



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Agence Parcs Canada
Module de réception des soumissions
111, rue Water Est
Cornwall ON – K6H 6S3

Télécopieur pour Soumissions:
877-558-2349

MODIFICATION No3

INVITATION TO TENDER

APPEL D'OFFRES

Tender To: Parks Canada Agency

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Soumission aux: l'Agence Parcs Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du Chef du Canada, aux conditions énoncées ou incluses par référence dans la présente at aux annexes ci-jointes, les biens, services et construction énumérés ici et sur toute feuille ci-annexée, au(x) prix indiqués(s).

Comments - Commentaries

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

Issuing Office - Bureau de distribution

Agence Parcs Canada
Service national de passation de marchés
111, rue Water Est
Cornwall, ON K6H 6S3

Title - Sujet Remplacement du barrage du lac Horseshoe	
Solicitation No. - No. de l'invitation 5P300-16-5458	Date 2016 – 10 - 21
GETS Reference No. – No de reference de SEAG	
Client Reference No. – No. de référence du client	
Solicitation Closes L'invitation prend fin – at – à 14h00 on – le 2016-11-01	Time Zone Fuseau horaire - Heure Avancée de l'Est (HAE) / Eastern Daylight Saving Time (EDT)
Address Inquiries to: - Adresser toute demande de renseignements à :	
Michel Marleau michel.marleau@pc.gc.ca	
Telephone No. - No de téléphone (613) 938-5822	Fax No. – No de FAX: (866) 246-6893
Destination of Goods, Services, and Construction: Destinations des biens, services et construction: See Herein	

TO BE COMPLETED BY THE BIDDER

À ÊTRE COMPLÉTÉ PAR LE SOUMISSIONNAIRE

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

MODIFICATION #3

OBJET DE LA PRÉSENTE MODIFICATION:

1 - La date de clôture a été modifié à le 1^{er} Novembre 2016 à 14:00 (HAE):

2 - Section 01 22 01 "Measurement and Payment" du devis doit être supprimé et remplacé par :

(La nouvelle section est fixé à la fin de cette modification)(la version anglais seulement)

3 - Section 05 50 00 "Metal Fabrications" du devis doit être supprimé et remplacé par :

(La nouvelle section est fixé à la fin de cette modification)(la version anglais seulement)

4 - Appendice 1 "Formulaire de prix combinés" de l'Appel D'offres doit être supprimé et remplacé par :

(Le nouveau formulaire est fixé à la fin de cette modification)

5 - vous trouverez ci-dessous les Questions et réponses #1 à #17

TOUTES LES AUTRES CONDITIONS GÉNÉRALES DE CETTE DEMANDE RESTENT LES MÊMES

Question 1. Further to the site meeting on Monday, we understand that there is an addendum forthcoming which will lend clarity to this contract. As there is limited time between the issuance of the addendum and closing date we ask that there be an extension of at least two weeks to be able to properly evaluate and submit competitive pricing.

Answer 1. The closing date will be extended to November 1st 2016.

Question 1. Suite à la rencontre de lundi sur le site, nous comprenons qu'il y a un addenda à venir pour clarifier le contrat. Comme il y a peu de temps entre l'émission de l'addenda et la date de clôture, nous demandons qu'il y ait une extension d'au moins deux semaines pour être en mesure d'évaluer correctement et de soumettre des prix compétitifs.

Réponse 1. La date de clôture sera prolongée au 1^{er} novembre 2016.

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Question 2. In which item are the bollards to be priced?

Answer 2. Refer to revised Unit Price Table Items 34 and 35 and revised specification Section 05 50 00.

Question 2. Dans quel item le prix des bollards doit-il être comptabilisé?

Réponse 2. Se référer aux items 34 et 35 du tableau des prix unitaires révisé, et à la section 05 50 00 du devis révisé.

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Question 3. Section A on drawing 115 specifies 50 Lb ASCE Rail. Section 1 on drawing 113 specifies 60 lb rail. Please clarify.

Answer 3. The rail is 60 lb ASCE Rail.

Question 3. Il est spécifié sur la section A du dessin 115 « 50 Lb ASCE Rail ». Il est spécifié sur la section 1 du dessin 113 « 60 Lb Rail ». Merci de clarifier.

Réponse 3. Le rail est "60 Lb ASCE Rail".

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Question 4. The basic impact analysis, page 2 states that "the recommended cofferdam design is a least a 20 year return flood – 75m³s (AECOM, 2011)". Is it possible to provide the water levels at both headwater & tailwater for the 20 year return flood?

Answer 4. The predicted 20-year headwater level when one sluice is open is shown on drawing 104. The predicted 20-year tailwater level when one sluice is open is 304.85 m.

Question 4. L'étude d'impact sommaire, page 2, dit que « le design recommandé pour les batardeaux es un débit de récurrence au moins 20 ans – 75 m³/s (AECOM, 2011) ». Est-il possible de fournir les niveaux d'eau amont et aval pour le débit de récurrence 20 ans?

Réponse 4. Le niveau d'eau prévu en amont de récurrence 20 ans avec une vanne ouverte est montré sur le dessin 104. Le niveau d'eau prévu en aval de récurrence 20 ans avec une vanne ouverte est 304,85 m.

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Question 5. I think yesterday, at the site visit, you talked about lean concrete existing in the bottom of the river. I am not sure I understand. You want us to leave the lean concrete in place, and that we pour new on at the edges (since the dam is bigger)?

Wouldn't it be less complicated to demolish it all and pour a new concrete bottom so to restart from solid bases? Since we demolish with "Trémak", it will not be easy to do a clean job.

Answer 5. Proceed as per the design drawings i.e. remove 1 m of existing sill or until sound concrete is reached.

Question 5. Je crois que vous avez parlé hier à la visite du béton maigre existant dans le fond de la rivière. Je ne suis pas sûr de bien comprendre. Vous voulez qu'on laisse le béton maigre en place, et qu'on en coule du nouveau aux extrémités (puisque le barrage est plus long) ?

Ce ne serait pas moins compliqué de tout démolir et de couler un nouveau béton de fond, et ainsi repartir sur des bases solides ?

Puisqu'on démolit au Trémak, ce ne sera pas facile de faire une job clean.

Réponse 5. Procédez comme indiqué sur les plans de conception, à savoir retirez 1m du seuil existant ou jusqu'à ce que le béton sain soit atteint.

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Question 6. On drawings 107 and 108, it can be seen that the deck and the west and east slabs are at the same elevation. However the guard rail details shown on drawings S-1 to S-4 appear to show stairs. Can you confirm that the deck is at the same elevation everywhere except for the stairs that are at the west?

Answer 6. The PCA drawings C1 and S1-S6 refer to the existing structure. The deck and east and west slabs for the new structure will be at the same new elevation.

Question 6. Sur les dessins 107 et 108, nous pouvons voir que le tablier ainsi que les dalles ouest et est sont à la même élévation. Or dans les détails des garde-corps montrés sur les dessins S-1 à S-4, il semble y avoir des escaliers. Pouvez-vous confirmer que le tablier est à la même élévation partout sauf pour l'escalier qui est à l'ouest ?

Réponse 6. Les dessins C1 et S1 à S6 font référence à la structure existante. Le tablier et les dalles ouest et est pour la nouvelle structure seront à la même nouvelle élévation.

