Accidentally introduced debris must be removed immediately.
- .5 Machinery moving or operating within 30m of a watercourse must use biodegradable hydraulic oil.
- .6 Construction equipment to be operated on land only.
- .7 Avoid indicated spawning beds when constructing temporary crossings of waterways.
- .8 Blasting is not allowed.

1.10 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.
 - .1 Provide temporary enclosures during the on-site cleaning and painting of steel surfaces.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.11 HISTORICAL/ARCHAEOLOGICAL CONTROL

- .1 Provide historical, archaeological, cultural resources, biological resources, and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and identifies procedures to be followed if historical archaeological, cultural resources, biological resources, and wetlands not previously known to be onsite or in area are discovered during construction.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and the Government Representative.

1.12 NOTIFICATION

- .1 The Government Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial, or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform the Government Representative of proposed corrective action and take such action for approval by the Government Representative.
 - .1 Take action only after receipt of written approval by the Government Representative.
- .3 The Government Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

Part 2 Products

2.1 MATERIAL

- .1 Keep the machinery in operation only during use, at the exception of extreme temperatures where the machines are in operation to prevent them from stopping.

Part 3 Execution

3.1 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - *Cleaning*.
 - .1 Leave Work area clean at end of each day.
- .2 Ensure that streams and storm and public sanitary sewers remain free of waste and flushed volatile materials.
- .3 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - *Cleaning*.
- .4 Waste Management: separate waste materials for reuse recycling in accordance with Section 01 74 21 - *Construction/Demolition Waste Management and Disposal*.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Not used.

1.2 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood or equivalent approved by the Government Representative.
 - .2 CGSB 1.59, latest edition, Alkyd Exterior Gloss Enamel or equivalent approved by the Government Representative.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-A23.1/A23.2, latest edition, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-0121, latest edition, Douglas Fir Plywood.
 - .3 CAN/CSA-S269.2, latest edition, Access Scaffolding for Construction Purposes.
 - .4 CAN/CSA-Z321, latest edition, Signs, and Symbols for the Occupational Environment.
- .3 U.S. Environmental Protection Agency (EPA) / Office of Water
 - .1 EPA 832R, last edition, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.
- .4 U.S. Environmental Protection Agency (EPA) / Office of Water
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plan and Best Management Practices.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - *Submittal Procedures*.

1.4 INSTALLATION AND REMOVAL

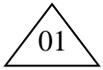
- .1 The Parks Canada Agency has made land available to the Contractor for the installation of construction site facilities (the Contractor's site office, the Government Representative's site office, and storage areas). The mobilization zone is indicated in the annex.
- .2 Prepare a site plan showing the proposed location and dimensions of the area to be fenced and used by the Contractor, the number of required construction trailers, the access routes to the fenced area, and details of the fence installation. Site fences must be rigid and must be at least eight (8) feet high.
- .3 Identify areas that must be covered with gravel to prevent mud accumulation.
- .4 Indicate any additional areas or staging areas.



- .5 Provide construction facilities in order to execute work expeditiously.
- .6 Remove from site all such work after use.

1.5 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, and temporary stairs and ensure proper maintenance throughout the duration of the Works.
- .3 The Contractor shall provide the Departmental Representative access to the work at all times. Platforms and access systems must be maintained in place for the duration of the work.



1.6 HOISTING

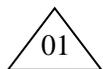
- .1 Provide, operate, and maintain hoists cranes required for moving of workers, materials, and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists cranes to be operated by qualified operator.

1.7 SITE STORAGE/LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.8 CONSTRUCTION PARKING

- .1 Parking will not be permitted on site provided it does not disrupt performance of Work.
- .2 Parking on Site 3 cannot be used by the contractor to park his vehicles. This access is an optional and punctual site access.
- .3 Provide and maintain adequate access to project site.
- .4 Clean runways and taxi areas where used by Contractor's equipment.



1.9 SECURITY

- .1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

1.10 OFFICES

- .1 Provide an office heated to 22 degrees C, lighted 750 lux and ventilated, of sufficient size to accommodate site meetings and furnished with a drawing laydown table.
- .2 Provide marked and fully stocked first-aid case in a readily available location.
- .3 Subcontractors shall provide their own offices as necessary. Direct location of these offices.
- .4 Site office of the Government Representative:

- .1 Provide temporary office for the Government Representative including a parking spot.
- .2 Inside dimensions minimum 3.6 m long x 3 m wide x 2.4 m high, with floor 0.3 m above grade, complete with 4-50 % opening windows and one lockable door.
- .3 Insulate building and provide heating system/cooling system to maintain 22 degrees C inside temperature at -20 degrees C outside temperature.
- .4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood.
- .5 Install electrical lighting system to provide min 750 lx using surface mounted, shielded commercial fixtures with 10 % upward light component.
- .6 The Government Representative's site office must include a high-speed internet connection, with all connection and user fees paid for by the Contractor.
- .7 A photocopier-scanner with auto-charger in new condition, letter size (8 ½ x 11 inches), legal (8 ½ x 14 inches) and tabloid (11 x 17 inches) including stationery for the duration of contract;
- .8 A fax machine letter (8 ½ x 11 inches) and legal (8 ½ x 14 inches), in new condition including stationery for the duration of the contract;
- .9 A microwave and small refrigerator (9 cubic feet minimum).
- .10 A hot/cold water dispenser including drinking water for the duration of the contract.
- .11 Provide private washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory and mirror and maintain supply of paper towels and toilet tissue.
- .12 Equip office with 1 x 2 m table, 4 chairs, 6 m of shelving 300 mm wide, one 3 drawer filing cabinet, one plan rack and one coat rack and shelf.
- .13 The Contractor must keep in place the Government Representative's office until the final work and quantities have been accepted by the Contractor and the Government Representative.
- .14 All supply costs, insurance (vandalism and theft), maintenance and operation of such equipment, and all long-distance charges incurred by the Government Representative or his representatives for this contract, are included in the unit price of the supervisor's office.
- .15 The contractor shall clean the facilities on a weekly basis. These facilities include the Government Representative's private washroom and office.
- .16 Maintain in clean condition.

1.11 EQUIPMENT, TOOL, AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment, and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.12 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.13 CONSTRUCTION SIGNAGE

- .1 Provide and erect project sign, within three weeks of signing Contract, in a location designated by the Government Representative.
- .2 Construction sign 1200 x 2400 mm, of wood frame and plywood construction painted with exhibit lettering produced by a professional sign painter.
- .3 Indicate on sign, name of Owner, Government Representative, of design style established by the Government Representative.
- .4 No other signs or advertisements, other than warning signs, are permitted on site.
- .5 Provide project identification site sign comprising foundation, framing, and one 1200 x 2400 mm signboard as detailed and as described below.
 - .1 Foundations: 15 MPa concrete to CSA-A23.1 minimum 200 mm x 900 mm deep.
 - .2 Framework and battens: SPF, pressure treated minimum 89 x 89 mm.
 - .3 Signboard: Medium Density Overlaid Douglas Fir Plywood to CSA O121.
 - .4 Paint: alkyd enamel to CAN/CGSB-1.59 over exterior alkyd primer to CAN/CGSB 1.189.
 - .5 Fasteners: hot-dip galvanized steel nails and carriage bolts.
 - .6 Vinyl sign face: printed project identification, self adhesive, vinyl film overlay, supplied by the PCA project manager.
- .6 Locate project identification sign where indicated by the Government Representative and construct as follows:
 - .1 Paint surfaces of signboard and framing with one coat primer and two coats enamel. Colour white on signboard face, black on other surfaces.
 - .2 Apply vinyl sign face overlay to painted signboard face in accordance with installation instruction supplied.
- .7 Direct requests for approval to erect Government Representative/Contractor signboard to the Government Representative. For consideration general appearance of Government Representative/Contractor signboard must conform to project identification site sign. Wording in both official languages.
- .8 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSA-Z321.
- .9 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project or earlier if directed by the Government Representative.

