

Part 1 SUMMARY

The work includes the excavation, removal and reuse of the existing armour stones and construction of new reinforced concrete launch ramp structure. The contractor will be requested to provide a breakdown of the lump sum items for payment purposes following award of the contract. All work associated with the mobilization and demobilization of all equipment required to perform and complete the work will be measured for payment by a lump sum.

Part 2 PROJECT PARTICULARS

2.1 Description of Work

- .1 This contract is for the Concrete Ramp Construction located at Canso Cape Guysborough County, Nova Scotia.
- .2 The work includes but is not limited to:
 - .1 Removal, store for reuse existing riprap scheduled to be removed from present location.
 - .2 Core stone - Supply, place, compact and grade to subbase profile as shown on drawings and grade extending back to subbase grade towards the property line and at the end of the new retaining wall.
 - .3 The retaining walls and footings are to be cast-in place sections as shown on the plans. Work is to begin at the existing crib work and proceed inshore. Extreme care will be taken in vicinity of the existing crib work.
 - .4 Granular sub-base type 2 gravel: - Supply, place, compact (to 300mm thick) and grade to profile shown on drawings and extending to match subbase grade at property line or end of new retaining wall.
 - .5 Riprap (200 to 500 kg) – Supply, place to grade in a singular layer and in two layers (up to 1100mm thk) to profile as shown on drawings. This work to be completed prior to placement of cast-in-place slabs.
Salvage Riprap – Reuse and supply additional riprap material (as required) along new launch ramp and new service area as shown on drawings.
 - .6 The launching ramp consists of both precast and cast-in place sections with the installation work commencing at the outer water edge on completion of the placement of rip rap.. The precast sections are to be place first followed by the cast-in place sections.
 - .8 Supply and placement of core stone, granular base, and riprap stone for the construction of new service area.
 - .10 On completion the site is to be finished graded and cleaned to the satisfaction of the *Department Representative*.

2.2 PROJECT MEASUREMENT

- .1 This section details the measurement method to be used for payment purposes. Incidental items covered in the various sections of the Specification are to be allowed for in the pricing of each pay item.
- .2 The contractor will be requested to provide a breakdown of the lump sum items for payment purposes following award of the contract.

2.3 Measurement for Payment

.1 Lump Sum Items

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- .1 Mobilization and Demobilization: All work associated with the mobilization and demobilization of all equipment required to perform and complete the work as outlined in the Contract Drawings, shall be measured for payment by the lump sum. This item will include all storage containers, construction and safety signs, all site fencing, security, buoys, and temporary power. A separate office will be maintained for the Department Representative including fixtures. Prior to demobilizing clean and secure site to Department Representative approval.
- .2 Environment Controls: All environment controls required to complete the work shall be measured for payment by the lump sum including but not limited to the following:
 1. floating silt barriers with their maintenance,
 2. maintaining access to all areas of the site in a clean and safe condition
 3. installation and maintenance of all security and safety fences and signs
 4. turbidity testing as requested by the *Department Representative*

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- .3 Site Work, Demolition and Removals: Any additional site work or demolition and removal not identified but required to perform the work described on the drawings will be considered incidental to the tendered work. The placement of filter fabric as shown on the drawings and the locations of the fabric will be incidental to the work.

.2 Unit Price Items

Note: The following outlines the unit of measurement of the unit price items as indicated in the tender documents.