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Question 7. BA06 identifies the completion date as May 19, 2017. As a result of numerous factors including the design build component of the project; cofferdams, dewatering works, environmental protection works etc., under the current terms of reference for the work, this project presents a high level of schedule risk and as such we believe that the work cannot be completed by May 19, 2017. What provisions has the Owner considered to;

- a. Mitigate schedule risk
- b. Extend the project completion date

Answer 7.

- a. It is the contractors responsibility to assume and/or mitigate schedule risk; and
- b. No consideration to extending the project schedule will be given, it is imperative that all coffer dams be completely removed by May 1st 2017.

Question 7. Le document BA06 identifie la date d'achèvement le 19 mai 2017. En raison de nombreux facteurs, incluant la composante de conception-construction du projet, les batardeaux, les travaux d'assèchement, les travaux de protection de l'environnement, etc., dans les conditions actuelles des termes de références ce projet présente un risque élevé concernant l'échéancier, et nous croyons que le mandat ne peut être achevé pour le 19 mai 2017. Quelles dispositions le propriétaire a-t-il considérées pour :

- a. Atténuer le risque concernant l'échéancier
- b. Repousser la date d'achèvement du projet

Réponse 7.

- a. C'est la responsabilité de l'entrepreneur d'assumer et/ou d'atténuer les risques liés à l'échéancier; et
-

File Name - Nom du dossier : Remplacement du barrage du lac Horseshoe

b. Il ne sera pas envisagé de prolonger l'échéancier, il est impératif que tous les batardeaux soient complètement retirés le 1er mai 2017

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Question 8. Will a Contractors bid be disqualified should a completion date other than May 19, 2017 be identified with their bid submission?

Answer 8. As per the General Instructions clause R2710T of the SACC Manual, Item GI02.2 (Completion of Bid) "Subject to paragraph 6) of GI11, any alteration to the pre-printed or pre-typed sections of the Bid and Acceptance Form, or any condition or qualification placed upon the bid may be cause for disqualification...."

Question 8. Est-ce qu'une soumission d'entrepreneur sera disqualifiée s'il identifie une date autres que le 19 mai 2017, comme date d'achèvement sur leur soumission?

Réponse 8. Conformément aux Instructions générales R2710T du CCUA, Article IG02.2 (La soumission) « Sous réserve des dispositions du paragraphe 6) de l'IG11, toute modification aux sections pré-dactylographiées ou pré-imprimées du Formulaire de soumission et d'acceptation ou toute condition ou restriction ajoutée à la soumission pourrait constituer une cause directe de rejet..... »

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Question 9. During the mandatory site visit the Owners representative advised that a PTTW was likely not required for dewatering works. It is our experience that a PTTW is required for any dewatering and that this requirement will be imposed by MOEE. If a PTTW is required will the Owner obtain this permit? Please also address schedule and cost impacts associated with obtaining a PTTW and carrying out any works required under the terms of a PTTW.

Answer 9. As per Section 01 11 00 1.2.13 "Work shall include provisions to carry out all required permits applications and associated fees in order to complete the works."

Question 9. Au cours de la visite obligatoire des lieux, le représentant du propriétaire a indiqué qu'un PPE n'est probablement pas requis pour les travaux d'assèchement. D'après notre expérience un PPE est requis pour tout travail d'assèchement, et cette exigence sera imposée par le MEO. Si un PPE est requis, le propriétaire va-t-il obtenir ce permis? Merci de traiter également les impacts sur l'échéancier et sur les couts associés avec l'obtention d'un PPE et la réalisation des travaux dans les conditions d'un PPE.

Réponse 9. Conformément à la section 01 11 00 1.2.13, le travail doit inclure les dispositions pour mener à bien toutes les demandes de permis nécessaires et les frais associés afin de compléter les travaux.

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Question 10. During the mandatory site visit the Contractors were informed that the portion of the diversion system that includes the east most sluiceway can only pass a 20 year storm event. Please confirm that the other portions of the existing structure that will form the diversion system will not be compromised by a 20 yr storm event.

Answer 10. As stated on drawing 104, the cofferdam must be designed for at least the 1:20 year storm event with a minimum crest elevation of 308.48m. Also stated on drawing 104, the Contractor is to construct a rigid type cofferdam with turbidity curtain anchored to the existing east wingwall. This secondary cofferdam also must be designed for at least the 1:20 year storm event with a minimum crest elevation of 308.48m.

Question 10. Au cours de la visite obligatoire des lieux, les entrepreneurs ont été informés que la portion du système de diversion qui inclut l'ouverture la plus à l'est peut seulement passer la crue de récurrence 20 ans. Merci de confirmer que les autres parties de la structure existante qui formeront le système de diversion ne seront pas compromises par la crue de récurrence 20 ans.

File Name - Nom du dossier : Remplacement du barrage du lac Horseshoe

Réponse 10. Comme indiqué au dessin 104, les batardeaux doivent être conçus pour la crue de récurrence 20 ans au moins, avec une élévation de la crête de 308,48 m au minimum. Également comme indiqué au dessin 104, l'entrepreneur doit construire des batardeaux rigides avec des rideaux de turbidité ancrés au mur en aile est existant. Ce batardeaux secondaire doit également être conçu pour la crue de récurrence 20 ans au moins, avec une élévation de la crête de 308,48 m au minimum.

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Question 11. In reference to the above inquiry (Question #10), should a storm event that exceeds the 20 yr storm occur, what provisions has the Owner made to compensate the Contractor for damages resulting from flooding and to extend the completion date?

Answer 11. The Contractor is responsible for the design of the cofferdam. The 1 :20 year storm water level and the minimum crest elevation of 308.48m are provided as a minimum.

Question 11. En référence à la question ci-dessus (Question #10), si une crue de récurrence supérieure à 20 ans se produit, quelles dispositions sont prévues par le propriétaire pour dédommager l'entrepreneur pour les dégâts résultants de l'inondation et pour repousser la date d'achèvement?

Réponse 11. L'entrepreneur est responsable de la conception des batardeaux. Le niveau d'eau de récurrence 20 ans et l'élévation de la crête de 308,48 m sont fournis comme minimum.

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Question 12. In regards to environmental protection measures, we note that the drawings indicate that turbidity curtains are to be installed both upstream and downstream of the work area. Installation of the cofferdams will result in disturbance of in situ sediments as well as potentially introduction of other sediments into the waterway from any drilling. Given the high flows in the immediate area of the turbidity curtains, there will not be still waters and as such we are concerned that the curtains will not be effective. What provisions has the Owner made in regards to diminishing flows through the work zone in order to allow the curtains to function as intended?

