



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Public Works and Government Services Canada
Canada Place/Place du Canada
10th Floor/10e étage
9700 Jasper Ave/9700 ave Jasper
Edmonton
Alberta
T5J 4C3
Bid Fax: (418) 566-6167

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Public Works and Government Services Canada
Canada Place / Place du Canada
10th Floor / 10e étage
9700 Jasper Ave / 9700 ave Jasper
Edmonton
Alberta
T5J 4C3

Title - Sujet Fire Alarm Upgrade, Prince Albert, Fire Alarm Upgrade, Prince Albert, Saskatchewan	
Solicitation No. - N° de l'invitation EV385-220747/A	Amendment No. - N° modif. 013
Client Reference No. - N° de référence du client CSC EV385-220747	Date 2021-11-16
GETS Reference No. - N° de référence de SEAG PW-SPWU-183-12154	
File No. - N° de dossier PWU-1-44068 (183)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Mountain Standard Time MST on - le 2021-11-23 Heure Normale des Rocheuses HNR	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Tikhonovitch (RPC), Alex	Buyer Id - Id de l'acheteur pwu183
Telephone No. - N° de téléphone (780) 901-7940 ()	FAX No. - N° de FAX (418) 566-6167
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Project No.: 079411.001

November 16, 2021

ADDENDUM No. 7

The following changes to the tender documents are effective immediately and will form part of the contract documents:

1. GENERAL

1.2	This Addendum is issued prior to bid closing to incorporate revisions noted herein. Include in the Bid price all such revisions which will become part of the Work. Perform all such Work in accordance with the Contract Documents.
1.3	All affected drawings, schedules and panel changes shall be reflected in final as-built and manual submissions.

2. ANSWERS TO BIDDERS' QUESTIONS

2.1	<p>Question: On the Operation Limitations document it is mentioned that only working between 0800-1630 is permitted, is there any chance for a modified working schedule for us to work (x4) 10 hour days? Typically 0700-1730 is a pretty typical day, though we are more flexible to start either earlier or later to work around any shift changes, inmate movements, etc.</p> <p>Answer: Four, 10 hour work days per week would be acceptable provided CSC is able to obtain an adequate number of commissionaires. Also please note that the Sally Port is open from 7:30 am to 5:00 pm daily.</p>
2.2	<p>Question: On drawing E2-1-1 NOTES 4,5,6,7; Are these annunciator panels only to monitor the areas listed on the drawings? If so, additional FACP are required at each of these locations in order for them to be monitored as such. Annunciator panels display the entire area of the FACP monitoring it, so in this case they would display anything happening in all of Building B and not just the specific areas listed in the notes.</p> <p>Answer: Annunciators to only monitor the areas noted; network annunciators are capable of providing monitoring of select areas. Annunciators will be connected to main FACP. Fire Alarm panels are not required at these locations.</p>
2.3	<p>Question: There are 13 Network Control Annunciators currently on site, the new design only shows one (in building F-25 I believe). Is this true? Reason I bring it up is that some buildings (like the towers for example), after the install of the new system we will only have FACP's and Annunciators displaying status' of their local areas & devices only.</p> <p>Answer: FACP's are being used in main buildings to maintain operation and to create a network throughout the site. FACP in the MCCP will be able to monitor/control the entire institution.</p>
2.4	<p>Question: In a past RFI I asked about 'trouble' status' on fire alarm panels. It seems as there are already 'troubles' displayed on existing systems; if so (and once again), how many and for how long are we allowed to have 'troubles' during the time of integrating the old system to the new while the system? We are doing our best to develop a plan that will mitigate any troubles and any down time where we need to allow for fire watch.</p> <p>Answer: See previous addendums for response regarding troubles on the existing</p>

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system.

3. SPECIFICATIONS

3.1	Section 01 11 00 – Summary of Work: 1. See attached revised section complete with revisions to Article 1.22 and new Article 1.23 – Painting of Electrical Conduit and Security Sealant.
3.2	Section 09 91 13 – Exterior Painting: 1. See attached revised section complete with revisions to Article 2.6– Exterior Painting Systems and deleted Article 2.8 - Painting of Security of Security Sealant Applied Against Electrical Conduit.

4. DRAWINGS

4.1	Not Used.
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5. APPENDICES

5.1	Not Used.
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END OF ADDENDUM NO. 7

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises of a Fire Alarm Upgrade for the Saskatchewan Penitentiary also identified as PSPC project # R.079411.001.