1.14 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by the Government Representative.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs.
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Construct access and haul roads necessary.
- .8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .10 Dust control: adequate to ensure safe operation at all times.
- .11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by the Government Representative.
- .12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .13 Provide snow removal during period of Work.
- .14 Remove, upon completion of work, haul roads designated by the Government Representative.

1.15 CONTAMINATED SOILS

- .1 Provide thirty (30) exploration wells for additional sampling for contaminated soils at the beginning of the project.
- .2 These exploratory wells are included in the item Organization, Supervisor, Environment and General Items site

1.16 CLEAN-UP

- .1 Execute all cleaning work in accordance to Section 01 74 11-Cleaning.
- .2 Divide the debris subject to recycling regulations, in accordance to Section 01 74 21 – Construction/Demolition, waste management and disposal.
- .3 Remove construction debris, waste materials, packaging material from work site daily.

- .4 Clean dirt or mud tracked onto paved or surfaced roadways.
- .5 Store materials resulting from demolition activities that are salvageable.
- .6 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- .1 Provide temporary erosion and sedimentation control measures in the form of a geotextile, in accordance to Section 01 35 43 – *Environmental Procedures*.
- .2 Provide sediment barrier in accordance to Section 01 35 43 – *Environmental Procedures*.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 31 11 00 – Clearing and Grubbing
- .2 Section 31 32 19.01 - Geotextiles
- .3 Section 32 14 13 – Precast concrete pavers
- .4 Section 32 91 19.13 – Topsoil Placement and Grading
- .5 Section 32 92 23 – Sodding

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C117-04, Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C136-05, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM D422-632002, Standard Test Method for Particle-Size Analysis of Soils.
 - .4 ASTM D698-00ae1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³) (600 kN-m/m³).
 - .5 ASTM D1557-02e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³) (2,700 kN-m/m³).
 - .6 ASTM D4318-05, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
 - .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
- .3 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A3000-03, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .1 CSA-A3001-03, Cementitious Materials for Use in Concrete.
 - .2 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
- .4 U.S. Environmental Protection Agency (EPA)/Office of Water
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 DEFINITIONS

- .1 Excavation classes: two classes of excavation will be recognized; common excavation and rock excavation.
 - .1 Rock: solid material in excess of 1.00 m³ and which cannot be removed by means of heavy duty mechanical excavating equipment with 0.95 to 1.15 m³ bucket. Frozen material not classified as rock.
 - .2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
- .2 Unclassified excavation: excavation of deposits of whatever character encountered in Work.
- .3 Topsoil:
 - .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
 - .2 Material reasonably free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 25 millimeters 1 inch in any dimension.
- .4 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
- .5 Borrow material: material obtained from locations outside area to be graded, and required for construction of fill areas or for other portions of Work.
- .6 Recycled fill material: material, considered inert, obtained from alternate sources and engineered to meet requirements of fill areas.
- .7 Unsuitable materials:
 - .1 Weak, chemically unstable, and compressible materials.
 - .2 Frost susceptible materials:
 - .1 Fine grained soils with plasticity index less than 10 when tested to ASTM D4318, and gradation within limits specified when tested to ASTM D422 ASTM C136: Sieve sizes to CAN/CGSB-8.1 CAN/CGSB-8.2.
 - .2 Table:

Sieve Designation	% Passing
2.00 mm	100
0.10 mm	45 - 100
0.02 mm	10 - 80
0.005 mm	0 - 45
 - .3 Coarse grained soils containing more than 20 % by mass passing 0.075 mm sieve.
- .8 Unshrinkable fill: very weak mixture of cement, concrete aggregates and water that resists settlement when placed in utility trenches, and capable of being readily excavated.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - *Submittal Procedures*.

- .2 Quality Control: in accordance with Section 01 45 00 - *Quality Control*.
 - .1 Submit condition survey of existing conditions as described in EXISTING CONDITIONS article of this Section.
 - .2 Submit for review by the Departmental Representative proposed dewatering heave prevention methods as described in PART 3 of this Section.
 - .3 Submit to the Departmental Representative written notice at least seven (7) days prior to excavation work, to ensure cross sections are taken.
 - .4 Submit to the Departmental Representative written notice when bottom of excavation is reached.
 - .5 Submit to the Departmental Representative testing inspection results report as described in PART 3 of this Section.
- .3 Documents and Workshop Drawings
 - .1 Submit work shop drawings for cofferdam and excavation, trenching and backfilling work to the Departmental Representative for approval, signed by a qualified engineer, a member of the *Ordre des ingénieurs du Canada Quebec*.
 - .2 Prior to commencement of work, submit documentation with regards to the location of underground utilities.
- .4 Procedure
 - .1 Submit to the Departmental Representative, for review, the procedure for storing excavation materials to be used for the backfill.
- .5 Technical Specifications
 - .1 Before commencing the work referred to in this section, submit a list of the main equipment and materials
- .6 Samples:
 - .1 Inform the Departmental Representative at least two (2) weeks prior to beginning Work, of proposed source of fill unshrinkable fill materials and provide access for sampling.
 - .2 Ship samples prepaid to the Departmental Representative, in tightly closed containers to prevent contamination and exposure to elements.
 - .3 At least 4 weeks prior to beginning Work, inform the Departmental Representative source of fly ash and submit samples to the Departmental Representative.
 - .1 Do not change source of Fly Ash without written approval of the Departmental Representative.

1.5 QUALITY ASSURANCE

- .1 Quality control: in accordance with Section 01 45 00 – *Quality Control*.
- .2 Qualification Statement: submit proof of insurance coverage for professional liability prior to commencing work

- .3 Materials testing and compaction testing shall be carried out by a Laboratory designated by the Departmental Representative.
- .4 No more than one (1) week prior to the commencement of backfilling or filling provide the designated testing organization with the descriptive records and grading of the proposed fill material for the work.
- .5 Notify the Departmental Representative in writing not later than forty-eight (48) hours prior to commencing backfilling or filling with the approved materials so that the designated testing laboratory can perform the necessary compaction tests.
- .6 Submit design and supporting data at least two (2) weeks prior to beginning Work.
- .7 Design and supporting data submitted to bear stamp and signature of qualified Professional Engineer, member of the *Ordre des ingénieurs du Québec*.
- .8 Retain the services of a recognized, competent engineer, member in good standing of the *Ordre des ingénieurs du Québec* (where the work will be performed) for the design and inspection of cofferdams, shoring works, bracing works, and underpinning works used during the performance of Work.
- .9 Do not use soil material until written report of soil test results are reviewed approved by the Departmental Representative.
- .10 Health and Safety Requirements:
 - .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse recycling in accordance with Section 01 74 21 - *Construction/Demolition Waste Management and Disposal*.

1.7 EXISTING CONDITIONS

- .1 Buried services:
 - .1 Before commencing work verify establish location of buried services on and adjacent to site.
 - .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
 - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.
 - .4 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
 - .5 Prior to beginning excavation Work, establish location and state of use of buried utilities and structures, notify the Departmental Representative, and clearly mark such locations to prevent disturbance to services during Work.
 - .6 Confirm locations of buried utilities by careful test excavations soil hydrovac methods.
 - .7 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered as indicated.

- .8 Record location of maintained, re-routed and abandoned underground lines.
- .9 Confirm locations of recent excavations adjacent to area of excavation.
- .2 Existing buildings and surface features:
 - .1 Conduct, with the Departmental Representative, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, rail tracks, pavement, survey bench marks and monuments which may be affected by Work.
 - .2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately undertake repairs as directed by the Departmental Representative at the Contractor's expense.
 - .3 Where required for excavation, cut roots or branches as directed by the Departmental Representative.