Answer 12. The Contractor is responsible for Sediment Control and must describe their strategy for silt containment and filtering within the de-watering component of their environmental protection plan as required in the specifications and Basic Environmental Impact Analysis (BIA). This plan is subject to approval by the Parks Canada Environmental Office. Parks Canada acknowledges both the environmental and health and safety risks associated with in-water work upstream of a flowing dam. Under normal conditions, and during the period in which this work is specified to be completed, Parks Canada will be able to shift and/or reduce outflow to an amount more conducive for turbidity curtain and cofferdam installation and removal. This will be limited to a duration of approximately 6 hours per day for a period of a few days at each cofferdam installation and removal phase. It is unlikely flow can be completely restricted for any duration of time. Without exception, only Parks Canada personnel may operate the dam. The Contractor's ability to achieve the specified schedule milestones for cofferdam installations and removals will better ensure in-water work will avoid high flows associated with the spring freshet. Achieving schedule milestones is also imperative for the purposes of environmental protection. As per the BIA, removal of the West side cofferdams and installation of the East side cofferdams must occur prior to March 15. This date marks the beginning of the in-water work restriction for warm water fish species spawning. The removal of the East cofferdams are expected to occur in late April following spring freshet. The BIA allows for this to occur provided the Contractor's environmental plan meets the approval of the Parks Canada Environmental Office. Without exception, no in-water can take place between May 1 and July 15, 2017. The West side cofferdams must be removed entirely before May 1, 2017 in order to meet the contract completion date of May 19, 2017.

Question 12. . En ce qui concerne les mesures de protection de l'environnement, nous notons que les plans indiquent que des rideaux anti-turbidité doivent être installés à la fois en amont et en aval de la zone de travail. L'installation de batardeaux entrainera la perturbation des sédiments du site ainsi que le potentiel apport d'autres sédiments dans le cours d'eau par les forages. Compte tenu des débits élevés à proximité immédiate des rideaux anti-turbidité, il n'y aura pas d'eau calme, et nous craignons donc que les rideaux ne seront pas efficaces. Quelles dispositions le propriétaire a-t-il prises pour diminuer les débits dans la zone de travail afin que les rideaux anti-turbidité fonctionnent comme prévu?

Réponse 12. L'entrepreneur est responsable du contrôle des sédiments et doit décrire leur stratégie pour le confinement et la filtration des sédiments au sein de la composante d'assèchement de leur plan de protection de l'environnement tel que requis dans le devis et dans l'étude d'impact sommaire (BIA). Ce plan est soumis à l'approbation du bureau environnemental de Parc Canada. Parc Canada reconnaît les risques à la fois environnementaux et de santé et sécurité associés avec les travaux en eaux en amont d'un barrage fonctionnel. Dans des conditions normales, et durant la période pendant laquelle les travaux sont prévus, Parc Canada sera en mesure de déplacer et/ou de réduire le débit à une valeur plus propice pour l'installation et l'enlèvement des rideaux anti-turbidité et des batardeaux. Ceci sera limité à une durée approximative de 6 heures par jour pour une période de quelques jours à chaque phase d'installation et d'enlèvement de batardeaux. Il est peu probable que le débit puisse être complètement coupé pour quelque durée que ce soit. Sans exception, seul le personnel de Parc Canada peut opérer le barrage. La capacité de l'entrepreneur à respecter les jalons prévus pour l'installation et l'enlèvement des batardeaux sera le meilleur moyen de garantir que les travaux en eau évitent les hauts débits associés avec la crue de printemps. Le respect des jalons prévus est aussi impératif pour les besoins de protection de l'environnement. Selon l'étude d'impact sommaire, l'enlèvement des batardeaux du côté ouest et l'installation des batardeaux du côté est doit avoir lieu avant le 15 mars. Cette date marque le début de la période de restriction des travaux en-eau pour la reproduction des poissons d'eau chaude. L'enlèvement des batardeaux à l'est doit se produire fin avril après la crue printanière. L'étude d'impact sommaire autorise cela à condition que le plan environnemental de l'entrepreneur bénéficie de l'approbation du bureau environnemental de Parc Canada. Sans exception, aucun ouvrage dans l'eau ne peut avoir lieu entre le 1^{er} mai et le 15 juillet 2017. Les batardeaux du côté ouest doivent être retirés entièrement avant le 1^{er} mai 2017 afin de respecter la date d'achèvement au contrat du 19 mai 2017.

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Question 13. During the mandatory site visit the Contractors were informed that PCA does not own any property within the work site limits nor adjacent to the site limits. Please confirm the Contractors responsibilities to obtain permission to access the work site and use property not owned by PCA.

Answer 13. PCA has entered into an MOA with the Minden Whitewater Club. The site access and staging plan that was agreed upon with the whitewater club was issued under Amendment #2.

Question 13. Au cours de la visite obligatoire des lieux, les entrepreneurs ont été informés que Parc Canada ne possède aucune propriété dans les limites de la zone de travail, ni à proximité des limites du site. Merci de confirmer la responsabilité des entrepreneurs pour l'obtention des autorisations pour accéder à la zone de travail et utiliser des propriétés non détenus pas Parc Canada.

Réponse 13. Parc Canada a conclu un protocole d'entente avec le Minden Whitewater Club. L'accès au site et le phasage de construction qui ont été convenus avec le club sont déjà émis dans la Modification no. 2.

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Question 14. In reference to the above inquiry, it is our understanding that no provision has been made for the construction of environmental measures such a settlement basin for treatment of dewatering effluent. Is it the expectation of the Owner that all dewatering effluent be treated using settling tanks? Please also confirm where the discharge point of dewatering effluent is to be considered for the purposes of environmental monitoring and testing.

Answer 14. As per the specifications Section 35 20 22 the Contractor is responsible for the design, construction, maintenance and operation methods of the systems used to remove water from the work space. As per specifications Section 01 35 43 the Contractor is responsible for developing an erosion and sediment control plan which identifies the type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

Question 14. En référence à la question ci-dessus, il est de notre compréhension qu'aucune disposition n'a été prise pour la construction de mesures environnementales comme un bassin de décantation pour le traitement des eaux d'assèchement. Le propriétaire s'attend il à ce que toutes les eaux d'assèchement soient traitées avec des cuves de

File Name - Nom du dossier : Remplacement du barrage du lac Horseshoe
décantation? Merci de confirmer également où le point de rejet des eaux d'assèchement doit être considéré pour fins de surveillance et tests environnementaux

Réponse 14. Conformément à la section 35 20 22 du devis, l'entrepreneur est responsable de la conception, de la construction, de la maintenance et des modes d'exploitation des systèmes utilisés pour enlever l'eau de la zone de travail. Conformément à la section 01 35 43, l'entrepreneur est responsable de l'élaboration d'un plan de contrôle de l'érosion et des sédiments qui identifie le type et l'emplacement des mesures de contrôles à mettre en place, y compris les obligations de rendre compte et d'effectuer une surveillance pour assurer que les mesures de contrôle sont en conformité avec le plan de contrôle de l'érosion et des sédiments, ainsi que les lois et règlements fédéraux, provinciaux et municipaux.

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Question 15. In regards to public access for the use of the waterway downstream of the work site, please comment on the health and safety concerns arising from use of the waterway by the public during construction. Please also consider possible project completion delays; will the waterway be closed to public use during the construction period up to May 19, 2017 and if there is a delay in completion beyond May 19, 2017?

Answer 15. The contractor is responsible for maintaining the separation between the public and the worksite at all times. At no time will the waterway be closed to the public outside of the worksite. Beginning in April, the private owner on the east shore, Whitewater Ontario, will have periodic weekend events. The scheduling of which will be communicated a minimum of one week in advance to the Contractor. The Contractor must coordinate with Parks Canada in ensuring Whitewater Ontario has safe access to parking and to facilities on their property. The events may include in-water activities such as paddling events which are to occur well downstream of the project site. The event participants will simply need walking access from Whitewater Ontario's parking lot to the downstream event areas via the East shoreline pathway. The site must be well secured from public access and weekend work is prohibited during these events unless approved otherwise.