1.2 CONTRACT METHOD

- .1 Construct Work under stipulated price contract.

1.3 SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit Project construction progress schedule in accordance with Section 01 32 16.19 - Construction Progress Schedule - Bar (GANTT) Chart.
- .3 Sustainable Design Submittals:
 - .1 Construction Waste Management:
 - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating 50% of construction wastes recycled or salvaged.
- .4 Submit site-specific and Work Plan Health and Safety Plan in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 WORK SEQUENCE

- .1 Construct Work in phases to accommodate the Departmental Representative's continued use of premises during construction.
- .2 Co-ordinate the Progress Schedule with the Departmental Representative's Occupancy during construction.
- .3 In medium and maximum security units, do not proceed with another phase of the Work within the same unit until the preceding phase has been commissioned, completed and is occupied. This is a critical aspect of the Work. At the discretion of the Departmental Representative, there may also be an operational decant period between phases.
- .4 Do not perform work in more than one medium security unit at the same time.
- .5 Do not perform work in more than one maximum security unit at the same time.
- .6 The warranty period for any given portion of the Work will begin once it is complete and the area affected by that portion of the Work has been determined by the Departmental Representative to be ready for occupancy.
- .7 A Certificate of Substantial Performance will not be issued until the entire project is substantially completed. The Departmental Representative will only issue one Certificate of Substantial Performance for the whole project.

- .8 Maintain fire department access.

1.5 CONTRACTOR USE OF PREMISES

- .1 Limit use of premises for access, for Work and for storage to allow:
 - .1 Departmental Representative's occupancy.
- .2 Co-ordinate use of premises under direction of Departmental Representative.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 Refer to Section 01 51 00 - Temporary Utilities, Section 01 52 00 - Construction Facilities and Section 01 56 00 - Temporary Barriers and Enclosures for temporary facilities, access roads, parking areas, traffic regulations and utilities.
- .5 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .6 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.
- .7 Ensure that operations conditions of exiting work at completion are still the same, equal to or better than that which existed before new work started.

1.6 DEPARTMENTAL REPRESENTATIVE'S OCCUPANCY

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

1.7 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

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

1.8 EXISTING SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give the Departmental Representative 48 hours of notice for 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 Departmental Representative's operations, pedestrian traffic and vehicular traffic.
- .3 Provide alternative routes for pedestrian and vehicular traffic.
- .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 service 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 and user systems.
- .7 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .8 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .10 Record locations of maintained, re-routed and abandoned service lines.
- .11 Construct barriers in accordance with Section 01 56 00- Temporary Barriers and Enclosures.

1.9 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 List of Outstanding Shop Drawings.
 - .6 Change Orders.
 - .7 Other Modifications to Contract.
 - .8 Field Test Reports, System Components List C/W Commissioning Verification Forms and Check Sheets and Commissioning Issues/Resolution Log.
 - .9 Copy of Approved Work Schedule.
 - .10 Health and Safety Plan and Other Safety Related Documents.
 - .11 Other documents as specified.

1.10 INSTITUTIONAL SECURITY AND SAFETY REQUIREMENTS

- .1 Refer to Section 01 14 00 – Work Restrictions for Institutional Security and Safety Requirements.

1.11 HERITAGE PRESERVATION REQUIREMENTS

- .1 The Saskatchewan Penitentiary Guard Towers D1, D4 and D12 are ‘Recognized’ Federal Heritage Buildings, under the care of Correctional Services Canada. Protection of the heritage value of the historic place, as outlined in the Heritage Character Statements, Statements of Significance, and in accordance with the Standards and Guidelines of Historical Places in Canada (Standards 1 to 12) is required during all stages of the scope of work in this project.

