



SPECIFICATION

Project No. R. 090151.001
Stony Mountain Institution
Stony Mountain, Manitoba
Perimeter Wall Guardrail Repairs / Upgrades

Solicitation No. ET025-192441/A



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Part 1 General

1.1 PRECEDENCE

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

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises the following items required for repair perimeter wall guardrails:
 - .1 Setting up a controlled work area and contractor staging area.
 - .2 Providing safe access with temporary restraints as necessary to complete work on guardrails;
 - .3 Temporarily support services hung from guardrail and reinstall upon completion of work where necessary.
 - .4 Repair / replace sections of existing guardrails as noted.
- .2 Refer to the drawings and specifications for complete scope of Work.

1.3 CONTRACT METHOD

- .1 Construct Work under a stipulated price contract.

1.4 WORK SEQUENCE

- .1 Construct Work in stages to accommodate Owner's continued use of premises during construction. Areas of guardrail removal shall be segmented to allow for immediate replacement with new guardrail to maintain access to the perimeter wall for CSC staff.
- .2 Coordinate Project Schedule and coordinate with Owner to ensuring continuous occupancy during construction.

1.5 CONTRACTOR USE OF PREMISES

- .1 Limit use of premises for Work, storage and allow access for Owner occupancy.
- .2 Coordinate the use of premises under direction of the Departmental Representative.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by the Consultant.

- .6 At completion of operations, condition of existing work to be equal 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 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.7 ALTERNATIONS, ADDITIONS OR REPAIRS TO EXISTING

- .1 Execute work with least possible interference or disturbance to building operations, occupants and normal use of premises, primarily with respect to services as well as access for CSC operations. Arrange with Departmental Representative to facilitate execution of work.

1.8 EXISTING SERVICES

- .1 Notify Department Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves temporarily supporting existing services off of perimeter wall guardrail, give the Departmental Representative 48 hours notice for potential necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to vehicular traffic and Owner operations.
- .3 Provide alternative routes for personnel and vehicular traffic during wall access.
- .4 Establish location and extent of service lines in area of Work before starting Work. notify Departmental Representative of findings.
- .5 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active services or facility, including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Provide temporary services when directed by the Departmental Representative to maintain critical building systems.
- .7 Where unknown services are encountered, immediately advise the Departmental Representative and confirm findings in writing.
- .8 Protect, relocate or maintain existing active services.
- .9 Record locations of maintained, re-routed and abandoned service lines.
- .10 Construct barriers in accordance with Section 01 56 00 – Temporary Barriers and Enclosures.

1.9 DOCUMENTS REQUIRED

- .1 Maintain at job site one copy of 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.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

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

1.2 INTRODUCTION

- .1 To carry out an efficient operation of a penitentiary, it is absolutely necessary for civilian personnel, who are employed on the penitentiary property, to observe established rules and procedures.

1.3 ESTABLISHMENT OF REQUIREMENTS

- .1 Prior to commencing work, the Contractor shall meet with the Warden or his designate to discuss the nature and extent of all activities involved, and to establish mutually acceptable requirements to ensure that both the project and institution operation may proceed without undue disruption or hindrance except where unavoidable.

1.4 WORKING CONDITIONS

- .1 Subject to Institutional Security requirements, the Warden or designate shall permit the contractor as much freedom of action and movement as is reasonably possible, and the Contractor in turn shall be expected to cooperate with institutional personnel in ensuring that security requirements are observed by construction workers.

1.5 OBSERVATION AND INSPECTION

- .1 Construction activity and all related movement of personnel & vehicles shall be subject to observation & inspection by institutional staff to ensure that security requirements are met, and understanding of the need for this action is established and maintained throughout.