Question 15. En ce qui concerne l'accès du public pour l'utilisation du cours d'eau en aval de la zone de travail, merci de commenter sur les préoccupations en matière de santé et de sécurité liées à l'utilisation du cours d'eau par le public durant la construction. Merci de considérer également un possible délai dans la réalisation du projet; est ce que le cours d'eau sera fermé au public durant la période de construction jusqu'au 19 mai 2017, et s'il y a des délais dans la réalisation du projet, au-delà du 19 mai 2017 ?

Réponse 15. L'entrepreneur est responsable du maintien d'une séparation entre le public et le chantier en tout temps. A aucun moment le cours d'eau ne sera fermé au public en dehors de la zone de chantier. A partir du mois d'avril, le propriétaire privé sur la rive est, Whitewater Ontario, tiendra des événements périodiques en fin de semaine. La programmation de ces événements sera communiquée à l'entrepreneur une semaine à l'avance au minimum. L'entrepreneur doit coordonner avec Parc Canada pour assurer que Whitewater Ontario dispose d'un accès sécuritaire au stationnement et aux installations sur leur propriété. Les événements peuvent inclure des activités dans l'eau, tels que des événements de kayak qui se produisent assez en aval du site du projet. Les participants aux événements auront simplement besoin d'un accès piétonnier depuis le stationnement du Whitewater Ontario aux zones d'événements en aval par le chemin sur la rive est. Le site doit être correctement sécurisé contre l'accès au public et le travail la fin de semaine est interdit pendant ces événements sauf autorisation contraire.

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Question 16. Please provide a spec for clear stone – unit price item 16.

Answer 16. For unit price item 16, all aggregate source materials shall be clean hard durable particles free of earth, humus, and clay, coatings, lumps, and fragments. Provide 20mm clean stone to be used where specified.

Question 16. Merci de fournir un devis pour la pierre nette – item 16 dans le tableau des prix unitaires.

File Name - Nom du dossier : Remplacement du barrage du lac Horseshoe

Réponse 16. Pour l'item 16 du tableau des prix unitaires, toutes les matériaux granulaires sources doivent être des particules solides, propres et durables sans terre, humus, argile, enrobage, morceaux, et fragments. Fournir des pierres nettes de 20mm à être utilisées où spécifié.

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Question 17. Is Lump sum item 9 (Stairway) to include steel reinforcing?.

Answer 17. Remove lump sum item 9. The reinforced concrete stairway is to be priced using the unit price table.

Question 17. Est-ce que l'item 9 des montants forfaitaires (escalier) doit inclure de l'acier d'armature?

Réponse 17. Retirer l'item 9 des montants forfaitaires. Le prix de l'escalier en béton armé doit être indiqué dans le tableau des prix unitaires.

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PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 This section covers the measurement of work for payment purposes, and the scope of work included in the pay items in the Lump Sum and Unit Price Tables.

1.2 APPLICATIONS FOR
PROGRESS PAYMENT

.1 Make applications for payment on account as provided in Agreement as work progresses.

.2 Date applications for payment last day of payment period and ensure amount claimed is for value, proportional to amount of Contract, of Work performed and products delivered to place of work at that date.

.3 Submit to Departmental Representative, at least fourteen (14) days before first application for payment. Schedule of values for parts of Work, aggregating total amount of Contract Amount, so as to facilitate evaluation of applications for payment.

1.3 SCHEDULE OF VALUES

.1 Make schedule of values out in such form and supported by such evidence as Departmental Representative may reasonably direct and when accepted by Departmental Representative, be used as basis for applications for payment.

.2 Include statement based on schedule of values with each application for payment.

.3 Support claims for products delivered to place of work but not yet incorporated into work by such evidence as Departmental Representative may reasonably require to establish value and delivery of products.

1.4 PREPARING SCHEDULE OF
UNIT PRICE TABLE ITEMS

.1 Submit separate schedule of unit price items of work requested in Bid and Acceptance Form.

.2 Make form of submittal parallel to Schedule of Values, with each line item identified same as line item in Schedule of Values. Include in unit prices only:

- .1 Cost of material.
- .2 Delivery and unloading at site.
- .3 Sales taxes.
- .4 Installation, overhead and profit.

.3 Ensure unit prices multiplied by quantities given equal material cost of that item in Schedule of Values.

1.5 MEASUREMENT AND PAYMENT PROCEDURES

.1 Lump Sum Price Item No.1 "General Site Work" - All work that is not specifically designated in the Lump Sum or Unit Price Tables as individual items but is indicated in the tender package in order to complete the Work in full, shall be paid under the Lump Sum Price item "General Site Work". This item includes all costs associated to perform the work including but not limited to material, equipment, personnel, travel and accommodations, overhead, etc. Items included in the Lump Sum Price are:

- .1 Mobilization;
- .2 Demobilization;
- .3 Designing, installing and maintaining all temporary access routes required to access the work areas;
- .4 Excavation, trenching and backfilling;
- .5 Clearing and grubbing;
- .6 Providing construction fence and perimeter security measures around work and staging areas;
- .7 Reptile exclusion fencing;
- .8 Supplying, installing and maintaining luminated/non luminated signals;
- .9 Maintaining the work/storage area for the duration of the work;
- .10 Removal of the temporary access routes;
- .11 Health and safety;
- .12 Environmental Procedures, including control work to provide effective environmental, waterbody, and fish habitat protection;
- .13 Progressive and final site cleaning including snow removal;
- .14 Dewatering system;
- .15 Roadway embankment;
- .16 Parking area landscaping;
- .17 Bollards;
- .18 Geodesic monuments;
- .19 Surveying services.

.2 The following Item titles, units and their respective associated sections list work included in each item. Further description of the work can be found in the sections referenced.

.3 Lump Sum Item No.2 - Traffic Control for Temporary Roadway Closure

- .1 This item includes all costs related to the requirements of the Owner, municipality, county and MTO for the roadway closure.
- .2 This item includes all costs related to the supply, delivery and installation of all required signage, barriers, and other temporary materials as described in the Traffic Control Plan and/or required by the Owner, municipality, county and MTO.

1.5 MEASUREMENT AND PAYMENT .4
PROCEDURES
(Cont'd)

Lump Sum Item No.3 - Dewatering Works

- .1 This item includes all costs related to:
 - .1 The installation and removal of upstream and downstream cofferdams, including moving the cofferdams if required to enable staged demolition, construction and operation of the dam.
 - .2 Installation, monitoring, operation, and removal of pumps, as required to maintain dewatered work area.
 - .3 Sediment control measures
 - .4 Straw bale filtration dam
 - .5 All other works required to maintain dewatered work areas.

.5 Lump Sum Item No.4 - Removal of All Existing Signage and Railings at the Site for Salvage and Reuse by PCA

- .1 This item includes all costs related to the careful removal, in a manner to prevent damage and in accordance with the project plans, of all existing signage and railings.

