

STANDARD SPECIFICATIONS

**FENCE CONSTRUCTION
FOR COMMUNITY PASTURES
SPECIFICATION NO. FC/13**

REGINA, Saskatchewan

April 2015

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**FENCE CONSTRUCTION
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SECTION 1 - GENERAL

1-01 Scope of the Work

The work consists of the supply of all equipment, labour and materials (except fencing materials supplied by Canada) required for the construction, dismantling and/or rebuilding of barbed wire fences and gates in the Community Pastures.

1-02 Approximate Quantities

The main items of work to be done in accordance with these specifications and the approximate quantities of each are as stated in the Price Table on the Bid and Acceptance form.

1-03 Drawings Furnished by Canada

Standard Fence Plan No. 112684B.

Community Pasture Location Plan.

These drawings are made a part of these specifications.

The drawings show the approximate locations, dimensions and general arrangement of the work and are in sufficient detail to serve as a basis for the preparation of bids. Where necessary, as determined by the Department Representative, additional drawings showing further details or alterations will be furnished to the Contractor during the progress of the work.

1-04 Completion of the Work

The Contractor shall complete the fence construction operations on or before the date stated on the Bid and Acceptance form.

1-05 Construction Program

The Contractor's construction operations shall be subject to the approval of the Department Representative. Within 5 calendar days after the Contractor has been advised, in writing, of the acceptance of his tender, he shall furnish the Department Representative with his proposed program of operation. This program shall include equipment to be used to begin work, planned starting date and estimated completion date. The capacity of the Contractor's equipment, sequence of operations and methods of operation shall be such as to ensure the completion of the work as specified in Section 1-04.

1-06 Materials Furnished by Canada

Canada will furnish to the Contractor without charge all site areas and fencing materials, except wire splicing materials, which, in the opinion of the Department Representative, are necessary for the prosecution of the work. The boundaries of land controlled by Canada are shown on the drawings. The fencing material will be stored at the Community Pasture Headquarters.

1-07 Materials Furnished by the Contractor

The Contractor will be required to furnish all equipment, labour, materials and supplies including wire splicing materials and tools necessary for the satisfactory completion of the work except

materials and supplies furnished by Canada. The cost of hauling materials furnished by Canada and the equipment and supplies furnished by the Contractor and stockpiling dismantled or removed fence materials shall be included in the prices bid in the Price Table.

1-08 Site Examination

Before submitting his tender, the Contractor shall examine the jobsite, soil conditions, construction and storage areas, compare drawings and specifications with existing conditions, and fully satisfy himself as to all data and matters required for the completion of the contract.

Failure to acquaint himself fully with all available information concerning conditions affecting the work shall not relieve the Contractor of the responsibility for estimating the difficulties and costs of satisfactorily performing the work.

1-09 Department Representative to Direct Course of Work

Acceptance of all works to be performed under this contract will be subject to the discretion and approval of the Department Representative.

1-10 Statement of Equipment

Bidders shall list power equipment, post drivers, vehicles and other equipment that will be used in the performance of the work on the forms provided and shall return them with the Bid and Acceptance forms.

1-11 Inspection

All work performed will be subject to inspection.

The cost of inspection shall be borne by Canada.

1-12 Permits, Licenses, Regulations and Acts

The Contractor shall be responsible for obtaining and paying for any permits or licenses as may be required for any portion of this contract.

The Contractor shall comply with all Municipal, Provincial Government and Government of Canada regulations.

1-13 Claims, Demands, Actions, Suits and Other Proceedings

The Contractor shall indemnify and save harmless Her Majesty, from and against all claims, demands, actions, suits or other legal proceedings for whatever nature arising out of or in connection with the carrying out of the work outlined in these specifications.

Canada assumes no responsibility for public safety in connection with any operations performed by the Contractor in prosecution of the work specified herein.

1-14 Protection of Survey Posts

The Contractor shall not disturb, deface, alter, destroy or remove any survey post or monument and if the same shall occur, then the Department Representative may have such post or monument replaced at the expense of the Contractor.

1-15 Camp Sites

The Contractor will be permitted to use for construction camp purposes any land available in the vicinity of the work that is the property of Canada, provided that such use shall not interfere with any part of the work or of the work of other Contractors and Canada

in the vicinity. If private land is used by the Contractor, he shall make all necessary arrangements with the owner and shall pay all rentals or other costs connected therewith. The location, construction, maintenance, operation and removal of the Contractor's camps and of the camps or establishments of all persons or parties in the vicinity operating or associated with the Contractor, shall be subject to the approval of the Department Representative. The camp site or sites shall be kept in a neat and orderly condition at all times.

