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Part 1 General

1.1 PRECEDENCE

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 DEFINITIONS

- .1 Parks Canada Agency is referred to as 'PCA'.
- .2 Batoche National Historic Site, East is referred to as 'BNHS-E'.
- .3 'Work' means the provision of all labour, services, material and equipment as necessary for the Contractor to complete and perform their obligations in accordance with the Contract.
- .4 'Consultant' refers to Dillon Consulting Limited (Dillon).
- .5 'Owner' or "Departmental Representative" refers to the Parks Canada Agency (PCA) Project Manager or their duly authorized representative.
- .6 'ESO' refers to a PCA Environmental Surveillance Officer.

1.3 PROJECT LOCATION

- .1 The all project are located in the province of Saskatchewan:
 - .1 BNSH-E is located approximately 16 km east of Rosthern on Hwy 312, then 10 km north on Hwy 225.

1.4 BACKGROUND

The perimeter fencing at Batoche National Historic Site is intended to be a barrier to domestic livestock and/or the general public entering the Historical Sites while allowing the movement of shared wildlife species between federal, provincially managed and privately owned lands outside the parks.

Many years of irregular maintenance and the natural process of vegetation regrowth along the fence lines has led to deterioration of the existing fences to the point that it no longer creates an effective barrier to livestock, wildlife species or the public from entering into the parks.

Part 2 Work Covered By Contract Documents

- .1 The project work consists of replacement of perimeter fencing around the following National Historic Site:
 - .1 BNHS-E: Remove and replace existing fence with 3 wire and wooden perimeter fencing around the site. Total length of fence to be removed and replaced is approximately 4.2 km.
- .2 All requirements noted within the Contract Documents shall be completed by the Contractor unless specifically stated otherwise.

- .3 Without limiting the scope of work, the work of the contract generally comprises the following:
 - .1 Removal and disposal of existing fencing.
 - .2 Supply and installation of new fence as designated in the Contract Documents and in accordance with Section 32 31 26 – Wire Fencing.
 - .3 Removal and reinstallation of all existing metal, wire and Texas gates excluding the main gate entrance at BNHS-E, which is to remain in place.
- .4 Restore disturbed areas to condition existing at start of construction, including application of topsoil and seeding to vegetated areas. All costs associated with restoration are considered incidental to the Work, and no separate or additional payment will be made.
- .5 In preparation for and during construction of this project, an 'Environmental Protection Plan' (EPP) is to be prepared by the Contractor to meet the requirements of Part 5 – Environmental Procedures outlined for the project to ensure the desired minimal adverse effects are achieved.
- .6 The Contractor's EPP must be approved by Parks Canada Agency prior to start of construction. The EPP will form part of the Contract and the PCA's Environmental Surveillance Officer (ESO) will refer to the approved EPP in determining compliance with the Contract Documents.

2.2 CONTRACT METHOD

- .1 Construct the work under unit price contract.

2.3 WORK SEQUENCE AND SCHEDULE

- .1 Schedule work progress to allow Departmental Representative unrestricted access to inspect all phase of the Work.
- .2 Maintain fire and emergency access on roadways at all times.
- .3 Construct work in stages to prevent livestock from entering any of the site locations.
- .4 Complete all fence installation by the outlined date:
 - .1 BNHS-E: May 15, 2020

2.4 LAYDOWN AREAS

- .1 Arrange operations, delivery schedule and other elements of the Work in order to minimize the laydown area required.
- .2 Make good any damage to laydown areas and restore to conditions existing prior to start of construction.

2.5 CONTRACTOR USE OF PREMISES

- .1 Coordinate use of premises under direction of PCA.

2.6 OWNER OCCUPANCY

- .1 Owner will occupy BNHS-E during entire construction period.
- .2 Co-operate with Departmental Representative in scheduling operations to minimize conflict and to facilitate Departmental Representative usage.

- .3 In cooperation with Departmental Representative the Contractor shall ensure landowners adjacent to BNHS-E, BNHS-W, TC and FCNHS are informed of all work to be performed on their property prior to construction start up and are provided an outline of schedule of work. Coordinate with Departmental Representative during construction any changes in the schedule that will affect landowners.

Part 3 Quantities

- .1 Estimated quantities are provided in Section 01 11 99 – Quantities.

Part 4 Work Restrictions

4.1 ACCESS AND EGRESS

- .1 Maintain access to adjacent properties and to BNHS-E at all times.

4.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to public and normal use of premises.
- .2 Keep the Site clean and free from accumulation of waste materials and rubbish regardless of source.
- .3 Remove snow as necessary for the performance and inspection of the Work.
- .4 Provide sanitary facilities for work force in accordance with governing regulations and with Part 5 – Environmental Procedures outlined for the project. Post notices and take such precautions as required by local health authorities and keep area and premises in sanitary condition.
- .5 Repair any damage to the Site caused by the Work.
- .6 Do not allow pets to be brought to or kept on Site.

