Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

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SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

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

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

Comments - Commentaires

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

Issuing Office - Bureau de distribution

Public Works and Government Services Canada - Pacific Region
800 Burrard Street, Room 219
800, rue Burrard, pièce 219
Vancouver
British C
V6Z 0B9

Title - Sujet Upscheek Tashee Trail Construction	
Solicitation No. - N° de l'invitation 5P437-190013/B	**Amendment No. - N° modif.** 006
Client Reference No. - N° de référence du client 5P437-190013	**Date** 2019-04-09
GETS Reference No. - N° de référence de SEAG PW-$PWY-019-8566	
File No. - N° de dossier PWY-8-41204 (019)	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2019-04-18**	**Time Zone** **Fuseau horaire** Pacific Daylight Saving Time PDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Ngan, Ken (PWY)	**Buyer Id - Id de l'acheteur** pwy019
Telephone No. - N° de téléphone (604) 671-0219 ( )	**FAX No. - N° de FAX** (604) 775-6633
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Parks Canada (PCA) - Upscheek Tashee Trail - Pacific Rim National Park - Ucluelet, BC	

Instructions: See Herein

Instructions: Voir aux présentes

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

Canada

Les documents français seront disponibles sur demande.

This Solicitation Amendment 006 is raised to incorporate Addendum 5, the associated revised Unit Price Table, and Drawings AC-2 R1 & AC-3 R1.

Drawings AC-2 R1 & AC-3 R1 are available for download at the following link, under “Attachments”, File <addendum_5_drawing_ac-2_r1> & <addendum_5_drawing_ac-3_r1>:

https://buyandsell.gc.ca/procurement-data/tender-notice/PW-PWY-019-8566

This Addendum 5 Unit Price Table supersedes any previous versions. Failure to complete and submit this revised Unit Price Table, along with the bid submission will rendered the bid submission NON-COMPLIANT and will be given NO further consideration.

All other terms and conditions remain unchanged.

The following changes/clarifications in the tender documents are effective immediately.
This addendum will form part of the contract documents.

1.0 SPECIFICATION 01 25 20, MOBILIZATION AND DEMOBILIZATION:

Clause 1.3.3 states the remaining 50% of the Lump Sum will be paid "when this portion of the Work is completed." This shall be interpreted to mean when Substantial Performance is achieved.

2.0 SPECIFICATION 01 45 00, QUALITY CONTROL:

Clause 1.2.1 states the remaining 25% of the Lump Sum will be paid "when this portion of the Work is completed." This shall be interpreted to mean when Substantial Performance is achieved.

3.0 SPECIFICATION 03 41 00, PRECAST STRUCTURAL CONCRETE:

Clause 1.1.1, Measurement for Payment; Delete "Measurement for payment for precast prestressed concrete bridge girders shall be at the unit price for **each girder** by count and as accepted by the DR." and replace with "Measurement for payment for precast prestressed concrete bridge girders shall be by LUMP SUM for each bridge."

Clause 1.1.2, Measurement for Payment; Delete "Payment for precast concrete bridge girders, as described above, shall be made when the **individual units** are delivered to Pacific Rim National Park and accepted by the DR." and replace with "Payment for precast concrete bridge girders, as described above, shall be made when the **all of the girders required for each bridge** are delivered to Pacific Rim National Park and accepted by the DR."

This change will permit the precast girder suppliers to submit alternate design with differing numbers of girders. Refer to Question #11, below. Bidders are cautioned to review their submitted unit prices for items 19 and 20. The quantity is revised from 3 – EACH to 1 -LUMP SUM for the same work. Refer to Item # 6.0 below.

4.0 SPECIFICATION 31 05 16, AGGREGATES: CLAUSE 2.7, OPEN GRADED SUB-BASE:

Clause 2.7.1.1 states this sub-base shall not affect water pH. The following is added to this clause: "Low pH of water is critical to the maintenance of bog vegetation. All rock and granular material must be free of alkaline materials, such as limestone. The Contractor shall provide samples and submit testing of rock or granular materials prior to delivery as requested by the OEM. The Contractor will wash or use other methods off-site to remove excessive fine sediment that may result in nutrient additions to the wetland habitats. All aggregate material will be inspected and approved by the OEM prior to placement."

5.0 SPECIFICATION 31 32 19, GEOTEXTILES: CLAUSE 3.2.12, INSTALLATION OF ROOT BARRIERS

In wetland areas, root barriers shall only be installed where approved by the DR and OEM. These root barriers shall only be near large tree roots (over 30cm diameter at breast height -DBH) and short sections of 5 m or less shall be installed. The root barrier shall not extend above the 600mm sub-base material. Locations for placement of root barrier sections shall be marked out by the Contractor 5 days in advance of the work to avoid delays. Payment for this root barrier is made at the unit rate bid for pay item 80.