- .2 Restore, rehabilitate and preserve the existing finishes in Guard Towers D1, D4 and D12 that are impacted by the fire alarm upgrades. Observe nearby existing conditions and match existing conditions within the construction of the upgrades. Be careful of nearby character-defining elements within the scope of work in the guard towers as explained in the Historic Conservation Advice Report included in Appendix 1.
- .3 As indicated above, follow the requirements stated in the Statements of Significance for Guard Towers D1 and D4 which can be found at the following web addresses:
 - .1 Tower D1: <https://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=9903&pid=0>.
 - .2 Tower D4: <https://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=9905&pid=0>.
 - .3 Note that the Statement of Significance for Tower D12 is not available to the public yet so use the Statements of Significance for Towers D1 and D4 as all three towers have similar conservation requirements.
 - .4 Also note that the Statements of Significance are a little broader in scope than the Heritage Character Statements. They contain additional information and references such as Description, Heritage Value and Character Defining Elements all of which are covered in the Historic Conservation Advice Report.
- .4 As indicated above, follow the requirements stated in the FHBRO (Federal Heritage Buildings Review Office) Heritage Character Statements for Towers D1 and D4 which are included in the appended Historic Conservation Advice Report.
 - .1 Note that the FHBRO (Federal Heritage Buildings Review Office) Heritage Character Statement for Tower D12 is not available to the public yet so use the Heritage Character Statements for Towers D1 and D4 as all three towers have similar conservation requirements.
 - .2 A download link for the FHBRO (Federal Heritage Buildings Review Office) Heritage Character Statements for Towers D1 and D4 can also be found at the web address for the Statements of Significance for Guard Towers D1 and D4 indicated above.
- .5 As indicated above, follow the requirements stated in the Standards and Guidelines of Historical Places in Canada (Standards 1 to 12). Especially follow the requirements of Standards 1, 3, 8, 10 11 and 12 as they directly apply to the present project. The document in question can be downloaded at the following web address:
<https://www.historicplaces.ca/en/pages/standards-normes.aspx>:
 - .1 Standards 1, 3, 8, 10 11 and 12 can be summarized as follows:
 - .1 Standard 1:
 - .1 Conserve the heritage value of an historic place.
 - .2 Do not remove, replace or substantially alter its intact or repair its character-defining elements.
 - .2 Standard 3:
 - .1 Conserve heritage value by adopting an approach calling for minimal intervention.
 - .3 Standard 8:

- .1 Repair character-defining elements by reinforcing their materials using recognized conservation methods.
 - .2 Replace in-kind any extensively deteriorated or missing parts of character-defining elements.
 - .4 Standard 10:
 - .1 Repair rather than replace character-defining elements.
 - .2 Where character-defining elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements.
 - .5 Standard 11:
 - .1 Conserve the heritage value and character-defining elements when creating any new additions to an historic place or any related new construction.
 - .2 Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place.
 - .6 Standard 12:
 - .1 Create any new additions or related new construction so that the essential form and integrity of an historic place will not be impaired if the new work is removed in the future.
- .6 As proposed in the Historic Conservation Advice Report and as part of the pre-construction kick-off meeting, organize and take part in a site review of Towers D1, D4 and D12 with the Departmental Representative to confirm heritage conservation requirements.
- .7 Per the S&G, all work is to be completed with minimal intervention approach which includes requirements for protecting existing materials, surface and finishes from damage. Refer to Appendix 1, HERITAGE CHARACTER STATEMENT - 1989-036 northern towers D1/D4 and D12 #09-151 for additional information, as per Appendix 1.
- .8 Refer to Section 02 03 00 – Heritage Conservation Measures for further information on heritage preservation requirements.

1.12 HAZARDOUS MATERIAL REQUIREMENTS

- .1 The Work of this contract will involve contact with hazardous materials.
- .2 Perform minimum amount of hazardous material abatement work necessary to perform Work of this contract in accordance with the requirements of Authority Having Jurisdiction.
- .3 Refer to the following documents in the Appendices for survey information regarding existing hazardous materials at the Saskatchewan Penitentiary.
 - .1 Saskatchewan Penitentiary Asbestos Management Plan.
 - .2 Hazardous Building Materials Assessment.
 - .3 Asbestos Survey Correctional Service Canada Saskatchewan Penitentiary.
 - .4 Saskatchewan Penitentiary Hazardous Material Survey.
 - .1 Includes the following appendices:

- .1 Lead Base Paint Spreadsheets.
- .2 Lead Base Paint Floor Plans.
- .3 Lead Based Paint Photos.
- .4 Laboratory Results: Total Lead.
- .5 Laboratory Results: Leachable Lead.
- .6 Laboratory Results: Bulk Asbestos.
- .7 Asbestos Photos.
- .8 Asbestos Floor Plans.
- .9 Laboratory Results: PCBs.
- .5 REPORT/B11 – 520 – PWGSC No. – PRA No. – Kitchen and Basement Mould Assessment – 2006. Comprises of the following files:
 - .1 Preliminary Investigations Kitchen and Basement Mould Assessment.
 - .2 Investigation Report.
- .6 REPORT/Site – 520 – PWGSC No. – PRA No. – Asbestos Survey – 1991. Comprises of the following files:
 - .1 Readme File.
 - .2 Asbestos Survey of Saskatchewan Penitentiary and Farm Institution.
- .7 REPORT,SITE - 520 - PWGSC No. - PRA No. - PHASE I Environmental Site Assessment – 2010.
 - .1 Phase 1 Environmental Site Assessment Riverbend Institution, Prince Albert, SK.
- .4 Contractor to engage independent inspection/testing agency to perform asbestos testing on Building D08 and to provide report to the Departmental Representative. Departmental Representative may issue a change to the contract based on the report's results.