1.6 PERSONNEL SECURITY

- .1 The names of all construction personnel to be employed on the site shall be submitted in writing via SMI form #85 (Security Clearance Request) which may be obtained from Security Intelligence Officer (SIO), Correctional Supervisor In Charge of Construction and/or Public Works Supervisor.
- .2 All contractors and their employees, including subcontractors and their employees, involved in the contract, must report to the SIO or CS I/C of Construction prior to the first day of employment for the purpose of obtaining a "pass" (photo identification card) and receiving a security briefing. This will only be done after a Security Clearance Request form is completed and approved by the Warden.
- .3 Warden or designate may require close-up facial photographs to be taken of construction personnel, and may have such photographs displayed at appropriate locations in the institution for identification purposes.

- .4 When the contractors and employees are required to work on the prison property, they will enter and exit the premises via the Service Entrance (Sally Port) if authorized by the CS IIC Construction or designated due to job requirements.
- .5 Warden or designate has the right to refuse permission to enter institutional property to any person whom he has reason to believe may be a security risk.

1.7 PARKING

- .1 Warden or designate shall assign the parking area or areas to be used by the construction personnel and indiscriminate parking in other locations shall not be permitted.
- .2 All unattended vehicles must have windows closed, doors and trunks locked, and keys removed.
- .3 Vehicles must not contain any type of weapons, ammunition or spirits (empty, partial or full).

1.8 SHIPPING AND ACCESS TO THE SITE

- .1 Contractor shall verify with the Warden or designate the hours during which vehicles will be allowed to enter or leave the institution. Vehicles or personnel will not be admitted to the institution after normal working hours or on weekends/holidays without prior arrangement with the Warden or his designate. Normal construction Work hours are 07:30 to 16:30 hours Monday thru Friday.
- .2 Note: Service Entrance is closed between 11:00 to 13:00 hours unless arrangements are made in advance.
- .3 Contractor shall have all project material and equipment addressed in his name to avoid confusion with the institutions own shipments.
- .4 Contractor shall, when overtime work is necessary, inform the Warden or his designate at least 24 hours in advance so that extra staff may be arranged to maintain the institution's observation inspection of construction activity.
- .5 Warden his designate may prohibit or restrict access to any part of the institution. He may require that, in certain areas or at certain times, no civilian is allowed unless accompanied by an officer of the Correctional Service of Canada.
- .6 Private vehicles will not be allowed within the institution's security wall or fence without special permission of the Warden or his designate. All vehicles entering the institution's security wall or fence must comply with institution's security requirements (i.e. lockable gas caps or wheel covers, no wheel hub caps, lockable doors and windows, tools in a lockable container and locked when not in use).
- .7 Trucks delivering materials, equipment and tools to the job will be allowed access when the contents are certified by the Contractor or representative as being strictly necessary for the execution of the work. Security requirements such as wheel covers, lockable fuel caps, lockable doors and windows are still required unless special provisions are made thru the CS I/C Construction. Trucks or vehicles, after being unloaded, are to be parked in the designated area outside the security wall or fence.

- .8 All vehicles are subject to search and will be refused access if, in the opinion of the Warden or his designate, they contain any article that may jeopardize the security of the institution. Examples: weapons, alcohol, cell phones, drugs or narcotics.

1.9 TOOLS AND EQUIPMENT

- .1 Commissioner's Directive 573 Control of Items Critical to the Security" Safety of the Institution under section IO and Institutional Standing Order 573.
- .2 Contractor shall maintain an inventory of all tools and equipment, including the number of cartridges for power-driven tools brought on site, and a record of every shot fired. (Empty cartridges to taken out after completion of work and counted with live cartridges. Total cartridges taken in must add up to those taken out, counting those that have been fired.) A copy of these tool lists shall be kept in the Security Construction Trailer when manned or with the officer in charge of the service entrance.
- .3 Contractor shall keep all tools and equipment under constant supervision and not leave them unattended, paying particular attention to power-driven tools, files, saw blades, rod saw, wire, rope, extension cords and ladders.
- .4 Contractor shall store all tools and equipment in places and under conditions approved by the Warden or his designate and locks all toolboxes when not in use. He shall report immediately all missing or lost tools or equipment to the Warden or his designate and complete Missing Tool Report form. This form is available to the General Contractor.
- .5 Contractor shall provide permanent identification (engraving) to all tools indicating that they are the personal property of the employee/tradesperson or employing company. Negligence in this regard may result in confiscation of tools.