Division 03 Concrete

- .1 Reinforced Concrete Retaining Wall and Footing (m3): Supply and placement of cast-in-place reinforced concrete for retaining wall and any other element not covered elsewhere shall be measured for payment by the cubic meter (m3) successfully in-place. All the inserts are incidental to the work. Steel reinforcing, temporary shoring, formwork, drain pipe and all supplementary materials will not be measured for payment but considered incidental to the work.
 1. Excavation and backfill,
 2. Supply and install clear stone and filter fabric,
 3. All material rebar, dowels, and their placement,
 4. Form work construction, control joints and keys,
 5. Supply, place, and protection of concrete through curing,
 6. All joint work with material, inserts and drains,
 7. Any other items to conform with the drawings,

.2 Reinforced Concrete Ramp

1. Cast-in-place slabs (m2):

Supply and placement of cast-in-place concrete ramp shall be measured for payment by the square meter (m2) successfully in-place to the satisfaction of *Department Representative*. Steel reinforcing, steel edge angle, false work, formwork, marine grade sealant, bituminous filler and all supplementary materials will not be measured for payment but considered incidental to the work.

Items included in this measure shall include:

1. Placement and grading of core stone and gravel beyond the footprint area for the slabs and to the grade described on the drawings,
2. All forms and form work for slabs,
3. Supply and placement of rebars,
4. Supply, placement and curing of concrete,
5. Backfill and compaction around slab as necessary,
6. All joint filling as stated on the drawings.

Precast Concrete Slab (m2):

Supply and installation of precast concrete slabs for ramp shall be measured for payment per square meter (m2) slabs placed successfully to satisfaction the *Department Representative*. All reinforcement, fasteners, lifting device, marine grade sealant, bituminous filler and installation shall be considered incidental to the work. Extreme care shall be taken in vicinity of the existing crib work.

Items included in this measure shall include but not limited to:

1. Layout, compaction, and site grading for precast work area,
2. Supply and install marine wood buffer to protect existing crib,
3. All forms and form work for slabs built on site location,
4. Supply and placement of rebars and lifting bars,
5. Supply, placement, curing, and protection of concrete,
6. Grading and compaction of core stone and type 2 gravel in footprint area for the precast slabs,
7. Moving slabs and correct placement to grade shown on drawings,
8. Method of placement must be approved by the *Department Representative* before commencement of placement,
9. Grouting of lift slots.

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- .3 Core stone (0.2-100 Kg) (t): Supply and placement of the core stone shall be measured for payment by the tonne supplied to the location required on the site. Handling, grading and compaction shall be incidental to the quantity of the core stone and will not be measured separately for payment purpose.

- .4 Type 1 Gravel (t): Supply and placement of type 1 gravel shall be measured for payment by the tonne supplied to the location required on site. Placement of filter fabric as shown in the drawing, handing, grading and compaction shall be incidental to the quantity of the core stone and will not be measured separately for payment purpose.
- .5 Type 2 Gravel (t): Supply and placement of type 2 gravel shall be measured for payment by the tonne supplied to the location required on site. Placement of filter fabric as shown in the drawing, handing, grading and compaction shall be incidental to the quantity of the core stone and will not be measured separately for payment purpose.
- .6 Rip-Rap 200kg-500Kg (t): Supply and placement of two layer of riprap stone as slope protection of shall be measured in tonne. Any material placed beyond the lines and grades shown on the drawings shall be adjusted to the satisfaction of the Department Representative. Supply and installation of filter fabric shall be considered incidental to the work. And will not be measured separately for the payment purpose.

Note: Armour stone that was salvaged at the start of the work will be placed first and paid for by the square meter based on straight neat, measured section lines in the field and conforming to contract drawings. Salvaged armour rock placement will commence at the inshore position and continue in uniform lines towards the shoreline with respect to the drawings. Upon completion of the salvaged armour the Contractor and the *Department Representative* will agree to the acceptable area for payment. All expenses occurring in the salvation and placement of the armour rock will be included in this square meter measurement. The contractor will then proceed to complete the work by the supplied tonne which includes placement to the acceptance of the *Department Representative*.

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- .7 Clear Stone (t): Supply and placement of nominal clear stone shall be measured for payment by the tonne supplied to the location required on site. Placement of filter fabric as shown in the drawing, handing, grading and compaction shall be incidental to the quantity of the nominal clear stone and will not be measured separately for payment purpose.

END OF SECTION