

Revision 0, March 7, 2018

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Reference documents – Parks Canada:

- Parks Canada Basic Impact Analysis
- FHBRO Status Report (Heritage Building)
- Standards and Guidelines for the Conversation of Historic Places in Canada, Reference Link:
<http://www.historicplaces.ca/en/pages/standards-normes.aspx>

END OF SECTION

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises rehabilitation work, general construction, and upgrades in the roof system and the two interior openings of the stable building, located at Fort Walsh National Historic Site. This is a Canadian Heritage Building and all precautions should be taken to preserve the existing structure, all surrounding existing structures, and the Fort Walsh National Historic Site. In addition, this contract shall include all requirements and precautions to take when upgrading the structural log beams located in the roof system supported by two exterior & two interior loadbearing walls and the work required to repair the interior openings. The contractor will be required to submit a “Lifting and Placing Plan” for the new log beams within 10 days of receiving the contract (Refer to Submittal Procedures – 01 33 00 for additional information). In addition the contractor is responsible for surveying the existing roof line before and after construction and to submit the survey results to the Departmental Representative (Refer to Submittal Procedures – 01 33 00 for additional information). Refer to the following drawings for additional information and requirements.

- .1 Appendix A – Detailed Drawings

1.2 CONTRACT METHOD

- .1 Construct Work under single contract.

1.3 WORK BY OTHERS

- .1 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of Work.

1.4 WORK SEQUENCE

- .1 Construct Work in stages to accommodate Owner's continued use of premises during construction.
- .2 Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.
- .3 Maintain fire access/control.

1.5 CONTRACTOR USE OF PREMISES

- .1 Limit use of premises for work, to allow:
 - .1 Owner occupancy of the site.
- .2 Co-ordinate use of premises under direction of Departmental Representative. The contractor once awarded will be given access (keys/combinations) for locks on the gates on-site so that work can be done. Work can be done outside of regular hours.

- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract. Contractor is permitted to store trailer or other storage units (sea cans) inside the palisade or outside of the fort walls.
- .4 Contractor shall supply their own power by means of a generator. A 15A breaker is present on the neighboring building and is available for light duty use, but power outages occur and site power cannot be relied upon to complete the work.
- .5 Remove or alter existing work to prevent injury or damage to portions of existing work which are to 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 condition of existing work: equal to or better than that which existed before new work started.

1.6 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period for execution of normal operations.
- .2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.7 OWNER FURNISHED ITEMS (EXISTING ITEMS IN BUILDING)

- .1 Contractor Responsibilities:
 - .1 Handle products at site, including uncrating and storage.
 - .2 Protect products from damage, and from exposure to elements.
 - .3 Repair or replace items damaged by contractor.

1.8 EXISTING SERVICES

- .1 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.
- .2 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .3 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .4 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

1.9 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy of each document as follows:
 - .1 Contract Drawings & Specifications.
 - .2 Addenda.
 - .3 Reviewed Shop Drawings.

- .4 List of Outstanding Shop Drawings.
- .5 Change Orders & Other Modifications to Contract.
- .6 Field Test Reports.
- .7 Health and Safety Plan and Other Safety Related Documents.

END OF SECTION

Part 1 General

1.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 The contractor shall supply sanitary and hand washing facilities on site.
- .5 Closures: protect work temporarily until permanent enclosures are completed.
- .6 Avoid vehicle and equipment traffic when soils conditions are wet. Contractor shall repair and level the site after completion of work to be equal or better than pre-construction conditions.

1.3 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to building operations and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.4 SPECIAL REQUIREMENTS

- .1 Carry out noise generating work Monday to Friday from 7:00 to 20:00 hours.
- .2 Submit schedule in accordance with Section 01 32 16.07 - Construction Progress Schedule - Bar (GANNT) Chart.
- .3 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .4 Keep within limits of work and avenues of ingress and egress.

1.5 SECURITY

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.

1.6 BUILDING SMOKING ENVIRONMENT

- .1 Smoking is not permitted unless in a labeled designated area.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

- .1 Schedule and administer project meetings throughout the progress of the work at the call of Departmental Representative.
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting four days in advance of meeting date to Departmental Representative.
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meetings.
- .6 Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants and, affected parties not in attendance.
- .7 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 PROGRESS MEETINGS

- .1 During course of Work and 2 weeks prior to project completion, schedule progress meetings bi-weekly.
- .2 Contractor, major Subcontractors involved in work and the Departmental Representative are to be in attendance.
- .3 Notify parties a minimum 3 days prior to meetings.
- .4 Agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Potential problems which may impede construction schedule.
 - .5 Corrective measures and procedures to regain projected schedule, as required.
 - .6 Revision to construction schedule, as required.
 - .7 Safety

END OF SECTION

Part 1 General

1.1 DEFINITIONS

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .3 Construction Work Week: Monday to Friday, inclusive, will provide five-day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .4 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
- .5 Master Plan: summary-level schedule that identifies major activities and key milestones.
- .6 Milestone: significant event in project, usually completion of major deliverable.
- .7 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

1.2 REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Limit activity durations to maximum of approximately 7 working days, to allow for progress reporting.
- .4 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.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section [01 33 00 - Submittal Procedures].
- .2 Submit to Departmental Representative within 10 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .3 Submit Project Schedule to Departmental Representative within 5 working days of receipt of acceptance of Master Plan.

1.4 MASTER PLAN

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Departmental Representative will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.5 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.

1.6 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule on bi-weekly basis reflecting activity changes and completions, as well as activities in progress.
- .2 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.

1.7 PROJECT MEETINGS

- .1 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.
- .2 Weather related delays with their remedial measures will be discussed and negotiated with departmental representative as to what instances classify as unsafe to work.

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, samples and mock-ups in SI Metric units.
- .4 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.
- .5 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .6 Verify field measurements and affected adjacent Work are co-ordinated.
- .7 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .8 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .9 Keep one reviewed copy of each submission on site.
- .10 Submission for progress and final payments shall be submitted listing the percent of work claimed to be completed and a detailed breakdown of the work completed.

1.2 SHOP DRAWINGS, PRODUCT DATA & REQUIRED SUBMITTALS

- .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 Allow 5 days for Departmental Representative's review of each submission.
- .3 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.
- .4 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.
- .5 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.
- .6 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp or signature of Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .7 After Departmental Representative's review, distribute copies.
- .8 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .9 Submit electronic copies 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.
- .10 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .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, copies 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 contractor will be required to submit a "Lifting and Placing Plan" for the new log beams within 10 days of receiving the contract. The lifting and placing plan shall describe at minimum the following:
 - .1 The technique and equipment used to lift the logs.
 - .2 The maximum load from lifting/stabilizing equipment transferred to the existing buildings floor structure.
 - .3 A plan identifying the order that beams are to be installed.
 - .4 Method of installing end to end beams above interior loadbearing log walls and method of installing the specified end to end connection.
 - .5 Methods used to prevent damage to the existing building and surrounding structures.
 - .6 Safe lifting procedure.
- .15 Prior to construction the contractor shall survey the existing roof ridge line with elevations captured in 1.5m increments. The survey shall be submitted to the

Departmental Representative for review. This review will confirm if the specified jacking is adequate or if additional jacking is required. The initial survey results shall be submitted prior to removing shoring posts and prior to jacking the existing log beams. After construction a second survey shall be conducted along the ridge line with elevations captured in 1.5m increments. Submit the second survey to the Departmental Representative prior to project completion. Both surveys shall include the location of interior loadbearing walls (2 locations) and the gable end walls. The surveys shall be performed by a professional land surveyor, registered in Saskatchewan.

1.3 SAMPLES

- .1 Where colour, pattern or texture is criterion, submit full range of samples.
- .2 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.
- .3 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic copy of colour digital photography in jpg format, standard resolution monthly with progress statement as directed by Departmental Representative.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Frequency of photographic documentation: monthly as directed by Departmental Representative.
 - .1 Upon completion of: framing and services before concealment, of Work, as directed by Departmental Representative.

1.5 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

END OF SECTION

Part 1 General

1.1 ACTION AND INFORMATIONAL SUBMITTALS

- .1 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.
- .2 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative.
- .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.
- .6 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.
- .7 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
 - .1 Muster point.
 - .2 Nearest emergency response center and contact information.
 - .3 Locations of first aid containers.

1.2 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award.
- .3 Work zone locations include:
 - .1 Stable building.
 - .2 Designated Staging and Storage areas

1.3 SAFETY ASSESSMENT

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

1.4 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:

- .1 Departmental Representative

1.5 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.

1.6 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.

1.7 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 having jurisdiction and advise Departmental Representative verbally and in writing.
- .2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety co-ordinator and follow procedures in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.8 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have working knowledge of occupational safety and health regulations.
 - .2 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .3 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .4 Be on site during execution of Work and report directly to and be under direction of Certified Industrial Hygienist site supervisor.

1.9 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 having jurisdiction, and in consultation with Departmental Representative.

1.10 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.

1.11 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.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .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 humans; or degrade environment aesthetically, culturally and/or historically.
 - .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section [01 33 00 - Submittal Procedures].
- .2 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .3 Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4 Include in Environmental Protection Plan:
 - .1 Name of person responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Descriptions of environmental protection personnel training program.
 - .3 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
 - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .4 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .5 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.

1.3 FIRES

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

1.4 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.
- .2 Minimize stripping of topsoil and vegetation.
- .3 Contractor is responsible to repair damages to site.

1.5 POLLUTION CONTROL

- .1 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .2 In event of a hazardous spill, the Departmental Representative will be contacted immediately to ensure proper clean up measures are taken. Any spills as a result of the work being performed by the contractor shall be remediated at the contractors expense.
- .3 The contractor is required to have a spill kit on site during the construction process.
- .4 Provide temporary enclosures where indicated by Departmental Representative.

1.6 HISTORICAL CONTROL

- .1 Provide historical plan that defines procedures for identifying and protecting historical, resources known to be on project site.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and Departmental Representative.

1.7 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.
- .2 Contractor: after receipt of such notice, inform Departmental of proposed corrective action and take such action for approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.
- .5 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 11 - Cleaning].

END OF SECTION

Part 1 General

1.1 INSPECTION

- .1 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. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.2 INDEPENDENT INSPECTION AGENCIES

- .1 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .2 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and re-inspection.

1.3 ACCESS TO WORK

- .1 Allow inspection agencies access to work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.4 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.

1.5 REPORTS

- .1 Submit electronic copies of inspection and test reports to Departmental Representative.

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously. Contractor shall supply their own power by means of a generator or other approved methods.
- .2 Remove from site all such work after use.

1.2 WATER SUPPLY

- .1 Contractor is responsible for providing continuous supply of potable water for construction use.

1.3 TEMPORARY HEATING AND VENTILATION

- .1 If workers or installed material require heating or ventilation then the contractor shall provide temporary heating required during construction period, including attendance, maintenance and fuel.

