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1800.1 MEASUREMENT OF QUANTITIES

- 1800.1.1 The units of measurement used in this contract will be determined on the basis of the International System of Units established by the General Conference of Weights and Measures.
- 1800.1.2 The units of measurement will be as defined by the *Weights and Measures Act (Canada)*.
- 1800.1.3 Unless specifically stated otherwise in the contract for a particular item, measurements will be made in accordance with the following general rules:
- 1800.1.3.1 Measurement of areas will be made on the surface which is to be measured.
 - 1800.1.3.2 Volumes of excavations and embankments will be computed by the method of average end areas. The volume of all excavations will be measured in the original position of the material by the cross-section method unless measurement on the basis of vehicular measure is specifically provided.
 - 1800.1.3.3 Materials paid for by the cubic metre shall be measured in the vehicle at the point of delivery on the roadway. The volumetric capacity of the vehicle will be measured to the nearest 0.1 of a cubic metre and the capacity having been once measured shall not be changed without the permission of the Engineer. No allowance will be made for material heaped above the volumetric capacity of the vehicle or for any settlement of the material in transit. Deductions will be made in 0.5 of a cubic metre increments on loads which contain less than the volumetric capacity of the box.
 - 1800.1.3.4 The volumetric unit for measurement of bituminous material will be the litre at 15 degrees Celsius. Volumes measured at any other temperature will be corrected to the volume at 15 degrees Celsius using the approved tables of correction factors. The Engineer may use the Contractor's scales to weigh or to check the weight of bituminous materials.
 - 1800.1.3.5 The volumetric unit for measurement of water will be the cubic metre.
 - 1800.1.3.6 Timber will be measured in cubic metres for the material actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

- 1800.1.3.7 When a complete structure or structural unit, for example lump sum work, is specified as the unit of measurement, the unit shall include all necessary fittings, accessories, labour and materials for which separate payment is not provided in the contract.

1800.2 SCALES AND SCALE HOUSE

- 1800.2.1 When payment by weight is specified in the contract, the Contractor shall furnish a platform scale and scale house meeting Measurement Canada's requirements. The platform scale furnished by the Contractor shall be of sufficient length and capacity to accommodate any truck used on the contract in a single weighing. No payment shall be made to the Contractor for furnishing such scales and scale house. The Contractor may use other types of scales and/or weigh ticket printers provided these devices are approved or under permit for use by Measurement Canada, and are approved for use by the Department. The scales shall be satisfactory to the Engineer. The scales shall be certified and sealed by the Engineer within one year of the previous certification. For the certification test, the Contractor shall be required to furnish four tonnes of approved test weights.
- 1800.2.2 The Engineer will carry out all subsequent scale tests at each new scale site or as frequently as he may deem it necessary.
- 1800.2.3 The Contractor shall be required to furnish two tonnes of approved test weights and shall have them available at all times at the site of this project for checking of the scale(s).
- 1800.2.4 The scale house shall be constructed in such a manner as to provide safe and convenient access for scale operators and shall be weatherproof to protect the recording device of the scale operator. The scale house shall be large enough to provide reasonable working accommodations for the scale operator or operators and have safe and adequate heat, light and power.
- 1800.2.5 All platforms, walkways and stairs shall be constructed to comply with the Occupational Health and Safety regulations.
- 1800.2.6 The Department will provide and place the necessary person(s) at the Contractor's weigh scale(s) for the purpose of weighing materials required under the contract.
- 1800.2.7 The Contractor shall have the right to place person(s) in his employ in the scale house for the purpose of checking measurements, but such employees shall in no way obstruct, interfere with, or influence the execution of the duties of person(s) placed by the Department.
- 1800.2.8 All materials incorporated in the work for which payment by weight is stipulated in the contract shall be weighed only by a scale operator provided by the Department. Such material not weighed by Department operators will be considered as unauthorized and the Contractor will not be entitled to payment for same.
- 1800.2.9 Trucks to haul material purchased by weight shall be weighed empty at such times as the Engineer directs.
- 1800.2.10 The Contractor shall supply 110-volt AC power to the scale house during all hauling.

1800.3 SCOPE OF PAYMENT

1800.3.1 The Contractor shall accept the compensation, as herein provided, as full payment for furnishing all materials, labour, equipment, tools and incidentals necessary to the completed work and for performing all work contemplated under the contract; for all administrative and overhead costs; for all risk, loss, damage, or expense arising from the nature of the work or the prosecution thereof, except as otherwise specifically provided elsewhere in the contract, including but not limited to the following:

1800.3.1.1 All loss or damage arising from the nature of the work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work and until its final acceptance by the Engineer, except that the Minister may, in his discretion, reimburse the Contractor, as set forth in Subsection 1600.6.