Part 2 Products

2.1 MATERIALS

- .1 Type 1 and Type 2 fill: properties to Section 31 05 16 - Aggregate Materials and the following requirements:
 - .1 Crushed, pit run or screened stone, gravel or sand.
 - .2 Gradations to be within limits specified when tested to ASTM C136 ASTM C117. Sieve sizes to CAN/CGSB-8.1 CAN/CGSB-8.2.
 - .3 Table:

Sieve Designation	% Passing	
	Type 1	Type 2
75 mm	-	100
50 mm	-	-
37.5 mm	-	-
25 mm	100	-
19 mm	75-100	-
12.5 mm	-	-
9.5 mm	50-100	-
4.75 mm	30-70	22-85
2.00 mm	20-45	-
0.425 mm	10-25	5-30
0.180 mm	-	-
0.075 mm	3-8	0-10

- .2 Geotextiles: to Section 31 32 19.01 - Geotextiles.

Part 3 Execution

3.1 SITE PREPARATION

- .1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.
- .2 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.
- .3 Temporary erosion and sedimentation protection
 - .1 Establish sediment barriers consisting of geotextile in accordance with Section 01 35 43 - *Environmental Procedures*.

3.2 PREPARATION/PROTECTION

- .1 Protect existing features in accordance with Section 01 56 00 - *Temporary Barriers and Enclosures* and applicable local regulations.
- .2 Keep excavations clean, free of standing water, and loose soil.
- .3 Where soil is subject to significant volume change due to change in moisture content, cover and protect to the Departmental Representative.
- .4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
- .5 Protect buried services that are required to remain undisturbed.

3.3 STRIPPING OF TOPSOIL

- .1 Begin topsoil stripping of areas as indicated by the plans and specifications after area has been cleared of brush, weeds, grasses, and removed from site.
- .2 Stripping must be done in such a way as to avoid contaminating the topsoil usable for landscaping with underlying materials of different composition. Thus, the depth of clearing varies per the nature of the terrain.
 - .1 Do not mix topsoil with subsoil.
- .3 The Contractor shall, at its own expense, recover and store all the topsoil required for its work and provide the necessary space for storage
 - .1 Stockpile height not to exceed 2 m and should be protected from erosion.
- .4 If organic soils cannot be used for landscaping, the Contractor shall dispose them.

3.4 COFFERDAMS, SHORING, BRACING AND UNDERPINNING

- .1 Maintain sides and slopes of excavations in safe condition by appropriate methods and in accordance with Section 01 35 29.06 - Health and Safety Requirements and the Health and Safety Act for the Province of Quebec.
 - .1 Where conditions are unstable, the Contractor's engineer shall verify and advise methods.

- .2 During backfill operation:
 - .1 Unless otherwise indicated or directed by the Departmental Representative, remove sheeting and shoring from excavations.
 - .2 Do not remove bracing until backfilling has reached respective levels of such bracing.
 - .3 Pull sheeting in increments that will ensure compacted backfill is maintained at elevation at least 500 mm above toe of sheeting.
- .3 Upon completion of substructure construction:
 - .1 Remove cofferdams, shoring and bracing.

3.5 DEWATERING AND HEAVE PREVENTION

- .1 Keep excavations free of water while Work is in progress.
- .2 Provide for the Departmental Representative's review, approval details of proposed dewatering or heave prevention methods, including dikes, well points, and sheet pile cut-offs.
- .3 Avoid excavation below groundwater table if quick condition or heave is likely to occur.
 - .1 Prevent piping or bottom heave of excavations by groundwater lowering, sheet pile cut-offs, or other means.
- .4 Protect open excavations against flooding and damage due to surface run-off.
- .5 Dispose of water in accordance with Section 01 35 43 - *Environmental Procedures* collection runoff areas and in manner not detrimental to public and private property, or portion of Work completed or under construction.
 - .1 Provide and maintain temporary drainage ditches and other diversions outside of excavation limits.

3.6 EXCAVATION

- .1 Advise, by writing, the Departmental Representative at least seven (7) days in advance of excavation operations for initial cross sections to be taken.
- .2 Excavate to lines, grades, elevations and dimensions as indicated.
- .3 Keep excavated and stockpiled materials safe distance away from edge of trench as directed by the Departmental Representative.
- .4 Restrict vehicle operations directly adjacent to open trenches.
- .5 **All usable materials from second-class excavated material must be used for the construction of embankments.**
- .6 **If usable materials are lost due to the fault of the Contractor, he shall replace them at his own expense with an equivalent volume of materials conforming to the requirements of the plans and specifications.**
- .7 **If cuttings can not be used or are deemed unsuitable by the Department's laboratory, the contractor must discard them.**

- .8 Materials deemed unsuitable by the Department's laboratory will be replaced with Type 1 Mg-20 borrowing materials or backfill class B according to the representative directive.**
- .9 Do not obstruct flow of surface drainage or natural watercourses.
- .10 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .11 Notify the Departmental Representative when bottom of excavation is reached.
- .12 Obtain the Departmental Representative's approval of completed excavation.
- .13 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by the Departmental Representative.
- .14 Correct unauthorized over-excavation as follows:
- .1 Fill under other areas with Type 2 fill compacted to not less than 90 % of corrected Standard Proctor maximum dry density.
 - .2 If excavated bottom materials have been stirred, compact them to a density at least equal to that of the unmovable soil.
- .15 Install geotextiles, immediately after excavation, in accordance with the Departmental Representative and Section 31 32 19.01 - *Geotextiles*.

3.7 STOCKPILING

- .1 The contractor has, at its own expense, to recover and stockpile all the backfill material needed for the works and get the locations for stockpile.
- .1 Stockpile the granular material to prevent segregation.
- .2 The contractor has to take the necessary measure to make sure the compactable excavation material, stockpiled, are protected from bad weather and can be used as backfill.
- .3 The contractor have to expect a minimum of three (3) days delay before receiving the excavated soil qualification results.
- .4 Take the appropriated control measure against erosion and sedimentation, in accordance to section 01 35 43 - *Environmental_procedures*, to prevent the migration of sediment off the work site limits et towards water streams.

3.8 FILL TYPES AND COMPACTION

- .1 Use types of fill as indicated or specified below. Compaction densities are percentages of maximum densities obtained from ASTM D1557.
- .1 Use Type 2 as indicated on the plans, fill and compact to 90 %.
 - .2 Use recoverable material from cuttings as indicated in Plans and compact up to 90%.
 - .3 All groundfill materials shall be deposited and applied in uniform layers up to 300 mm thick after settlement. The diameter of the stone present in the embankments must not exceed the thickness of the layer; 300 mm. The diameter



of the stones must not exceed the thickness of the layer. In addition, the diameter for the last 300 mm must be less than 150 mm. The Contractor must dispose of stones larger than above mentioned outside the building site. The payment for the disposal of the stones must be provided at the disposal post of the contaminated soils <A.

3.9 BACKFILLING

- .1 Do not proceed with backfilling operations until completion of following:
 - .1 The Departmental Representative has inspected and approved installations.
 - .2 Inspection, testing, approval, and recording location of underground utilities.
 - .3 Removal of concrete formwork.
 - .4 Removal of shoring and bracing; backfilling of voids with satisfactory soil material.
- .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
- .3 Do not use backfill material which is frozen or contains ice, snow or debris.
- .4 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .5 Backfilling around installations:
 - .1 Place bedding and surround material as specified elsewhere.
 - .2 Do not backfill around or over cast-in-place concrete within seventy-two (72) hours after placing of concrete.
 - .3 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:
 - .1 Permit concrete to cure for minimum fourteen (14) days or until it has sufficient strength to withstand earth and compaction pressure and approval obtained from the Departmental Representative;
 - .2 If approved by the Departmental Representative, erect bracing or shoring to counteract unbalance, and leave in place until removal is approved by Departmental Representative DCC Representative Departmental Representative.
- .6 Install drainage filter system in backfill as indicated as directed by the Departmental Representative.