1.4 TEMPORARY POWER AND LIGHT

- .1 Contractor shall provide and pay for temporary power during construction for temporary lighting and operating of power tools, to a maximum supply of 230 volts 30 amps.
- .2 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 162 lx.

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.2 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain as required, scaffolding, ramps, ladders, and temporary stairs.

1.3 HOISTING

- .1 Provide, operate and maintain hoists required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists to be operated by qualified operator.
- .3 Provide ground and floor support for required hoisting equipment to limit damages to ground and floor surfaces.

1.4 CONSTRUCTION PARKING

- .1 Parking will be permitted on site provided it does not disrupt performance of Work.
- .2 Provide and maintain adequate access to project site.

1.5 SECURITY

- .1 Provide storage containers/trailers complete with locking mechanics. Store materials and tools in locked storage when not on-site.
- .2 Lock all gates and buildings when not on-site.

1.6 SANITARY FACILITIES

- .1 Contractor to provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.7 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

END OF SECTION

Part 1 General

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .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 Dispose of waste materials and debris off site.
- .5 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .6 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 including that caused by Owner or other Contractors.
- .5 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .6 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .7 Remove dirt and other disfiguration from exterior surfaces.
 - .1 Remove saw dust.
- .8 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .9 Remove snow and ice from access to building.

END OF SECTION

Part 1 General

1.1 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Shop drawings:
 - .1 Submit shop drawings indicating detail and information for install including:
 - .1 Member Material
 - .2 Weld Sizes
 - .3 Dimensions
 - .4 Hole Locations
 - .2 Source Quality Control Submittals:
 - .1 Upon request by Departmental Representative Submit 2 copies of mill test reports of structural steel.
 - .1 Mill test reports to show chemical and physical properties and other details of steel to be incorporated in project.
 - .2 Provide mill test reports certified by metallurgists qualified to practice in Saskatchewan, Canada.

1.2 DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials free of defects.

Part 2 Products

2.1 STRUCTURAL STEEL DESIGN REQUIREMENTS

- .1 Structural size W shapes to ASTM A572 grade 50. Other structural size shapes, bar size shapes and plates to CSA G40.21M, 300 MPA weldable grade.
- .2 Anchor bolts to ASTM A307.
- .3 Grating to be in accordance with ANSI/NAAMM MBG 531, metal bar grating manual.
- .4 Paint for primer as per zinc-rich primer and touch-up painting-inorganic: CAN/CGSB-1-GP171, organic, ready mixed: CAN/CGSB-1.181
- .5 Galvanizing to follow ASTM A123/123M
- .6 Paint for primer as per CGSB 1-GP-40D, or CISC/CPMA standard 1-73A.
- .7 Design and detail connections to CSA S16 and as per drawings. Connection shall be designed for the loads indicated on the drawings.
- .8 Fabrication and erection to CSA S16 and CISC code of standard practice.
- .9 Fabricator to be certified to CSA W47.1 division 1 or 2.
- .10 Material to be hot-dip galvanized shall comply with CSA standard G164.
- .11 Paint steel surface with one coat of primer.

- .12 No burning of holes shall be allowed anywhere in the structural steel.
- .13 All bolts to be torqued to turn of nut method.

2.2 FABRICATION

1. Bottom Flange: Provide holes for nailing plate. Provide 3/8" Dia. Holes stagger spaced @ 2' o.c.
2. Top Flange: Provide holes for connection to log above beam. Provide 3/8" Dia. Holes stagger spaced @ 2' o.c.

Part 3 Execution

2.3 APPLICATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

2.4 CONNECTION TO EXISTING WORK

- .1 Verify dimensions and condition of existing work, report discrepancies and potential problem areas to Departmental Representative for direction before commencing fabrication. Confirm all dimensions on site prior to fabrication and install.

2.5 ERECTION

- .1 Erect structural steel, as indicated and in accordance with CAN/CSA-S16 and in accordance with reviewed erection drawings.
- .2 Field cutting or altering structural members: to approval of Departmental Representative.
- .3 Clean with mechanical brush and touch up shop primer to bolts, rivets, welds and burned or scratched surfaces at completion of erection.

END OF SECTION

Part 1 General

1.1 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Product Data:
 - .1 Submit printed product literature and data sheets for period horizontal log work and include product characteristics, performance criteria, physical size, finish and limitations.
- .2 Shop Drawings:
 - .1 Submit drawings showing log diameter, bearing length, overall length, & species.
 - .2 Submit shop repair drawings of logs showing details of which pieces were added, layout, and materials.
- .3 Source Quality Control Submittals
 - .1 Submit invoices, purchase orders, and suppliers' certificates when requested by Departmental Representative.
 - .2 When requested by Departmental Representative submit suppliers' certificates indicating when logs were cut and how they were seasoned.
 - .3 Advise Departmental Representative before ordering or purchasing materials.
 - .4 Departmental Representative to examine or review materials prior to purchase by contractor.
 - .5 Provide free access to materials for examination by Departmental Representative before beginning work on site.

1.2 QUALITY ASSURANCE

- .1 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used.
- .2 Qualifications:
 - .1 Contractors undertaking work in this Section (Heavy Log and Timber Construction) are required to be skilled & trained craftsperson and to have a minimum of 5 years of experience in this field.
 - .2 Only workers accepted by Departmental Representative will be authorized to perform Work of this Section.
 - .3 Before the start of work submit qualification documents: curriculum vitae, certificates of skills, and references.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Delivery and Acceptance Requirements: deliver materials to site labelled with manufacturer's name and address.
 - .1 Deliver wood required for repairs to site before start of work.
- .2 Storage and Handling Requirements:

- .1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .2 Store and protect wood from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.
- .4 Logs:
 - .1 Handle with log tongs or ropes. Do not use chains.
 - .2 Avoid dragging and marring of surface.
- .5 Protect adjacent timber elements from damage during handling.
- .3 Wood delivered for seasoning on site:
 - .1 Stack wood above ground with spacers between layers. Ensure adequate ventilation for air-drying. Stack wood out of direct sunlight.
 - .2 Store materials in dry, well-ventilated area.
 - .3 Support materials above soil with spacers between layers.
 - .4 Protect from rain, direct sunlight and snow.

Part 2 Products

2.1 MATERIALS

- .1 Logs:
 - .1 Species: to match existing.
 - .2 Size: logs to match logs to be replaced in shape and surface appearance. Minimum mid-span diameter of 300mm or 12”.
 - .3 Moisture content: logs to contain maximum of 19% moisture prior to installation.
 - .4 Bark to be carefully removed before delivered and free of large splinters.
- .2 Rough sawn lumber:
 - .1 Species: pine.
 - .2 Size: as indicated.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable.
 - .1 Visually inspect substrate.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

- .2 Investigate timber structure and report to Departmental Representative conditions relevant to this contract not described in drawings.
- .3 Examine building for level and trueness. Establish a reference plane for repositioning.
- .4 Stop work and report in writing immediately to Departmental Representative evidence of structural deficiencies, fungal activity or insect infestation not described on drawings which will affect durability of the finished product.

3.2 SPECIAL TECHNIQUES

- .1 Trim selected faces of logs to desired finished thickness and appearance.
- .2 Trim logs to desired finished length and size.

3.3 CONSTRUCTION

- .1 Fit joints and intersecting members accurately.
- .2 Obtain governing dimensions from Departmental Representative before fabricating items which are to accommodate or abut work of other Sections.
- .3 Erection of logs:
 - .1 Fit logs tightly together.
 - .2 When a log beam is being supported by a log wall, scribe portions of the log wall to secure a tight fit.
 - .3 Keep inside face of logs plumb.
- .4 Jointing:
 - .1 Log partition intersection at outside wall joint or interior wall joint to be as indicated. Refer to Contract Drawings.
 - .2 Fit joints tightly together.
- .5 Roof framing:
 - .1 Seat/notch common roof rafters into top or plate log at rafter to supporting log intersections. Notches shall not exceed more than 25% of the rafter's depth.
 - .2 Install new log purlins centered in between the ridge beam and existing purlins and between the existing purlins and exterior walls, notch into existing roof rafters to ensure proper gable log connection, as indicated. Refer to Contract Drawings.
 - .3 No modifications to the existing roof system is permitted during the winter time when an active snow load is present.
- .6 Log Building Chinking Standards:
 1. Install hard wood shims and non-shrink grout beneath new log beams to ensure snug fit, there should be a minimum 1/2" gap for chinking to be installed around wood shims/grout.
 2. All chinking installed shall have a light grey colour and match existing conditions as close as possible.

3. Synthetic chinking material shall be applied in chink gaps in such a manner as to resist water, air and insect infiltration. At all times, the chinking shall conceal and protect hard wood shims.
4. All chinking shall be repaired upon visible evidence of cracking or pulling away from logs. Synthetic chinking shall be installed according to joint designs that will favor “cohesive” failure of the chinking if unavoidably extreme movement should occur in a joint.
5. At load bearing extensions or where hard wood shims are visible, chinking must be applied.
6. For purposes of chinking application, check with manufacturer as to proper moisture content of logs at the time of chinking application.
7. Chinking shall be applied with sufficient application pressure and tooling to properly “wet out” and establish strong adhesion to the contact surfaces of the logs. Such pressure and tooling can eliminate regions where the chinking might otherwise pull away and provide entry to moisture, air, dust or insects.
8. Synthetic chinking shall be applied according to manufacturer’s guidelines. It should have an attractive, natural texture. The edges of the joint should be clean and crisp where the chinking meets the log.

3.4 REPAIR

- .1 Match existing adjacent timber elements, finished surfaces, and materials.

3.5 PROTECTION

- .1 Protect adjacent timber elements and finished surfaces from damage during work.

END OF SECTION

Part 1 Execution

1.1 PREPARATION

- .1 Site preparation.
 - .1 Ensure drainage of ground at place of storage.
 - .2 Provide shelter in location approved by Departmental Representative.

1.2 PROTECTION OF IN-PLACE CONDITIONS

- .1 Protect wood elements adjacent to area of work from damage during duration of the Work.
- .2 Contractor shall provide at minimum drop sheets consisting of tightly woven fabric or wood sheathing to protect the floor surfaces from lights duty construction traffic.
- .3 Contractor shall provide wood blocking bases from temporary support point loads and heavy equipment loads.
- .4 Contractor is responsible to repair damages to all existing finishes.

1.3 CONSTRUCTION AND STORAGE

- .1 Storage criteria:
 - .1 Prevent direct contact with ground.
 - .2 Stack wood on levelled wood blocks above ground to allow for air circulation.
 - .3 Cover with breathable membrane.
 - .4 Protect wood stack from direct sunlight and precipitation.
 - .1 Build roof over stack that extends beyond edges of stack by minimum 600 mm. Hold in place with heavy weights.
 - .5 Screen wood exposed to wood destroying insects or marine borers.
 - .6 Cover treated logs with polyethylene and maintain free air circulation.
 - .7 Maintain free air circulation by natural means for wood stored in container or other structure, attain specified moisture content.
- .2 Air-dry stored wood: achieve 19% Moisture Content.
- .3 Prevent shape distortion during air-drying process.
- .4 Protect wood from theft and vandalism.