1.10 TELEPHONES AND INSTALLATIONS

- .1 Contractor shall obtain approval from the Warden or his designate for the installation of telephones that shall be located so that they are not accessible to inmates.
- .2 Cell phones are NOT allowed inside the security wall or fence.

1.11 TWO-WAY RADIO COMMUNICATIONS

- .1 Warden or designate must approve all two-way radio communication devices.
- .2 All radio devices requested for use on job site must be checked with institutional ADGA technicians to ensure no interference with institution equipment.
- .3 All radio devices brought into SMI are not to be accessible to inmates.

1.12 ALCOHOL AND NARCOTICS

- .1 Stony Mountain Institution has a Zero tolerance for alcohol beverages and narcotics on site. These items are not permitted on institutional property. Discovery of such items on site, and identification of the person or persons responsible for them, shall be reported immediately to the Warden or his designate. Any persons employed in the project that appear to be intoxicated or under the influence of any drug or narcotic, or who behaves in an unusual manner, shall be subject to immediate removal from institutional property.

1.13 CONTROL OF CONTRABAND – GENERAL

- .1 Contractor is responsible for ensuring that all persons employed directly or indirectly upon the project are familiar with Correctional and Conditional Release Act section 45 Summary Convictions as follows;
 - .1 CCRA Summary Conviction Offences 45. Every person commits a summary conviction offence who;
 - .1 is in possession of contraband beyond the visitor control point in a penitentiary;
 - .2 is in possession of anything referred to in paragraph (b) or (c) of the definition "contraband" in section 2 before the visitor control point at a penitentiary;
 - .3 delivers contraband to, or receives contraband from, an inmate;
 - .4 without prior authorization, delivers jewellery to, or receives jewellery from, an inmate; or
 - .5 Trespasses at a penitentiary.

1.14 SEARCHES

- .1 Where the Warden or his designate suspects, on reasonable grounds, that an employee of the contractor is in possession of contraband, he may order that person to be searched, under, Correctional Conditional Release Regulations Section 42.1 Contraband, Sections 43-46, 54.1-2, 55.1 Search and Seizure and Section 57 Seizure, Commissioner's Directives 566-8 section 9-16 “.

1.15 KEY CONTROL

- .1 Commissioner's Directive 573 Control of Items Critical to the Security" Safety of the Institution under section 3 C & E and Institutional Standing Order 573.
- .2 Upon putting operational keys into use:
 - .1 Keys will be issued thru the Security personnel at the East Security Construction Trailer as per CSC standards and to ensure that keys are issued to responsible personnel only and the keys are turned in at the end of the day's work. No keys are to be retained by an employee for any period longer than that for which the key is required.
 - .2 The issue and receipt of all keys is recorded, showing the date, time, key code number, issued to, including the name of the recipient and employer. The time of return should be signed in by the key control officer (Gate Security) and witnessed by CSC site representative at the end of each working day.
 - .3 Report, in writing, any untoward circumstances, such as loss, disfigurement, misuse, or mishandling, etc., to the security hardware supplier or CSC/SMO, identifying keys by code and/or number, so that appropriate action may be taken to effect replacement or abandonment of that particular code as circumstances may warrant. Send a copy of these reports to the CSC site representative.
 - .4 Misuse or improper control of CSC keys can result in that employee being denied access to keys or removal from CSC property.
 - .5 No inmates are allowed to handle or be given access to CSC keys.

1.16 WORK AREAS

- .1 Contractors and their employees shall be confined to their work area. All other buildings and grounds shall be considered "Out of Bounds".
- .2 Contractors and their employees shall not contact or attempt to contact or deal in any way with inmates.

1.17 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking and vaping restrictions. Smoking and vaping are not permitted.