1-16 Roads and Fences

Access to the work shall be provided by the Contractor at his own expense. Canada assumes no responsibility for the condition and maintenance of any road or structure thereon that may be used by the Contractor in travelling to and from the site of the work.

SECTION 2 - FENCE CONSTRUCTION

2-01 General

The work consists of supplying all plant, labour, equipment and necessary materials (except fencing materials supplied by Canada), and performing all operations in connection with constructing, dismantling or rebuilding a four wire, barbed wire fence including wire gates if required.

The Contractor shall visit the work site and from his own visual inspection and the drawings provided, make his own interpretation respecting all conditions of work to be performed.

2-02 Materials for Fence Construction

All materials for constructing or rebuilding fences will be supplied by Canada and stored at the Community Pasture Headquarters. The Contractor shall be responsible for hauling all materials to the work site and for the storage and security of the materials transported to the work site.

Unused materials supplied by Canada shall be returned to the Pasture Headquarters and stockpiled.

2-03 Dismantling Fence

2-03.1 Removal of Posts and Wire

The Contractor shall remove all line posts, anchor posts and brace posts that are in a broken or otherwise unfit condition including wire if so described on the Bid and Acceptance form. All posts and wire to be removed will be marked by the Department Representative prior to the Contractor starting work.

All barbed wire removed shall be rolled up in neat rolls in accordance with the Department Representative instructions, by hand or by mechanical means. All staples removed shall be collected in containers and stockpiled with the wire.

2-03.2 Disposal of Dismantled Materials

The Contractor shall load, haul, unload and stack in neat and orderly piles at the stockpile area, all dismantled fence materials. The stockpile area shall be at the Pasture Headquarters or closer to the work area as may be designated by the Department Representative.

2-03.3 Existing Fences and Livestock

Where existing fences require partial dismantling for the construction of new fence or fence dismantling or rebuilding, the Contractor shall restore such fences to the quality as detailed in this specification. Fence shall be dismantled and reconstructed in 400 metre sections or in lengths as directed by the Department Representative.

If livestock are at large in any area where the fences have been removed or are required to be removed, it shall be the responsibility of the Contractor to contain the livestock by any means at the Contractor's disposal and with the approval of the Department Representative.

2-04 Fence Construction or Rebuilding

2-04.1 Replacement of Materials

Replacement of fence materials removed to rebuild an existing fence shall be erected as specified in Section 2-05. All

new posts required shall be installed near the locations where the old posts were removed or as directed by the Department Representative. Replacement materials for converting an existing standard fence to a partial suspension fence or new fence construction, where required, shall be erected as specified in Section 2-05.

2-04.2 Removal of Tree Growth

Wherever required for fence construction any type of tree or shrub growth in excess of 455 millimetres in height shall be removed from around the posts and through the wires including 0.9 metres wide on both sides of interior fences and 1.8 metres wide on the inside of boundary fences or as directed by the Department Representative. Tree growth removed shall be piled inside the pasture a minimum of 7.5 metres from the fence where practicable.

2-05 Construction Details

2-05.1 Alignment

The fence to be constructed shall follow a staked line (surveyed by Canada) without deviations unless authorized by the Department Representative.

2-05.2 Line Posts

All wooden line posts will be pointed, and approximately 2.1 metres in length for a partial suspension type fence and approximately 2.1 metres or 1.8 metres in length for a standard type fence and/or as stated on the Bid and Acceptance form. The top diameter for 2.1 metre posts may range from approximately 100 - 125 millimetres. Spacing for line posts shall be between 6.1

metres and 12.2 metres depending on the topography for a partial suspension type fence and 5.0 metres for a standard type fence.

The posts shall be placed into the soil to a depth of 815 millimetres for all 2.1 metre posts and 575 millimetres for 1.8 metre posts.

Steel posts, where required, shall be 2.1 metre T-bar shape, used in wet and peaty areas and lengthened, if necessary, by attaching an additional length by welding together or joining with an overlap and pinning together. Where water is encountered a minimum of two steel posts, spaced at 5.0 metres, shall be installed into water that exceeds 455 millimetres in depth.

Where the depth of water does not exceed 455 millimetres, the fence shall be constructed across the entire water body using steel posts.