1.13 HOT WORK REQUIREMENTS

- .1 Refer to Section 01 14 00 – Work Restrictions for Hot Work Requirements.

1.14 OPERATIONAL LIMITATIONS

- .1 Refer to Section 01 14 00 – Work Restrictions for Operational Limitations.

1.15 PROOF OF CONCEPT AND CONSTRUCTABILITY MOCK-UPS

- .1 Provide the following mock-ups before proceeding with other inmate cell work in Unit 6, Unit 7 and Building B12:
 - .1 Proof of Concept Mock-Up:
 - .1 A proof of concept mock-up will be required for one of the larger (worst case) cells in Unit 6 where the smoke detection sample points are to be installed inside the existing light fixtures. Do not mount the ASD at this time. Provide Temporary connections for the ASD detector to operate stand alone. Install one of the sampling points from the ASD inside the Cell luminaire. Perform Paper Fire Test as noted in Section 28 31 00.01 Multiplex Fire Alarm System Article 1.34 to determine if the mock-up is

- feasible. Commissioning agent, Departmental Representative, Contractor and supplier to be present for each test.
- .2 Refer to Division 28 for further detail regarding Proof of Concept Installations..
- .2 Constructability Mock-Up:
 - .1 A constructability mock-up will also be required to demonstrate the Contractor's ability to perform the Work as specified for one typical cell in each of the following buildings:
 - .1 Unit 6.
 - .2 Unit 7.
 - .3 B12.
 - .2 Full installation of the devices to be reviewed by Departmental Representative and consultants. Once the installation has been approved, then the work can commence on these buildings. Do not proceed with any other installation until the constructability mock-up has been approved in writing.
- .2 Refer to Section 01 45 00 – Quality Control for general mock-up requirements and procedures.

1.16 SECURITY-TYPE FASTENER REQUIREMENTS

- .1 Refer to Section 01 61 00 - Common Product Requirements for security-type fastener requirements on this project.

1.17 CONTROL OF DEBRIS, MATERIALS AND EQUIPMENT REQUIREMENTS

- .1 Contractor to maintain control of debris, materials and equipment at all times in areas accessible to inmates. This is to avoid the loss of items to inmates who could use these contraband items for nefarious purposes.
- .2 Refer to Section 01 14 00 – Work Restrictions for Institutional Security and Safety Requirements related to control of debris, materials and equipment.
- .3 Refer to Section 01 74 00 – Cleaning for project cleanliness and final cleaning requirements.

1.18 FIRESTOPPING

- .1 Provide a two-hour firestop for all new service penetrations through interior partitions and floor assemblies.
- .2 Refer to Section 07 84 00 – Fire Stopping for other fire stopping requirements.

1.19 FIRE & LIFE SAFETY – OCCUPANCY STATEMENT LETTER

- .1 Refer to Appendix 5 for Fire & Life Safety – Occupancy Statement Letter Template. The Department Representative will be working on completing this Letter during various milestones of the project. The Letter includes checkboxes and comment sections. One of the checkboxes has to do with updated Fire Safety Plans to reflect new construction and renovations in the affected spaces. Once a building or multiple buildings have a new fire

alarm system installed and commissioned, the Institution must revise the Fire Safety Plans and submit them to the Regional Fire Safety Officer for review and signature.

- .2 The Occupancy Statement Letter will need to be filled in by the Departmental Representative in conjunction with CSC (Correctional Service Canada) for all commissioned portions of the project prior to the contractor being eligible for Substantial Completion.

1.20 FIRE WATCH

- .1 Refer to specification Section 26 05 00 – Common Work Results for Electrical for fire watch requirements.

1.21 JOINT SEALANTS

- .1 Refer to specification Section 07 92 00 – Joint Sealants for sealing requirements at exterior envelope penetrations.