1.18 ROOF SAFETY

- .1 Contractor to provide temporary safety measures for any work occurring on roof and must be compliant with all applicable codes and regulations.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

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

1.2 ADMINISTRATIVE

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

1.3 PRECONSTRUCTION MEETING

- .1 Within 7 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Departmental Representative, Consultant, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Departmental Representative to arrange and chair the meeting. Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work.
 - .3 Submission of shop drawings, concrete mix statements. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.

- .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
- .5 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
- .6 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
- .7 Delivery schedule of specified materials.
- .8 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .9 Monthly progress claims, administrative procedures, photographs, hold backs.
- .10 Appointment of inspection and testing agencies or firms.
- .11 Insurances, transcript of policies.

1.4 PROGRESS MEETINGS

- .1 During course of Work and two weeks prior to project completion, schedule progress meetings every two weeks.
- .2 Notify parties minimum 5 days prior to meetings.
- .3 Contractor, major Subcontractors involved in Work, Consultant and Departmental Representative are to be in attendance.
- .4 Consultant will be responsible for recording minutes of meetings and circulate to attending parties and affected parties not in attendance within 2 working days after meeting.
- .5 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 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for affect on construction schedule and on completion date.
 - .12 Other business.

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 PRECEDENCE

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

1.2 GENERAL

- .1 Use a project management control system based on Bar (GANTT) Chart technique.
- .2 Schedule reviews by Departmental Representative shall not mean approval of detail inherent in schedule, responsibility for which lies with Contractor.
- .3 Accept sole responsible for coordinating, scheduling of work, and the sequencing of work components and tasks.
- .4 Removal of existing guardrails must be completed in sections such that new guardrails immediately reinstalled – work shall be scheduled to initiate and complete work in each area to maintain access to the site for CSC staff.

1.3 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 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally, Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .4 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.
- .5 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.
- .6 Master Plan: summary-level schedule that identifies major activities and key milestones.
- .7 Milestone: significant event in project, usually completion of major deliverable.
- .8 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.

- .9 Project Planning, Monitoring and Control System: overall system operated by Departmental Representative / Consultant to enable monitoring of project work in relation to established milestones.

1.4 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 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.

1.5 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative / Consultant 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 / Consultant within 5 working days of receipt of acceptance of Master Plan.

1.6 PROJECT MILESTONES

- .1 Project milestones form interim targets for Project Schedule include:
 - .1 Initial Detailed Inspection;
 - .2 Work Staging Plan
 - .3 Site Mobilization;
 - .4 Installation and Repairs;
 - .5 Interim Certificate (Substantial Completion) date;
 - .6 Final Certificate Completion.

1.7 MASTER PLAN

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Departmental Representative / Consultant 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 the Master Plan and be used as baseline for updates.

1.8 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as a minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Shop Drawings.
 - .3 Permits.
 - .4 Mobilization.
 - .5 Demolition and Installation.

1.9 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule on biweekly 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.

1.10 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.

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 PRECEDENCE

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

1.2 ADMINISTRATIVE

- .1 Submit to Departmental Representative and Consultant 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, 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 and Consultant. 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 and Consultant, 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 and Consultant's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative and Consultant review.
- .10 Keep one reviewed copy of each submission on site.

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, in PDF format, bearing stamp and signature of qualified professional engineer registered or licensed in Province of Manitoba, 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 10 days for Departmental Representative's and Consultant's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative and Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative and Consultant prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental representative and Consultant may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative and Consultant in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter 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.
 - .3 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 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .2 Capacities.
 - .3 Performance characteristics.
 - .4 Standards.
 - .5 Relationship to adjacent work.
- .9 After Departmental Representative review, distribute copies.
- .10 Submit electronic copy in PDF format of shop drawings for each requirement requested in specification Sections and as Departmental Representative or Consultant may reasonably request.