6.0 PAY ITEMS 19 AND 20, SUPPLY AND INSTALL REINFORCED PRECAST CONCRETE COMPONENTS:

Item 19 – Bridge 19 girders (30.6m long) Unit of measure is revised from "Each" to "LUMP SUM" and Estimated Quantity is revised from "3" to "1".
Item 20 – Bridge 20 girders (30.6m long) Unit of measure is revised from "Each" to "LUMP SUM" and Estimated Quantity is revised from "3" to "1".
A revised Unit Price Table is included in this addendum reflecting these changes. Bidders are cautioned to review their submitted unit prices for items 19 and 20. The quantity is revised from 3 – EACH to 1 - LUMP SUM for the same work.

7.0 PAY ITEMS 127 AND 128, SUPPLY AND INSTALL AMPHIBIAN FENCING:

Item 127 – New item. Supply, install, and remove amphibian fencing. This pay item in added to the contract to cover the costs of the temporary amphibian fencing shown on sheet AC – 2 of this addendum.
Item 128 – Existing item. Supply and install amphibian fencing. The quantity of this pay item s increased to include the permanent amphibian fencing shown on sheet AC – 3 of this addendum. A revised Unit Price Table is included in this addendum reflecting these changes.

8.0 CONTRACT TENDER DRAWINGS, Sheets AC-2 and AC-3 AMPHIBIAN PROTECTION CONSTRUCTION PLANS.

Two drawing sheets are added to the Trail Construction Plans and tender package. They are:

- AC-2, Amphibian Protection at the Incinerator Rock Pond, Hwy 4 stations H14+950 to H15+000.
- AC-3, Amphibian Protection at the NavCan Pond, Hwy 4 stations H9+850 to H+950.

These drawings, included as part of this addendum, detail the work and precautions required in these two areas to protect these important amphibian breeding ponds. The work described on these two drawings is standard to constructing the trail and covered by the existing contract items except for temporary amphibian fencing, see below items.

9.0 QUESTIONS RECEIVED FROM PROSPECTIVE BIDDERS:

1. **Question:** Can you please provide some clarification regarding tender items under section "Pipe Culverts" and "Pipe Culverts c/w 300mm Fisheries Gravel or Native Organics". The quantities don't match what is shown on the two tables on drawing D-2. For example, Drawing D-2 shows only one 450mm diameter culvert that is 12 meters long but the tender form item #144 says 450mm HDPE culvert with a total length of 200 meters. In general, items #140 to #152 don't seem to match the quantities on the hydrology drawings. This make it difficult to quote when I can't figure out how long each culvert is, where each one is located, or whether each one has spawning gravel, native fill, or no fill inside it at all.

   Answer: Pay Items 147 to 151 are culverts ranging in diameter from 600mm to 1200mm and have either 300mm fisheries gravels or 300 mm organics for amphibians in their invert. Payment is made at the price bid for each culvert installed of the length given in the unit

price table. If one of the 600mm pipe requires additional length, the additional length will be paid under item 152. If a culvert of a different diameter is longer than shown in the unit price table, the additional cost will be "pro-rated" on the tender price for that diameter and paid by change order. The number of these culverts on the unit price table closely matches the number of these culverts on Sheet D-2 with about 5% contingency added for additional culverts. The locations are provided on sheet D-2 using the Highway stationing and are also shown on the T series sheets. The number requiring organic fill is shown on sheet D-2 with an "X" in the "Amphibian Modification" column. There are 17 of these. The remaining approximately 101 culverts will require fisheries gravels to be installed. The culverts marked "X" in the "Fish Bearing Watercourse" column (10 crossings) alerts the bidder to the number of crossings that will require additional work with respect to temporary creek diversions, fish salvage (by owners Environmental Monitor) and similar additional requirements. The bidder shall blend the costs of the amphibian culverts with the fish gravel culverts to provide a single price for each diameter and length of culvert.

Pay items 140 to 140 are culverts ranging in diameter from 200mm to 600 mm and will not require fisheries gravel or organic fills due to the steep installed grades. These culverts will be paid at a per linear metre rate for each diameter. These culverts are shown in the table on sheet D-2 and denoted "See drawing W-1 for culvert length", "See drawing W-2 for culvert length" etc. to W9. The locations of these culverts are provided by Highway stations on sheet D-2 and are shown on the wall drawings. The quantities provided in the unit price table allow for approximately 15% contingency to permit extending these culverts.

2. Question: The spec says that the pay items for installation of culverts are to include excavation. How will this be calculated in the field? Would it not make more sense for excavation for culverts to be included in the trail excavation pay items?

Answer: These culverts will be placed so that the 300 mm fill inside the culvert (fisheries gravel or organics) will match closely the existing ground. The typical depth of excavation for each culvert will be 300mm for the inside fill + 100 mm for pipe bedding = 400mm depth. When measuring along the trail for "trail excavation" the volume at the culverts will not be deducted from the total.