.6 Lump Sum Item No.5 - Careful Transferal of Existing Crab Winches During Staged Construction

- .1 This item includes all costs related to the careful transferal, in a manner to prevent damage, of the existing crab winches so as to enable continuous operation of the dam by the Owner.

.7 Lump Sum Item No.6 - Removal and/or Replacement of Components of the Existing Data Collection, Storage and Transmission System, including all costs related to:

- .1 The removal of existing level gauge G1 and hand over to PCA for disposal.
- .2 The removal of existing flow gauge G2 and protection for reinstallation.
- .3 The removal of the existing gauge G3 and hand over to PCA for disposal.
- .4 The installation of a new data computer and level gauge combined unit G1. Unit will be provided by PCA. Include all required conduit
- .5 The installation of new gauge G2. Install intake line extending to pool and anchor end to bedrock when dewatering. Include all required conduit.
- .6 The installation of new telephone cable conduit to the utility pole near Bethel Rd Bridge.

1.5 MEASUREMENT AND PAYMENT PROCEDURES
(Cont'd)

- .8 Lump Sum Item No.7 - Site Restoration at the Completion of the Work
- .1 This item includes all costs related to the restoration of the site to original site conditions, unless indicated otherwise in the project drawings and specifications.
 - .2 This item includes all costs related to hydraulic seeding, topsoil placement, and any other works required to restore the site to original site conditions.
- .9 Lump Sum Item No.8 - Manufacture, Deliver and Install Railings and Gates
- .1 This item includes all costs related to the manufacture in accordance to PCA standards, delivery and installation of all railings and gates shown on the project plans.
- ~~.10 Lump Sum Item No.9 - Manufacture, Deliver and Install Stairway~~
- ~~.1 This item includes all costs related to manufacture, delivery and installation of the stairway.~~
- .11.10 Lump Sum Item No.10 - Move PCA Safety Boom
- .1 The existing PCA standard safety boom is to be maintained at the site.
 - .2 This item includes all costs related to the detachment of the safety boom from the existing west anchor and the removal of the existing west anchor.
 - .3 This item includes all costs related to the construction of a new anchor on the west bank.
 - .4 This item includes all costs related to the attachment of the safety boom to the new west anchor.
- .12.11 Lump Sum Item No.11 - Supply and Install Fall Arrest System
- .1 This item includes all costs related to the supply and installation of a complete fall arrest system, including all components detailed in the project plans and specifications.
 - .2 This item also includes all costs related to the supply of 4 retractable lanyards. Acceptable products include Protecta or DBI SALA
- .13.12 Lump Sum Item No.12 - Supply and Install Dam Signage
- .1 This item includes all costs related to the supply and installation of additional PCA standard signage and lifesaving equipment

1.5 MEASUREMENT AND PAYMENT
PROCEDURES
(Cont'd)

including as detailed in the project plans and specifications.

- .2 This item includes all costs related to the installation of previously removed signage designated for reuse including all new components required for installation as detailed in the project plans and specifications.

~~14.13~~ Unit Price Item No.1 - Concrete Removal
.1 Item No.1 shall be paid at the contract unit price by the unit cubic meter. This item includes all costs related to removal of the existing concrete dam including west access wingwall, concrete deck, abutments, and concrete piers above the existing dam sill. This item also includes all costs related to removal of the sill to partial depth directed by Departmental Representative as described in Section 02 41 16 and 02 41 21. This item includes all costs related to transport and disposal of waste material off site. Item No.2 - Reinforcing Steel.

~~15.14~~ Unit Price Item No.2 - Reinforcing Steel
.1 Item No.2 shall be paid at the contract unit price by the unit kilogram (kg). This item shall include all costs related to the work described in Section 03 20 00. Mass of reinforcing steel shall be computed from the theoretical unit mass specified in CAN/CSA-G30.18 for lengths and sizes of bars as indicated on drawings or authorized in writing by Departmental Representative.

~~16.15~~ Unit Price Item No.3 - Cast-in-Place Concrete.
.1 Item No.3 shall be paid at the contract unit price by the unit CUBIC meter calculated from neat dimensions indicated. This item shall include all costs related to the work described in Section 03 30 00; to supply, place and finish concrete in the construction of the:

- .1 Sill slab,
- .2 Piers,
- .3 West abutment,
- .4 West cut-off wall,
- .5 West wingwall,
- .6 East abutment,
- .7 East cut-off wall,
- .8 Deck of the dam,
- .9 West approach slab, and
- ~~10~~ 10.11 East approach slab, and Pedestrian stairs

1.5 MEASUREMENT AND PAYMENT
PROCEDURES
(Cont'd)

- .2 No deductions will be made for volume of concrete displaced by reinforcing steel.
- .3 Include in the prices of concrete the bonding agent.
- .4 Include in the prices of concrete the installation of all items embedded therein.
- .5 Include in the prices of concrete the work described in Section 03 10 00.
- .6 Include in the prices of concrete the heating, cooling, hot and cold weather protection, curing, and finishing.
- .7 Include in the prices of concrete the supply and installation of joint filler, bond breaker and joint sealer.
- .8 Do not include in the prices of concrete any costs related to reinforcing steel which is to be measured separately for payment.

~~17.16~~ Unit Price Item No.4 - Non-Shrink Non-Metallic Grout.

- .1 Item No.4 shall be paid at the contract unit price by the unit CUBIC meter calculated from neat dimensions indicated. This item shall include all costs related to the work described in Section 03 30 00; to supply and place non-shrink non-metallic grout in the gain and sill embedments, drilled holed for rock dowels and under all metal plates.

~~18.17~~ Unit Price Item No.5 - Mass Fill Concrete.

- .1 Item No.5 shall be paid at the contract unit price by the unit CUBIC meter calculated from field measured dimensions authorized in writing by the Departmental Representative. This item shall include all costs related to the work described in Section 03 30 00; to supply and place cast-in-place concrete in 'fill concrete under sill slab'.

~~19.18~~ Unit Price Item No.6 - U-Fill Concrete

- .1 Item No.6 shall be paid at the contract unit price by the unit CUBIC meter calculated from neat dimensions indicated. This item shall include all costs related to the work described in Section 03 30 00; to supply and place U-Fill concrete in the east abutment.

~~20.19~~ Unit Price Item No.7 - Anchors Type A.

- .1 Item No.7 shall be paid at the contract unit price per linear meter of anchor installed for all anchors indicated on drawings and any additional anchors requested by Departmental Representative. This item shall include all costs related to the work described in Section 05 05 20 related to supplying and installation of Type A anchors (rock

anchors).

1.5 MEASUREMENT AND PAYMENT
PROCEDURES
(Cont'd)

-21.20 Unit Price Item No.8 - Silt Fencing

- .1 Shall be paid at the contract unit price per linear meter. This includes all costs related to any silt fencing included in the Contractor`s environmental controls plan approved by the Departmental Representative and any additional silt fencing requested by the Departmental Representative as the work progresses.

-22.21 Unit Price Item No.9 - Turbidity Curtains

- .1 Shall be paid at the contract unit price per linear meter. This includes all costs related to any floating silt or turbidity curtains included in the Contractor`s environmental controls plan approved by the Departmental Representative and any additional curtains requested by the Departmental Representative as the work progresses.