END OF SECTION

Part 1 General

Part 2 Execution

2.1 SITE VERIFICATION OF CONDITIONS

- .1 Report immediately to Departmental Representative problems related to safe execution of work and unsatisfactory conditions before beginning work.
- .2 Report to Departmental Representative conditions of damp wood found during execution of contract.
- .3 Stop work in that area and report to Departmental Representative immediately if evidence of deficiencies or insect and fungal attack not described on drawings which will affect the durability of the finished product.

2.2 RE-INSTALLATION

- .1 Filling drill holes:
 - .1 Fill drill holes with mixture of sawdust and wood putty to approval of Departmental Representative.

2.3 CLEANING

- .1 Clean up site in accordance with applicable regulations.
- .2 Clean exposed surfaces in accordance with applicable regulations to remove insecticide residue.

END OF SECTION

Part 1 General

1.1 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

1.2 DELIVERY, STORAGE AND HANDLING

- .1 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect wood from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .2 Develop Construction Waste Management Plan related to Work of this Section.

Part 2 Products

2.1 MATERIALS

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA-O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
 - .3 CAN/CSA-Z809 or FSC or SFI certified.
- .2 Furring, blocking, nailing strips, rough bucks, and sleepers:
 - .1 Dimension sizes: "Standard" light framing or better grade.
 - .2 Post and timbers sizes: "Standard" or better grade.
- .3 Primers & Paints: in accordance with manufacturer's recommendations for surface conditions:
 - .1 Primer: VOC limit 200 g/L maximum to SOR/2009-264
 - .2 Paint: VOC limit 150 g/L maximum to SOR/2009-264

2.2 ACCESSORIES

- .1 Nails, spikes and staples: to CSA B111.
- .2 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .3 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, recommended for purpose by manufacturer.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for rough carpentry installation in accordance with manufacturer's written instructions.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLATION

- .1 Protect adjacent working surfaces from damages. Contractor shall repair and replace all damages.
- .2 Comply with requirements of NBC, supplemented by the following paragraphs.
- .3 Align and plumb faces of furring and blocking to tolerance of 1:400.
- .4 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .5 Install wood backing, nailers, and other wood supports as required and secure using common steel fasteners.
- .6 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .7 Countersink bolts where necessary to provide clearance for other work.

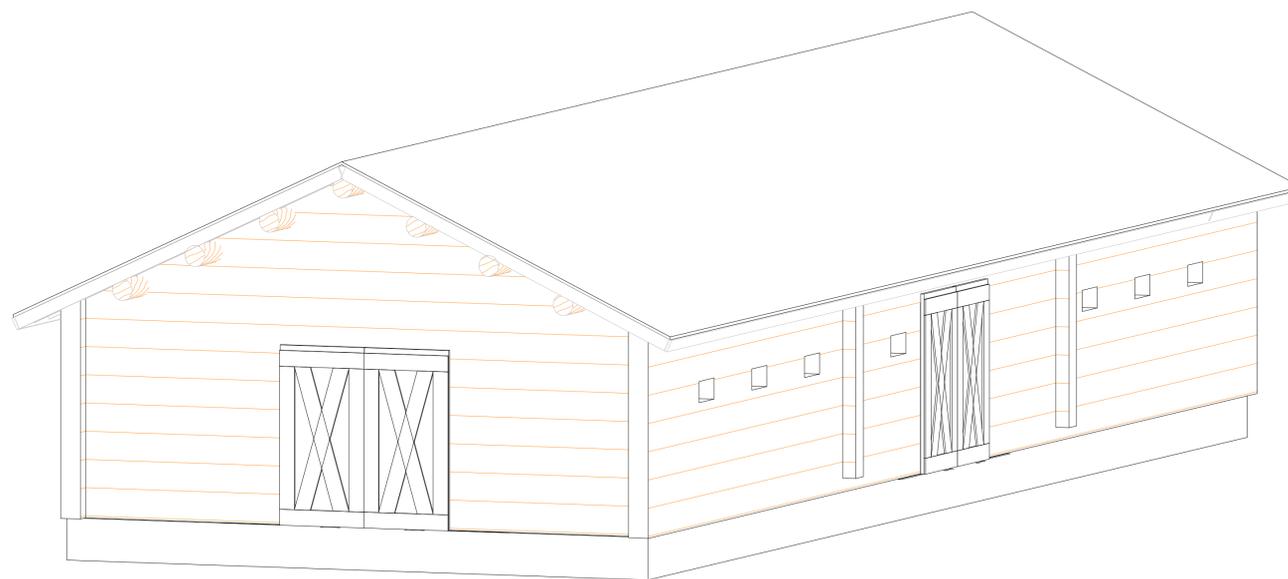
3.3 CLEANING

- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse or recycling.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION



1 SITE PLAN
1 : 192



NOTE: MODEL VIEW FOR CONCEPTUAL PURPOSES ONLY

2 FORT WALSH STABLE

LOG CONSTRUCTION NOTES:

- 1) LOG SELECTION CRITERIA:
 - a. MAXIMUM MOISTURE CONTENT SHALL BE LESS THAN 19%
 - b. MID-SPAN DIAMETER OF NEW LOGS SHALL BE 305mm OR 12" OR GREATER
 - c. MINIMUM END DIAMETER OF NEW LOGS SHALL BE 9" OR GREATER
 - d. MAXIMUM LOG DIAMETER SHALL BE 406 mm OR 16".
 - e. SELECT LOGS WITH MINIMUM TAPER
 - f. SELECT LOGS WITH FEW AND SMALL KNOTS
 - g. SELECT LOGS THAT ARE STRAIGHT, WITHIN 51mm OR 2" OF BEAM CENTERLINE
 - h. REJECT LOGS WITH SPIRAL GRAIN
 - i. REJECT LOGS SHOWING SIGNS OF ROT OR DECAY.
 - j. LOGS WITH SLIGHT SWEEP/CAMBER SHALL BE INSTALLED WITH THE SWEEP/CAMBER PLACED UP.
 - k. LOG SHAPE SHALL BE ROUND, AVOID SQUARING THE TIMBER
 - l. LOGS SHALL BE PINE OR SPRUCE, WITH PINE BEING PREFERRED
 - m. LOGS SHALL BE FREE OF BARK AND LARGE SPLINTERS
- 2) NEW LOG, END BEARING REQUIREMENTS: EACH NEW LOG SHALL HAVE A MINIMUM 100 mm OR 4" END BEARING LENGTH, SUPPORTED BY THE EXISTING LOG WALL STRUCTURE. IN ADDITION THE LOG SHALL EXTEND WITHIN 25 mm OR 1" OF THE LOG WALL CENTERLINE.
- 3) CONNECTIONS:
 - a. END TO END CONNECTIONS: REFER TO CONNECTION DETAIL FOR LOGS CONNECTING AT INTERIOR SUPPORTING WALLS.
 - b. JOIST TO LOG CONNECTION: AT EACH INTERSECTING ROOF JOIST THE JOIST SHALL BE SECURED TO THE LOG BEAM USING (2) 75MM OR 3" LONG COMMON NAILS TOE-NAILED FROM EACH SIDE OF THE JOIST INTO THE LOG BEAM. INSTALL CONNECTION SO AS TO NOT BE VISIBLE FROM THE GROUND.
 - c. END LOG EXTENDING THROUGH EXTERIOR WALL: NO MECHANICAL CONNECTION PRESENT.
- 4) GENERAL LOG WEIGHTS AS PER THE INTERNATIONAL LOG BUILDERS ASSOCIATION:
 - a. A LOG OF PINE, JACK, OR LODGEPOLE HAS A DENSITY OF 480KG/M3 OR 30 LBS/FT³. EXAMPLE: A LOG HAVING A LENGTH 9.144 M OR 30 FT AND AN AVERAGE DIAMETER OF 0.305 M OR 1 FT HAS A TOTAL WEIGHT OF 3.14 KN OR 707 LBS. NOTE THIS IS BASED ON THE WEIGHT OF DRY MATERIAL.
 - b. CONTRACTOR SHALL BE AWARE OF LOG WEIGHTS AND TAKE APPROPRIATE MEASURES TO PROVIDE SAFETY PREVENTING DAMAGES TO PERSONNEL AND BUILDING MATERIALS.
- 5) THE MAXIMUM ALLOWABLE CONCENTRATED LOAD APPLIED TO THE EXISTING FLOOR SURFACE OVER AN AREA OF 750 X 750 mm (30"x30") IS 4.5 KN (1010) LBS.

NON-SHRINK GROUT:

- 1) INSTALL NOT SHRINK GROUT AS PER THE MANUFACTURERS RECOMMENDATIONS.
- 2) MINIMUM COMPRESSIVE STRENGTH @ 1 DAY SHALL BE 20 MPA.
- 3) MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS SHALL BE 32 MPA.
- 4) GROUT PRODUCT SHALL:
 - a. BE NON-CORROSIVE AND NON CHLORIDE CONTAINING
 - b. NOT BE EXPOSED TO TEMPERATURES BELOW 5° C FOR A MINIMUM OF 3 DAYS.
 - c. BE INSTALLED IN THICKNESS RECOMMENDED BY THE MANUFACTURER.

STRUCTURAL STEEL

- 1) STRUCTURAL SIZE SHAPES, BAR SIZE SHAPES AND PLATES TO CSA G40.21M, 300 MPA WELDABLE GRADE.
- 2) ANCHOR BOLTS TO ASTM A307.
- 3) FABRICATION AND ERECTION TO CSA S16 AND CISC CODE OF STANDARD PRACTICE.
- 4) FABRICATOR TO BE CERTIFIED TO CSA W47.1 DIVISION 1 OR 2.
- 5) PAINT STEEL SURFACE WITH ONE COAT OF PRIMER.
- 6) NO BURNING OF HOLES SHALL BE ALLOWED ANYWHERE IN THE STRUCTURAL STEEL.
- 7) ALL BOLTS TO BE TORQUED TO TURN OF NUT METHOD.