- .11 Submit electronic copy in PDF format of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative or Consultant where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copies in PDF format of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
- .13 Submit electronic copies in PDF of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Delete information not applicable to project.
- .15 Supplement standard information to provide details applicable to project.
- .16 If upon review by Departmental Representative or Consultant, 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.
- .17 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that PWGSC 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 requirements of construction and Contract Documents.
 - .2 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 sub-trades.

1.4 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic (pdf) copy of colour digital photography, fine resolution, monthly with progress statement and as directed by Departmental Representative and/or Consultant.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Viewpoints and their location as determined by Departmental Representative and/or Consultant.

- .4 Frequency of photographic documentation: every two weeks or as directed by Departmental Representative and/or Consultant.

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.

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 SECTION INCLUDES

- .1 Health and safety considerations required to ensure that the General Contractor shows due diligence towards health and safety on the construction site.

1.2 PRECEDENCE

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

1.3 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 Manitoba
 - .1 The Workers Compensation Act RSM 1987 - Updated 2006.
 - .2 Health and Safety Act, R.S.O., 1990 - Updated 2005.

1.4 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 electronic copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative weekly.
- .4 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 3 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 3 days after receipt of comments from Departmental Representative.
- .7 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.

- .8 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
- .9 Submit WHMIS MSDS - Material Safety Data Sheets on all products used in conjunction with the Work.

1.5 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.

1.6 SAFETY ASSESSMENT

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

1.7 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.8 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.9 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.

1.10 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.

1.11 COMPLIANCE REQUIREMENTS

- .1 Comply with The Workers Compensation Act, Workplace Safety Regulation, Manitoba Regulations.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.12 UNFORESEEN 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.

1.13 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.

1.14 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.

1.15 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.16 EMBEDDED ELECTRICAL CONDUIT

- .1 When the presence of embedded electrical conduits are known:
 - .1 Prior to demolition ensure circuits feeding conduit within repair areas are disconnected, de-energized, or abandon.
 - .2 Coordinate shutdowns with Departmental Representative.
- .2 When the presence of embedded electrical conduits is unknown or are known but locations cannot be determined:
 - .1 Prior to demolition of concrete repairs, scan existing concrete structures for embedded electrical conduit.
 - .2 Ensure circuits feeding conduit within repair areas are disconnected, de-energized, or abandon.
 - .3 Coordinate shutdowns with Departmental Representative.
 - .4 Costs of scanning to be included in the cost of Work.

1.17 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 PRECEDENCE

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

1.2 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 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.

1.3 ACTION AND INFORMATION SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prior to commencing construction activities or delivery of materials to site, provide Environmental Protection Plan for review and approval by the Departmental Representative.
- .3 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .4 Include in Environmental Protection Plan:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
 - .3 Names and qualifications of persons responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program.
 - .5 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Ensure plan includes measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .6 Spill Control Plan including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.

- .7 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .8 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .9 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .10 Waste Water Management Plan identifying methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

1.4 FIRES

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

1.5 POLLUTION CONTROL

- .1 Control emissions from equipment and plant to local authorities' emission requirements.
- .2 Cover dry materials and rubbish to prevent blowing dust and debris.

1.6 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 Representative of proposed corrective action and take such action for approval by Departmental Representative.
 - .1 Do not take action until after receipt of written 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.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 CLEANING

- .1 Clean in accordance with Section 01 74 11 – Cleaning.

END OF SECTION

Part 1 General

1.1 PRECEDENCE

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

1.2 REFERENCES AND CODES

- .1 Perform Work in accordance with National Building Code of Canada (NBC), National Fire Code (NFC) including all provincial amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.3 HAZARDOUS MATERIAL DISCOVERY

- .1 Asbestos: demolition of spray or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray or trowel-applied asbestos is encountered during demolition work. Notify Departmental Representative immediately.
- .2 PCB: Polychlorinated Biphenyl: stop work immediately when material resembling Polychlorinated Biphenyl is encountered during demolition work. Notify Departmental Representative immediately.
- .3 Mould: stop work immediately when material resembling mould is encountered during demolition work. Notify Departmental Representative immediately.