3. Question: How will excavation and aggregate import volumes be calculated? Will this be by truck count and tonnage slips with conversions to volume? Or topographic surveys? Who will complete all the surveys and calculate quantities? This requires a full-time surveyor.

Answer: Excavation quantities for the trail and roads can generally be measured by the Contractors grade foreman as depth from existing X trail width X length between stations with the measurements being provided daily to the Departmental Representative (DR) for verification. Spot checks will be performed by the DR. In areas where significant excavations occur the Contractor's grade foreman will take cross sections with rod and level or laser set up and verified by the DR.

About 2/3 of the granular material will be paid by the square metre for a specified thickness. The remaining 1/3 is paid by the cubic metre. In the wall areas the volume used will be measured by the contractor taking original cross sections and completed cross sections to calculate volumes with verification and spot checks by the DR. Along the trail the additional volumes will be where the trail is sub-excavated, and the volume measured by the Contractors grade foreman recording the depth X width X length with daily verification by the DR. If the granular material being brought to site is weighed by an approved scale the volumes of sub-grade fill and sub-base may be calculated using weight tickets (submitted daily) divided by the compacted density.

4. Question: For pay item #57, do all 212 rails come with sign posts? Please clarify.

Answer: No. only the 20 railings in pay item # 56 require the sign post modification.

5. Question: Can you please have the CAD file (Civil 3D or AutoCAD 2016) complete with Control points uploaded to the buy&sell webpage so we can download documents for earthworks calculations?

Answer: The existing ground elevations used for the design were obtained using a Lidar survey of the proposed route. The existing ground line shown on the drawing profile is generally with a 0.3 m accuracy and the design profile for the trail was established using this data. During construction, the Departmental Representative (DR) will work with the Contractor to establish a suitable profile as construction progresses that is within design guidelines to minimize cuts and fills. The trail will also be allowed to meander (as approved by DR and OEM) within the cleared right of way to blend with the existing topography. Due to this "field fit" design, accurate earthwork volumes for a specific area cannot be calculated accurately. The earthwork volumes provided in the unit price table is based on an average depth of excavation over the length of the fill.

6. Question: For the bridge precast concrete box girders: Regarding your reply on Addendum 4 Question 18. What is the amount of design costs from your engineer that the contractor or supplier should carry in our bid to go constant width of 1194mm for the box girders so we can put in our bid? We note our section is only 4mm different at the bottom (1194mm versus 1190mm.) Our top is 12 mm difference (1194mm versus 1206mm.) This is almost with specified tolerances. A cast in place overhang which could easily make up the difference.

Answer: The supplier shall include in their bid price the cost to produce and supply drawings to a similar standard as the tender drawings sheets S-4.8, and S-4.9 for bridge 19 and sheets S-5.10, and S-5.11 for bridge 20 that are signed and sealed by a Professional Engineer licensed it the province of B.C.

7. Question: For the bridge precast concrete box girders: Can payment be made for the precast prestressed box girder when they are manufactured at the plant? They are a custom engineered product produced for this project alone and cannot be used elsewhere. Our production schedule may not match site requirements or site work may fall behind schedule delaying payment. BC MoTI pays on a monthly basis for precast prestressed

girders with delivery and install a separate line item. PWGSC pays monthly for precast for the Esquimalt Dock project.as we produce.

Answer: No, the current precast prestressed concrete box girder is a Ministry standard section, not a customized engineered product and this type of box girder section and are being used for ongoing Ministry highway bridge construction. The contract period is 90 weeks long and the General Contractor can schedule the bridge work so that the pilings and abutments on the bridges are completed before the girders are manufactured. Payment will be made upon delivery to site which should be within a month of manufacture provided co-ordination with the General Contractor is done.

8. Question: For the bridge precast concrete box girders: We are CPCI certified, now called a CPCQA Certified Precast Concrete Manufacturer. The specified qualifications are and older CSA certification standard. CPCQA is a separate certification body independent from CPCI but related. Will you approve CPCQA certification in addition to CSA requirement?

Answer: Yes, CPCQA is an acceptable qualification.

9. Question: For the bridge precast concrete box girders: Specification 03 41 00 2.4 calls for **STEAM** curing. The precast concrete industry in BC normally cures with **RADIANT** heat for 16 hours and then yard them for storage. Is this acceptable?

Answer: Yes. BC MOT standard precast concrete curing practice is acceptable.

10. Question: For curing for the bridge precast prestressed box girders: Specification 03 41 00 requires the precast to be stored inside the plant for three days. Please consider standard practice of yarding after 16 hours radiant heat cure.

Answer: Yes. Yard storage is acceptable after 16 hours radiant heat curing.