-23.22 Unit Price Item No. 10 - Manufacture and Deliver - New Steel Half Stoplogs

- .1 Shall be paid at the contract unit price per steel half stoplog. This item includes all costs related to manufacturing of steel half stoplogs to PCA standards and delivery to site of steel half stoplogs.

-24.23 Unit Price Item No. 11 - Manufacture and Deliver - Log-Pinning Mechanisms

- .1 Shall be paid at the contract unit price per log pinning mechanism. This item includes all costs related to manufacturing and delivery to site of log-pinning mechanisms.

-25.24 Lump Sum Item No.12 - Manufacture and Deliver - New Timber Stoplogs

- .1 This item includes all costs related to manufacturing of 6 timber stoplogs, including lifting hardware, to PCA standards.
- .2 This item includes all costs related to the delivery to site of 6 timber stoplogs as well as removal and delivery to PCA shop of 6 old timber stoplogs.

-26.25 Unit Price Item No. 13 - Backfill Material

- .1 Shall be paid at the contract unit price per cubic meter. This item includes all costs related to the supply and installation of

backfill materials.

1.5 MEASUREMENT AND PAYMENT
PROCEDURES
(Cont'd)

~~27~~.26 Unit Price Item No. 14 - Granular A Fill
Material

- .1 Shall be paid at the contract unit price per cubic meter. This item includes all costs related to the supply and installation of Granular A.

~~28~~.27 Unit Price Item No. 15 - Granular B Fill
Material

- .1 Shall be paid at the contract unit price per cubic meter. This item includes all costs related to the supply and installation of Granular B.

~~29~~.28 Unit Price Item No. 16 - Clean Stone

- .1 Shall be paid at the contract unit price per cubic meter. This item includes all costs related to the supply and installation of Clean Stone.

~~30~~.29 Unit Price Item No. 17 - Drains

- .1 Shall be paid at the contract unit price per linear meter. This item includes all costs related to the supply and installation of drains as detailed in the project drawings and specifications, including the geotextile.

~~31~~.30 Unit Price Item No. 18 - Stoplog Sills

- .1 Shall be paid at the contract unit price per embedded sill. This item includes all costs related to the supply and installation of the embedded stoplog sill plates as detailed in the project drawings and specifications.

~~32~~.31 Unit Price Item No. 19 - Main Stoplog Gain
Liners

- .1 Shall be paid at the contract unit price per embedded sill. This item includes all costs related to the supply and installation of the embedded stoplog gains, including the gain liners and the angles and sheer studs edging the stoplog gains, as detailed in the project drawings and specifications.

~~33~~.32 Unit Price Item No. 20 - Aluminium Stoplog
Gain Covers

- .1 Shall be paid at the contract unit price per

1.5 MEASUREMENT AND PAYMENT
PROCEDURES
(Cont'd)

complete gain cover. This item includes all costs related to the supply and installation of the stoplog gain covers.

~~34.33~~ Unit Price Item No. 21 - Davit

- .1 Shall be paid at the contract unit price per davit. This item includes all costs related to the supply and delivery of the davit.

~~35.34~~ Unit Price Item No. 22 - Embedded Davit Socket

- .1 Shall be paid at the contract unit price per davit socket. This item includes all costs related to the supply and installation of the davit sockets, including all embedded parts.

~~36.35~~ Unit Price Item No. 23 - Steel Plate Storage Box

- .1 Shall be paid at the contract unit price per storage box. This item includes all costs related to the supply and installation of the steel plate storage box.

~~37.36~~ Unit Price Item No. 24 - ASCE 60 lb Rails

- .1 Shall be paid at the contract unit price per linear meter. This item includes all costs related to the supply and installation of the rails.

~~38.37~~ Unit Price Item No. 25 - Jacking Pins

- .1 Shall be paid at the contract unit price per set of two jacking pins. This item includes all costs related to the supply and installation of the jacking pins.

~~39.38~~ Unit Price Item No. 26 - Coir Mat

- .1 Shall be paid at the contract unit price per square meter. This item includes all costs related to the supply and installation of the coir mat.

~~40.39~~ Unit Price Item No. 27 Steel Pier Nosing and Service Gain Liners

- .1 Shall be paid at the contract unit price per pier. This item includes all costs related to the supply and installation of the steel pier nosing as described in the project drawings and specifications, including the embedded plate and the Nelson studs, as well as the

service gain liners.

1.5 MEASUREMENT AND PAYMENT
PROCEDURES
(Cont'd)

~~41.40~~ Unit Price Item No. 28 Half Steel Pier Nosing
and Service Gain Liners

- .1 Shall be paid at the contract unit price per pier. This item includes all costs related to the supply and installation of the half steel pier nosing as described in the project drawings and specifications, including the embedded plate and the Nelson studs, as well as the service gain liners.

~~42.41~~ Unit Price Item No. 29 - Rip Rap

- .1 Shall be paid at the contract unit price per cubic meter, measured on site. This item includes all costs related to the supply and installation of rip rap.

~~43.42~~ Unit Price Item No. 30 - Geotextile

- .1 Shall be paid at the contract unit price per square meter. This item includes all costs related to the supply and installation of geotextile.

~~44.43~~ Unit Price Item No. 31 - Log Rests

- .1 Shall be paid at the contract unit price per set of two log rests. This item includes all costs related to the manufacturing, delivery and installation of the log rests.

~~45.44~~ Unit Price Item No. 32 - Modular Block Wall

- .1 Shall be paid at the contract unit price per square meter of vertical wall face. This item includes all costs related to the supply and installation of the block wall.

~~46.45~~ Unit Price Item No. 33 - Aggregate Wall
Infill

- .1 Shall be paid at the contract unit price per cubic meter. This item includes all costs related to the supply and installation of aggregate wall infill.

1.6 PROGRESS PAYMENT

- .1 Departmental Representative will issue to Owner, no later than Ten (10) days after receipt of an application for payment, certificate for payment in amount applied

for or in such other amount as Departmental Representative determines to be properly due. If Departmental Representative amends application, Departmental Representative will give notification in writing giving reasons for amendment.

1.7 SUBSTANTIAL PERFORMANCE
OF WORK

.1 Prepare and submit to Departmental Representative a comprehensive list of items to be completed or corrected and apply for a review by Departmental Representative to establish Substantial Performance of Work or Substantial Performance of designated portion of Work when Work is substantially performed if permitted by lien legislation applicable to Place of Work designated portion thereof which Departmental Representative agrees to accept separately is substantially performed. Failure to include an item on list does not alter responsibility to complete the Contract.

.2 Submit an application for final payment when work is completed.

.3 Departmental Representative will, no later than ten (10) days after receipt of an application for final payment, review work to verify validity of application. Departmental Representative will give notification that application is valid or give reasons why it is not valid, no later than seven (7) days after reviewing work.