3.10 RESTORATION

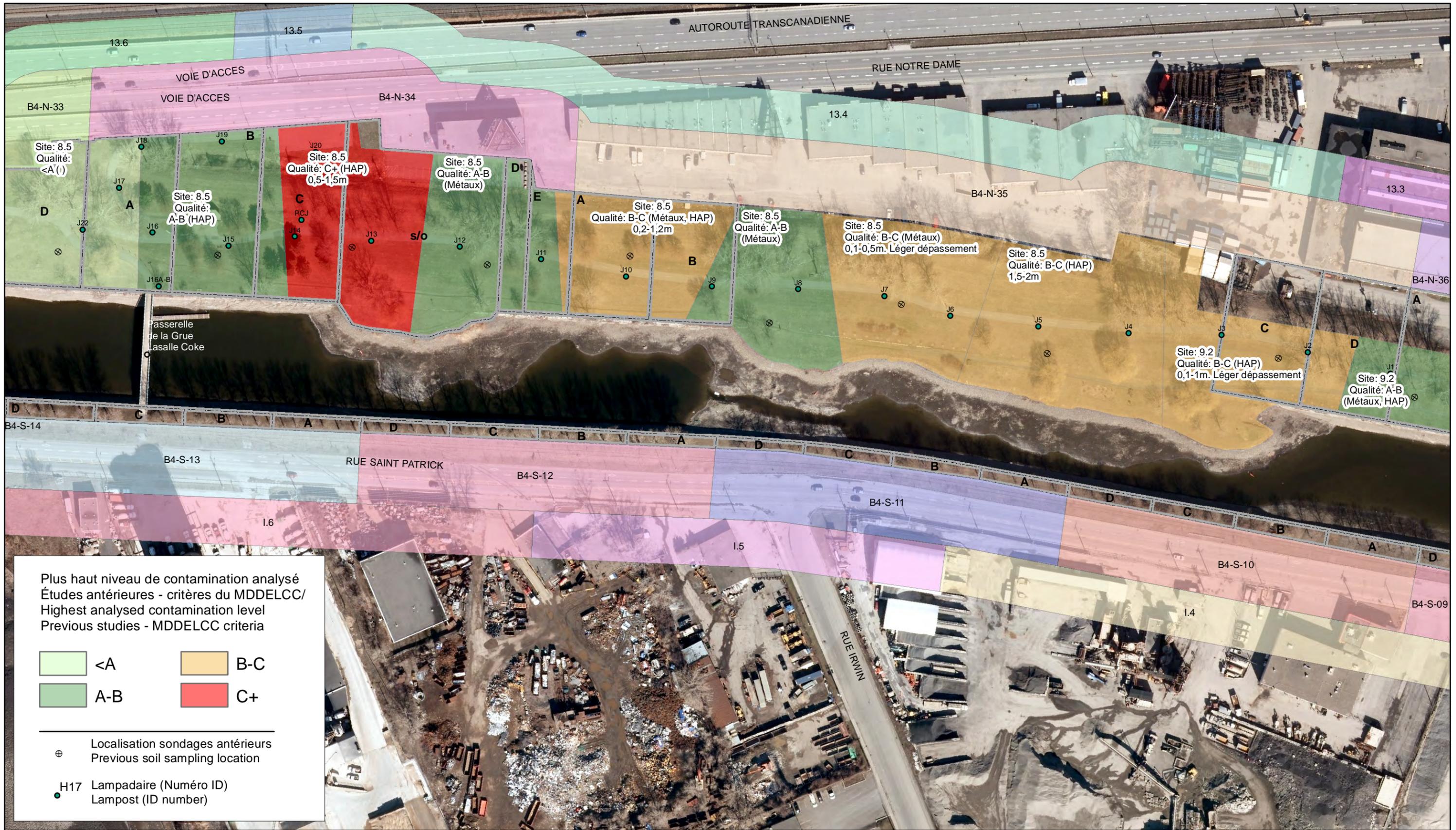
- .1 Upon completion of Work, remove waste materials and debris in accordance to Section 01 74 21 - *Construction/Demolition Waste Management and Disposal*, trim slopes, and correct defects as directed by the Departmental Representative.
- .2 The final leveling shall cover the alterations to be made to render the profiles in accordance with the theoretical longitudinal and transverse lines and all the work required for the cleaning and restoration of the premises.

- .1 In accordance with sections 32 91 19.13 – *Topsoil placing and grading*, 32 92 19.16 - *Hydraulic seeding* and 32 92 23 – *Sodding*.
- .2 Return pavements affected by work to condition and level prior to start of work, taking care to respect the original thickness of these structures.
- .3 Clean and rehabilitate areas affected by work as instructed by Departmental Representative and in accordance with 01 74 11 – *Cleaning*.

END OF SECTION

**REHABILITATION LACHINE CANAL WALLS
REPAIR AND REPLACEMENT OF THE CROWNING
WALLS AND SEAT REPAIRS
(Areas 13.1, 13.2, 13.3, 13.4, 13.5 and 13.6 – Reach No 4))
Project N° CLAC-1455-044
Addendum N° 02**

ANNEX V - Contaminated soil plans



Plus haut niveau de contamination analysé
 Études antérieures - critères du MDDELCC/
 Highest analysed contamination level
 Previous studies - MDDELCC criteria



- Localisation sondages antérieurs
Previous soil sampling location
- H17 Lampadaire (Numéro ID)
Lampost (ID number)





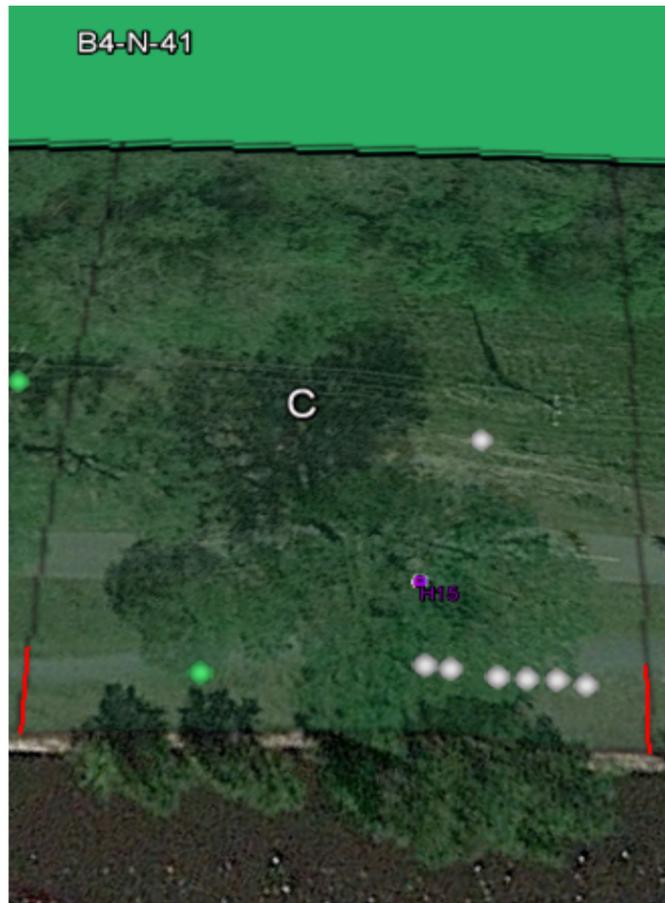
**REHABILITATION LACHINE CANAL WALLS
REPAIR AND REPLACEMENT OF THE CROWNING
WALLS AND SEAT REPAIRS
(Areas 13.1, 13.2, 13.3, 13.4, 13.5 and 13.6 – Reach No 4))
Project N° CLAC-1455-044
Addendum N° 02**