1.4 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions and municipal by-laws.
- .2 Smoking and vaping are not permitted anywhere in the building.

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 PRECEDENCE

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

1.2 INSPECTION

- .1 Contractor must implement a comprehensive Quality Control process for this project. Contractor and Sub-contractors to inspect the Work to ensure compliance with Contract Documents on an ongoing basis.
- .2 Allow Departmental Representative, Consultant and Engineering Consultants 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.
- .3 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative, Consultant, Engineering Consultants instructions, or law of Place of 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. If such Work is found in accordance with Contract Documents, DCC Representative shall pay cost of examination and replacement.

1.3 INDEPENDENT INSPECTION AGENCIES

- .1 Provide equipment required for executing inspection and testing by appointed agencies.
- .2 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .3 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 reinspection.

1.4 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work.
- .2 Co-operate to provide reasonable facilities for such access.

1.5 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 the Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Departmental Representative 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 the Departmental Representative.

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 PRECEDENCE

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

1.2 INSTALLATION AND REMOVAL

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

1.3 WATER SUPPLY

- .1 The Departmental Representative will make available, for the extent that it is available, a supply of potable water for construction use at no charge to the Contractor.
- .2 Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal.
- .3 The Contractor shall provide all necessary hoses, lines, connections, and other ancillary hardware which may be required.
- .4 The services are to be returned to their original condition at the temporary locations, or left in an altered condition only as approved by the Departmental Representative.

1.4 TEMPORARY HEATING AND VENTILATION

- .1 Provide temporary heating if required during construction period, including attendance, maintenance and fuel.
- .2 Provide temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of Work.
 - .2 Protect Work and products against dampness and cold.
 - .3 Prevent moisture condensation on surfaces.
 - .4 Provide adequate ventilation to meet health regulations for safe working environment.
- .3 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform with applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.

- .4 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.5 TEMPORARY POWER AND LIGHT

- .1 The Departmental Representative will make available, for the extent and capacity that it is available, temporary 120V power during construction for temporary lighting and operating of power tools at no charge to the Contractor. Access may be limited given location of work.
- .2 Connect to existing power supply in accordance with Canadian Electrical Code.
- .3 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- .4 Temporary power for equipment requiring in excess of that available on-site is responsibility of the Contractor.
- .5 Provide and maintain temporary lighting throughout project.

1.6 TEMPORARY COMMUNICATION FACILITIES

- .1 Arrange and pay for telephone service for site superintendent and use of Departmental and Consultant.

1.7 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

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 PRECEDENCE

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

1.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.3 SITE STORAGE/LOADING

- .1 Confine work and operations of employees to areas allowed for by Departmental Representative. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.4 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.5 SANITARY FACILITIES

- .1 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.

1.6 POLLUTION CONTROL

- .1 Control noxious and hazardous gases. Prevent hazardous accumulations. Control emission from equipment and plant to local authority's emission requirements.
- .2 On exterior, cover dry materials and rubbish to prevent blowing dust and debris.

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.

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 PRECEDENCE

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

1.2 INSTALLATION AND REMOVAL

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

1.3 HOARDING

- .1 Confirm with Departmental Representative locations and installation of site hoarding minimum 5 days prior to installation if required.
- .2 The Contractor must barricade off the area under construction to prevent unauthorized access to the construction area.
- .3 Repair surface coatings and/or finishes which are damaged by temporary hoardings and barricades.

1.4 FIRE ROUTES

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

1.5 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.

1.6 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Be responsible for damage incurred due to lack of or improper protection.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

General

1.1 PRECEDENCE

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

1.2 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Departmental Representative.
- .2 Remove waste materials from site at daily regularly scheduled times. Do not burn waste materials on site.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-site containers for collection of waste materials and debris.
- .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 Provide adequate ventilation during use of volatile or noxious substances.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.3 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 other than that caused by Departmental Representative.
- .5 Remove waste materials from site at regularly scheduled times. 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 Remove stains, spots, marks and dirt from existing surfaces, fixtures, and finishes within the work area or affected by the affected by the Work.
- .8 Remove dirt and other disfiguration from exterior surfaces.