11. Question: For the bridge precast concrete box girders: Regarding an alternate wider precast box girder, our formwork is flexible to produce wider box girders. We can make 1800mm nominal wide box girders. Two of these boxes will equal to the three box girders as shown in the tender design. We are prepared as the manufacturer to design, sign and seal the component design for the box girders for the loads provided by your engineer. If there are design costs by your engineer can you tell us what they would be so ourselves or the general contractor can put in our bid? Can this be bid as a base bid or does it have to be bid as an alternate?

Answer: Changing girder width and number of girder lines will require substantial engineering effort to revise bridge design. The supplier shall include in their bid price the cost to produce and supply drawings to a similar standard as the tender drawings sheets S-4.7, S-4.8, and S-4.9 for bridge 19 and sheets S-5.9, S-5.10, and S-5.11 for bridge 20 that are signed and sealed by a Professional Engineer licensed it the province of B.C. Also included shall be signed and sealed calculations for verification of substructure and foundation design, and constructability. Changes made to pay items 19 and 20 permit differing numbers of girders for the bridges to be bid as a “base bid.”

12. Question: Clarification on Answer to Question 20 of Addendum 3.
20. Question: Please advise if SI11.4 applies to independent legal companies who are owned by the same parent company.

Answer: Company A can propose Company B as a member of its team or Subcontractor even if they are owned by the same parent company. However, Company B cannot also submit a bid on its own or a part of a joint venture

Specifically highlighted above; Company B cannot submit its own bid at the general contractor or JV level, correct? In other words, Company B can be a subcontractor on any bid, but cannot submit its own bid or be part of a JV.

Answer: Company B cannot submit its own bid at the General Contractor or Joint venture level if they are proposed as a subcontractor on any other bid.

Ups-cheek Ta-shee
Pacific Rim National Park Reserve, British Columbia
Public Works and Government Services Canada
Project Number: R .081570.001