.4 Departmental Representative will issue a Certificate of Completion and a Certificate of Measurement when application for final payment is found valid.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

.1 This section specifies requirements for the supply and installation of all parts embedded in cast-in-place concrete including anchors unless specifically noted otherwise; other metal fabrications as described by the drawings and specification;

.2 The work includes but is not necessarily limited to the supply and installation of:

- .1 Stoplog sills
- .2 Stoplog gains
- .3 Stainless steel angle with cast in place shear studs edging stoplog gains
- .4 Aluminum Stoplog gain covers
- .5 Davit and embedded parts
- .6 Steel plate storage box
- .7 Log lifter rails and accessories
- .8 Railings and gates
- .9 Bollards (fixed and retractable)
- .10 Fall arrest anchors
- .11 Jacking Brackets
- .12 Log Pinning Mechanisms
- .13 Steel Half Logs
- .14 Stainless steel pier nosing with cast in place shear studs

1.2 RELATED SECTION

.1 Section 03 30 00 - Cast In Place Concrete.

1.3 REFERENCE

- .1 ASTM International
 - .1 ASTM A123/A123M-15, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A276/A276M-16a, Standard Specification for Stainless Steel Bars and Shapes.
 - .3 ASTM A307-12, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
 - .4 ASTM A480/A480M - 16a Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
 - .5 ASTM A780-09, Standard Practice for Repair of Damaged and uncoated Areas of Hot-Dip Galvanized Coatings.
 - .6 ASTM A603-98(2009) e1, Standard Specification for Zinc-Coated steel Structural wire rope.
 - .7 ASTM A492-95(2009), Standard Specification for stainless steel rope wire.

- .2 Canadian General Standards Board (CGSB) CGSB 1-GP-1BlM-99 Coating, Zinc-Rich, Organic, Ready Mixed.
- .3 CSA International
 - .1 CSA G40.20-04 (R2009) /G40.21-04 (R2009), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA S16-14, Design of Steel Structures.
 - .3 CSA W48-06 (R2011), Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).
 - .4 CSA W59-13, Welded Steel Construction (Metal Arc Welding) Metric.
 - .5 CSA W59.2-M1991 (R2013), Welded Aluminum Construction.
 - .6 CSA G4.00 (R2006), Steel Wire Rope for General Purpose and for Mine Hoisting And Mine Haulage.
- .4 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .5 American Welding Society
 - .1 AWS D1.6/D1.6M, Structural Welding Code Stainless Steel.
- .6 Society for Protective Coatings (SSPC)
 - .1 SSPC SP10/NACE No 2, Near-White Blast Clearing.
 - .2 SSPC PA2, Procedure for Determining Compliance to Dry Coating Thickness Requirements.

1.4 ACTION AND INFORMATIONAL SUBMITTAL

- .1 Submit in accordance with Section 01 33 00
- .2 Shop Drawings:
 - .1 Submit drawings in accordance with Section 01 33 00.
 - .2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.5 MEASUREMENT AND PAYMENT

- .1 In accordance with Section 01 22 01 -Measurement and Payment
- .2 Payment for Railings, gates and stairs shall be included in the Lump Sum Prices.
- .3 Payment for the steel half stoplogs, log pinning mechanisms, stoplog sills, gain covers, davit sockets, bollards and steel plate storage boxes

will be paid per unit installed.

- .4 Payment for the Davit crane will be paid out for the supply delivery of the Davit.
- .5 Payment for the ASCE 60lb Rails will be paid out per linear meter of rail installed and adjusted to permissible tolerances.
- .6 Payment for the jacking pins will be payed per set of two (2) pins installed.
- .7 Payment for the supply and installation of steel nosing on piers, complete with Nelson studs, shall be paid out per pier once steel nosing has been installed and approved.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Storage and Handling Requirements:
 - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations.
 - .2 Replace defective or damaged materials with new.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Steel sections and plates: to CSA G40.20/G40.21, Grade 300W or 350W, unless noted otherwise.
- .2 Stainless steel sections and plates: to ASTM A480, Grade 304L or 316L, unless noted otherwise.
- .3 Aluminum sections and bars: Grade 6061 or 6063.
- .4 Welding materials: to CSA W59, W59.2 and AWS D1.6/D1.6M.
- .5 Welding electrodes: to CSA W48 Series.
- .6 Bolts and anchor bolts: to ASTM A307.
- .7 Zinc primer: zinc rich, ready mix to CGSB 1-GP-181M.
- .8 PVC coated wire strand rope: to ASTM A603-98.

2.2 FABRICATION

- .1 Prepare shop drawings in accordance with Section 01 33 00.
- .2 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .3 Where possible, fit and shop assemble work, ready for erection.
- .4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 FINISHES

- .1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m², Coating Grade 85, to ASTM A123/A123M.
 - .1 Touch-up primer for galvanized coating SPCC 20 Type I inorganic zinc rich.
- .2 Embedded girders and sills to be painted on surfaces to be left exposed only if not in stainless steel.
- .3 Stainless steel pier nosing to have a rough and dull finish 1D per ASTM A480.
- .4 All other steel elements (other than stainless steel and painted steel) to be hot dipped galvanized.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for metal fabrications installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 ERECTION

- .1 Do welding work in accordance with CSA W59, W59.2 or AWS D1.6/D1.6M unless specified otherwise.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.

The various elements shall be securely fixed and adequately braced to ensure precise location and to avoid any warpage, misalignment or deformation during erection.

.3 Exposed fastening devices to match finish and be compatible with material through which they pass.

.4 Supply components for work by other trades in accordance with shop drawings and schedule.

.5 Deliver items over for casting into concrete together with setting templates to appropriate location and construction personnel.

.6 Touch-up scratched galvanized surfaces with zinc primer where damaged.

.7 The required location of cast-in-place or post-installed concrete anchors shall be determined precisely, using templates as necessary. Preparation of holes and installation of post-installed anchors shall comply with the instructions provided by the manufacturer of the anchors.

3.3 Surface Preparation and Painting

.1 Surface preparation

.1 Rough textured welds and sharp edges shall be blended out with a grinder and weld spatter removed.

.2 Surface shall undergo abrasive blasting in accordance with SP10 standard by SSPC. The surface shall be inspected as required in visual inspection standard SP10 by SSPC-vis-1.

.3 All equipment, components, and surfaces that need not be cleaned and prepared for painting shall nevertheless be adequately protected against damage during cleaning operations.

.4 The Contractor shall use an abrasive that will yield the surface depth profile recommended by the paint manufacturer.

.5 The use of abrasive silica is not acceptable.

.2 Painting Application

.1 After preparation, the surface shall be coated with at least two (2) coats of high coverage epoxy paint. The paint product shall be Interseal 670HS by International or Amercoat 385 by Ameron, or an equivalent approved by the Departmental Representative.

.2 Generally, the colour of painted equipment shall be grey, code 16376 of the American FED-STD-595C standard.

.3 The application and drying period for each coat of paint shall comply with the paint manufacturer instructions. All coats of paint in a

given protection system shall originate from the same manufacturer. Minimum dry coat thickness shall be 125 microns per coat.

.4 The application method shall ensure even distribution of the paint and prevent excessive build-up and drippings.

.5 Instrument calibration, the measurement of dry coats and the acceptance criteria shall be carried out or managed in accordance with the SSPC-PA2 standard.

.6 All the equipment, components and surfaces that need not be painted shall be adequately protected to prevent being covered during paint application.

.3 Paint Touch-up

.1 Any paint touch-up shall be performed using the same paint system and to the requirements of this specification, except with respect to surface preparation and visual inspection. Surfaces shall be prepared using mechanical tools as required in SSPC-SP3 and visual inspection carried out to the applicable section of ST3 and SSPC-Vis-1.