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 PRECEDENCE

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

1.2 SECTION INCLUDES

- .1 As-built drawings, samples, and specifications.
- .2 Product data, materials and finishes, and related information.
- .3 Record documents.

1.3 RELATED SECTIONS

- .1 Section 013300 – Submittal Procedures
- .2 Section 055000 – Metal Fabrications

1.4 SUBMISSION

- .1 Copy will be returned after final inspection, with Departmental Representative's comments.
- .2 Revise content of documents as required prior to final submittal.
- .3 Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative, four final copies of operating and maintenance manuals in English.
- .4 If requested, furnish evidence as to type, source and quality of products provided.
- .5 Pay costs of transportation.

1.5 AS-BUILT DOCUMENTS

- .1 In addition to requirements in General Conditions, maintain for Departmental Representative one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to the Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Inspection certificates.
- .2 Store as-built documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

- .3 Label as-built documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "AS-BUILT DOCUMENTS" in neat, large, printed letters.
- .4 Maintain as-built documents in clean, dry and legible condition. Do not use as-built documents for construction purposes.
- .5 Keep as-built documents and samples available for inspection by Departmental Representative.

1.6 RECORDING ACTUAL SITE CONDITIONS

- .1 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by change orders.
 - .3 Details not on original Contract Drawings.
 - .4 References to related shop drawings and modifications.
- .2 Specifications: legibly mark each item to record actual construction, including:
 - .1 Changes made by Addenda and change orders.
- .3 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

1.7 RECORD DOCUMENTS

- .1 Mark completed and reviewed as-built documents as "RECORD DOCUMENTS". Include all revisions, with special emphasis on mechanical, and reinforced concrete.
- .2 Submit completed record documents to Departmental Representative in electronic form, accompanied by 3 hard copy sets.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 American Society for Testing and Materials (ASTM).
 - .1 ASTM A53/A53M-12, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - .2 ASTM A123/A123M-15, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .3 ASTM A307-14, Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.
 - .4 ASTM A325M-14, Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength.
 - .5 ASTM A480/A480M-16, Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
 - .6 ASTM A780/A780M-09(2015), Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
 - .7 ASTM A786/A786M-15, Standard Specification for Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy, and Alloy Steel Floor Plates.
- .2 Canadian Standards Association (CSA).
 - .1 CSA G40.20-13/G40.21-13, General Requirements for Rolled or Welded Steel/Structural Quality Steels.
 - .2 CSA S16-14, Design of Steel Structures.
 - .3 CSA W48-14, Filler Metals and Allied Materials for Metal Arc Welding.
 - .4 CSA W55-08 (2013) - Certification of Companies for Resistance Welding of Steel and Aluminum.
 - .5 CSA W59-13, Welded Steel Construction (Metal Arc Welding).
- .3 Correctional Service Canada (CSC).
 - .1 CSC Technical Criteria Correctional Institutions, Correctional Facilities & Standards, March 2013.
- .4 National Building Code of Canada, 2015 (NBCC).
- .5 Steel Structures Painting Council (SSPC).
 - .1 SSPC Painting Manual, Volume 2, 2008 Edition, SSPC-SP 2 Hand Tool Cleaning Surface Preparation Standard.
- .6 Manitoba Building Code 2011

1.2 DESIGN CRITERIA

- .1 Details and specifications are intended to indicate the general character and extent of metal fabrications and do not attempt to indicate all methods of construction.
- .2 Fabricate and install metal fabrications to withstand all stresses encountered in normal use. Unless specified or noted otherwise, all imposed live loads shall be in accordance with NBCC.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for sections,

plates, pipe, tubing, bolts and include product characteristics, performance criteria, physical size, finish and limitations.

- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Manitoba, Canada.
 - .2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.4 QUALITY ASSURANCE

- .1 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three (3) years' documented experience. Submit proof of experience upon Departmental Representative's request.
- .2 Welders' Certificates: Submit to Section 01 33 00, certifying welders employed on the Work, verifying qualification within the previous 12 months to CSA-W55.3.
- .3 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .4 Certifications: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Replace defective or damaged materials with new.

Part 2 Products

- .1 Steel Plate: to CSA G40.20/G40.21, Grade 260W.
- .2 Steel Pipe: to ASTM A53/A53M standard weight, schedule 40, seamless black and galvanized finish as indicated.

2.2 ACCESSORIES

- .1 Welding Materials: to CSA W59.
- .2 Welding Electrodes: to CSA W48 Series.
- .3 Bolts and Anchor Bolts: to ASTM A307.
- .4 High Strength Bolts: to ASTM A325M.
- .5 Galvanizing: hot dipped galvanizing with minimum zinc coating of 600 g/m² to ASTM A123/A123M.
- .6 Galvanizing Primer: zinc rich, ready mix to ASTM A780/A780M.

2.3 FABRICATION

- .1 Review Contract Documents and provide all metal fabrications indicated.
- .2 Notify Departmental Representative of any proposed member substitutions and changed connection details.
- .3 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .4 Verify all dimensions prior to fabrication.
- .5 Use self-tapping shake-proof countersunk flat headed screws on items requiring assembly by screws or as indicated.
- .6 Where possible, fit and shop assemble work, ready for erection.
- .7 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.
- .8 Seal exterior steel fabrications to provide corrosion protection in accordance with CAN/CSA S16.
- .9 Provide bolt holes where required for fastenings.
- .10 Provide holes by drilling, not burning; free of burrs and rough edges. Provide countersunk holes for field installation of fabricated items to accept flat-head fasteners. All welds min. 6 mm all around fillet welds unless otherwise noted on drawings.
- .11 Welding.
 - .1 Perform to CSA W59. All seams continuously welded and free from any slag or splatter.
 - .2 Grind welds smooth and flush with adjacent surface prior to hot-dip galvanizing, except hidden welds.
- .12 New guardrails and posts.
 - .1 Construct guardrails and posts from 48.3 mm outside diameter x 3.68 mm wall thickness steel pipe unless indicated otherwise on drawings.
 - .2 Cap and weld exposed ends of guardrails.
 - .3 Connect to existing wall and into existing posts as indicated.
 - .4 Finish: galvanized.
- .13 Existing guardrails and posts.
 - .1 Touch up existing galvanized finish where new material is connected following completion of installation work with zinc rich paint in accordance with ASTM A780/A780M

2.4 FINISHES

- .1 Galvanizing.
 - .1 Hot dip galvanize steel where indicated to ASTM A123/A123M, minimum zinc coating of 600 g/m².
 - .2 Touch up field cut, welded and/or damaged galvanized surfaces with zinc rich paint in accordance with ASTM A780/A780M.
 - .3 Provide smooth galvanizing coating to surfaces of all steel items installed outdoors, free of blisters, lumpiness and runs.

Part 3 Execution**3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of existing structure where new guardrail and post material is being installed and confirm layout of existing connection points prior to shop drawings / fabrication

3.2 INSTALLATION

- .1 Erect metal work square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .2 Provide suitable means of anchorage acceptable to Departmental Representative, as per contract drawings / shop drawings.
- .3 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .4 Make field connections with bolts to CAN/CSA S16.1, or weld as noted.
- .5 Touch up field cut, welded and/or damaged galvanized surfaces with zinc rich paint in accordance with ASTM A780.

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - 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.

3.4 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by metal fabrications installation.

3.5 SCHEDULES

- .1 Guardrails.
 - .1 Steel pipe: galvanized in sizes as indicated.
 - .2 Connection brackets/plates: sizes, shapes and profiles as indicated with specified anchors
 - .3 Finish: galvanized.

END OF SECTION