Unit Price Table
Addendum 5

Trail, Road, and Bridge Works
South Park Boundary to North Park Boundary

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
Division 1	**General Requirements**					
1	01 25 20	Mobilization and Demobilization	Lump Sum	1		
2	01 35 00	Special Procedures for Traffic Control	Lump Sum	1		
3	01 45 00	Quality Control	Lump Sum	1		
		Environmental Procedures - Supply, Install, & Remove - above that required for incidental environmental work				
4	01 35 43	Light Duty Silt Fence Barrier (SI&R)	Lin.m	2,000		
5	01 35 43	Heavy Duty Silt Fence Barrier (SI&R)	Lin.m	500		
6	01 35 43	Erosion Control Blanket (SI&R)	sq.m	5,000		
7	01 35 43	Poly or Nylon Sand Bags (SI&R)	Each	1,000		
8	01 35 43	Poly Sheeting (6 mm) (SI&R)	sq.m	1,000		
9	01 35 43	Rock Check Dam (SI&R)	Each	100		
10	01 35 43	1.4 m high orange safety fence (SI&R)	Lin.m	200		
11	01 35 43	2.29 m X 2.29 m Small Wetland Filter Bag (SI&R)	Each	20		
12	01 35 43	4.57 m X 4.57 m Large Wetland Filter Bag (SI&R)	Each	20		
13	01 35 43	50mm trash pump + 61 m discharge hose	Daily	300		
14	01 35 43	75mm trash pump + 61 m discharge hose	Daily	150		
		Environmental Procedures - Standby Equipment and Materials				
15	01 35 43	50mm trash pump + 61 m discharge hose	Lump Sum	2		
16	01 35 43	75mm trash pump + 61 m discharge hose	Lump Sum	2		
17	01 35 43	Standby Materials (Quantities in Table 2 - light and heavy duty silt barrier, stakes, erosion control blanket, sandbags, poly sheeting, crushed rock, pea gravel, safety fencing, filter bags, Sorbent booms)	Lump Sum	1		
18	01 35 43	Large Spill Kits (110% of equipment fluids)	Lump Sum	2		
		Subtotal General Requirements				
Bridge and Elevated Trail Work						
Concrete		**Reinforced Precast Concrete Components**				
19	03 41 00	**Bridge 19 girders (30.6 m long)**	**L.S.**	**1**		
20	03 41 00	**Bridge 20 girders (30.6 m long)**	**L.S.**	**1**		
Concrete		**Reinforced Cast in Place Concrete Components**				
21	**03 30 00**	Bridge 3 - Abutments, wingwalls, approach slabs	L.S.	1		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
22	**03 30 00**	Bridge 19 Abutments, wingwalls, approach slabs, deck, curbs	L.S.	1		
23	**03 30 00**	Bridge 20 Abutments, wingwalls, approach slabs, deck, curbs	L.S.	1		
		Site Preperation, Delivery, Bearings, Installation, Wood Deck, Miscellaneous				
24	**03 41 01**	Bridge 3 - 20 m Steel & Timber Bridge	Each Bridge	1		
25	**03 41 01**	Bridge 19 - 30 m Precast Concrete Girder Bridge	Each Bridge	1		
26	**03 41 01**	Bridge 20 - 30 m Precast Concrete Girder Bridge	Each Bridge	1		
27	**03 41 01**	Elevated trail - Install and Finish	Lin.m	370		
		Subtotal Bridge and Elevated Trail Concrete				
Division 05	**Metal Work**	**Structural Steel Bridge Components**				
28	05 12 33	Bridge 3 - 20 metre Supply and Fabricate Steel	Lump Sum	1		
		Railings - Metal and Wood				
29	32 31 14	20 metre Span Bridge Steel (50.5m of Wood Railing)	Lump Sum	1		
30	**05 51 00**	30 metre Span Bridge Steel (82.4 m of Metal Railing)	Lump Sum	2		
31	32 31 14	Elevated trail - Wood Railings	Lin.m	150		
		Subtotal Metal Work				
Division 31	**Earthworks (Piling)**					
32	31 66 13	Helical Piles - 114mm dia, 6.0m Long 8.6mm WT screw piles for elevated trail sections (Drawing S-2.5 - Type A)	Each	280		
33	31 66 13	Helical Piles - 114mm dia, 9.0m Long 8.6mm WT screw piles for elevated trail sections (Drawing S-2.5 - Type B)	Each	46		
34	31 62 16	Mobilize and demobilize for bridge piling 20 m span Bridge 3	Lump Sum	1		
35	31 62 16	Mobilize and demobilize for bridge piling 30 m span Bridge 19 Sandhill Creek on Wick Road	Lump Sum	1		
36	31 62 16	Mobilize and demobilize for bridge piling 30 m span Bridge 20 Lost Shoe Creek Bridge 20 on Highway 4	Lump Sum	1		
37	31 62 16	Piling -610mm dia 16mm WT driven steel piles for bridge # 3 structure	Lin.m	50.4		
38	31 62 16	Piling -610mm dia 19mm WT driven steel piles for bridge# 19 structure	Lin.m	94		
39	31 62 16	Piling -762mm dia 19mm WT driven steel piles for bridge# 20 structure	Lin.m	147.6		
40	31 62 16	Piling - Concrete fill and reinforcing steel in 610mm dia steel piles for bridge structures	Each	16		
		Subtotal Bridge and Elevated Trail Piling				
At Grade Trail Work						
Division 03	**Concrete**					
41	03 30 20	Concrete Wall Curb, 300 high (Cast in Place)	Lin.m	150		
42	03 48 00	280 X 150 X 2130 parking curb (Precast)	Each	205		
43	03 48 00	2.13 m high concrete fence (Precast)	Lin.m	166		
		Roadside Precast Concrete Barriers				
44	03 48 00	460 high bull-nose 1.2 m Long (Precast)	Each	17		
45	03 48 00	460 high concrete barrier 3.0 m Long (Precast)	Each	6		
46	03 48 00	690 high concrete barrier 2.5 m Long (Precast)	Each	163		
47	03 48 00	460 to 690 high transition barrier 2.5 m Long (Precast)	Each	29		
48	03 48 00	690 high drainage barrier 2.5 m Long (Precast)	Each	212		
49	03 48 00	Relocate 690 high conc. barrier 2.5 m Long	Each	22		
50	03 48 00	Install 2.5m L 690 conc. barrier Supplied by PCA	Each	95		
		Subtotal Concrete				