OVERVIEW OF REQUIRED WORK:

- 1) MINIMAL SHORING WILL BE REQUIRED AS THE EXISTING RIDGE BEAM AND PURLINS WILL REMAIN & TEMPORARY POSTS ARE STILL IN PLACE PROVIDING ADDITIONAL SUPPORT.
- 2) THE EXTERIOR AND INTERIOR SUPPORT WALLS WILL REQUIRE CORED HOLES FOR THE NEW LOG BEAM INSTALL. THE CORED HOLE SIZE IS PERMITTED TO BE UP TO 51mm (2") LARGER THAN THE DIAMETER OF THE NEW LOG BEAMS. THIS TOLERANCE WILL ENSURE A SNUG FIT AND ALLOW ROOM FOR INSTALLATION PURPOSES. CONTRACTOR TO MEASURE AND CUT HOLES ACCORDINGLY. NOTCHING OF EXISTING ROOF JOISTS AT THE LOCATIONS OF THE NEW BEARING POINTS ON NEWLY INSTALLED LOGS IS PERMITTED. NOTCHING SHALL BE PERFORMED TO ENSURE DIRECT CONTACT BETWEEN THE NEW LOG AND THE EXISTING JOISTS. THE MAXIMUM NOTCH DEPTH FOR A JOIST SHALL NOT EXCEED 25% OF THE FULL JOIST DEPTH. IN ADDITION, THE EXISTING ROOF SYSTEM IS KNOWN TO HAVE DEFLECTION. PRIOR TO INSTALLING THE NEW LOG BEAMS THE CONTRACTOR SHALL INSTALL TEMPORALLY JACKING POSTS AT THE MID-SPAN OF EACH EXISTING BEAM. REFER TO 013300 - SUBMITTAL PROCEDURES FOR ROOF SURVEYING REQUIREMENTS. THE MAXIMUM TOTAL JACKING SHOULD NOT EXCEED 25mm (1") AND THE MAXIMUM JACKING PERMITTED IN 24 HOURS IS 3mm (1/8"). PERFORM ALL JACKING WITHOUT SNOW OR LIVE LOADS APPLIED TO THE ROOF. JACKING POSTS SHALL BE RATED FOR AN AXIAL LOAD OF 7500 lbs AT THE REQUIRED HEIGHT AND THE POST SHALL BE Laterally RESTRAINED. BELOW JACKING POSTS WOOD BLOCKING HAVING DIMENSIONS OF 1000mm x 1000mm x 150mm (40" x 40" x 6") SHALL BE INSTALLED TO DISTRIBUTE THE LOAD TO THE FLOOR SYSTEM.
- 3) THE NEW LOG BEAMS ARE TO SPAN BETWEEN EACH LOADBEARING WALL AND WILL BUTT UP AGAINST EACH OTHER, THEN FASTENED TOGETHER. EACH NEW LOG BEAM WILL NEED A MINIMUM OF 102mm (4") BEARING ONTO THE EXISTING LOADBEARING LOG WALL. INSTALL HARD WOOD SHIMS BELOW THE BASE OF THE LOG AS REQUIRED TO ENSURE A SNUG FIT AND PREFERRED ELEVATION. ENSURE THE SHIMS ARE CUT BACK A MINIMUM 13 mm OR 1/2" FROM FINISH LOG SURFACE TO ALLOW FOR FUTURE CHINKING INSTALLATION. TO ENSURE ADEQUATE BEARING FILL ALL VOIDS BETWEEN SHIMS WITH NON-SHRINK GROUT.
- 4) PREFERRED INSTALLATION OF THE NEW LOGS IS TO HAVE THE LOGS INSTALLED IN A CONTINUOUS PATH (APPEARING AS THE NEW LOGS ARE ONE CONTINUOUS MEMBER), THIS CAN BE DONE BY INSERTING THE LOGS THROUGH THE EXTERIOR WALLS. UTILIZING THE SAME CORED HOLE AT THE INTERIOR WALLS. TWO LOG ENDS WILL BUTT UP AND BE BOLTED TOGETHER WITH A HIDDEN STEEL PLATE. ACCESS DUE TO THE NEIGHBORING BUILDING ON THE NORTH SIDE MAY LIMIT INSTALLATION OF THE WEST END BAY LOG (NORTH SIDE OF BUILDING) AND AN ALTERNATIVE DETAIL WHERE NEW LOGS WILL BE OFFSET MAY BE MADE AVAILABLE AFTER THE CONTRACTOR HAS REVIEWED THE SITE AND DETERMINED INSTALLATION METHODS. REFER TO 013300 - SUBMITTAL PROCEDURES FOR A DESCRIPTION OF A LIFTING AND PLACING PLAN THE CONTRACTOR IS TO PROVIDE.
- 5) AS A RESULT OF THE FASCIA BOARD SLIGHTLY OVERLAPPING THE END GABLE LOG BEAMS THE GABLE END FASCIA BOARDS WILL NEED TO BE REMOVED PRIOR TO THE INSTALL OF NEW LOGS. THE FASCIA BOARD SHALL BE REMOVED MINIMIZING DAMAGES TO THE BOARDS. RE-INSTALL FASCIA BOARD AFTER ALL NEW LOGS HAVE BEEN INSTALLED. IF DAMAGES OCCUR TO THE FASCIA BOARD AS A RESULT OF REMOVAL, SUBMIT REPAIR PROCEDURE OR PROPOSED SOLUTION TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW.
- 6) AFTER COMPLETION OF ALL NEW LOGS A FINAL INSPECTION SHALL OCCUR. AFTER THE FINAL INSPECTION AND ALL RELATED DEFICIENCIES HAVE BEEN COMPLETED THE JACKING POSTS SUPPORTING EXISTING LOG BEAMS/PURLINS CAN BE REMOVED. THE CONTRACTOR IS THEN TO RETURN ALL SUPPORTING POSTS THAT ARE REMOVED BACK TO FORT WALSH/PARKS CANADA. ADDITIONAL INSPECTIONS MAY BE REQUIRED DURING CONSTRUCTION.

OVERVIEW OF REQUIRED WORK TO REPAIR SAGGING OPENINGS:

- OPENING #1 (REFER TO SHEET S-104 FOR DETAILS & INFORMATION)
- OPENING #2 (REFER TO SHEET S-105 FOR DETAILS & INFORMATION)

**FORT WALSH
MAPLE CREEK, SK
LEGAL LAND DESC.
6-21-7-29-W3**

ROOF LOADS:

- SNOW LOAD : 30psf
- DEAD LOAD: 10psf

DEFLECTION CRITERIA:

- TOTAL LOAD: L/180

NOTE: THIS IS A CANADIAN HERITAGE BUILDING AND ALL PRECAUTIONS SHOULD BE TAKEN TO PRESERVE THE EXISTING STRUCTURE AND THE FORT WALSH HISTORIC SITE .

APPENDIX A

S-101	SITE PLAN
S-102	STABLE REHABILITATION
S-103	ADDITIONAL DETAILS
S-104	OPENING UPGRADE #1
S-105	OPENING UPGRADE #2
S-106	GENERAL MAIN FLOOR PLAN



GENERAL NOTES:

- ALL WORK TO BE IN ACCORDANCE WITH NATIONAL BUILDING CODE 2010
- ALL DIMENSIONS & ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR



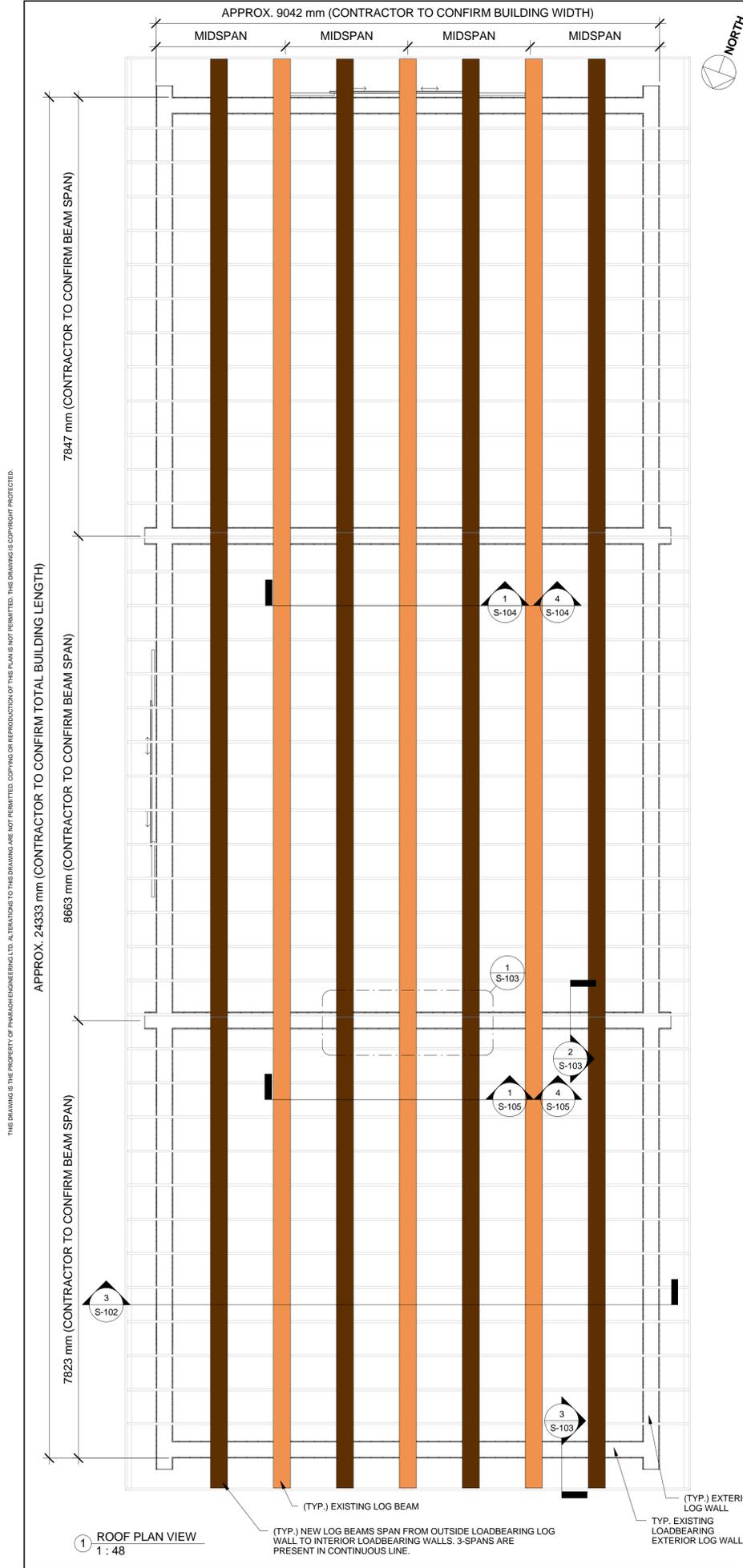
No	Date	Revisions	By	Eng
0	07/03/2018	ISSUED FOR TENDER	L.P.	R.S.
C	03/11/2017	ISSUED FOR 99% DWG REVIEW	L.P.	R.S.
B	28/09/2017	ISSUED FOR 99% DWG REVIEW	L.P.	R.S.
A	31/08/2017	ISSUED FOR 60% DWG REVIEW	L.P.	R.S.