ANNEX VI - List of trees

Section / Section	Sous- section / Sub-section	No < 6m	dhp_1 (mm)	dhp_2 (mm)	dhp_3 (mm)	Distance du mur (m) / Distance from the wall (m)	Photos /pictures
B4-N	Pont / Bridge Monk : limite des travaux /limits of work						
41	C	1	150			0-3	P1
		2	240			0-3	P1
		3	350	180	70	0-3	P1
		4	250			0-3	P1
		5	150	150		0	P1
		6	65			0	P2
		7	85			0	P2
		8	90			0	P2
		9	55			0	P2
		10	130			0	P2
		11	40	20		0	P2
0	D	12	90	25	50	0	P3
39	C	13	230			8	P4
		14	275			8	P4
		15	250			8	P4
	B	16	n.d.			0-3	P5
	A	17	1250			0-3	P6
3		18	350	265	185	0-3	P6
37	D	19	320			0-3	P7
		20	360			0-3	P7
		21	200			0-3	P7
		22	375			0-3	P7
		23	300			0-3	P7
	C	24	360			0-3	P7
		25	355			0-3	P8
	B	26	410			6	P9
		27	510			0-3	P10
		28	350			0-3	P10
	A	29	380			0-3	P10
		30	410			0-3	P10
		31	320			0-3	P10
		32	310			0-3	P10
		0		33	315		

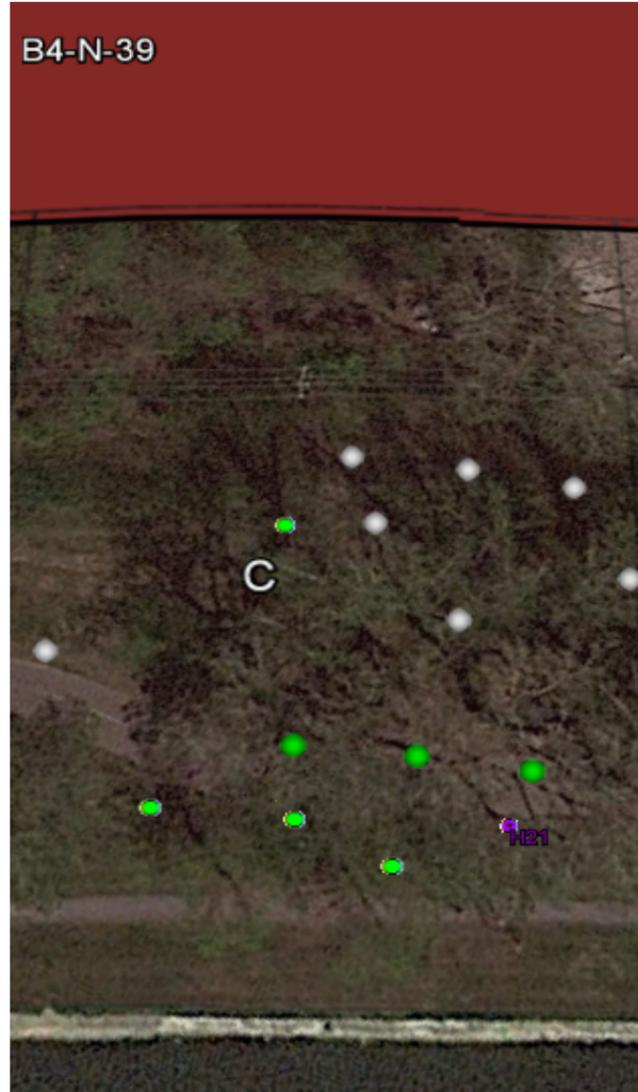
36	D	34	305			0-3	P10
		35	375			0-3	P10
		36	340			0-3	P10
		37	430			0-3	P10
		38	420			3-6	P11
0							
35	D	39	125			0-3	
		40	110			0-3	
		41	90			0-3	
	C	42	340	295	175	0	P12
		43	350			0	P12
	B	44	310			0-3	P13
	A	45	420			0-3	P14
46		165	130	140	0-3	P14	
2							
34	D	47	330	170	150	0-3	P15
	C	48	90			0-3	P16
	B	49	1250			3-6	P17
		50	310	200		3-6	P17
		51	250	150	130	0-3	P18
0							