1.22 SECURITY SEALANT

- .1 Refer to specification Section 07 92 10.13 – Security Sealant for sealing requirements at new interior electrical conduits in inmate-accessible interior areas and other locations.

1.23 PAINTING OF ELECTRICAL CONDUIT AND SECURITY SEALANT

- .1 Paint all new exterior electrical conduit installed for this project to match colour of adjacent surfaces. Refer to Section 09 91 13 – Exterior Painting for more details.
- .2 Paint all new interior electrical conduit installed for this project and new security sealant applied against conduit to match colour of adjacent surfaces. Refer to Section 09 91 23 – Interior Painting for more details.
 - .1 Interior electrical conduits are to be painted in normally-occupied areas and to be left unpainted in service spaces.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Environmental Protection Agency (EPA)
 - .1 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, EPA Method 24 - Surface Coatings.
 - .2 SW-846, Test Method for Evaluating Solid Waste, Physical/Chemical Methods.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Safety Data Sheets (SDS).
- .3 Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual - current edition.
 - .2 Standard GPS-1-12, MPI Green Performance Standard.
- .4 National Research Council Canada (NRC)
 - .1 National Fire Code of Canada 2015 (NFC).

1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Scheduling
 - .1 Provide work schedule for various stages of painting to Departmental Representative for approval. Provide schedule minimum of 48 hours in advance of proposed operations.
 - .2 Obtain written authorization from Departmental Representative for changes in work schedule.
 - .3 Schedule new additions to existing building coordinate painting operations with other trades.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide manufacturer's instructions, printed product literature and data sheets for paint and paint products and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit copies of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
 - .3 Confirm products to be used are in MPI's approved product list.
 - .4 Upon completion, provide records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.

- .4 MPI Environmentally Friendly classification system rating.
 - .5 Manufacturer's Safety Data Sheets (SDS).
 - .6 MPI #.
- .3 Samples:
 - .1 Submit full range colour sample chips to indicate where colour availability is restricted.
 - .2 Submit 200 x 300 mm sample panels of each paint with specified paint or coating in colours, gloss/sheen and textures required to MPI Architectural Painting Specification Manual standards submitted on following substrate materials:
 - .1 3 mm plate steel for finishes over metal surfaces.
 - .3 Retain reviewed samples on-site to demonstrate acceptable standard of quality for appropriate on-site surface.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: Provide operation and maintenance data for painting materials for incorporation into manual.
- .3 Include:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.
 - .4 MPI Environmentally Friendly classification system rating.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- .1 Extra Stock Materials:
 - .1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Submit four 1 litre can of each type and colour of finish coating and primer. Identify colour and paint type in relation to established colour schedule and finish system.

1.6 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Contractor: to have a minimum of 5 years proven satisfactory experience. When requested, provide list of last 3 comparable jobs including, job name and location, specifying authority, and project manager.
 - .2 Qualified journeypersons as defined by local jurisdiction to be engaged in painting work
 - .3 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.

- .4 Conform to latest MPI requirements for exterior painting work including preparation and priming.
- .5 Materials: in accordance with MPI Painting Specification Manual "Approved Product" listing and from a single manufacturer for each system used.
- .6 Retain purchase orders, invoices and documents to prove conformance with noted MPI requirements when requested by Departmental Representative.
- .7 Standard of Acceptance:
 - .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.
 - .2 Soffits: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.7 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.
 - .1 Labels: to indicate:
 - .1 Type of paint or coating.
 - .2 Compliance with applicable standard.
 - .3 Colour number in accordance with established colour schedule.
- .3 Storage and Handling Requirements:
 - .1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Observe manufacturer's recommendations for storage and handling.
 - .3 Store materials and supplies away from heat generating devices.
 - .4 Store materials and equipment in well ventilated area with temperature range 7 degrees C to 30 degrees C.
 - .5 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Departmental Representative. After completion of operations, return areas to clean condition to approval of Departmental Representative.
 - .6 Remove paint materials from storage only in quantities required for same day use.
 - .7 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
 - .8 Fire Safety Requirements:
 - .1 Provide one 9 kg Type ABC fire extinguisher adjacent to storage area.
 - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.

- .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada (NFC).
- .9 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse and return by manufacturer of packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 19 - Waste Management and Disposal.