4.3 HOURS OF WORK

- .1 Work in BNHS-E is permitted during daylight hours, seven (7) days per week unless indicated otherwise.
- .2 Work will not be permitted during the period of any Saskatchewan statutory holiday long weekend.
- .3 Any variance that may be approved by the Departmental Representative under this Section may be revoked at any time for any reason and is provided on the presumption that no additional costs or delay will result from the variance. No claims for additional costs, delays, schedule impacts, loss of productivity or other extra work resulting from a variance will be entertained.

4.4 WORK CONDUCTED OVER OR ADJACENT TO WATERWAYS

- .1 All components of the Work shall be conducted in accordance with Part 5 – Environmental Procedures, outlined for the project.
- .2 All components of the Work shall be conducted without equipment entering into water bodies or wetlands.

- .3 All waste materials and sediment from the Work shall be contained and collected in a manner to prevent any contact with water bodies or wetlands.
- .4 Fence installation for BNHS-E shall end 20 m (65') back from the natural top of bank of the South Saskatchewan River or as approved by the Departmental Representative.

4.5 UTILITIES

- .1 Become familiar with all Utilities adjacent to the Work and be responsible for cost of repair of any damage resulting from the Work.
- .2 Establish and maintain direct and continuous contact with the Departmental Representatives and operators of any Utilities which may interfere with the Work. Cooperate with them at all times and in all places of Work. Keep the Departmental Representative informed of all communications with the Utility companies and authorities.
- .3 Notify the Departmental Representatives and the Utility companies at least seven (7) days in advance of any activities which may interfere with the operation of such Utilities.
- .4 Whenever working in the vicinity of Utilities, locate such Utilities and expose those that may be affected by the Work, using hand labour or other special means as required.
- .5 Assess the possible impact of the Work on all Utilities that may be affected by the Work and in consultation with Utility owner(s), protect, divert, temporarily support or relocate, or otherwise appropriately treat such Utilities to ensure that they are preserved.
- .6 Immediately report any damage to Utilities to the Departmental Representative and to the Utility company or authority affected and promptly undertake such remedial measures as are necessary at no additional cost to the Owner.

4.6 SURVEY OF EXISTING CONDITIONS

- .1 Contractor is not responsible for boundary survey and demarcation. The fence line shall be replaced on the existing line. Contact the Departmental Representative for instructions in the event that any part of the new fencing cannot be constructed along the existing line.

4.7 PROTECTION OF PERSONS AND PROPERTY

- .1 Comply with all applicable safety regulations including, but not limited to, the Saskatchewan Employment Act, Occupational Health and Safety Regulations and General Safety Regulations.
- .2 Within the Site, the Contractor has all the responsibilities of an "employer" under the Workers Compensation Act and the Occupational Health and Safety Regulation and is designated as the "Prime Contractor".
- .3 Comply with Canada Labour Code and Canada Occupational Health and Safety Regulations.
- .4 Take all reasonable and necessary precautions and measures to prevent injury or damage to persons and property on or near the Site.
- .5 Promptly take such measures as are required to repair, replace or compensate for any loss or damage caused. Alternatively, and if PCA so directs, promptly reimburse to PCA the costs incurred by them as a result of such loss or damage.

4.8 USE OF PUBLIC AREAS

- .1 Materials and equipment may be hauled on roads within BNHS-E, BNHS-W, TC and FCNHS using standard highway trucks only, not exceeding legal load limits.
- .2 Ensure that vehicles and equipment do not cause nuisance in public areas. All vehicles and equipment leaving the Site and entering public roadways shall be cleaned of excess mud and dirt clinging to the body and wheels of the vehicle.
- .3 Load and unload vehicles arriving at or leaving the Site in a manner that will prevent dropping of materials or debris on the roadways. Where contents may otherwise be blown off during transit, cover such loads using tarpaulins or other suitable covers.
- .4 Immediately remove or clean spills of materials in public areas.

4.9 WASTE DISPOSAL

- .1 All waste materials shall be removed from the site and properly disposed of outside of BNHS-E.
- .2 Deposition of any construction debris or sediment into any waterway is strictly forbidden.
- .3 Cost for Waste Disposal shall be considered incidental to the Unit Price items and no separate or additional payment will be made.

4.10 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of the environment over cost and schedule considerations for Work.

Part 5 Environmental Procedures

5.1 Parks Canada Environmental Information and Mitigation Measures

- .1 Parks Canada Agency (PCA) has provided the following documentation to be reviewed and followed in preparation of an Environmental Protection Plan (EPP):
 - .1 Best Management Practices (BMPs) for Roadway, Highway, Parkway and Related infrastructure.
- .2 Environmental Protection Plan
 - .1 Prior to any construction or on-site work activities, the Contractor shall provide PCA with an EPP which has been written and certified by a Qualified Environmental Professional (QEP) for PCA approval.
 - .2 Allow 7 calendar days for PCA to review EPP.
 - .3 PCA may request that subsequent revisions are made to the EPP in the event the document does not sufficiently address all required environmental concerns or mitigations.
- .3 Start-up and Environmental Briefing
 - .1 Prior to any on-site work, all contractors and subcontractors, as well as their employees who may be involved with on-site activities, shall attend a briefing conducted by the PCA Environmental Surveillance Officer (ESO) relating to their individual and collective responsibilities upon project start-up.

- .2 Employees of other services or material providers who may visit the worksite must be apprised of their duty not to cause adverse environmental impacts.
- .3 The PCA ESO will regularly visit the site to monitor construction activity for conformance with the EPP. Although the ESO has the authority to enforce National Parks Act violations, direction to the Contractor will be the duty of the PCA Project Manager.

Part 6 Cleaning

6.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Remove waste materials from site at regularly scheduled intervals and dispose of them properly.
- .3 Do not burn waste materials on site.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Dispose of waste materials and debris off site.

Part 7 Closeout Procedures

7.1 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Inspection By Contractor
 - .1 Contractor to conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .2 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .3 Request inspection by Departmental Representative.
 - .2 Inspection By Departmental Representative
 - .1 Departmental Representative and Contractor to inspect Work together and jointly identify defects and deficiencies.
 - .2 Contractor to correct any defects and deficiencies noted.
 - .3 Completion Certificate
 - .1 Submit written certification that tasks have been performed as follows:
 - .1 Work completed and inspected for compliance with Contract Documents.
 - .2 Defects and deficiencies corrected.
 - .4 Final Inspection
 - .1 When completion tasks are done, request final inspection of Work by Departmental Representative and Contractor.

- .2 When Work incomplete according to Departmental Representative, complete outstanding items and request re-inspection.

Part 8 Warranty Period

8.1 WARRANTY PERIOD

- .1 Conduct one (1) year warranty inspection, measured from time of acceptance, in conjunction with Departmental Representative.
- .2 Respond in timely manner to oral or written notification of required construction warranty repair work. Written notification to follow oral notification.
- .3 Failure to respond will be cause for PCA to proceed with action against Contractor.

PART 1 General

1.1 QUANTITIES

- .1 Except as specified below, Bidders are responsible for confirming all quantities required to prepare a complete and accurate Tender.
- .2 Quantities shown in the table below cannot be confirmed by Bidders prior to Tender.
 - .1 For these items of work, Tenders shall be based on the estimated quantities shown below.
 - .2 After contract award, unit prices corresponding to these quantities will be requested from the Contractor.
 - .3 Contract Price will be adjusted by Change Order to suit the actual quantities for these items using the unit pricing information provided.

Item	Total Estimated Quantity
	Batoche East
Existing Fence - Remove and Dispose	4,200 m
New Fence – Supply and Install (Wire)	4,010 m
New Fence – Supply and Install (Wood)	190 m

- .3 Final payment to the Contractor will be made only for the actual quantities of Work performed in accordance with the Plans and Specifications as determined by measurements made by the Departmental Representative.

END OF SECTION

Part 1 General

1.1 Not Used

Part 2 Products

2.1 MATERIALS

.1 Posts and Braces

- .1 Shall be sound quality fir or pine timber, free from all decay, stakes, splits, multiple crooks or any other defects which would render them structurally unsuitable for the purpose intended.
- .1 Post shall be peeled, pointed and domed before pressure treatment.
- .2 Posts shall comply with the minimum-maximum top diameter as shown on the Drawings. The 'top' of the post shall mean the same as the 'end' of the post. The length of the individual posts shall not vary by more than plus or minus 25 mm from the length specified.
- .3 Knots that are sound, well-spaced, smooth trimmed and which do not impair the strength of the posts or braces will be permitted provided they do not exceed 38 mm in diameter. Posts shall be naturally round and shall have all bark peeled or otherwise removed. Allowable taper in diameter from end to end of post shall not exceed 38 mm.
- .4 Posts and bracing shall be pressure treated using a chromated copper arsenate solution (CCA). Preservative treatment shall conform to the current requirements of CSA Standard O80 with specific attention to O80.1, O80.2 and O80.5.
- .5 Unless otherwise specified, surfacing, cutting and boring of preservative treated wooden posts and braces shall be completed before treatment. If field cutting or field repair of treated material is approved, all cuts and abrasions shall be carefully trimmed and coated with copper naphthenate preservative containing a minimum of 2.0 percent copper metal. The treatment preservative shall be applied according to the product label. Any excess preservative not absorbed by the wood member shall be cleaned from the surface prior to the use of the member.

.2 Two Strand Barbed Wire

- .1 Two strand barbed wire shall conform to the requirements of the current ASTM Standard A121 "Standard Specification for Metallic-Coated Carbon Steel Barbed Wire", Type Z, Grade 1 and shall consist of two strands of 2.5 mm thickness wire, twisted with four-point, 2.0 mm thickness round barbs spaced not more than 152 mm apart.
- .2 Each spool delivered to the job site shall be legibly marked showing the mass, linear measure, thickness and name or mark and address of the Manufacturer.

.3 Two Strand Plain Wire

- .1 Two strand plain wire shall conform to the requirements of the current ASTM Standard A641 "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire", and shall consist of two strands of 2.5 mm thickness wire, twisted together. High tensile wire shall not be used.
- .2 Each spool delivered to the job site shall be legibly marked showing the mass, linear measure, thickness and name or mark and address of the Manufacturer.
- .4 Brace Wire
 - .1 Brace wire shall be 3.66 mm thickness [9 ga] soft galvanized wire and the weight of 30.5 m of wire shall not be less than 2.5 kg (5.5 lb / 100 ft).
- .5 Staples
 - .1 Wire staples shall be standard 40 mm long staples, manufactured from 3.66 mm thick galvanized wire. There shall be approximately 140 staples per kilogram.

Part 3 Execution

3.1 GENERAL

- .1 Fencing shall consist of supply and erection of wire fence, wire gates, metal gates and related appurtenances in accordance with these specifications and in conformance with the dimensions, details and requirements shown on the Drawings.
- .2 All metal gates shall be removed and reinstalled with new posts at same location. The main access gate at BNHS-E shall remain in place and the new fence shall be connected to each side without any gaps.

3.2 REMOVALS

- .1 Completely remove the existing fence and properly dispose of offsite.
- .2 Salvage and reinstall all existing metal gates and associated hardware.

3.3 CONSTRUCTION

- .1 Erect new perimeter fence along the lines of the existing perimeter fence alignment.
- .2 Leave no openings in the perimeter fence outside of working hours. Temporary fence can be used to close gap between new and existing fencing outside of work hours during construction.
- .3 Fence installation for BNHS-E and BNHS-W shall end 20 m (65') back from the natural top of bank of the South Saskatchewan River or as approved by the Departmental Representative.

3.4 POSTS

- .1 For posts that are not pointed, driven post shall be installed with the smaller diameter end down.
- .2 Post must be set perpendicular to ground (right angles to the fence wires).
- .3 Posts shall be driven in a manner that produces a satisfactory, uniform, undamaged product, and with the post firmly implanted into the soil to the depths indicated on the Drawings. If, in the opinion of the Departmental Representative, the results obtained

from the proposed driving process are not satisfactory then the method shall be revised until satisfactory results are achieved.

- .4 Sharpening of post will not be permitted after the post has been pressure treated.
- .5 Intermediate bracing panels shall be erected in conformance with the maximum spacing requirements as shown on the Drawings and at such additional locations as directed by the Departmental Representative.

3.5 WIRE

- .1 All fence wire shall be pulled tight with hand stretchers, or tensioning apparatus capable of adjustment. The use of tractors or trucks for tightening the fence wire will not be permitted, unless the pull is controlled by adjustable tensioning apparatus.

3.6 GATES

- .1 Wire gates shall have a width between 3.65 meters (min) to 4.90 meters (max). If existing gates are outside of the min/max consult the Departmental Representative for preferred width.
- .2 Salvage and reinstall metal gates (and cattle guards, where applicable) at the existing locations.
- .3 BNHS-E main access gate and posts shall remain and new perimeter fence shall meet at the main gate post location without any gaps. Attachment at main gate to new wooden perimeter fence shall remain the same.
- .4 All other gate locations shall be replaced with the same width of opening and constructed as shown on the Drawings.

3.7 CLEANING

- .1 Upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 11 00 – Summary of Work, Part 6.

Part 4 Measurement and Payment

4.1 EXISTING FENCE - REMOVE AND DISPOSE

- .1 Payment will be made at the unit price bid per metre for “Existing Fence – Remove and Dispose”. This payment will be full compensation for removing and properly disposing of the fence and for all equipment, tools, labour and incidentals necessary to complete the Work.

4.2 NEW FENCE - SUPPLY AND INSTALL

- .1 Payment will be made at the unit price bid per metre for “New Fence – Supply and Install”, completed in place and including the construction and/or re-installation of gates. This payment will be full compensation for supplying all materials, constructing the fence and for all equipment, tools, labour and incidentals to complete the Work.

END OF SECTION