1800.3.1.2 For all expenses incurred in consequence of the suspension of the work as herein authorized, unless otherwise shown on the plans and the specifications.

1800.3.2 Where the "basis of payment" clause in the specifications relating to any unit price in the contract requires that the said unit price be the compensation for certain work or materials essential to the item, this same work or material shall not be measured and paid under any other item which may appear elsewhere in the specifications.

1800.3.3 The payment of any partial estimate or for any retained percentage, except by and under the approved final estimate and voucher, shall not affect the obligation of the Contractor to repair or renew any defective materials used in the work or to be responsible for all damage due to such defects.

1800.4 NO COMPENSATION FOR ALTERATIONS IN QUANTITIES

1800.4.1 If alterations in the plans or quantities of work, except as provided for in Subsections 1300.2 and 1300.3, are ordered and performed, the Contractor shall accept payment at the contract unit prices for actual quantities of the work performed as full payment.

1800.4.2 No allowance, except as provided for in Subsections 1300.2 and 1300.3, shall be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting from such alterations, or from unbalanced allocation among the contract items of overhead expense on the part of the bidder and subsequent loss of expected reimbursement, or from any other cause.

1800.5 PAYMENT FOR EXTRA WORK

1800.5.1 Payment for Extra Work performed on a unit price basis, or on a lump sum basis, or on a force account basis in accordance with the requirements and provisions of Subsection 1300.4 shall be as follows:

- 1800.5.1.1 For payment made at the unit bid price or on a lump sum basis, the payment will be as stipulated in the supplemental agreement entered into by the Minister and the Contractor.
- 1800.5.1.2 Extra Work performed on a force account basis will be paid as follows:
- 1800.5.1.2.1 For labourers, supervisors and superintendents, the actual rate of wages paid by the Contractor, but at rates not to exceed those for comparable labour currently employed on the project as determined by the Engineer, plus an allowance as designated in the special provisions of the contract, which shall cover statutory holiday pay, holiday pay, Canada Pension Plan, Workers' Compensation, Employment Insurance, public liability insurance, property damage insurance, overhead and profit.
 - 1800.5.1.2.2 An allowance as designated in the special provisions of the contract shall be added to the total of the above labour cost to cover board loss where the Contractor does not charge the full cost of meals and accommodation back to the employee.
 - 1800.5.1.2.3 For all materials purchased by the Contractor and used on force account work which is accepted by the Engineer, the Contractor will receive the actual cost of the materials delivered on the project, including freight and hauling charges as shown by original receipted bills, to which costs shall be added a sum equal to ten percent thereof.
 - 1800.5.1.2.4 For any machinery and equipment used the Contractor will be paid rental rates in accordance with the Schedule of Rental Rates contained in the contract. The schedule of rental rates contained in the contract shall apply to all work done on force account during the fiscal year from the first day of April in one calendar year and ending on the last day of March in the next calendar year, both dates inclusive. Current schedule rates will be applicable for each succeeding fiscal year. If a particular piece of equipment is not listed in the schedule of rental rates, a rate will be established by the Department before any work is carried out on force account. The rate established will then apply for the duration of the contract. The Contractor shall obtain approval in writing for equipment hired at rental rates exceeding those contained in the Schedule of Rental Rates prior to any work being done on force account. Except as provided in the said schedule, no allowance will be made for small tools and manual equipment.
 - 1800.5.1.2.5 A surcharge of ten percent may be added to the equipment rental rates subject to the following limitations:
 - 1800.5.1.2.5.1 The surcharge shall apply to any type of work ordered as force account if the total amount of equipment rentals for that type of work exceeds \$15,000 or four percent of the total amount, whichever is the greater. "Type of Work" shall include, but shall not be limited to: repair of major subgrade failures, bed preparation for culverts, fencing and topsoil replacement on borrow pits.
 - 1800.5.1.2.5.2 The surcharge shall apply only on the amount by which equipment rental exceeds the greater of \$15,000 or four percent of the total amount, whichever is the greater.

1800.5.1.2.5.3 No surcharge will be paid if it is mutually agreed before the force account work is undertaken that a surcharge will not apply.

1800.5.1.2.6 The following records shall pertain to force account work:

1800.5.1.2.6.1 Work to be done on a force account basis must be authorized in writing by the Engineer before its commencement. The original and one copy of the authorization will be given to the Contractor. The original is to be retained by the Contractor and the copy attached to the Department's standard force account forms.