In all cases 4 barbed wires shall be installed over wet areas and wherever possible, wired to the steel posts. Twisted wire stays shall be installed at approximately 4.8 metre intervals where posts are not used.

2-05.3 Screw in Anchors

Screw in anchors will be 1092 millimetre in length including a 100 millimetre eye and shall be installed where the vertical angular change in topography is greater or equal to 10^0 . The screw in anchors shall be installed as per instruction in the field by the Department Representative.

2-05.4 Anchor Posts and Brace Posts

Anchor and brace post sets shall be used approximately every 400 metres, at all changes in direction, corners and all gates. Posts for anchors shall be approximately 200 millimetres in diameter and at least 2.4 metres in length. Posts for braces shall be approximately 100 - 125 millimetres in diameter and at least 2.1 metres in length.

The anchor posts shall be fabricated as shown on the drawings and grounded using barbed wire. Anchor posts shall be placed into pits excavated to a depth of 1.1 metres backfilled and well tamped in 50 millimetre lifts. If backhoe equipment is used to excavate for installation of the anchor posts, the Department Representative may request the Contractor to tamp the post using mechanical equipment.

Brace posts shall be placed into the soil to a depth of 815 millimetres.

Cross bracing shall be used between all anchor and brace posts. Cross braces shall be cut to fit from 2.1 metre cull posts and cross wired with 9 gauge smooth wire or end of roll barbed wire.

2-05.5 Wire(a) Materials

Wire for fence rebuilding or new fence construction is four point 12 1/2 or 14 gauge double strand barbed wire. Wire for new fence construction may be the double strand wire or high tensile, single

strand barbed wire as may be described on the Bid and Acceptance form.

(b) Installation

The wire shall be spaced at 350 millimetres (from ground), 250 millimetres, 280 millimetres and 310 millimetres as shown on the drawings and attached to the posts with 50 millimetre staples. The staples shall be securely driven into the posts across the grain of the post at an angle of approximately 15° - 45° (from the perpendicular) to a depth which will allow free movement of the wire within the staple.

Each wire at all anchor post locations shall be wrapped around the post at least once and tied off.

Splicing of single strand or double strand barbed wire whenever required, shall be carried out using a neat telephone splice or an approved sleeve. Mechanical splicing materials and tools are to be supplied by the Contractor.

Wire tension shall be such as to allow for a maximum of 75 millimetres side pull deflection. Double strand wire is required to be over tightened initially, before stapling, in order to remove a portion of the natural stretch of the wire.

2-05.6 Wire Stays

Twisted smooth wire stays shall be installed as shown on the drawings and as directed by the Department Representative.

2-05.7 Wire Gates

The Contractor shall construct wire gates as stated on the Bid and Acceptance form and as directed by the Department Representative and as shown on the drawings. All wire gates shall

be constructed using double strand barbed wire and independently mounted with gate fasteners (supplied by Canada).

2-06 Equipment

(a) Post Driving Equipment

The post driver shall be a trailer mounted or side mounted self propelled unit, hydraulically operated equipment having multi directional capability, laterally and vertically. The use of front end loaders to drive or push posts into the ground is not acceptable.

(b) Augering Equipment

Hole augering equipment shall be either tractor driven or hydraulic driven equipment having the capability to excavate to the depth and diameter of hole required to allow for adequate tamping of the posts.

(c) Wire Tighteners

Equipment for tightening fence wire shall be hand operated, cable, ratchet type equipment having a Two Ton rating.

The use of block and tackle style equipment is not acceptable.

Motorized wire tightening equipment must be approved by the Department Representative.

2-07 Workmanship

Workmanship shall be of the highest standard. Inaccuracies in the construction and alignment of the fence causing undesirable stresses will not be permitted. All lines and posts shall be straight and plumb. If the posts are not straight and plumb, the

Department Representative may require the Contractor to install the posts using a pilot hole (water jet or auger method). All work shall be subject to the approval of the Department Representative. Any defective workmanship shall be reconstructed at the Contractor's expense.

2-08 Measurement

New fence construction, dismantling and/or rebuilding shall be measured for payment by the unit or portion thereof satisfactorily completed, as described on the Bid and Acceptance form.

2-09 Payment

New fence construction, dismantling and/or rebuilding, including gates where required, shall be paid for by multiplying the unit price bid in the Price Table by the actual number of units or portions thereof satisfactorily completed. The unit price bid in the Price Table shall include the costs for all labour, equipment, necessary materials, including applicable taxes and all other costs relative to the performance of the work specified herein.