1.8 SITE CONDITIONS

- .1 Ambient Conditions:
 - .1 Heating, Ventilation and Lighting:
 - .1 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities.
 - .2 Do not perform painting work unless adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10 degrees C for 24 hours before, during and after paint application until paint has cured sufficiently.
 - .3 Where required, provide continuous ventilation for seven days after completion of application of paint.
 - .4 Co-ordinate use of existing ventilation system with Departmental Representative and ensure its operation during and after application of paint as required.
 - .5 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.
 - .6 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted. Adequate lighting facilities to be provided by General Contractor.
 - .2 Temperature, Humidity and Substrate Moisture Content Levels:
 - .1 Unless specifically pre-approved by specifying body, Paint Inspection Agency and, applied product manufacturer, perform no painting work when:
 - .1 Ambient air and substrate temperatures are below 10 degrees C.
 - .2 Substrate temperature is over 32 degrees C unless paint is specifically formulated for application at high temperatures.
 - .3 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.
 - .4 Relative humidity is above 85 % or when dew point is less than 3 degrees C variance between air/surface temperature.
 - .5 Rain or snow is forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
 - .2 Perform no painting work when maximum moisture content of substrate exceeds:

- .1 12 % for concrete and masonry (clay and concrete brick/block).
- .3 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple “cover patch test”.
- .4 Test concrete, masonry and plaster surfaces for alkalinity as required.
- .3 Application Requirements:
 - .1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
 - .2 Apply paint to adequately prepared surfaces and to surfaces within moisture limits noted herein.
 - .3 Apply paint when previous coat of paint is dry or adequately cured.
 - .4 Apply paint finishes when conditions forecast for entire period of application fall within manufacturer's recommendations.
 - .5 Do not apply paint when:
 - .1 Temperature is expected to drop below 10 degrees C before paint has thoroughly cured.
 - .2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.
 - .3 Surface to be painted is wet, damp or frosted.
 - .6 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
 - .7 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
 - .8 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.
 - .9 Paint occupied facilities in accordance with approved schedule only. Schedule operations to approval of Departmental Representative such that painted surfaces will have dried and cured sufficiently before occupants are affected.

Part 2 Products

2.1 PERFORMANCE REQUIREMENTS

- .1 Environmental Performance Requirements:
 - .1 Provide paint products meeting MPI “Environmentally Friendly” E2 or E3 ratings based on VOC (EPA Method 24) content levels.
 - .2 Green Performance in accordance with MPI Standard GPS-1.

2.2 MATERIALS

- .1 Only paint materials listed in latest edition of MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Paint materials for paint systems: to be products of single manufacturer.
- .3 Only qualified products with E2 or E3 “Environmentally Friendly” ratings are acceptable for use on this project.
- .4 Water-borne surface coatings must be manufactured and transported in a manner that steps of processes, including disposal of waste products arising there from, will meet requirements of applicable governmental acts, by-laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian Environmental Protection Act (CEPA).
- .5 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.
- .6 Water-borne surface coatings and recycled water-borne surface coatings must have flash point of 61.0 degrees C or greater.
- .7 Both water-borne surface coatings and recycled water-borne surface coatings must be made by a process that does not release:
 - .1 Matter in undiluted production plant effluent generating a 'Biochemical Oxygen Demand' (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
 - .2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
- .8 Water-borne paints must meet a minimum “Environmentally Friendly” E2 rating.
- .9 Recycled water-borne surface coatings must contain 50 % post-consumer material by volume.
- .10 Recycled water-borne surface coatings must not contain:
 - .1 Lead in excess of 600.0 ppm weight/weight total solids.
 - .2 Mercury in excess of 50.0 ppm weight/weight total product.
 - .3 Cadmium in excess of 1.0 ppm weight/weight total product.
 - .4 Hexavalent chromium in excess of 3.0 ppm weight/weight total product.
 - .5 Organochlorines or polychlorinated biphenyls (PCBS) in excess of 1.0 ppm weight/weight total product.
- .11 The following must be performed on each batch of consolidated post-consumer material before surface coating is reformulated and canned. These tests must be performed at a laboratory or facility which has been accredited by the Standards Council of Canada.
 - .1 Lead, cadmium and chromium are to be determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in EPA SW-846.

- .2 Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in EPA SW-846.
- .3 Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in EPA SW-846.

2.3 COLOURS

- .1 Paint electrical conduit and security sealant applied against conduit as required by Section 07 92 10.13 – Security Sealant to match colour of adjacent surfaces.