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
Division 05	**Metal Work**					
51	05 51 00	Swing Bike Baffles	Each Pair	37		
52	05 51 00	8 m Wide Parking Lot Gate	Each	2		
53	05 51 00	5 m Wide Access Gate	Each	13		
54	05 51 00	Relocate and repaint existing forestry gate. Complete sets	Each set	2		
55	05 51 00	680 mm X 2400 mm galvanized rails on roadside concrete barriers	Each	440		
56	05 51 00	680 mm X 2400 mm galvanized rails on roadside concrete barriers with sign post	Each	20		
57	05 51 00	680 mm X 1800 mm galvanized rails on W-beam Guardrails	Each	212		
58	05 51 00	100 mm dia. Steel removable bollards	Each	6		
		Subtotal Metal Work				
Division 31	**Earthworks**					
		Clearing and Grubbing				
59	31 11 00	Tree and brush clearing and removal East side of Esowista Curve (Sta 15+400 to 15+880)	Hectare	0.30		
60	31 11 00	Tree and brush clearing for Trail	Hectare	1.40		
61	31 11 00	Grubbing	Hectare	15		
62	31 11 00	Stump Grinding	Cu. m	500		
		Topsoil, Organic Soil, and Wood Chips				
63	31 14 13	Organic soil side casting and respreading for shoulder dressing	Lin. m	47,000		
64	31 14 13	Supply and dress trail shoulders with wood chips on paved trail	Lin.m (Each side)	1,130		
65	31 14 13	Trail off site waste excavation - Organic Material	Cu. m	20,700		
		Mineral Soils Excavations and Fills				
66	31 14 13	Trail waste excavation - Non-organic material	Cu. m	14,100		
67	31 14 13	Trail embankment (Used on site)	Cu. m	2,800		
68	31 24 13	Highway off site waste excavation	Cu. m	7,500		
69	31 24 13	Highway embankment (Used on site)	Cu. m	1,000		
		Archaeological Site Excavations and Fills				
70	01 35 44	Organic Soils excavation and spreading in Archaeological site	Cu. m	10,400		
71	01 35 44	Organic Soils excavation - storage and recording at Grice Bay Parking Lot	Cu. m	1,900		
72	01 35 44	Mineral Soil excavation and fill in Archaeological Sites	Cu. m	2,600		
73	01 35 44	Mineral Soil excavation in Archaeological Sites - storage and recording at Grice Bay Parking Lot	Cu. m	3,000		
74	01 35 44	Mineral Soil excavation in Archaeological Sites - disposal at Tofino Airport	Cu. m	2,350		
		Geotextiles, Geogrids, Erosion Control Blankets				
75	31 32 19	Geotextiles - Woven high survivability	Sq. m	21,000		
76	31 32 19	Geotextiles - Install only -Woven Mirafi HP570 (71 rolls)	Sq. m	29,700		
77	31 32 19	Geogrid plus nonwoven or composite geotextile	Sq. m	53,400		
78	31 32 19	Erosion Control Blanket (Biodegradable)	Sq. m	62,000		
79	31 32 19	Erosion Control Blanket Install Only NAG C125BN (57 rolls)	Sq. m	4,200		
80	31 32 19	40 mil Root Barrier	Lin. m	40,000		
81	31 32 19	Buried Check Dam with LLPDE liner	Each	20		
82	31 37 00	Riprap Class 10 kg (350 mm thick)	Sq. m	3,000		
83	31 37 00	Riprap Class 25 kg (450 mm thick)	Sq. m	750		
84	31 37 00	Riprap Class 500 kg	Cu. m	340		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
		Subtotal Earthworks				
Division 32	**Road and Site Improvements**					
85	32 01 11	Removal of pavement markings on Highway 4 at Esowista Curve	Lump Sum	1		
86	32 01 16.7	200 mm wide - edge cold milling	Lin. m	900		
87	**32 01 16.9**	200 mm wide - asphalt saw cut and removal	Lin. m	900		
88	32 01 16.9	Asphalt pavement removal	Sq. m	3,050		
		Aggregates for Highways and Roads (Free of invasive species)				
89	32 11 10	Select Granular Sub-grade fill (75 mm minus)	Cu.m.	600		
90	32 11 16	Crushed Granular Sub-base (450 mm thick Esowista Curve)	Sq. m	3,600		
91	32 11 16	Crushed Granular Sub-base (300 mm thick Roadside Barrier Widening)	Sq. m	4,000		
92	32 11 23	Granular Base (150 mm thick)	Sq. m	3,400		
93	32 11 23	Granular Base (100 mm thick)	Sq. m	4,000		
94	32 11 23	Granular base shoulder dressing	Lin. m	1,000		
		Aggregates for Parking Lots (Free of invasive species)				
95	32 11 16	Crushed Granular Sub-base at Incinerator Rock Parking Lot (600 mm thick)	Sq. m	1,000		
96	32 11 23	Granular Base at Incinerator Rock Parking Lot (100 mm thick)	Sq. m	3,050		
97	32 11 23	Granular Base at Radar Hill Road Parking Lot (100 mm thick) **and preparation of existing surface**	Sq. m	5,600		
98	32 11 23	Gran. base shoulder 0.5 wide at Incinerator Rk P.L.	Lin. m	160		
		Aggregates for Trail (Free of invasive species)				
99	32 11 10	Select Granular Sub-grade fill (75mm minus)	Cu.m.	25,000		
100	32 11 16	Crushed Granular Sub-base (300 mm thick - 75mm minus)	Sq. m	45,800		