Passerelle / Footbridge Notre-Dame : limite des travaux / limits of work

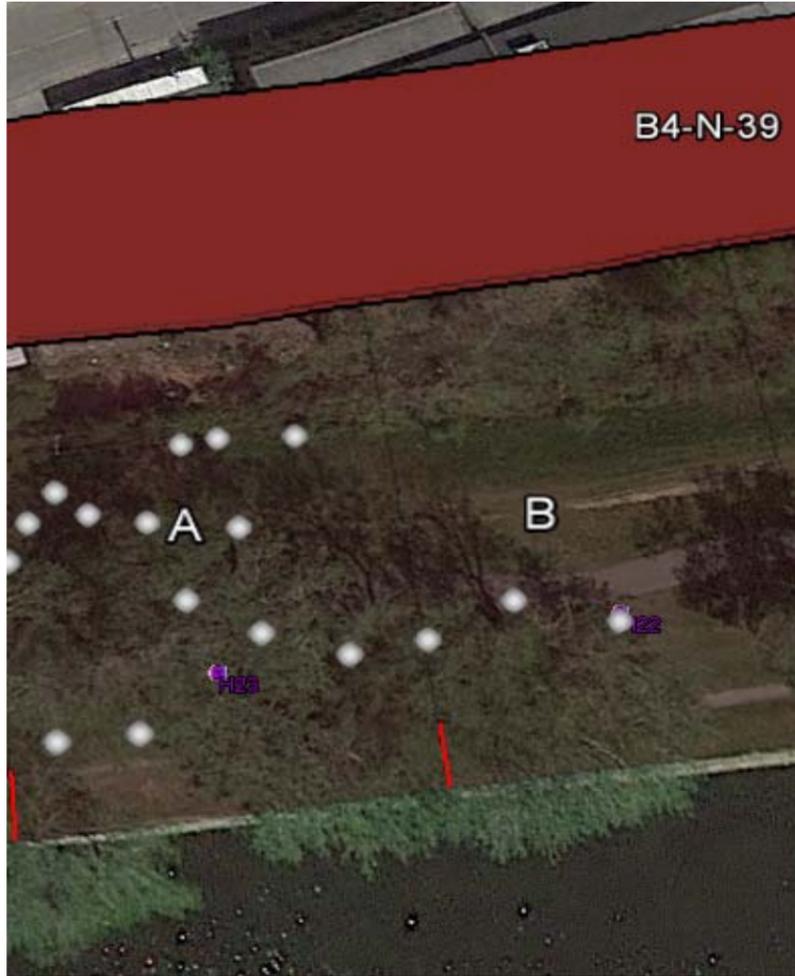


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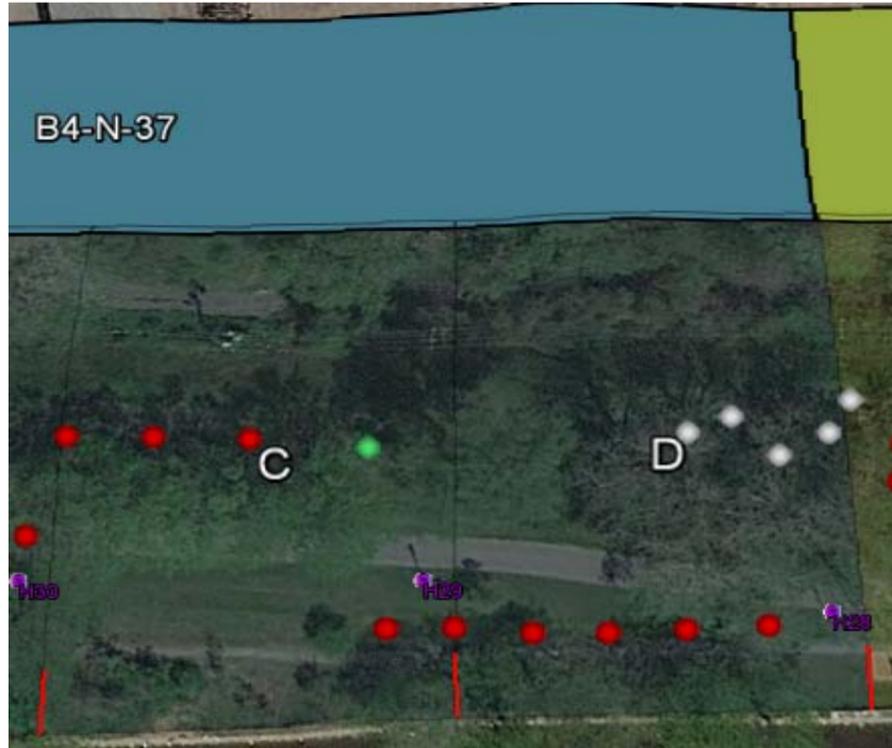




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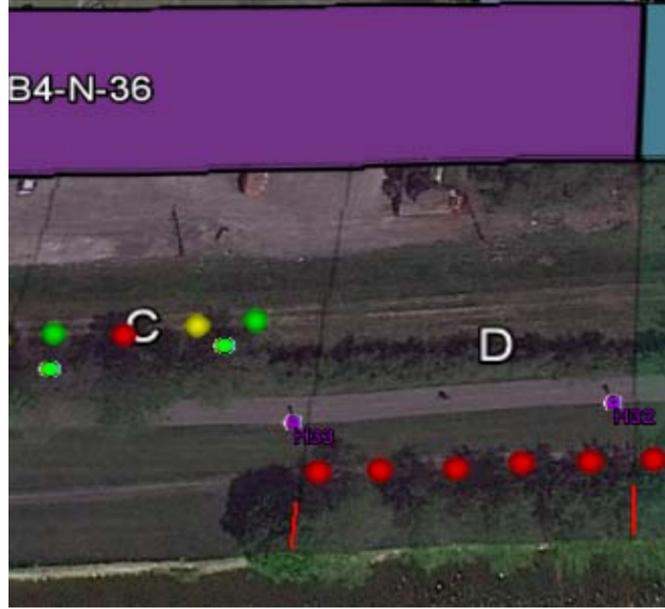