1800.5.1.2.6.2 The Contractor shall furnish original receipted bills to verify the cost of materials purchased by him and used on the Extra Work.

1800.5.1.2.6.3 The cost of labour and equipment rental charges shall be furnished by the Contractor on the standard force account forms provided by the Department.

1800.5.1.2.6.4 Accounts for force account work shall be submitted to the Minister for payment within 30 days from the date on which such force account work was completed.

1800.5.1.2.6.5 The Engineer, if he deems it necessary, will provide and place a timekeeper or timekeepers on the work for the purpose of keeping records of the costs of such force account work.

1800.5.1.2.6.6 The Contractor shall not be entitled to anticipated profits which employees, machinery, or equipment might have earned through not having been employed on force account work.

1800.6 PARTIAL PAYMENTS

1800.6.1 Payments to the Contractor will be made monthly. All payments for materials furnished and work performed will be based on estimates prepared and certified by the Engineer. The monthly estimates and payments are approximate only but shall be as close to the actual value as is practicable, and shall be subject to correction in the final estimate and payment.

1800.6.2 In addition to any other holdback permitted by the contract, ten percent of the monthly amount of each progressive estimate, to a maximum of \$75,000.00, will be retained by the Department as a holdback until the work is completed and has been accepted by the Engineer.

1800.7 FINAL PAYMENT

1800.7.1 Final payment will be made at the earliest practicable date following final inspection and acceptance. The Contractor will be paid the entire sum due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract. Such final payment will be known as the "Final Estimate".

1800.7.2 The Contractor shall be paid interest on the Final Estimate at an interest rate three percent more than the interest rate charged by the Bank of Canada to chartered banks, calculated on an annual basis.

1800.7.3 Interest payable pursuant to Subsection 1800.7.2 shall begin to accrue after the later of:

1800.7.3.1 10 days after the Contractor has provided a statutory declaration to the Minister declaring that all just claims against the Contractor have been paid or, if not paid, that security for payment has been provided to the creditor; or

1800.7.3.2 the 60th day after the date of final acceptance by the Engineer

1800.7.4 Interest payable pursuant to Subsection 1800.7.2 shall cease to accrue after the later of:

1800.7.4.1 10 days after receipt of clearance required under *The Education and Health Tax Act* and *The Workers' Compensation Act*; or

1800.7.4.2 10 days after certification of the Final Estimate by the Engineer.

1800.8 FUEL REBATES

1800.8.1 Claims for rebates for unforeseen fuel cost changes will be considered by the Department for the following:

1800.8.1.1 Price increases due to tax changes for propane, bunker fuel, gasoline or diesel fuel; or

1800.8.1.2 Price increases or decreases in the refinery price of propane.

1800.8.2 If a claim is submitted pursuant to Subsection 1800.8.1.1, the following conditions apply:

1800.8.2.1 Fuel used in trucks will not be considered as part of the claim.

1800.8.2.2 Only price increases announced after the date of tender closing will be considered.

1800.8.2.3 Claims with a value, after review, of less than \$500 will not be paid.

1800.8.2.4 Claims or a letter of intent to claim must be submitted within 90 days of final acceptance.

1800.8.2.5 Claims will only be considered if the Contractor provides documentation on the total quantity of fuel purchased along with a summary of fuel which was used in equipment other than trucks.

1800.8.2.6 Claim forms will be provided by the Department.

1800.8.3 If a claim is submitted pursuant to Subsection 1800.8.1.2, the following conditions apply:

1800.8.3.1 The claim for rebate shall be limited to actual construction equipment, excluding trucks, housing and camp facilities.

1800.8.3.2 Only price increases or decreases announced after the date of tender closing will be considered.

1800.8.3.3 Claims with a value, after review, of less than \$500 will not be paid.

- 1800.8.3.4 The Contractor shall provide a statutory declaration indicating the total amount of propane used and copies of the propane invoices, prior to the Department making final payment.
 - 1800.8.3.5 The Propane Base Price will be stated in the special provisions.
 - 1800.8.3.6 If the delivered price of propane exceeds the Propane Base Price, the Department will rebate 75% of the increased cost of propane.
 - 1800.8.3.7 If the delivered price of propane is less than the Propane Base Price, the Contractor shall rebate 75% of the decreased cost of propane.
 - 1800.8.3.8 Claim forms will be provided by the Department.
- 1800.8.4 Rebates will not be made for fuels purchased before the effective date of any increase or for fuels purchased after the allowable working days or completion date has expired.