101	32 11 16	Open Graded Subbase (600 mm thick - 150 mm or 75mm minus)	Sq.m.	53,500		
102	32 11 16	Open Graded Sub-base (450 mm thick - 75 mm minus open graded crush)	Sq.m.	8,700		
103	32 11 16	Open Graded Subbase (150 mm or 75 mm minus for strengthening areas)	Cu. m	5,000		
104	32 11 23	Granular Base (100 mm thick)	Sq. m	84,500		
		Fill Existing Cisterns				
105	32 11 23	Fill existing cisterns with granular base	Each	4.00		
		Temporary Access				
106	32 11 24	Temporary Access Roads	Lump Sum	1.00		
107		**Delete. Item not used**				
		Asphalt Pavement				
108	32 12 13.16	Asphalt tack coat	Sq.m	7,150		
109	32 12 16	Incinerator Rock Parking Lot (50 mm thick)	Sq. m	2,900		
110	32 12 16	Trail Paving (50 mm thick X 3.2 m Wide)	Sq. m	2,950		
		Esowista Curve Paving				
111	32 12 16	Highway widening lower course (75 mm thick)	Sq. m	3,000		
112	32 12 16	Highway widening upper course (50 mm thick)	Sq. m	3,100		
		Painted Pavement Markings				
113	32 17 23	Highway 4 Widening 75+380 to 76+035	Lump Sum	1		
114	32 17 23	Long Beach Parking Lot	Lump Sum	1		
115	32 17 23	Incinerator Rock Parking Lot	Lump Sum	1		
		Traffic and Project Signs				
116	32 17 25	Temporary static project signs, 1220 X 2440 on timber posts, supply, install, maintain, and remove	Each	6		
117	32 17 25	Changeable message signs ,supply, install, maintain, and remove	Month	48		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
118	32 17 25	Trail signs mounted on curved steel post and precast concrete base	Each	130		
119	32 17 25	Traffic signs mounted on W-channel steel post	Each	65		
120	32 17 25	Traffic signs mounted on concrete roadside barriers (sign face and mounting brackets)	Each	20		
121	32 17 25	Relocate existing signs at Highway 4 Widening 75+380 to 76+035	Lump sum	1		
122	32 17 25	Relocate existing sign at Highway 4 and south Park Boundary	Lump sum	1		
		Install Wood Fencing, Wood Railings, and Amphibian Fencing				
123	32 31 14	Wood safety railings conc. foundation, 1400 mm high (Timber supplied by PCA.)	Lin.m	1,210		
124	32 31 14	Wood safety railings, installed on Lockblock wall, 1400 mm high (Timber supplied by PCA.)	Lin.m	190		
125	32 31 14	Supply and Install Wood Log rails, 600 mm high	Lin.m	1,700		
126	32 31 14	Supply and Install Wood Log rails, 900 mm high	Lin.m	750		
127	32 31 14	Wood Fence - Solid plank, 1.83 mm high (Timber supplied by PCA.)	Lin.m	150		
128	**32 31 15**	**Supply, Install, and remove Amphibian Fencing - Animex & Hilsperger's poly and framework**	**Lin.m**	**55**		
129	32 31 15	Supply and Install Amphibian Fencing - Animex & Hilsperger's poly with plastic wood framework	Lin.m	**350**		
		Retaining Walls c/w sub-drains				
130	32 32 34	Envirogrid or equal retaining walls 1.2 Max. Height	Sq. m	400		
131	32 32 34	Envirogrid or equal retaining walls over 1.2 m Height with uniaxle geogrid reinforcement	Sq. m	1,900		
132	32 32 34	Concrete segmental block retaining walls	Sq. m	100		
133	32 32 34	Lock Block Wall - Standard Block	Block	121		
134	32 32 34	Lock Block Wall -Bench Block	Block	121		
135	32 32 34	Aluminum Amphibian Barrier Strip on Lock Blocks	Lin.m	190		
136	32 32 34	Dry stack rock walls	Sq. m	300		
137	31 32 19	Geogrid Uni-axial for MSE walls	Sq. m	9,500		
138	32 32 34	Light weight fill - Styrofoam SP 29	Cu.m.	1,300		
		Invasive Species Control Program				
139	31 93 02	Invasive Species Control Program	Lump Sum	1.00		
		Subtotal Road and Site Improvements				
Division 33	**Utilities**					
		Pipe Culverts				
140	33 42 13	200 mm dia HDPE	Lin. m	55		
141	33 42 13	250 mm dia HDPE	Lin. m	100		
142	33 42 13	300 mm dia HDPE	Lin. m	8		
143	33 42 13	400 mm dia HDPE	Lin. m	15		
144	33 42 13	450 mm dia HDPE	Lin. m	200		
145	33 42 13	600 mm dia HDPE	Lin. m	320		
146	33 42 13	600 mm dia HDPE 45 degree bend	Each	1		
		Pipe Culverts c/w 300mm Fisheries Gravel or Native Organics				
147	33 42 13	600 mm dia, 8 m long HDPE, complete	Each	87		
148	33 42 13	600 mm dia, 12 m long HDPE, complete	Each	8		
149	33 42 13	750 mm dia, 8 m long HDPE, complete	Each	15		
150	33 42 13	900 mm dia, 8 m long HDPE, complete	Each	7		
151	33 42 13	1200 mm dia, 8 m long HDPE, complete	Each	1		
152	33 42 13	600 mm dia HDPE additional length to above	Lin. m	100		
		Temporary Pipe Culverts at Temporary Access Points				
153	33 42 13	450 mm diameter 8 m long	Each	51		
154	33 42 13	600 mm diameter 8 m long	Each	12		

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
		Concrete Box Culverts For Water Passage				
155	33 42 13	1800mm X 900 mm X 5 m long water passage culvert, complete	Each	3		
156	33 42 13	1800mm X 1200 mm X 5 m long water passage culvert, complete	Each	11		
157	33 42 13	Delete. Item not used				
158	33 42 13	2100mm X 1200 mm X 5 m long water passage culvert, complete	Each	3		
159	33 42 13	2400mm X 1200 mm X 5 m long water passage culvert, complete	Each	4		
		Concrete Box Culverts for Amphibians				
160	33 42 13	1800mm X 900 mm X 3.75 m long Amphibian underpass culvert, complete	Each	60		
161	33 42 13	1800mm X 900 mm X 17.5 m long Amphibian underpass culvert, complete with Pavement rehab	Each	3		
		Extend Existing Pipe Culverts				
162	33 42 13	H20+737 - 800 mm CSP, 1.5 m long extension	Lump Sum	1		
163	33 42 13	H18+221 - 1200 mm CSP, 2 m long extension	Lump Sum	1		
164	33 42 13	H17+929 - 800 mm CSP, 4.5 m long extension	Lump Sum	1		
165	33 42 13	H16+067 -**1200 mm HDPE** 3 m long extension	Lump Sum	1		
166	33 42 13	H15+262 2X600 mm HDPE 5 m long extension	Lump Sum	1		
167	33 42 13	H15+097 600 mm CSP 5 m long extension	Lump Sum	1		
168	33 42 13	H9+110 -500 mm CSP 5 m long extension	Lump Sum	1		
169	33 42 13	H7+631 - 1200 mm HDPE, 2 m long extension	Lump Sum	1		
170	33 42 13	H0+119 - 600 mm CSP, 5 m long extension	Lump Sum	1		
171	33 42 13	H0+201 - 600 mm CSP, 5 m long extension	Lump Sum	1		
172	33 42 13	500 mm dia CSP additional length to above	Lin. m	5		
173	33 42 13	600 mm dia CSP additional length to above	Lin. m	5		
174	33 42 13	800 mm dia CSP additional length to above	Lin. m	10		
175	33 42 13	600 mm dia HDPE additional length to above	Lin. m	10		
176	33 42 13	1200 mm dia HDPE additional length to above	Lin. m	5		
177	31 23 33	Over excavation, backfill, and bedding	Cu.m	400		
		Fisheries Work				
178	33 42 15	Fisheries enhancement work detailed on sheet F-2	Lump Sum	1		
179	33 42 15	Fisheries enhancement work detailed on sheet F-3	Lump Sum	1		
180	33 42 15	Fisheries enhancement work detailed on sheet F-4	Lump Sum	1		
181	33 42 15	Fisheries enhancement work detailed on sheet F-5	Lump Sum	1		
182	33 42 15	Fisheries enhancement work detailed on sheet F-6	Lump Sum	1		
183	33 42 15	Fisheries enhancement work detailed on sheet F-7	Lump Sum	1		
184	33 42 15	Fisheries enhancement work detailed on sheet F-9	Lump Sum	1		
185	33 42 15	Fisheries enhancement work detailed on sheet F-10	Lump Sum	1		
186	33 42 15	Fisheries enhancement work detailed on sheet F-12	Lump Sum	1		
187	33 42 15	Fisheries enhancement work detailed on sheet F-13	Lump Sum	1		
188	33 42 15	Fisheries enhancement work detailed on sheet F-14	Lump Sum	1		
189	33 42 15	Fisheries enhancement work detailed on sheet F-15	Lump Sum	1		
		Manholes and Grates				
190	33 44 01	Man Hole Frame & Grates at 3 Amphibian Crossings	Each	6		
191	33 44 01	Adjust Existing Man Holes	Each	3		
192	33 44 01	**300mm** diam. Lawn basin grate inlet	Each	8		
		Subtotal Utilities				
Division 34	**Transportation**					
		Traffic Barriers				
193	34 71 13	Supply and Install Posts and W- beam guard rail	Lin. m	587		
194	34 71 13	Wood plank on guard rail (Timber supplied by PCA.)	Lin. m	587		
195	34 71 13	FLEAT 350 Barrier Terminal (or equal)	Each	6		
		Subtotal Transportation				

Item	Specification Reference	Class of Labor, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit applicable taxes extra (PU)	Extended amount (EQ x PU) applicable taxes extra
					TOTAL =	