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P9



P10



P11



P12



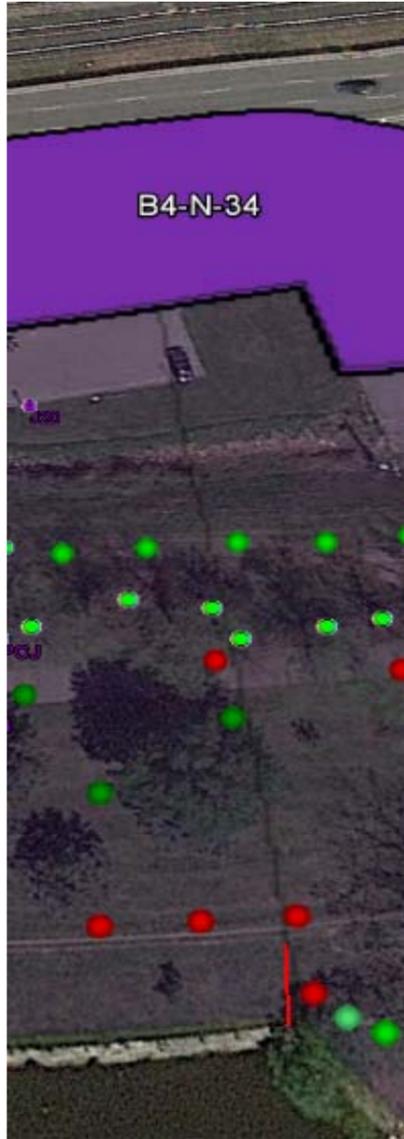


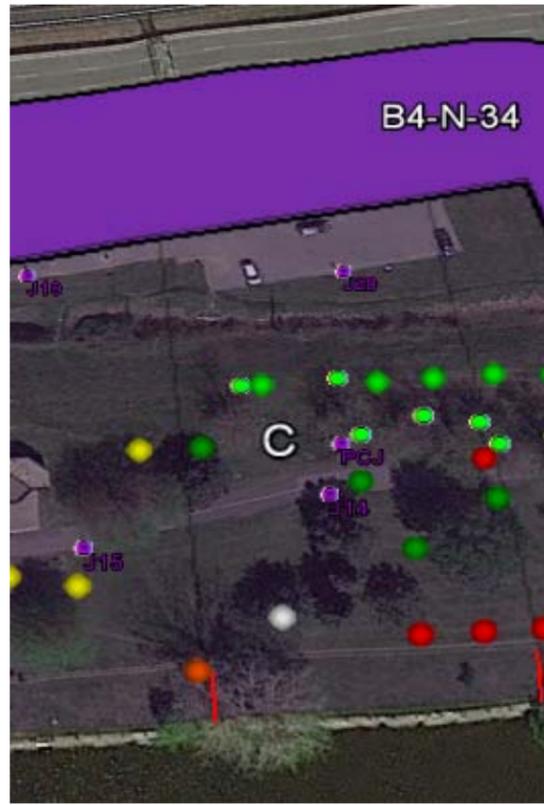


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P16

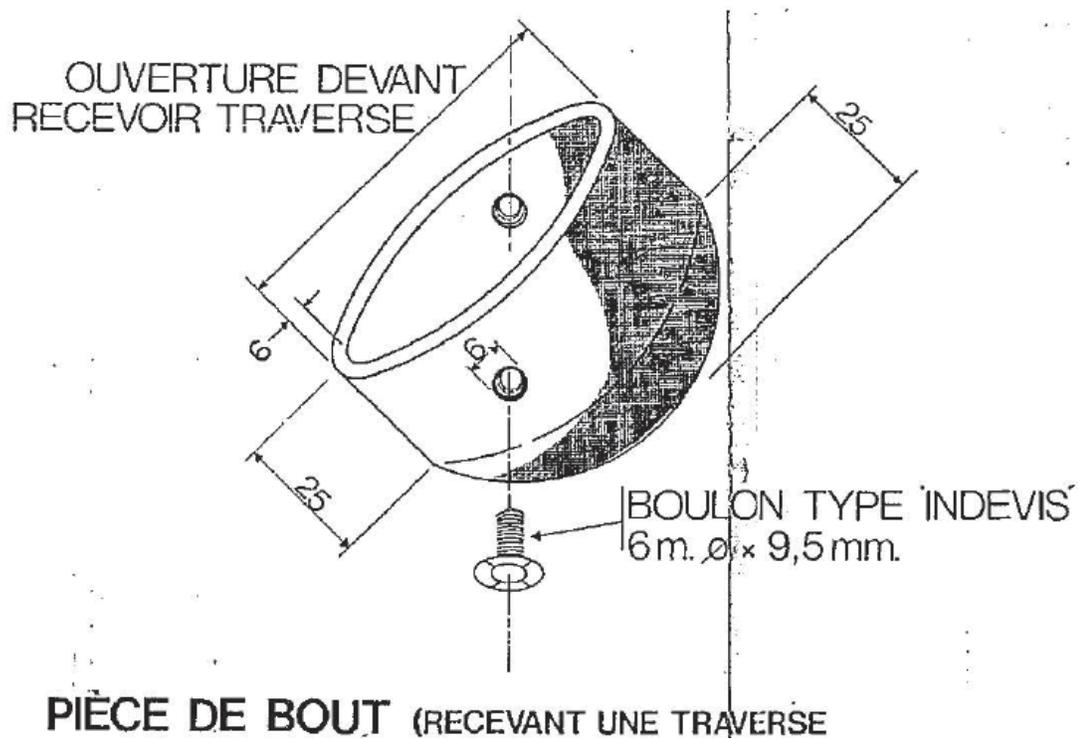




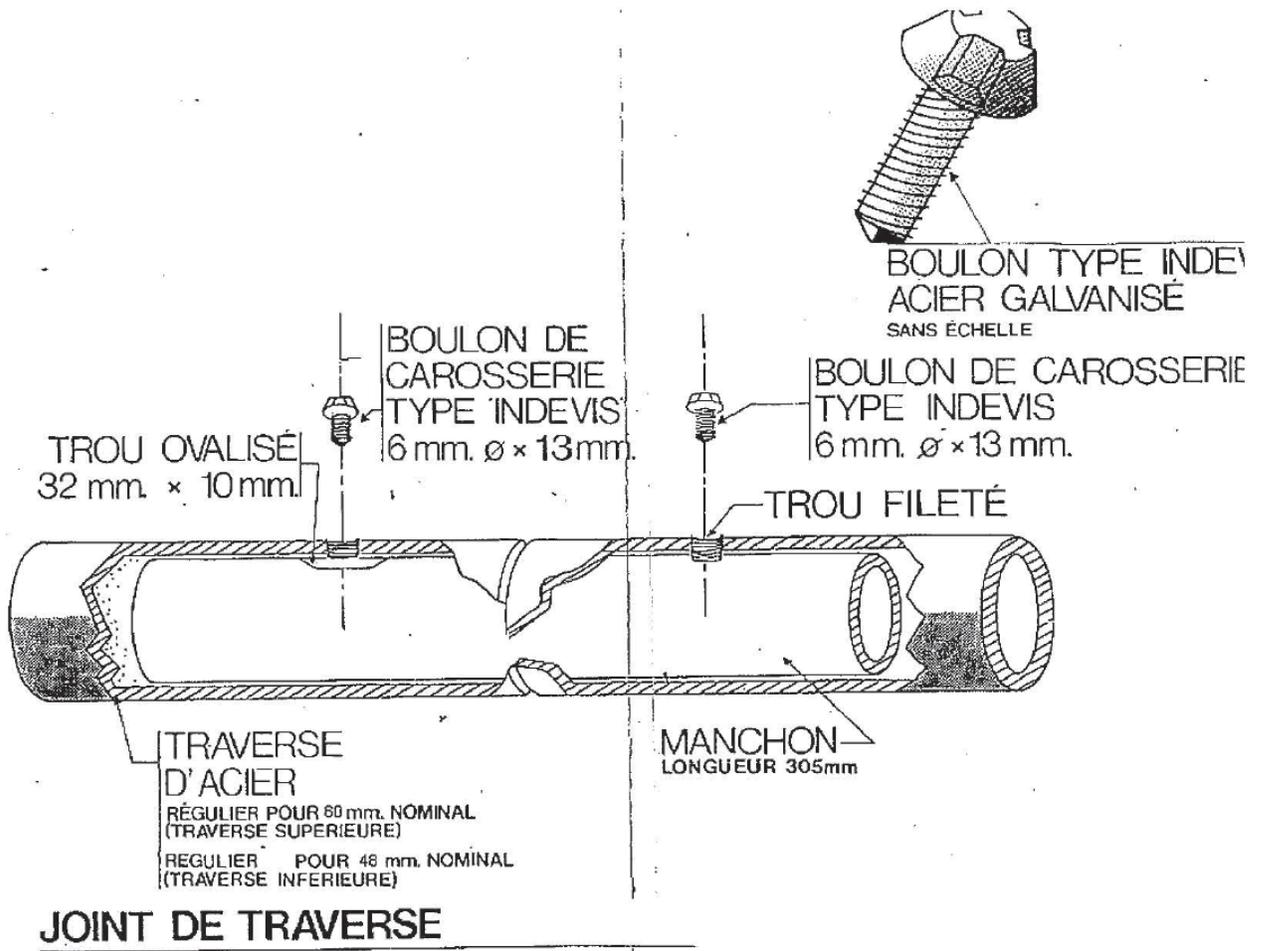
**REHABILITATION LACHINE CANAL WALLS
REPAIR AND REPLACEMENT OF THE CROWNING
WALLS AND SEAT REPAIRS
(Areas 13.1, 13.2, 13.3, 13.4, 13.5 and 13.6 – Reach No 4))
Project N° CLAC-1455-044
Addendum N° 02**

ANNEX VII - Details Guard Rail

Information Visuelle sur les pièces de fermeture pour lisse :



Information Visuelle sur les manchons (Joints de traverses) :



Canada Parks Agency
REHABILITATION LACHINE CANAL WALLS
REPAIR AND REPLACEMENT OF THE CROWNING
WALLS AND SEAT REPAIRS
(Areas 13.1, 13.2, 13.3, 13.4, 13.5 and 13.6 – Reach No 4)
Project N° CLAC-1455-04
Addendum n° 02

Tender form



AGENCE PARCS CANADA / CANADA PARKS AGENCY

RÉHABILITATION DE MURS DU CANAL-DE-LACHINE - RÉPARATION ET REMPLACEMENT DES MURS DE COURONNEMENT ET ASSISES/ REHABILITATION OF LACHINE CANAL WALLS-REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT

No DE PROJET / PROJECT No : CLAC-1455-04

BORDEREAU DE SOUMISSION Révision no.01 / BID FORM- 1455-04 Revision no.01

TABLEAU DES PRIX UNITAIRES : il est convenu que le tableau suivantest le tableau des prix unitaires à utiliser aux fins de contrat

TABLE OF UNIT COSTS: it is agreed that the following tableis the Table of Unit Costs to be used for the purposes of this Contract