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**FT. WALSH SASKATCHEWAN
PARKS CANADA
SITE PLAN**

Engineer	Drawn	Date
ROB STOLZ	LANE P.	09/02/2017
Rev.	Scale	Project #:
0	1 : 192	2247-2017PEL
		DWG. No.
		S-101



ROOF CONSTRUCTION:

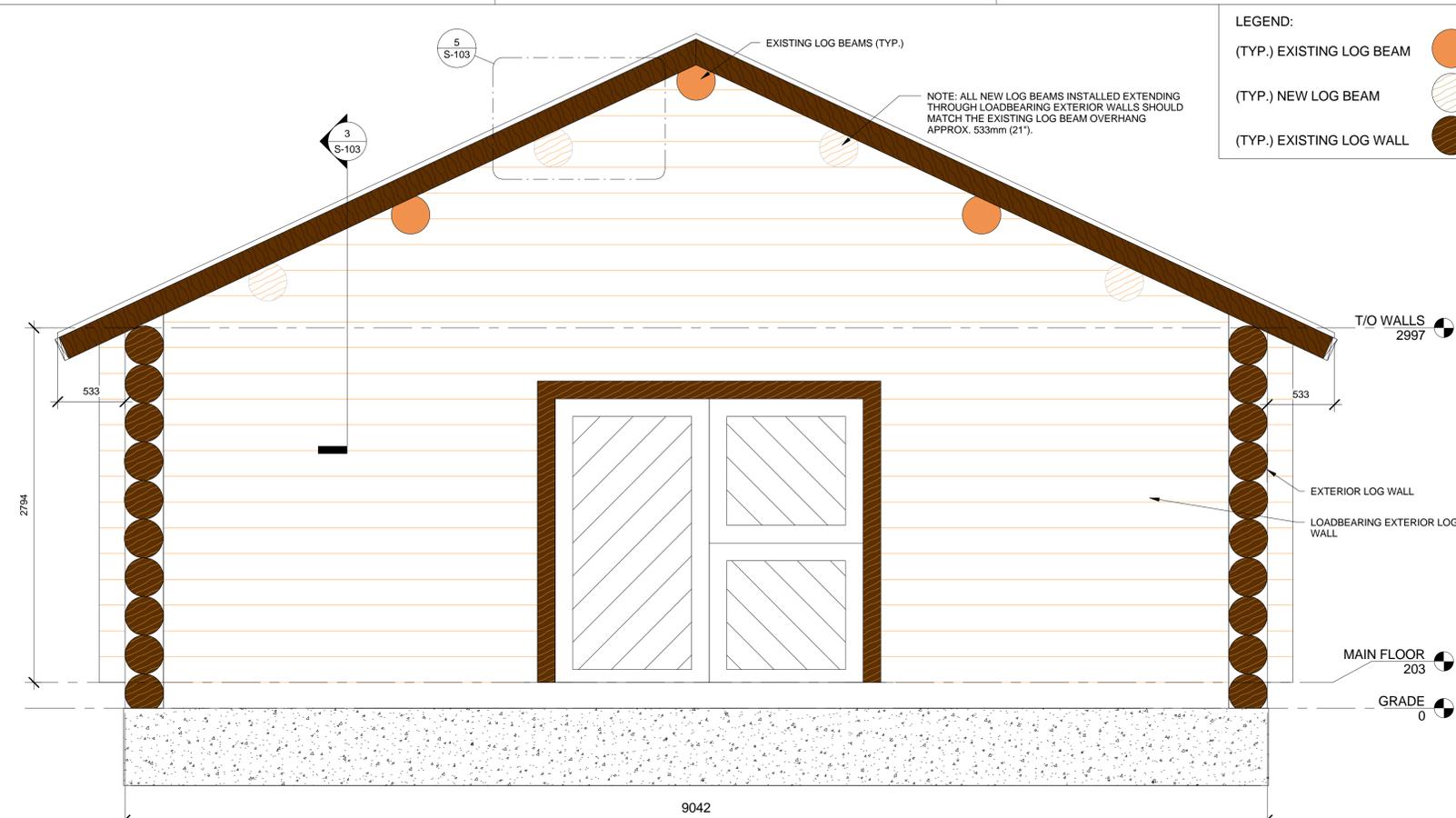
- CEDAR SHINGLES
- ROOF BOARDS ARE 19mm THICK AND VARY BETWEEN 180mm TO 330mm WIDE
- RAFTERS VARY BETWEEN 115mm TO 140mm DEEP BY 45mm TO 50mm WIDE SPACED @ 610mm o.c.
- ONE LOG RIDGE BEAM WITH AN ADDITIONAL LOG BEAMS IN THE MIDSPAN ON BOTH SIDES

WALL CONSTRUCTION:

- LOG Ø VARIES

FLOOR CONSTRUCTION:

- FLOOR PLANKS 75mm THICK MEASURING BETWEEN 240 AND 400mm WIDE
- FLOOR JOISTS 100mm WIDE x 200mm DEEP SPACED @ 750mm o.c.
- TWO LOG SLEEPERS BETWEEN 250mm & 300mm Ø LOCATED ROUGHLY AT THE 1/3 POINTS ALONG THE WIDTH OF THE BUILDING
- THE SLEEPERS REST ON CONCRETE PADS SPACED ROUGHLY @ 3000mm o.c.



LEGEND:

- (TYP.) EXISTING LOG BEAM
- (TYP.) NEW LOG BEAM
- (TYP.) EXISTING LOG WALL

**FORT WALSH
MAPLE CREEK, SK
LEGAL LAND DESC.
6-21-7-29-W3**

ROOF LOADS:

- SNOW LOAD : 30psf
- DEAD LOAD: 10psf

DEFLECTION CRITERIA:

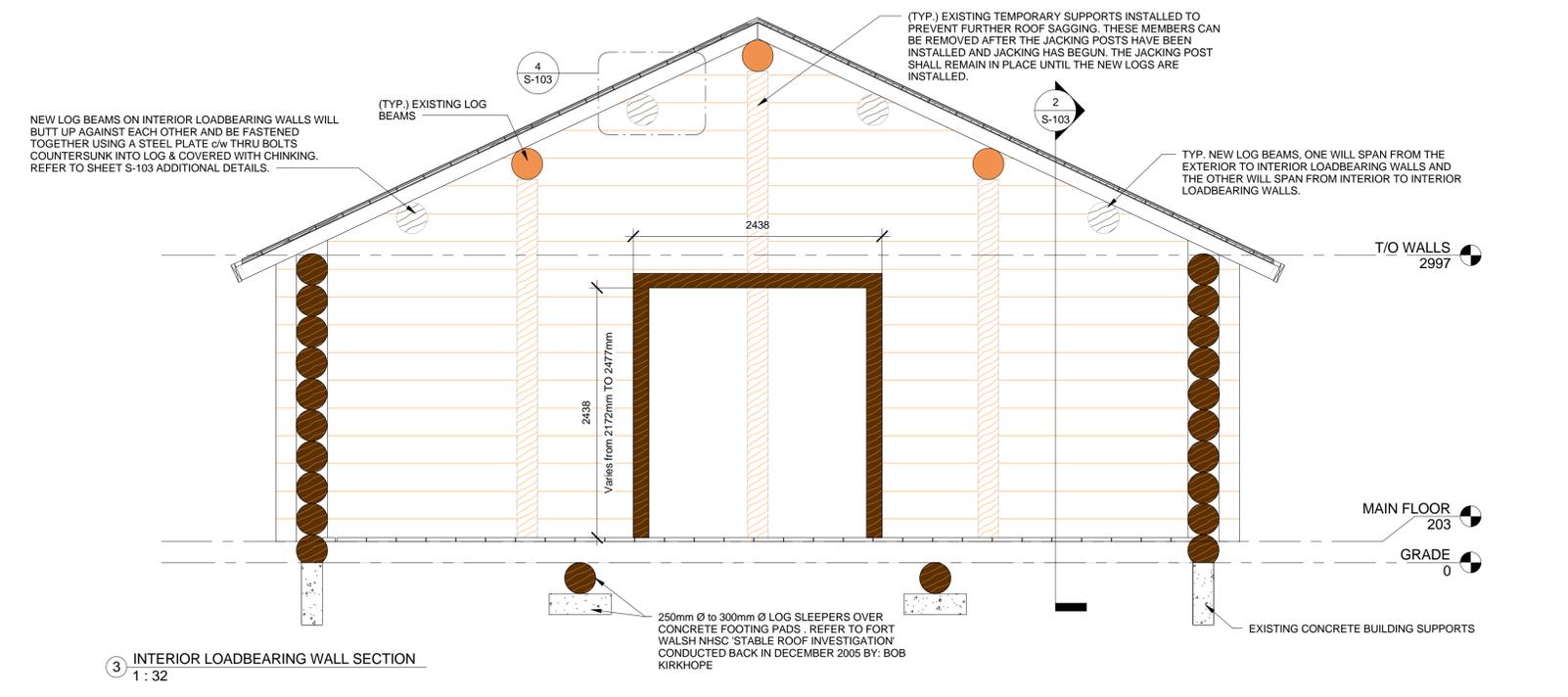
- TOTAL LOAD: L/180

NOTE: THIS IS A CANADIAN HERITAGE BUILDING AND ALL PRECAUTIONS SHOULD BE TAKEN TO PRESERVE THE EXISTING STRUCTURE. ALL OTHER EXISTING STRUCTURES AND THE FORT WALSH HISTORIC SITE.



GENERAL NOTES:

- ALL WORK TO BE IN ACCORDANCE WITH NATIONAL BUILDING CODE 2010
- ALL DIMENSIONS & ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR



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**FT. WALSH SASKATCHEWAN
PARKS CANADA
STABLE REHABILITATION**

Engineer: Rob Stolz
Drawn: Lane P.
Date: 09/02/2017

Rev. 0 Scale: As indicated
Project #: 2247-2017PEL
DWG. No.: S-102

**FORT WALSH
MAPLE CREEK, SK
LEGAL LAND DESC.
6-21-7-29-W3**

- ROOF LOADS:
- SNOW LOAD : 30psf
 - DEAD LOAD: 10psf
- DEFLECTION CRITERIA:
- TOTAL LOAD: L/180

NOTE: THIS IS A CANADIAN HERITAGE BUILDING AND ALL PRECAUTIONS SHOULD BE TAKEN TO PRESERVE THE EXISTING STRUCTURE AND THE FORT WALSH HISTORIC SITE.