.4 Inspection

.1 Inspection of surface preparation shall be performed immediately before paint application.

.2 The thickness of each coat of paint shall be measured during application to ensure required wet coating, followed by a verification of the dry coat after application.

3.4 GAINS, RAILINGS, TRACKS .1 Install gains, gain covers, railings, and lifter tracks in locations as indicated.

3.5 PROTECTION .1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by metal fabrications installation.

APPENDICE 1 - FORMULAIRE DE PRIX COMBINÉS (3 pages)

- 1) Les prix unitaires seront retenus pour établir le montant total des prix calculés. Toute erreur arithmétique à cet appendice sera corrigée par le Canada.
- 2) Le Canada peut rejeter la soumission si quelconque des prix soumis ne tient pas fidèlement compte du coût de l'exécution de la partie des travaux à laquelle ce prix s'applique.

MONTANT FORFAITAIRE

- 1) La liste des montants forfaitaires désigne les travaux auxquels une entente à forfait s'applique.
- (a) Les travaux inclus à chaque item sont décrits dans le devis à la section spécifiée en référence.

No.	Section de référence	Catégorie de travail, d'outillage ou de matériaux	Unité de mesure	Total TVH en extra
1	31 23 33.01 31 23 16.26 32 94 00 31 24 13	Travaux généraux et autres items non listés	Montant forfaitaire	
2	01 56 00	Gestion du trafic pour la fermeture temporaire de la route	Montant forfaitaire	
3	35 20 22	Travaux d'assèchement	Montant forfaitaire	
4	01 11 00	Enlèvement de toute signalisation et clôture existante sur le site pour récupération et réutilisation	Montant forfaitaire	
5	01 11 00	Transfert minutieux des "treuils de crabe" existants durant les phases de construction	Montant forfaitaire	
6	01 11 00	Enlèvement et/ou remplacement des composants du système existant de collecte, stockage et transmission de données	Montant forfaitaire	
7	32 91 19 13 32 92 19 16 32 94 00	Restauration du site à la fin des travaux	Montant forfaitaire	
8	05 50 00	Fabriquer, livrer et installer les clôtures et barrières	Montant forfaitaire	
9	01 56 00	Déplacer l'estacade de sécurité aux standard PCA	Montant forfaitaire	
10	05 50 00	Fournir et installer le système antichute	Montant forfaitaire	
11		Fournir et installer la signalisation nouvelle et existante	Montant forfaitaire	
MONTANT FORFAITAIRE (MF) Excluant les taxes applicable(s)				

Note: Il est rappelé aux soumissionnaires qu'il est de leur responsabilité d'inclure dans leur offre tous les travaux tels que décrits dans les plans et devis. Le prix pour les travaux non pris en compte dans la table des prix unitaires, incluant sans s'y limiter la mobilisation, démobilisation, etc., doit être inclus dans la liste des montants forfaitaires.

TABLEAU DES PRIX UNITAIRES

1) La liste des prix unitaires désigne les travaux auxquels une entente de prix unitaire s'applique.

- (a) Le prix par unité et le prix total estimé doivent être entrés pour chaque item de la liste.
 (b) Les travaux inclus à chaque item sont décrits dans le devis à la section spécifiée en référence.

No.	Section de référence	Catégorie de travail, d'outillage ou de matériaux	Unité de mesure	Quantité estimée (a)	Prix par Unité TPS/TVH extra (b)	Total estimé TPS/TVH En extra c = (a x b)
1	03 30 00 02 41 16 31 23 33.01	Enlèvement du béton	Mètre cube (m ³)	745		
2	03 20 20 03 20 00	Acier d'armature	Kilogramme (kg)	53200		
3	03 30 00 03 20 10 03 10 00	Béton coulé sur place, pour les items indiqués au 01 22 01.	Mètre cube (m ³)	1090		
4	03 30 00 03 10 00	Coulis à base de ciment, sans retrait, non métallique,	Mètre cube (m ³)	1		
5	03 30 00 03 20 10 03 10 00	Béton de masse coulé sur place	Mètre cube (m ³)	165		
6	03 30 00 03 10 00	Béton de remblai sans retrait	Mètre cube (m ³)	160		
7	05 05 20	Ancrage Type A (ancrage de roc)	Mètre linéaire (m)	245		
8	01 35 43	Barrière à sédiments	Mètre linéaire (m)	60		
9	01 35 43	Rideaux anti-turbidité	Mètre linéaire (m)	60		
10	05 50 00	Nouvelle demi-poutrelle en acier	Chaque poutrelle	2		
11	05 50 00	Mécanisme de retenue de poutrelle	Chaque mécanisme de retenue	8		
12	06 10 00	Nouvelle poutrelle en bois, incluant le matériel de levage	Chaque poutrelle	6		
13	31 05 16	Matériau de remblai	Mètre cube (m ³)	220		
14	31 05 16	Matériau granulaire A	Mètre cube (m ³)	30		
15	31 05 16	Matériau granulaire B	Mètre cube (m ³)	55		
16	31 37 00	Pierre nette	Mètre cube (m ³)	11		
17	01 35 43	Drain	Mètre linéaire (m)	60		
18	05 50 00	Seuil de poutrelle	Chaque seuil	4		
19	05 50 00	Protection de rainure de	Chaque rainure	4		

File Name - Nom du dossier : Remplacement du barrage du lac Horseshoe

		poutrelle principale				
20	05 50 00	Couvercle de rainure de poutrelle en aluminium	Chaque couvercle	8		
21	05 50 00	Potence	Chaque potence	1		
22	05 50 00	Base de potence à manchon	Chaque base de potence	2		
23	05 50 00	Boite de stockage avec plaque en acier	Chaque boite	1		
24	05 50 00	Rail ASCE 60lb	Mètre linéaire (m)	274.5		
25	05 50 00	Goupille de levage	Chaque jeu de deux goupilles	12		
26	31 32 19.01 01 35 43	Tapis de fibres de coco	Mètre carré (m ²)	10		
27	05 50 00	Plaque de protection de pilier en acier et protection de rainure de poutrelle de service	Plaque et protection de rainure pour chaque pilier	3		
28	05 50 00	Demi-plaque de protection de pilier en acier et protection de rainure de poutrelle de service	Demi-plaque et protection de rainure pour chaque pilier	2		
29	31 37 00	Enrochement	Mètre cube (m ³)	200		
30	31 32 19.01	Géotextile	Mètre carré (m ²)	140		
31	05 50 00	Supports pour poutrelles	Chaque lot de deux supports	4		
32	32 23 16	Mur en blocs modulaires	Mètre carré (m ²)	40		
33	32 32 16	Granulat de remplissage	Mètre cube (m ³)	37		
34	05 50 00	Bollard	Chaque	6		
35	05 50 00	Bollard Rétractable	Chaque	2		
TOTAL DES PRIX CALCULÉS (TPC) Excluant les taxes applicable(s)						

Note: Il est rappelé aux soumissionnaires qu'il est de leur responsabilité d'inclure dans leur offre tous les travaux tels que décrits dans les plans et devis.

MONTANT TOTAL DE LA SOUMISSION (MF +TPC) Excluant les taxes applicable(s)	
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