POSTES DE PAIEMENT / PAYMENT ITEMS					
	Description du travail / Description of work	Unité / Unit	Prix unitaire / Unit cost	Quantité / Quantity	MONTANT TOTAL / TOTAL AMOUNT
1.	ORGANISATION DE CHANTIER, BUREAU DU SURVEILLANT, ET ARTICLES GÉNÉRAUX / SITE OFFICE, ENVIRONNEMENT AND GENERAL ITEMS				
1.1	Installations de chantier / Construction Facilities	Global / Lump sum		1	
1.2	Mesures de protection de l'Environnement / Environmental Protection Measures	Global / Lump sum		1	
1.3	Barrière à sédiments / Sediment barrier	M. Lin. / Lin. M.		1 210	
1.4	Rideau de turbidité (confinement) / Turbidity curtain (containment)	M. Lin. / Lin. M.		1 210	
1.5	Déboisement de la zone d'excavation / Clearing				
1.5.1	- Déboisement d'arbres et arbustes entre 50 mm et 100 mm de diamètre inclusivement / Clearing of trees and shrubs between 50 mm and 100 mm inclusive at DHP	Unité / Unit		26	
1.5.2	- Déboisement d'arbres entre 100 mm et 150 mm inclusivement au DHP / Clearing of trees between 100 mm and 150 mm inclusive at DHP	Unité / Unit		6	
1.5.3	- Déboisement d'arbres entre 150 mm et 200 mm inclusivement au DHP / Clearing of trees between 150 mm and 200 mm inclusive at DHP	Unité / Unit		4	
1.5.4	- Déboisement d'arbres entre 200 mm et 250 mm inclusivement au DHP / Clearing of trees between 200 mm and 250 mm inclusive at DHP	Unité / Unit		1	
1.5.5	- Déboisement d'arbres de plus de 250 mm au DHP / Clearing of trees of more than 250 mm at DHP	Unité / Unit		1	
1.6	Enlèvement, peinture et remise en place de garde-corps / Removal, Painting and Repositioning of Guardrails	M. Lin. / Lin. M.		672	
1.7	Plateformes et système d'accès / Platforms and Access System				
1.7.1	Plateformes et système d'accès pour couronnements / Platforms and Access System for crowning walls	M. Lin. / Lin. M.		1 190	



AGENCE PARCS CANADA / CANADA PARKS AGENCY

RÉHABILITATION DE MURS DU CANAL-DE-LACHINE - RÉPARATION ET REMPLACEMENT DES MURS DE COURONNEMENT ET ASSISES/ REHABILITATION OF LACHINE CANAL WALLS-REPAIR AND REPLACEMENT OF THE CROWNING WALLS AND SEAT

No DE PROJET / PROJECT No : CLAC-1455-04

BORDEREAU DE SOUMISSION Révision no.01 / BID FORM- 1455-04 Revision no.01

TABLEAU DES PRIX UNITAIRES : il est convenu que le tableau suivant est le tableau des prix unitaires à utiliser aux fins de contrat

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POSTES DE PAIEMENT / PAYMENT ITEMS

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1.7.2	Plateformes et système d'accès pour assises / Platforms and Access System for seats	M. Lin. / Lin. M.		439	
2.	REEMPLACEMENT DU MUR DE COURONNEMENT / REPLACEMENT OF THE CROWNING WALLS				
2.1	Excavation (déblai 2e classe) et mise en réserve / Excavations and stockpiling	M. Cu. / Cu M.		2 211	
2.2	Disposition des sols contaminés / Disposal of Contaminated Soil				
2.2.1	- Plage < A / Range < A	Tonne / Ton		924	
2.2.2	- Plage A-B / Range A-B	Tonne / Ton		603	
2.2.3	- Plage B-C/ Range B-C	Tonne / Ton		603	
2.2.4	- Plage C+ / Range C+	Tonne / Ton		924	
2.3	Démolition et/ou récupération couronnement effondré / Concrete Demolition and/or Removal of collapsed walls	M. Cu. / Cu M.		1 991	
2.4	Armature galvanisé / Reinforcing Galvanized Steel	Kg / Kg		89 667	
2.5	Ancrage chimique (acier galvanisé) / Chemical Anchors (galvanized steel)				
2.5.1	Ancrage chimique 15 M (acier galvanisé) / Chemical Anchorage 15M (galvanized steel)	Unité / Unit		2 083	
2.5.2	Ancrage chimique 20 M (acier galvanisé) / Chemical Anchorage 20 M (galvanized steel)	Unité / Unit		2 774	
2.6	Béton coulé en place / Cast in place Concrete	M. Cu. / Cu M.		1 347	



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2.7	Bollards / Bollards	Unité / Unit		23	
2.8	Échelons / Rungs	Unité / Unit		62	
2.9	Remblayage des excavations / Excavations backfilling	M. Cu. / Cu M.		1 240	
2.10	Matériaux emprunt type 1, MG-20 / Type 1 borrowing materials, MG-20	Tonne / Ton		3 540	
2.11	Coussin de support en béton / Concrete support pad	M. Cu. / Cu M.		216	
2.12	Drain perforé 200 mm et géotextile, PCV (type 1) ou PCV COEX (type 1) ou PE (type 2), 180 kPa min. / Perforated Drain (200 mm) and Geotextile, PCV (type 1) or PCV COEX (type 1) or PE (type 2), 180 kPa min.	M. Lin. / Lin. M.		833	
2.13	Terre végétale / Top soil	M. carré / Sqrt. M		2 100	
2.14	Engazonnement par plaques / Laying Sod	M. carré / Sqrt. M		2 100	
2.15	Géotextile / Geotextile	M. carré / Sqrt. M		4 290	
3	RÉPARATION SANS SURÉPAISSEUR DU MUR DE COURONNEMENT / REPAIR OF THE CROWING WALL				
3.1	Béton coulé en place / Cast -in-Place Concrete	M. Cu. / Cu M.		87	
3.2	Armature galvanisé / Reinforcing Galvanized Steel	Kg / Kg		9 636	
3.3	Ancrage chimique (acier galvanisé) / Chemical Anchorage (galvanized steel)	Unité / Unit		6 052	
3.4	Bollards / Bollards	Unité / Unit		11	

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3.5	Échelons / Rungs	Unité / Unit		25	
3.6	Engazonnement par plaques / Laying Sod	M. carré / Sqrt. M		356	
4	RÉPARATION DES ASSISES ET/OU DES CREVASSES DE BÉTON / REPAIR OF CONCRETE SEAT AND/OR CREVICES				
4.1	Démolition du béton / Concrete Demolition	M. carré / Sqrt. M		2 195	
4.2	Treillis soudé galvanisé 51x51 MW9,1xMW9,1 / Galvanized wire mesh 51x51 MW9,1xMW9,1	M. carré / Sqrt. M		2 195	
4.3	Armature galvanisé / Reinforcing Galvanized Steel	Kg / Kg		13 170	
4.4	Ancrage chimique (acier galvanisé) / Chemical Anchorage (galvanized steel)	Unité / Unit		7 902	
4.5	Béton projeté / Shotcrete	M. Cu. / Cu M.		659	
5	MAINTIEN DE LA CIRCULATION ET SIGNALISATION TEMPORAIRE / TRAFFIC MAINTENANCE AND TEMPORARY SIGNAGE				
5.1	Maintien de la circulation et signalisation temporaire / Traffic Maintenance and temporary signage	Jour / Day		182	
5.2	Déviation temporaire de la piste cyclable / Temporary deviation cycling path	Global / Lump sum		1	
5.3	Panneaux spéciaux / Special signs	M. carré / Sqrt. M		20	



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6	REVÊTEMENT DE PAVÉS PRÉFABRIQUÉS EN BÉTON / PRECAST CONCRETE PAVERS				
6.1	Pavé préfabriqué en béton (B4-N-43-D) / Precast concrete pavers (B4-N43-D)	M. carré / Sqrt. M		210	
7	PROVISIONS POUR CONDITIONS D'HIVER / PROVISION FOR WINTER CONDITIONS - COLD WEATHER CONCRETING				
7.1	Abri temporaire et Chauffage inclus / Temporary Shelter for Concrete Pouring and heating included	M. Lin. / Lin. M.		605	
7.2	Isolant RSI 0,40 par couche / Insulation (RSI 0,40 per layer)	M. carré / Sqrt. M		2311	
7.3	Chauffage des constituants de béton / Heating of Concrete Components	M. Cu. / Cu M.		1046	
8	FOURNITURE SPÉCIALISÉ / SPECIALIZED EQUIPMENT				
8.1	Borne d'arpentage / Survey marker	Unité / Unit		2	

Total des postes de paiement / Total Items :

Préparé par / Prepared by :

Date :

Nom de la compagnie / Company: