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Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises of:
 - .1 Remove, dispose and replace existing bridge deck.
 - .2 Remove, dispose and replace existing bridge railings.
 - .3 Remove, dispose and replace existing girders, bearings and hardware.
 - .4 Miscellaneous works associated with the construction requirements including new riprap.
 - .5 Site restoration from above mentioned work.
- .2 Work is located at:
 - .1 Bar U Ranch National Historic Site
 - .2 The project is located 13 km south of Longview, Alberta on Highway 22.

1.2 CONTRACT METHOD

- .1 Construct work under single stipulated price contract.

1.3 CONTRACTOR USE OF PREMISES

- .1 Contractor shall limit use of premises for Work, for storage, and for access, to allow for the following;
 - .1 The National Historic Site will remain open to the general public during construction.
 - .2 The general public will have pedestrian access to the National Historic Site. Employees of the Bar U Ranch have vehicle access and may use the main road.
 - .3 Contractor shall secure the laydown area and the bridge site from the public. Please be aware of the pedestrian traffic within the vicinity of the laydown area and bridge site.
 - .4 The main road along the south side of the river is to remain open throughout construction. This includes the section between the laydown area and the bridge site.
- .2 Contractor to leave site in a clean and safe manner at the end of each work day.
- .3 Coordinate use of premises under direction of Departmental Representative.
- .4 Contractor shall limit the laydown to the area identified on site plan.

- .5 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .6 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.
- .7 At completion of operations the condition of existing work shall be equal to or better than that which existed before new work started.

1.4 OWNER OCCUPANCY

- .1 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.5 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 List of Outstanding Shop Drawings.
 - .6 Change Orders.
 - .7 Other Modifications to Contract.
 - .8 Copy of Approved Work Schedule.
 - .9 Health and Safety Plan and Other Safety Related Documents.
 - .10 Other documents as specified.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.

1.2 EXISTING CONDITIONS AND SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Confirm underground or overhead utilities present at the site. The existing utility line across the bridge is a Telus phone line that does not need to remain active during construction.

1.3 SPECIAL REQUIREMENTS

- .1 No in-stream work/activities will be permitted during superstructure replacement.
- .2 In-stream activity for rip rap placement will occur during the 2013 or 2014 fish window, from August 15th to September 1st.
- .3 The Contractor shall provide containment for all construction operations to prevent deleterious material from entering the creek channel.
- .4 Submit intended construction procedures, to confirm to compliance with the Environmental Assessment, 1.2.1 and 1.2.2 above, to the Departmental Representative for review and approval, 2 weeks prior to intended construction start date.
- .5 The Contractor is responsible for ensuring compliance with all components of the Environmental Assessment.
- .6 The Contractor shall also submit an Erosion and Sediment Control Plan for reviews and approval, 2 weeks prior to intended construction start date.
- .7 Work not to commence without approval of Erosion and Sediment Control Plan.
- .8 Any damage to the surrounding vegetation shall be restored to as is or better condition. Any damage must be restored at the Contractor's cost and to the satisfaction of the Owner.
- .9 Road and surrounding area shall be restored to as is or better condition. Any damage must be restored at the Contractor's cost and to the satisfaction of the Owner.

- .10 Substantial bridge project completion is December 15, 2013.
- .11 Final project completion date is September 15, 2014.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, and samples in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative.
- .10 Keep one reviewed copy of each submission on site.

1.2 SCHEDULE

- .1 Contractor to submit Schedule to Departmental Representative within 10 working days of Award of Contract.
- .2 Departmental Representative will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.

- .4 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Shop Drawings.
 - .3 Permits.
 - .4 Mobilization.
 - .5 Structural Steel.
 - .6 Timber Framing.
 - .7 Metal Fabrications.
 - .8 Millwork.
- .5 Ensure Schedule is practical and remains within specified Contract duration.
- .6 Plan to complete Work in accordance with prescribed milestones and time frame as indicated in Section 01 14 00 Work Restrictions.
- .7 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.
- .8 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.
- .9 Weather related delays with their remedial measures will be discussed and negotiated.
- .10 Update Project Schedule to reflect activity changes and completions, as well as activities in progress.
- .11 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Provinces of Alberta, Canada.

- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 14 days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.

- .6 Standards.
- .7 Relationship to adjacent work.
- .9 Submit 1 electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .10 Submit 1 electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .11 Delete information not applicable to project.
- .12 Supplement standard information to provide details applicable to project.
- .13 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, one copy will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .14 The review of Shop Drawings by Departmental Representative is for sole purpose of ascertaining conformance with general concept. This review shall not mean that Departmental Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

1.4 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's business address.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.

- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 PROGRESS PHOTOGRAPHS

- .1 Construction photographs of the site and area to be taken throughout construction, including before any Work occurs and upon completion.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Alberta
 - .1 Occupational Health and Safety Act, R.S.A. [2000].
 - .2 Occupational Health and Safety Act, R.S.P.E.I. [2004].

1.2 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .3 Submit copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 – Submittal Procedures.
- .7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 7 days after receipt of comments from Departmental Representative.
- .8 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

- .9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.

1.3 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.4 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.6 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act, General Safety Regulation, Alberta Reg.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.7 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province of Alberta

having jurisdiction and advise Departmental Representative verbally and in writing.

1.8 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province of Alberta having jurisdiction, and in consultation with Departmental Representative.

1.9 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.10 WORK STOPPAGE

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

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 DEFINITIONS

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Address topics at level of detail commensurate with environmental issue and required construction tasks.

1.3 FIRES

- .1 Fires and burning of rubbish on site are not permitted.

1.4 NATIONAL PARKS ACT

- .1 Contractor shall ensure that all work is performed in accordance with ordinances, laws, rules and regulations set out in the National Parks Act.

1.5 ENVIRONMENTAL ASSESSMENT

- .1 Contractor shall ensure that all work is performed in accordance with ordinances, laws, rules and regulations set out in the included Environmental Assessment.

1.6 DISPOSAL OF WASTES

- .1 All wastes must be stored and handled in accordance with the National Park Garbage Regulation.
- .2 Do not bury rubbish and waste materials on site or within the boundaries of the National Historic Site.

- .3 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .4 Remove domestic garbage generated on-site by Contractor's personnel daily.
- .5 Maintain the site in a tidy condition, free from the accumulation of waste products, debris and litter.

1.7 DRAINAGE

- .1 Provide erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Plan: include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

1.8 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site where indicated.
- .2 Wrap in burlap, trees and shrubs adjacent to construction work and laydown areas.
- .3 Protect roots of designated trees to dripline during site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .4 Minimize stripping of topsoil and vegetation.
- .5 Restrict tree removal to areas indicated or designated by Departmental Representative.

1.9 WORK ADJACENT TO WATERWAYS

- .1 Do not operate construction equipment in waterways unless approved by the Departmental Representative and during the fish window.
- .2 Do not dump excavated fill, waste material or debris in waterways.
- .3 No temporary crossings will be allowed.
- .4 Do not skid logs or construction materials across waterways.

1.10 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.

- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.11 HISTORICAL / ARCHAEOLOGICAL CONTROL

- .1 Notify Departmental Representative immediately upon identifying any historical, archaeological, cultural resources, biological resources or wetlands not previously identified.

1.12 NOTIFICATION

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan. Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
- .2 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .3 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 INSPECTION

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.2 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

1.3 MILL TESTS

- .1 Submit mill test certificates as required of specification Sections.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.2 FENCING, GUARD RAILS AND BARRICADES

- .1 Secure the bridge site and laydown area.

1.3 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.4 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling and dispose of at an appropriate off-site facility.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .2 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .3 Cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

1.2 QUALITY

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection. Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.

1.3 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily

available products of similar character, at no increase in Contract Price or Contract Time.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store sheet materials, lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .5 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .6 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.5 TRANSPORTATION

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by Owner will be paid for by Departmental Representative. Unload, handle and store such products.

1.6 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

1.8 CO-ORDINATION

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.9 REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.10 EXISTING UTILITIES

- .1 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.
- .2 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of elements of project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of operational elements.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .3 Include in request:
 - .1 Identification of project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Effect on Work of Owner or separate contractor.
 - .6 Written permission of affected separate contractor.
 - .7 Date and time work will be executed.

1.2 MATERIALS

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

1.3 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of structure demolition means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

- .5 Provide protection from elements for areas which are to be exposed by uncovering work.

1.4 EXECUTION

- .1 Uncover Work to install ill-timed Work.
- .2 Remove and replace defective and non-conforming Work.
- .3 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .4 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .5 Restore work with new products in accordance with requirements of Contract Documents.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .3 Provide on-site containers for collection of waste materials and debris.
- .4 Provide and use marked separate bins for recycling.
- .5 Dispose of waste materials and debris off site.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Broom clean exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .8 Remove dirt and other disfiguration from exterior surfaces.
- .9 Remove debris and surplus materials from accessible concealed spaces.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Departmental Representative Inspection.
- .2 Departmental Representative Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly and in a timely manner.
- .3 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Work is complete and ready for final inspection.
- .4 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative and Contractor. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request reinspection.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Furnish evidence, if requested, for type, source and quality of products provided.
- .3 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .4 Pay costs of transportation.
- .5 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

1.2 FINAL SURVEY

- .1 Submit final site survey certificate, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

1.3 WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 Warranty period for all bridge bearings and assemblies shall be five (5) years from the date of final acceptance as determined by the Departmental Representative.
- .3 Unless otherwise specified, all materials incorporated into the work must be new and undamaged. Both workmanship and materials must be of the quality specified in the Contract Documents.
- .4 The Contractor shall maintain, at no cost to Parks Canada Agency, the work and every part thereof in reasonable working order and complete repair during the period of two years from the date of written acceptance. Notwithstanding the generality of the foregoing, the Contractor will not be liable for:
 - .1 Damage caused by parties who are strangers to the Contract, or
 - .2 Damage resulting from malicious acts of other parties, or
 - .3 Damage resulting directly from the operation of the Bar U Ranch or its equipment, or
 - .4 Damage for which Parks Canada Agency has specifically assumed responsibility in writing, or

- .5 Any condition which in the opinion of the Departmental Representative results from normal wear and tear, or
- .6 Acts or omissions which in the opinion of the Departmental Representative are beyond the control of the Contractor

Where in each case the damage or condition arose subsequent to the issuance of acceptance of work.

- .5 The Contractor, upon being so directed by the Departmental Representative by a notice in writing during the maintenance period, shall repair or replace any defect in or failure of any part of the work within the time set out in and according to the notice, all to the satisfaction of the Departmental Representative. If the Contractor fails to repair or replace the defect or failures as required by any such notice, Parks Canada Agency may proceed to have the repair or replacement made and may charge the Contractor with the cost thereof and at Parks Canada Agency's option deduct the amount from any amount due to the Contractor by Parks Canada Agency either under the Contract or any other contract or otherwise or may collect the same from the Contractor by any lawful means available to Parks Canada Agency. At the end of the maintenance period, after all defects and failures have been corrected to the satisfaction of the Departmental Representative, or if there are not any defects or failures in the work, the Departmental Representative will issue a written final acceptance and Parks Canada Agency shall release the performance bond with respect thereto.
- .6 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .7 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- .8 Verify that documents are in proper form, contain full information, and are notarized.
- .9 Co-execute submittals when required.
- .10 Retain warranties and bonds until time specified for submittal.
- .11 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA S350-[M1980(R1998)], Code of Practice for Safety in Demolition of Structures.

1.2 SUBMITTALS

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 PROTECTION

- .1 Do Work in accordance with Section 01 35 29 - Health and Safety Requirements
- .2 Prevent movement, settlement, or damage to adjacent structures, utilities, and parts of the structure to remain in place. Provide bracing and shoring as required.
- .3 Keep noise, and dust to minimum.
- .4 Provide temporary dust screens, covers, railings, supports and other protection as required.

3.2 DEMOLITION SALVAGE AND DISPOSAL

- .1 Remove parts of existing structure to permit new construction. Sort materials into appropriate piles for disposal and recycling.
- .2 Trim edges of partially demolished structural elements to tolerances as defined by drawings to suit future use.
- .3 Dispose of removed materials, in accordance with authority having jurisdiction.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 61 00 - Common Product Requirements.

1.2 REFERENCES

- .1 American Association for State Highway and Transportation Officials (AASHTO)
- .2 AASHTO Standard Specifications for Highway Bridges-[16th Edition 1996].
- .3 American Society for Testing and Materials International, (ASTM)
- .4 ASTM A325M-[02], Specification for High-Strength Bolts for Structural Steel Joints [Metric].
- .5 ASTM A490M-[00], Specification for High-Strength Steel Bolts, Classes 10.9 and 10.9.3, for Structural Steel Joints.
- .6 Canadian Standards Association (CSA International)
- .7 CSA G40.20/G40.21-[98], General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
- .8 CAN/CSA G164-[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.
- .9 CAN/CSA S6-[06], Canadian Highway Bridge Design Code.
- .10 CAN/CSA S16-[01], Limit States Design of Steel Structures.
- .11 CSA S269.1-[1975(R1998)], Falsework for Construction Purposes.
- .12 CSA W48-[01], Filler Metals and Allied Materials for Metal Arc Welding.
- .13 CSA W59-[M1989(R2001)], Welded Steel Construction, (Metal Arc Welding) (Metric version).

1.3 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Each drawing submitted to bear signature and stamp of qualified professional engineer registered or licensed in province of Alberta, Canada.
- .3 Indicate shop and erection details including, cuts, copes, connections, holes, bearing plates, threaded fasteners and welds. Indicate welds by CSA W59, welding symbols.

- .4 Proposed welding procedures to be stamped and approved by Canadian Welding Bureau.
- .5 Submit description of methods, temporary bracing and strengthening, sequence of erection and type of equipment proposed for use in erecting structural steel.
- .6 Falsework drawings submitted to bear signature and stamp of qualified professional engineer registered or licensed in province of Alberta, Canada.

1.4 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Provide protective blocking for lifting, transportation and storing.
- .3 Exercise care during fabrication, transportation and erection so as not to damage girders and beams.
- .4 Do not notch edges of members.
- .5 Do not cause excessive stresses.
- .6 Mark mass on members weighing more than 3 tonnes.
- .7 Protect unpainted weathering steel, before erection, with waterproof covering.
- .8 Ensure that no portion of steel comes into contact with ground.
- .9 Provide Departmental Representative with delivery schedules minimum 7 days prior to shipping.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, polystyrene, and corrugated cardboard packaging material.
- .3 Divert unused metal materials from landfill to metal recycling facility approved by Departmental Representative.
- .4 Divert additive material from landfill to official hazardous material collections site approved Departmental Representative.
- .5 Do not dispose of unused additive materials into sewer systems, into lakes, streams, onto ground or in other location where it will pose health or environmental hazard.

Part 2 Products

2.1 MATERIALS

- .1 Structural steel: to CSA G40.20/G40.21, grade and types as indicated on drawings.
 - .1 Leave atmospheric corrosive resistant steel and connections material in unpainted, include bolts, nuts, washers and weld deposits of compatible weathering characteristics.
- .2 High strength bolts, nuts and washers used with timber elements: to ASTM A307, hot-dip galvanized. Bolts to ASTM A490M approved by Departmental Representative.
- .3 Bolts connecting steel elements: to ASTM A325M, Type 3.
- .4 Washers and nuts: to CSA G40.20/G40.21, grade 300A.
- .5 Bearings: elastomer bearing pads of natural rubber, grade 50 to CAN/CSA S6.
- .6 Welding electrodes: to CSA W48 series.
- .7 Stud shear connectors: to CSA W59, Clause 5.5.6 and Appendix H.
- .8 Hot dip galvanizing: to CAN/CSA G164, minimum zinc coating of 600 g/m².
- .9 Shrinkage compensating grout: premixed compound consisting of non-metallic aggregate, Portland cement, water reducing and plasticizing agents.

2.2 SOURCE QUALITY CONTROL

- .1 Provide Departmental Representative prior to fabrication, with two copies of steel producer certificates, in accordance with CSA G40.20/G40.21.
- .2 Provide suitable facilities and cooperate with inspection organization and Departmental Representative in carrying out inspection and tests required.

Part 3 Execution

3.1 ERECTION

- .1 Clean steel surfaces to Departmental Representative's approval when staining or defacing occurs.
- .2 Verify location of substructure units, elevations of bearing seats and location of anchor bolts before erection of structural steel; report discrepancies to Departmental Representative.

- .3 Do not disturb river banks or embankments without prior written permission of Departmental Representative.
- .4 Restrict drifting during assembly to minimum required to bring parts into position without enlarging or distorting holes, and without distorting, kinking or sharply bending metal of any unit.
- .5 Enlarge holes if necessary by reaming only after written approval is obtained from Departmental Representative.
- .6 Reamed holes not to exceed size of bolt used by more than 2 mm.
- .7 Fabricate and install bearings as indicated.
- .8 Protect holes against entry of water and foreign material.

3.2 INSTALLATION

- .1 Do falsework in accordance with CSA S269.1, except where specified otherwise.
- .2 Do fabrication and erection of structural steel in accordance with CAN/CSA-S6, Design of Highway Bridges.
- .3 Do welding in accordance with CSA W59, except where specified otherwise.
 - .1 For CSA G40.20/G40.21, grade 350AT steel, deposited weld metal to have Charpy V-Notch value not lower than that of steel.
 - .2 Do welding in shop unless otherwise permitted by Departmental Representative.
 - .3 Weld only at locations indicated.
- .4 High strength bolting: in accordance with CAN/CSA S6 and CAN/CSA S16. Use 'turn-of-nut' tightening method.
- .5 Finish: members true to line, free from twists, bends, open joints, sharp corners and sharp edges.
- .6 Allowable tolerance for bolt holes:
 - .1 Matching holes for bolts to line up so that dowel 2 mm less in diameter than hole passes freely through assembled members at right angles to such members.
 - .2 Finish holes not more than 2 mm in diameter larger than diameter of bolt unless otherwise specified by Departmental Representative.

- .3 Centre-to-centre distance between any two holes of group to vary by not more than 1 mm from dimensioned distance between such holes.
- .4 Centre-to-centre distance between any two groups of holes to vary not more than following:

Centre-to-Centre distance in metres	Tolerance in plus or minus mm
less than 10	1
10 to 20	2
20 to 30	3
- .5 Correct mispunched or misdrilled members only as directed by Departmental Representative.
- .7 Span length tolerances:
 - .1 Girders and beams: plus or minus 6 mm
 - .2 Centre-to-centre of bearing stiffeners and bearing plates: plus or minus 3 mm.
- .8 Girder support requirements:
 - .1 Support top and bottom flanges of ends of girders and intermediate bearing locations of continuous girders parallel to each other at 90 degrees to girder web.
 - .2 Install flat and smooth except as otherwise indicated.
 - .3 Install bearing stiffeners after girder support requirements have been met.
 - .4 Do not machine or grind flanges of girders to correct irregularities unless permitted by Departmental Representative.
- .9 Shop splices: Not required
- .10 Field splices: Not required
- .11 Mark members in accordance with CSA G40.20/G40.21.
 - .1 Do not use die stamping.
 - .2 Place marking at locations not visible from exterior after erection when steel is to be left in unpainted condition.
- .12 Match marking: shop mark bearing assemblies.
- .13 Protect exposed concrete surfaces of substructures from staining due to weathering of unpainted steel as follows:
 - .1 Apply two coats of resin to concrete surfaces prior to erection of steel.
 - .1 Resin: quick drying clear co-polymer resin, based on methyl methacrylate formulation.
 - .2 Apply resin in accordance with manufacturer's instructions.

- .2 Protect top surfaces of concrete with waterproof cover and drain away from vertical faces.
 - .1 Install drain pipe to [water level] [ground surface] to discharge water.
- .3 Use galvanized anchors for anchorage to concrete.
- .4 Submit details of installation and methods of support to Departmental Representative for review prior to commencing protection work.
- .5 Repair tears or holes in protective cover immediately.
- .14 Maintain protection of concrete for duration of steel erection.
 - .1 Remove waterproof covers and drains and holding structures when steel erection complete.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM A53/A53M-[02], Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - .2 ASTM A269-[02], Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
 - .3 ASTM A307-[02], Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.40-[97], Anti-corrosive Structural Steel Alkyd Primer.
 - .2 CAN/CGSB-1.181-[92], Ready-Mixed, Organic Zinc-Rich Coating.
- .3 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-G40.20/G40.21-[98], General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA-G164-[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA-S16.1-[01], Limit States Design of Steel Structures.
 - .4 CSA W48-[01], Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).
 - .5 CSA W59-[1989(R2001)], Welded Steel Construction (Metal Arc Welding) (Imperial Version).
- .4 The Environmental Choice Program
 - .1 CCD-047a-[98], Paints, Surface Coatings.
 - .2 CCD-048-[98], Surface Coatings - Recycled Water-borne.

1.2 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets.
- .2 Shop Drawings

- .1 Submit shop drawings for review by Departmental Representative prior to fabrication. Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details and accessories.

1.3 QUALITY ASSURANCE

- .1 Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

- .1 Packing, Shipping, Handling and Unloading:
 - .1 Deliver, store, handle and protect materials in a manner that ensures their arrival at site in an undamaged condition free of deterioration.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and packaging material
- .3 Divert unused metal materials from landfill to metal recycling facility approved by Departmental Representative.

Part 2 Products

2.1 MATERIALS

- .1 Steel sections and plates: to CAN/CSA-G40.20/G40.21, Grade 300A.
- .2 Steel pipe: to ASTM A53/A53M standard weight, galvanized finish.
- .3 Welding materials: to CSA W59.
- .4 Welding electrodes: to CSA W48 Series.

- .5 Bolts and anchor bolts: to ASTM A307.
- .6 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours.

2.2 FABRICATION

- .1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Use self-tapping shake-proof flat headed screws on items requiring assembly by screws or as indicated.
- .3 Where possible, fit and shop assemble work, ready for erection.
- .4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 FINISHES

- .1 Galvanizing: hot dipped galvanizing with zinc coating 610 g/m² to CAN/CSA-G164.

Part 3 Execution

3.1 ERECTION

- .1 Do welding work in accordance with CSA W59 unless specified otherwise.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .3 Provide suitable means of anchorage acceptable to Departmental Representative such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.
- .4 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .5 Provide components for building by other sections in accordance with shop drawings and schedule.
- .6 Make field connections with bolts to CAN/CSA-S16.1.
- .7 Touch-up bolts and burnt or scratched surfaces after completion of erection with primer.
- .8 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.

3.2 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-086 – Engineering Design in Wood.
 - .2 CSA B111-1974(R1998), Wire Nails, Spikes and Staples.
 - .3 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .4 CSA O121-M1978(R1998), Douglas Fir Plywood.
 - .5 CAN/CSA-O141-[91(R1999)], Softwood Lumber.
 - .6 CSA O151-[M1978(R1998)], Canadian Softwood Plywood.
 - .7 CAN/CSA-O325.0-[92(R1998)], Construction Sheathing.
 - .8 CAN/CSA-834 – Miscellaneous Bolts and Screws.
- .2 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber [2000].
- .3 Parks Canada Agency
 - .1 Guide for the Use, Handling, and Disposal of Pressure Treated Wood (January 2009)

1.2 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: by grade mark in accordance with applicable CSA standards.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and packaging material
- .3 Divert unused wood materials from landfill to recycling, reuse or composting facility.

- .4 Do not dispose of preservative treated wood through incineration.
- .5 Do not dispose of preservative treated wood with materials destined for recycling or reuse.
- .6 Dispose of treated wood, end pieces, wood scraps and sawdust at sanitary landfill approved by Departmental Representative.
- .7 Dispose of unused wood preservative material at official hazardous material collections site approved by Departmental Representative.
- .8 Do not dispose of unused preservative material into sewer system, into streams, lakes, onto ground or in other locations where they will pose health or environmental hazard.

Part 2 Products

2.1 LUMBER MATERIALS

- .1 Lumber: as specified on drawings, softwood, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA-O141
 - .2 NLGA Standard Grading Rules for Canadian Lumber

2.2 ACCESSORIES

- .1 Miscellaneous Steel: In accordance with CAN/CSA-G40.21.
- .2 Screws connecting timber elements shall be RSS “Rugged Structural Screws” as indicated on the drawings.
- .3 Nails, spikes and staples: to CSA B111.
- .4 Bolts: ASTM A307 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.

2.3 FASTENER FINISHES

- .1 Galvanizing: to CAN/CSA-G164, use galvanized fasteners for exterior work pressure- preservative treated lumber.

2.4 WOOD PRESERVATIVE

- .1 Preservative: to CAN-O80 Series, odourless salt chemical oil-borne water-borne, for clear stained finish.

Part 3 Execution

3.1 PREPARATION

- .1 Treat surfaces of material with wood preservative, before installation.
- .2 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
- .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.

3.2 INSTALLATION

- .1 Install members true to line, levels and elevations, square and plumb.
- .2 Construct continuous members from pieces of longest practical length.
- .3 Install spanning members with “crown-edge” up.
- .4 Select exposed framing for appearance. Install lumber materials so that grade-marks and other defacing marks are concealed.

3.3 ERECTION

- .1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .2 Countersink bolts where necessary to provide clearance for other work.

3.4 APPLICATION: PRESERVATIVE

- .1 Treat indicate material to CSA O80 Series; indicate commodity standard number using preservative to obtain minimum net retention of 6.4 kg/m³ of wood.
- .2 Following water-borne preservative treatment, dry material to maximum moisture content of 19%.

3.5 APPLICATION: FIELD TREATMENT

- .1 Comply with AWPA M4 and revisions specified in CSA O80 Series, Supplementary Requirements to AWPA M2.
- .2 Remove chemical deposits on treated wood to receive applied finish.

END OF SECTION

Part 1 General

1.1 WASTE MANAGEMENT AND DISPOSAL

- .1 Collect and separate any plastic, paper packaging, and corrugated cardboard in accordance with Waste Management Plan.
- .2 Place materials defined as hazardous or toxic in designated containers.
- .3 Fold up metal banding, flatten and place in designated area for recycling.
- .4 Divert left over aggregate materials from landfill to local facility for reuse as approved by Departmental Representative.

Part 2 Products

2.1 STONE

- .1 Hard, dense, durable quarry stone, free from seams, cracks or other structural defects.
- .2 Rip Rap shall be Class 1 Heavy Rock Rip-Rap in accordance with Alberta Transportation's Standard Specifications for Bridge Construction, Section 10 Heavy Rock Rip-Rap.

Part 3 Execution

3.1 PLACING

- .1 Rip Rap shall be placed in either 2013 or 2014 in-stream activity window, from August 15th to September 1st.
- .2 Where rip-rap is to be placed on slopes, excavate trench at toe of slope to dimensions as indicated.
- .3 Where rip-rap is to be placed near bridge pier, excavate to dimensions as indicated, but no deeper than the top of footing.
- .4 Place rip-rap to thickness and details as indicated.
- .5 Place stones in manner approved by Departmental Representative to secure surface and create a stable mass. Place larger stones at bottom of slopes.

END OF SECTION