Part 1 General

1.1 REFERENCES

.1 Department of Justice Canada (Jus)

.1 Canadian Environmental Protection Act (CEPA), c. 33

.2 Environmental Protection Agency (EPA)

.1 EPA Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings).

.3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.4 Master Painters Institute (MPI)

.1 MPI Architectural Painting Specifications Manual.

.5 National Fire Code of Canada

.6 Society for Protective Coatings (SSPC)

.1 SSPC Painting Manual, Volume Two, 8th Edition, Systems and Specifications Manual.

.7 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act (TDGA), c. 34 .

1.2 QUALITY ASSURANCE

.1 Qualifications:

.1 Contractor: minimum of five years proven satisfactory experience. Upon request, provide list of last three comparable jobs including, job name and location, specifying authority, and project manager.

.2 Journeymen: qualified journeymen who have "Tradesman Qualification Certificate of Proficiency" engaged in painting work.

.3 Apprentices: working under direct supervision of qualified trades person in accordance with trade regulations.

1.3 SCOPE OF WORK

.1 The scope of work includes, but is not limited to:

.1 All interior piping shall be painted in accordance with this specification.

.2 Any new metal surfaces, not already factory finished, shall be painted in accordance with this specification. Touch up any equipment factory painted, including equipment supplied by the City.

.3 Existing structural steel shall be painted in accordance with this specification as indicated in the drawings

.4 All concrete repairs, patching and new concrete shall be painted in accordance with this specification.

1.4 SUBMITTALS

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

.2 Product Data:

.1 Submit product data and instructions for each paint and coating product to be used.

.2 Provide color samples to the Contract Administrator for approval before application.

.3 Submit product data for the use and application of paint thinner.

.4 Submit two copies of Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS). Indicate VOCs during application and curing.

.5 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.6 Manufacturer's Instructions:

.1 Submit manufacturer's installation and application instructions.

.3 Closeout Submittals:

.1 Submit maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals, include following:

.1 Product name, type and use.

.2 Manufacturer's product number.

.3 Colour number[s].

1.5 EXTRA MATERIALS:

.1 Submit one 4-litre can of each type and colour of primer and finish coating. Identify colour and paint type in relation to established colour schedule and finish formula.

.2 Deliver to the City of Winnipeg and store where directed.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Pack, ship, handle and unload materials in accordance with manufacturer's written instructions.

.2 Acceptance at Site:

.1 Identify products and materials with labels indicating:

.1 Manufacturer's name and address.

.2 Type of paint or coating.

.3 Compliance with applicable standard.

.4 Colour number in accordance with established colour schedule.

.3 Remove damaged, opened and rejected materials from site.

.4 Storage and Protection:

.1 Provide and maintain dry, temperature controlled, secure storage.

.2 Store materials and supplies away from heat generating devices.

.5 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

.6 Keep areas used for storage, cleaning and preparation clean and orderly.

.7 Remove paint materials from storage only in quantities required for same day use.

.8 Fire Safety Requirements:

.1 Provide one 9 kg Type ABC dry chemical 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 National Fire Code of Canada requirements.

1.7 SAFETY

.1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.

1.8 SITE CONDITIONS

.1 Heating, Ventilation and Lighting:

.1 Ventilate area of work by use of approved portable supply and exhaust fans.

.2 Provide heating facilities 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 Provide continuous ventilation for five days after completion of application of paint.

.4 Coordinate use of existing ventilation system with Contract Administrator 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 Provide minimum lighting level of 323 Lux on surfaces to be painted.

.2 Temperature, Humidity and Substrate Moisture Content Levels:

.1 Unless pre-approved written approval by Contract Administrator and product manufacturer, perform no painting when:

.1 Ambient air and substrate temperatures are below 10 degrees C.

.2 Substrate temperature is above 32 degrees C unless paint is specifically formulated for application at high temperatures.

.3 Substrate and ambient air temperatures are not expected to fall within MPI or paint manufacturer's prescribed limits.

.4 The relative humidity is under 85% or when the dew point is more than 3 degrees C variance between the air/surface temperature. Paint should not be applied if the dew point is less than 3 degrees C below the ambient or surface temperature. Use sling psychrometer to establish the relative humidity before beginning paint work.

.5 Ensure that conditions are within specified limits during drying or curing process, until newly applied coating can itself withstand 'normal' adverse environmental factors.

.2 Perform painting work when maximum moisture content of the substrate is below:

.1 Allow new concrete and masonry to cure minimum of 28 days.

.2 15% for wood.

.3 12% for plaster and gypsum board.

.3 Test for moisture using calibrated electronic Moisture Meter. Test concrete floors for moisture using "cover patch test".

.4 Test concrete, masonry and plaster surfaces for alkalinity as required.

.3 Surface and Environmental Conditions:

.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.

.3 Apply paint when previous coat of paint is dry or adequately cured.

Part 2 Products

2.1 MATERIALS

.1 Only paint materials listed in the MPI Approved Products List (APL) are acceptable for use on the project, except where other products are specified.

.2 Paint materials for each coating formula to be products of a single manufacturer.

.3 Conform to latest MPI requirements for interior painting work including preparation and priming.

.4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) in accordance with MPI Architectural Painting Specification Manual "Approved Product" listing.