GENERAL NOTES:

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- ALL DIMENSIONS & ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR



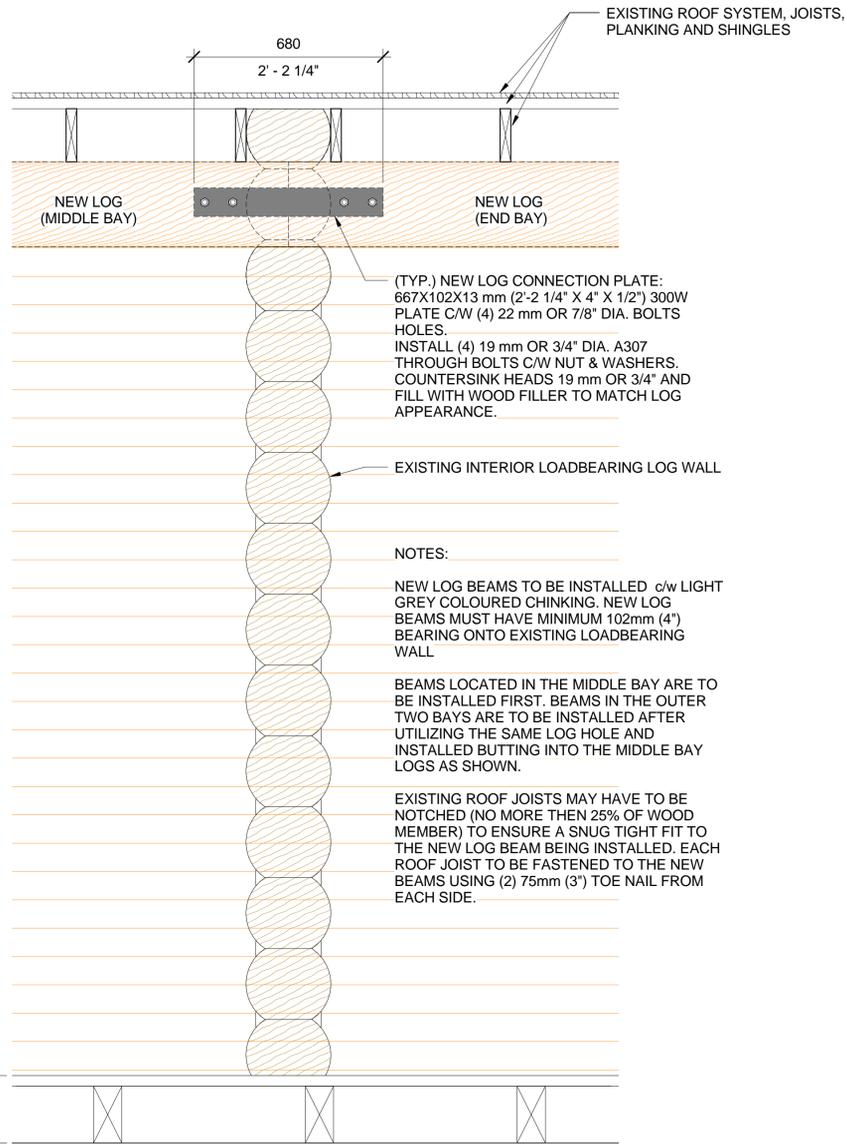
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B	28/09/2017	ISSUED FOR 99% DWG REVIEW	L.P.	R.S.
A	31/08/2017	ISSUED FOR 60% DWG REVIEW	L.P.	R.S.



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**FT. WALSH SASKATCHEWAN
PARKS CANADA
ADDITIONAL DETAILS**

Engineer	Drawn	Date
ROB STOLZ	LANE P.	09/02/2017
Rev.	Scale	Project #:
0	As indicated	2247-2017PEL
		DWG. No.
		S-103



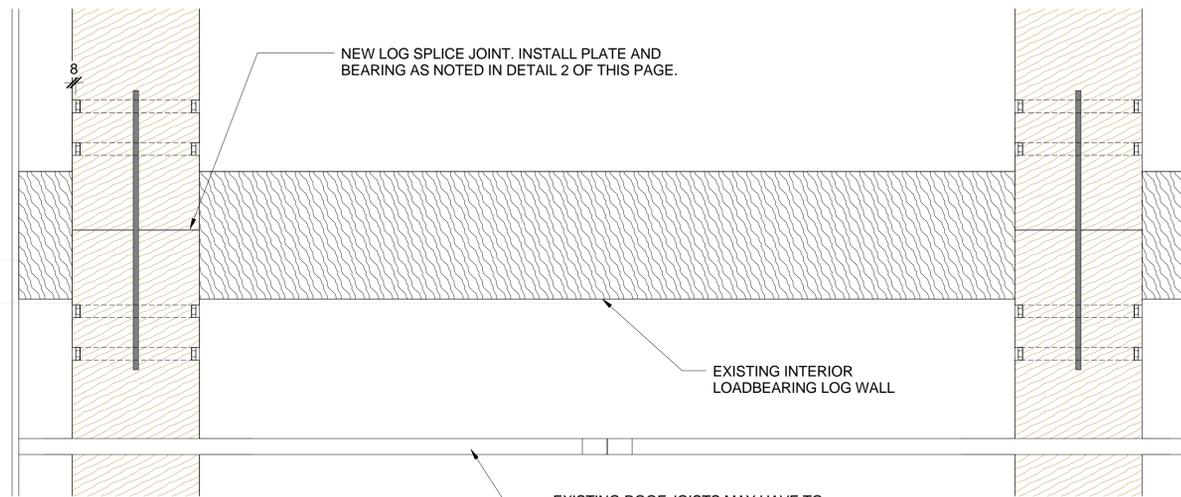
NOTES:

NEW LOG BEAMS TO BE INSTALLED c/w LIGHT GREY COLOURED CHINKING. NEW LOG BEAMS MUST HAVE MINIMUM 102mm (4") BEARING ONTO EXISTING LOADBEARING WALL

BEAMS LOCATED IN THE MIDDLE BAY ARE TO BE INSTALLED FIRST. BEAMS IN THE OUTER TWO BAYS ARE TO BE INSTALLED AFTER UTILIZING THE SAME LOG HOLE AND INSTALLED BUTTING INTO THE MIDDLE BAY LOGS AS SHOWN.

EXISTING ROOF JOISTS MAY HAVE TO BE NOTCHED (NO MORE THEN 25% OF WOOD MEMBER) TO ENSURE A SNUG TIGHT FIT TO THE NEW LOG BEAM BEING INSTALLED. EACH ROOF JOIST TO BE FASTENED TO THE NEW BEAMS USING (2) 75mm (3") TOE NAIL FROM EACH SIDE.

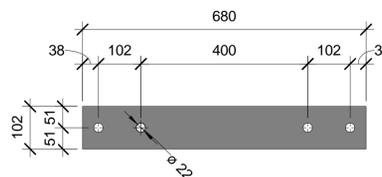
2 INTERIOR WALL SECTION
1 : 12



1 PLAN VIEW AT TOP OF L.B. WALL
1 : 8

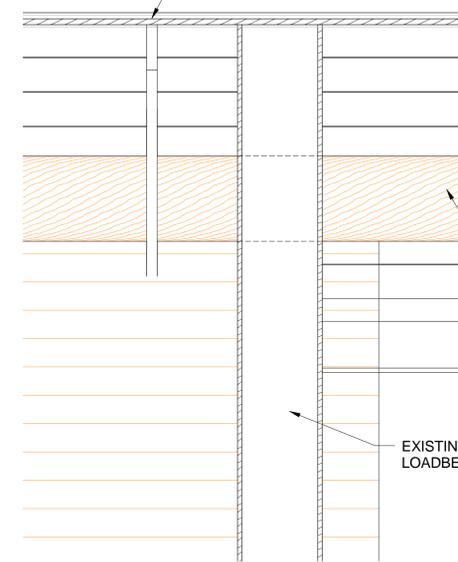
NEW LOG CONNECTION PLATE:

- 667X102X13 mm (2'-2 1/4" X 4" X 1/2") 300W PLATE C/W (4) 22MM OR 7/8" DIA. BOLTS HOLES.
- INSTALL (4) 19 mm OR 3/4" DIA. A307 THROUGH BOLTS C/W NUT & WASHERS.

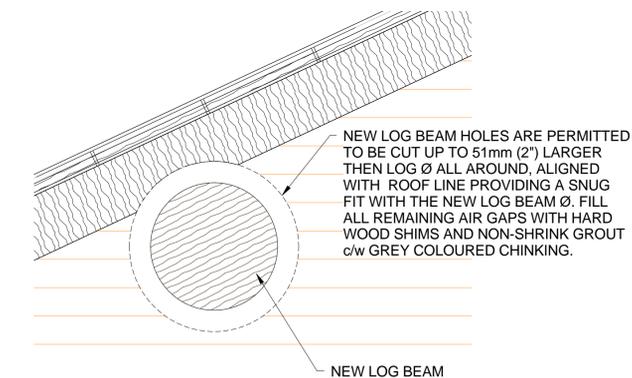


6 CONNECTION PLATE
1 : 8

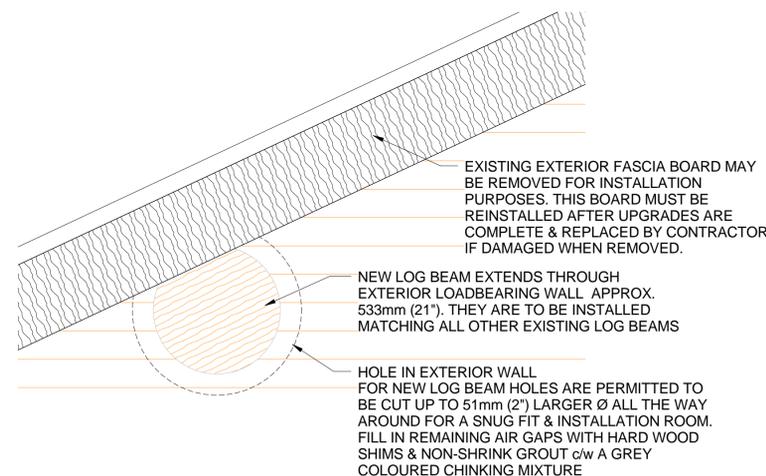
EXISTING ROOF JOISTS MAY HAVE TO BE NOTCHED (NO MORE THEN 25% OF WOOD MEMBER) TO ENSURE A SNUG TIGHT FIT TO THE NEW LOG BEAM BEING INSTALLED. EACH ROOF JOIST TO BE FASTENED TO THE NEW BEAMS USING (2) 75 mm OR 3" TOE NAILS FROM EACH SIDE.