2.4 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. Obtain written approval from Departmental Representative for tinting of painting materials.
- .2 Mix paste, powder or catalyzed paint mixes in accordance with manufacturer's written instructions.
- .3 Use and add thinner in accordance with paint manufacturer's recommendations. Do not use kerosene or similar organic solvents to thin water-based paints.
- .4 Thin paint for spraying in accordance with paint manufacturer's instructions.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity. Strain as necessary.

2.5 GLOSS/SHEEN RATINGS

- .1 Paint gloss: defined as sheen rating of applied paint, in accordance with following values:

Gloss Level Category	Units @ 60 Degrees	Units @ 85 Degrees
G1 - matte finish	0 to 5	max. 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	min. 35
G5 - semi-gloss finish	35 to 70	
G6 - gloss finish	70 to 85	
G7 - high gloss finish	> 85	

- .2 Gloss level ratings of painted surfaces as specified.

2.6 EXTERIOR PAINTING SYSTEMS

- .1 Galvanized Metal (not chromate passivated): electrical conduits.
 - .1 EXT 5.3N – Alkyd G5 (over w. b. galvanized primer) finish.

2.7 SOURCE QUALITY CONTROL

- .1 Perform following tests on each batch of consolidated post-consumer material before surface coating is reformulated and canned. Testing by laboratory or facility which has been accredited by Standards Council of Canada.

- .1 Lead, cadmium and chromium are to be determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in EPA SW-846.
- .2 Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in EPA SW-846.
- .3 Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in EPA SW-846.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 GENERAL

- .1 Perform preparation and operations for interior painting in accordance with MPI Architectural Painting Specifications Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.3 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable to be painted in accordance with manufacturer's written instructions:
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .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.

3.4 PREPARATION

- .1 Perform preparation and operations for exterior painting in accordance with MPI Maintenance Repainting Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.
- .3 Clean and prepare exterior surfaces to be repainted in accordance with MPI Maintenance Repainting Manual requirements. Refer to the MPI Manual in regard to specific requirements and as follows:
 - .1 Remove dust, dirt, and surface debris by vacuuming, wiping with dry, clean cloths or compressed air.

- .2 Wash surfaces with a biodegradable detergent and bleach where applicable and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
- .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
- .4 Allow surfaces to drain completely and allow to dry thoroughly. Allow sufficient drying time and test surfaces using electronic moisture meter before commencing work.
- .5 Use water-based cleaners in place of organic solvents where surfaces will be repainted using water based paints.
- .6 Many water-based paints cannot be removed with water once dried. Minimize use of kerosene or such organic solvents to clean up water-based paints.
- .4 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI requirements. Remove such contaminants from surfaces, pockets and corners to be repainted by brushing with clean brushes, blowing with clean dry compressed air, or brushing/vacuum cleaning as required.
- .5 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before priming and between applications of remaining coats. Touch-up, spot prime, and apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
- .6 Do not apply paint until prepared surfaces have been accepted by Departmental Representative.
- .7 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

3.5 EXISTING CONDITIONS

- .1 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Departmental Representative. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

3.6 PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Departmental Representative.
- .2 Protect items that are permanently attached.
- .3 Protect factory finished products and equipment.
- .4 Protect building occupants in and about building.
- .5 Remove light fixtures, surface hardware on doors, and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Store items and re-install after painting is completed.
- .6 Move and cover exterior furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

- .7 As painting operations progress, place “WET PAINT” signs in pedestrian and vehicle traffic areas to approval of Departmental Representative.

3.7 APPLICATION

- .1 Method of application to be as approved by Departmental Representative. Apply paint by brush. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Brush and Roller Application:
 - .1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
 - .2 Work paint into cracks, crevices and corners.
 - .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
 - .4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces to be free of roller tracking and heavy stipple unless approved by Departmental Representative.
 - .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 Use dipping, sheepskins or daubers when no other method is practical in places of difficult access and when specifically authorized by Departmental Representative.
- .4 Apply coats of paint as continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .5 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .6 Sand and dust between coats to remove visible defects.
- .7 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as projecting ledges.
- .8 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.8 ELECTRICAL EQUIPMENT

- .1 Unless otherwise specified, paint exterior exposed conduits, hangers and other electrical equipment with colour and finish to match adjacent surfaces, except as noted otherwise.

3.9 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 – 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 00 – Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.10 RESTORATION

- .1 Clean and re-install hardware items removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of Departmental Representative. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Departmental Representative.

END OF SECTION