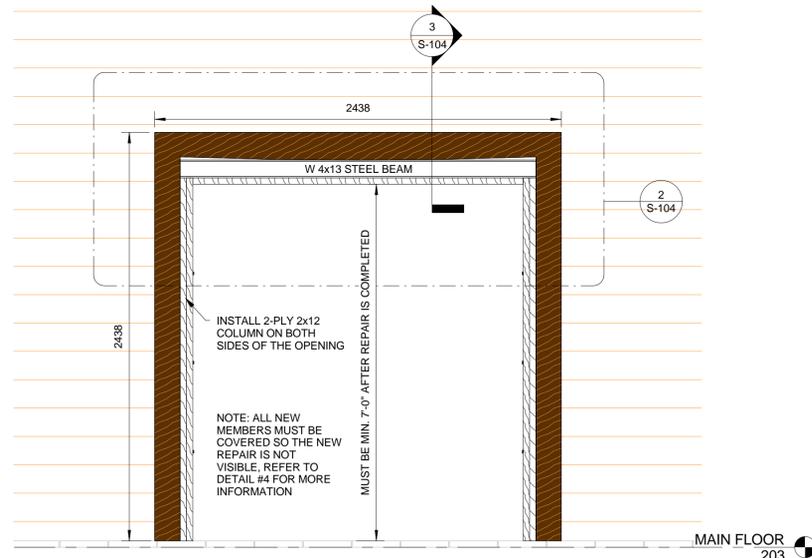
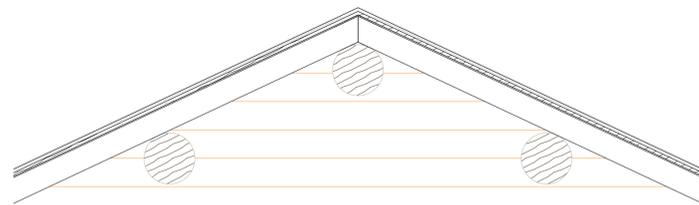
3 LOG BEAM OVERHANG EXTENSION
1 : 12



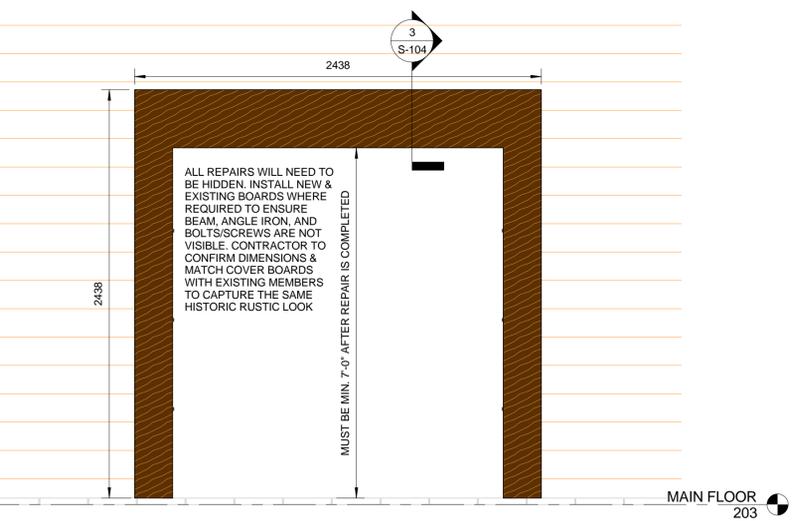
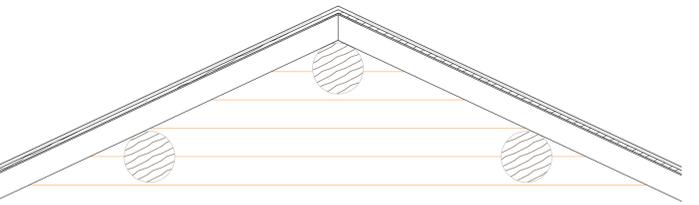
4 INTERIOR WALL CONNECTION DETAIL
1 : 8



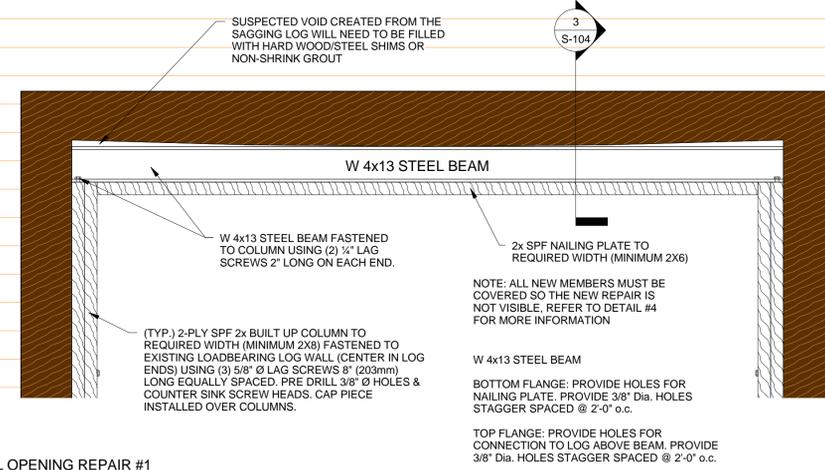
5 EXTERIOR WALL CONNECTION DETAIL
1 : 8



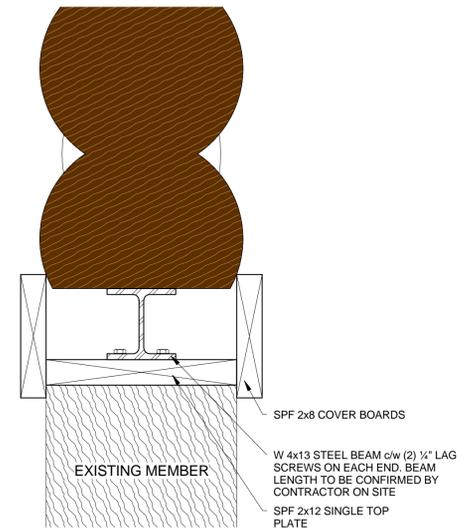
1 WALL OPENING BEAM ADDITION #1
1 : 20



4 WALL OPENING AFTER INSTALLED BEAM #1
1 : 20



2 WALL OPENING REPAIR #1
1 : 10



3 WALL OPENING REPAIR #1 SECTION
1 : 5



ORDER OF OPERATIONS:

1. REMOVE EXISTING 1x AND 2x FRAMING MEMBERS SURROUNDING THE OPENING IN BOTH OPENING LOCATIONS EXCEPT AS NOTED IN THE SITE IMAGES. REMOVE EXISTING MATERIALS USING METHODS FOR MATERIAL RE-USE. SALVAGEABLE MEMBERS WILL BE RE-INSTALLED AFTER REPAIR.
2. EXPOSE THE UNDERSIDE OF THE HORIZONTAL LOG.
3. CONFIRM OPENING WIDTH & HORIZONTAL LOG.
4. INSTALL THE BEAM AND COLUMNS AS DETAILED. CONTACT DEPARTMENTAL REPRESENTATIVE TO BOOK INSPECTION OF WORK PRIOR TO CLOSING UP. PROVIDE 3 DAYS NOTICE FOR INSPECTION.
5. IF THE EXISTING LOG HAS CREEP (PERMANENT BENDING) INSTALL HARD WOOD OR STEEL SHIMS TO ENSURE FULL BEARING ONTO THE NEW BEAM.
6. COVER THE NEW BEAM AND COLUMNS WITH 1x OR 2x FRAMING MEMBERS OF REQUIRED WIDTHS. RE-USE EXISTING MATERIAL WHEN POSSIBLE. PAINT NEW MATERIALS TO MATCH EXISTING.

**FORT WALSH
MAPLE CREEK, SK
LEGAL LAND DESC.
6-21-7-29-W3**

- ROOF LOADS:
- SNOW LOAD : 30psf
 - DEAD LOAD: 10psf
- DEFLECTION CRITERIA:
- TOTAL LOAD: L/180

NOTE: THIS IS A CANADIAN HERITAGE BUILDING AND ALL PRECAUTIONS SHOULD BE TAKEN TO PRESERVE THE EXISTING STRUCTURE. ALL OTHER EXISTING STRUCTURES AND THE FORT WALSH HISTORIC SITE.



- GENERAL NOTES:**
- ALL WORK TO BE IN ACCORDANCE WITH NATIONAL BUILDING CODE 2010
 - ALL DIMENSIONS & ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR

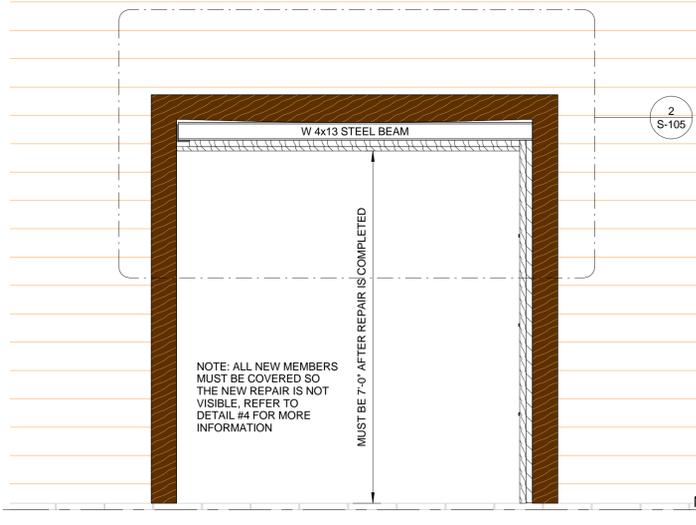
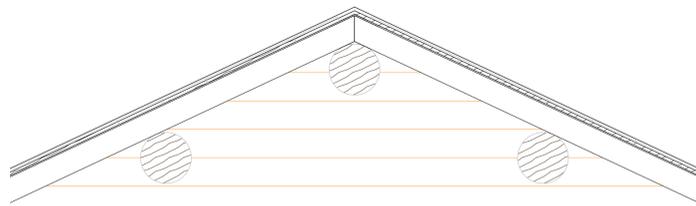


No	Date	Revisions	By	Eng
0	07/03/2018	ISSUED FOR TENDER	L.P.	R.S.
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A	31/08/2017	ISSUED FOR 60% DWG REVIEW	L.P.	R.S.

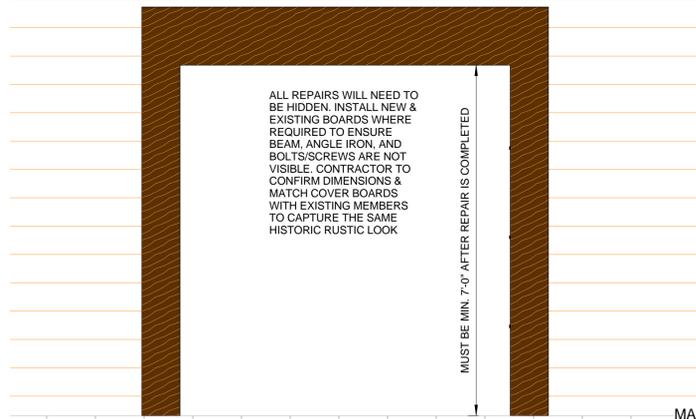
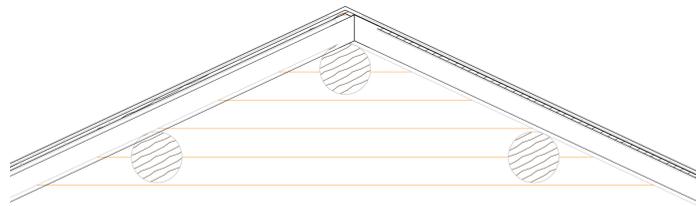
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E-Mail: robs@pharoahengineering.com
Ph: 403-506-8761
Fax: 403-504-1622

**FT. WALSH SASKATCHEWAN
PARKS CANADA
OPENING UPGRADE #1**

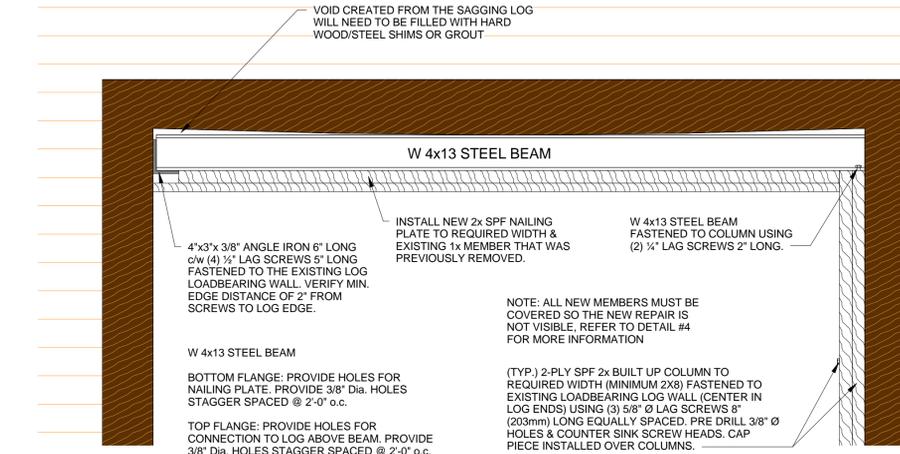
Engineer ROB STOLZ	Drawn LANE P.	Date 09/02/2017
Rev. 0	Scale As indicated	Project #: 2247-2017PEL
		DWG. No. S-104



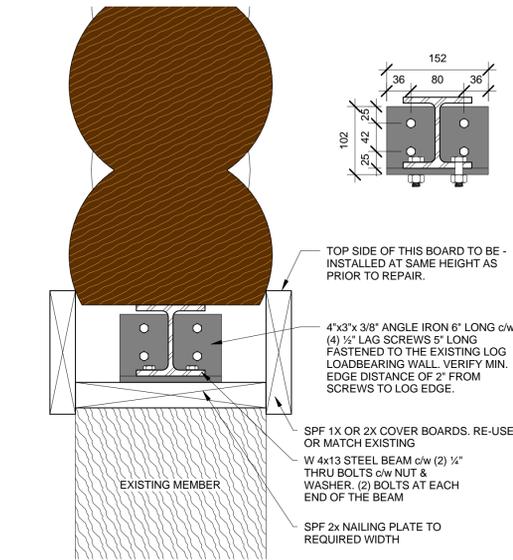
1 WALL OPENING BEAM ADDITION #2
1 : 20



4 WALL OPENING AFTER INSTALLED BEAM #2
1 : 20



2 WALL OPENING REPAIR #2
1 : 10



3 WALL OPENING REPAIR #2 SECTION
1 : 5

ORDER OF OPERATIONS:

1. REMOVE EXISTING 1x AND 2x FRAMING MEMBERS SURROUNDING THE OPENING IN BOTH OPENING LOCATIONS EXCEPT AS NOTED IN THE SITE IMAGES. REMOVE EXISTING MATERIALS USING METHODS FOR MATERIAL RE-USE. SALVAGEABLE MEMBERS WILL BE RE-INSTALLED AFTER REPAIR.
2. EXPOSE THE UNDERSIDE OF THE HORIZONTAL LOG.
3. CONFIRM OPENING WIDTH & HORIZONTAL LOG.
4. INSTALL THE BEAM AND COLUMNS AS DETAILED. CONTACT DEPARTMENTAL REPRESENTATIVE TO BOOK INSPECTION OF WORK PRIOR TO CLOSING UP. PROVIDE 3 DAYS NOTICE FOR INSPECTION.
5. IF THE EXISTING LOG HAS CREEP (PERMANENT BENDING) INSTALL HARD WOOD OR STEEL SHIMS TO ENSURE FULL BEARING ONTO THE NEW BEAM.
6. COVER THE NEW BEAM AND COLUMNS WITH 1x OR 2x FRAMING MEMBERS OF REQUIRED WIDTHS. RE-USE EXISTING MATERIAL WHEN POSSIBLE. PAINT NEW MATERIALS TO MATCH EXISTING.



1x & 2x FRAMING MEMBERS NOT TO BE REMOVED



**FORT WALSH
MAPLE CREEK, SK
LEGAL LAND DESC.
6-21-7-29-W3**

- ROOF LOADS:**
- SNOW LOAD : 30psf
 - DEAD LOAD: 10psf
- DEFLECTION CRITERIA:**
- TOTAL LOAD: L/180

NOTE: THIS IS A CANADIAN HERITAGE BUILDING AND ALL PRECAUTIONS SHOULD BE TAKEN TO PRESERVE THE EXISTING STRUCTURE AND THE FORT WALSH HISTORIC SITE .



GENERAL NOTES:

- ALL WORK TO BE IN ACCORDANCE WITH NATIONAL BUILDING CODE 2010
- ALL DIMENSIONS & ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR

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A	31/08/2017	ISSUED FOR 60% DWG REVIEW	L.P.	R.S.



**FT. WALSH SASKATCHEWAN
PARKS CANADA
OPENING UPGRADE #2**

Engineer ROB STOLZ.	Drawn LANE P.	Date 09/02/2017
Rev. 0	Scale As indicated	DWG. No. S-105

**FORT WALSH
MAPLE CREEK, SK
LEGAL LAND DESC.
6-21-7-29-W3**

ROOF LOADS:

- SNOW LOAD : 30psf
- DEAD LOAD: 10psf

DEFLECTION CRITERIA:

- TOTAL LOAD: L/180

NOTE: THIS IS A CANADIAN HERITAGE BUILDING AND ALL PRECAUTIONS SHOULD BE TAKEN TO PRESERVE THE EXISTING STRUCTURE. ALL OTHER EXISTING STRUCTURES AND THE FORT WALSH HISTORIC SITE .



1 EXISTING GENERAL MAIN FLOOR PLAN
1 : 35

GENERAL NOTES:

- ALL WORK TO BE IN ACCORDANCE WITH NATIONAL BUILDING CODE 2010
- ALL DIMENSIONS & ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR

No	Date	Revisions	By	Eng
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**FT. WALSH SASKATCHEWAN
PARKS CANADA
MAIN FLOOR PLAN**

Engineer ROB STOLZ	Drawn LANE P.	Date 09/02/2017
Rev. 0	Scale 1 : 35	Project #: 2247-2017PEL
DWG. No. S-106		

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Site Pictures

Picture 1: East Side of Building



Picture 2: North Side of Building



Picture 3: South Side of Building



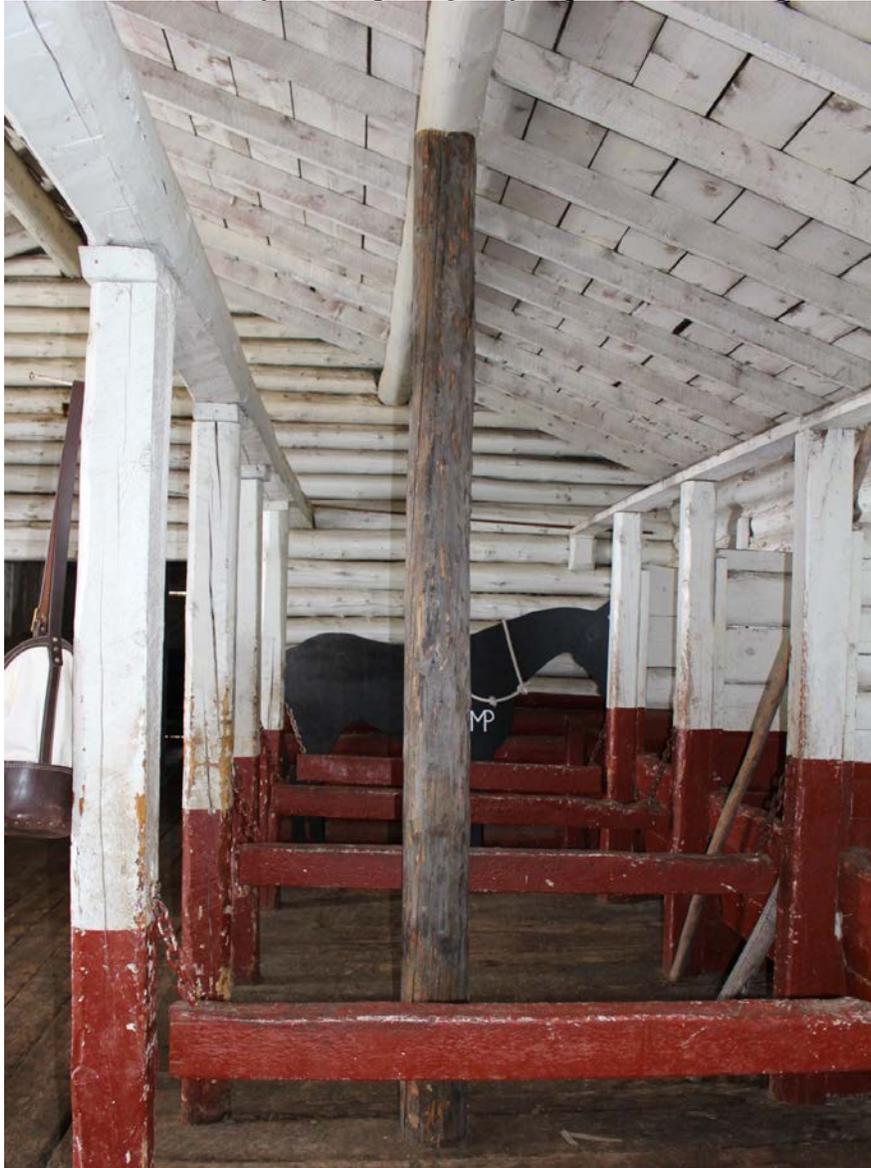
Picture 4: Along Fort Line – West Side



Picture 5: South Bay Looking Towards Exterior Wall



Picture 6: Middle Bay Showing Temporary Log Post and Existing Beam



Picture 7: Ridge Log Beam



Picture 8: Log at Exterior Wall



Note: In addition to site images as shown above. Google Street View also has images of the interior of the building as well as the exterior. Parks Canada and the Consultant are not responsible for any interpretations from pictures/images.