.5 Linseed oil, shellac, and turpentine: highest quality product from approved manufacturer listed in MPI Architectural Painting Specification Manual, compatible with other coating materials as required.

2.2 COLOURS

.1 Provide colour selection to Contract Administrator. Match existing site colours where applicable.

.2 Colour schedule will be determined by the Contract Administrator. Selection of colours will be from manufacturer’s full range of colours.

2.3 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

Gloss Level Category/	Units @ 60 Degrees/	Units @ 85 Degrees/
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 .

2.4 INTERIOR PAINTING SYSTEMS

.1 Paint Finishes:

.1 Formula 1: for for shop primed and unprimed ferrous metal surfaces within the Wet Well

.1 Two part epoxy or polyurethane suitable for moist environments where H_2S is present.

.2 Surface preparation: As per paint manufacturer's specifications but in no case less than SSPC 6.

.3 Primer: As per paint manufacturer's specifications.

.4 Colour: Grey.

.2 Formula 2: for shop primed and unprimed ferrous metal surfaces except for within the Wet Well:

.1 MPI EXT 5.1D Alkyd G5 (semi-gloss) finish premium grade.

.2 Touch-up shop primer (if used) with primer provided by the manufacturer.

.3 One coat marine alkyd metal primer CGSB-1-GP-48M.

.4 Two coats semi-gloss enamel CAN/CGSB-1.57.

.5 Provide color samples to the Contract Administrator for approval before application.

.6 Paint and primer shall be from the same manufacturer.

.3 Formula 3: Canvas and cotton coverings.

.1 Two coats primer certified to MPI #50.

.2 One or two finish coats of MPI INT 10.1A - Latex G3 eggshell finish.

.4 Formula: 4 PVC surfaces/

.1 Two coats primer certified to MPI #17.

.2 MPI INT 6.8A - High performance architectural latex G3 eggshell finish.

2.5 EXTERIOR PAINTING SYSTEMS

.1 Paint Finishes:

.1 Formula 5: for shop primed and unprimed ferrous metal surfaces:

.1 MPI EXT 5.1D Alkyd G5 (semi-gloss) finish premium grade.

.2 Touch-up shop primer (if used) with primer provided by the manufacturer.

.3 One coat marine alkyd metal primer CGSB-1-GP-48M.

.4 Two coats semi-gloss enamel CAN/CGSB-1.57.

.5 Provide color samples to the Contract Administrator for approval before application.

.6 Paint and primer shall be from the same manufacturer.

.2 Formula 6: for galvanized metal surfaces:

.1 MPI EXT 5.3B Alkyd G5 (semi-gloss) finish premium grade.

.2 One coat marine alkyd metal primer CGSB-1-GP-48M.

.3 Two coats semi-gloss enamel CAN/CGSB-1.57.

.4 Provide color samples to the Contract Administrator for approval before application.

.5 Paint and primer shall be from the same manufacturer.

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 data sheet.

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 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to the Contract Administrator.

.2 Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

3.4 PREPARATION FOR NEW SURFACES

.1 Protection:

.1 Cover or mask floors, walls, and equipment adjacent to areas being painted to prevent damage and to protect from paint drops and splatters. Use non-staining coverings.

.2 Protect items that are permanently attached such as Fire Labels on doors, frames, and name plates on equipment.

.2 Surface Preparation: Clean and prepare surfaces in accordance with MPI Painting Specification Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows:

.1 Remove dust, dirt, and other 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.

.3 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pre-treatment as soon as possible after cleaning and before deterioration occurs.

.4 Where possible, prime surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.

.1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.

.2 Apply wood filler to nail holes and cracks.

.5 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt oil, grease and other foreign substances in accordance with MPI requirements. Remove traces of blast products from surfaces, pockets and corners to be painted.

.6 Touch up of shop primers with primer as specified in applicable section. Major touch-up including cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas, shall be by supplier of fabricated material.

3.5 CLEANING AND PREPARATION FOR REPAINTING

.1 Clean and prepare interior surfaces to be repainted in accordance with MPI Maintenance Repainting Manual requirements. Refer to 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 surface contaminants.

.3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.

.4 Allow surfaces to drain completely and to dry thoroughly. Allow sufficient drying time and test surfaces using an 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 the use of kerosene or such organic solvents to clean up water-based paints.

.2 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI requirements. Remove such contaminates 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.

.3 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 pre-treatment as soon as possible after cleaning and before deterioration occurs.

.4 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, or as required by other specifications or the manufacturer's instructions.

3.6 APPLICATION

.1 Apply paint in accordance with manufacturer's application instructions unless specified otherwise.

.2 Apply each coat of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.3 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.4 Sand and dust between each coat to remove visible defects.

.5 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

.6 Do not paint over galvanized metal, aluminium, stainless steel, brass or bronze, rubber, plated surfaces, machined surfaces, hangers and nameplates.

.7 Ventilate area of work by use of approved portable supply and exhaust fans.

.8 Provide temporary heating where permanent facilities are not available to maintain minimum recommended temperatures.

.9 Apply paint finish only in areas where dust is no longer being generated by related construction operations such that airborne particles will not affect the quality of the finished surface.

.10 Apply paint only when surface to be painted is dry, properly cured, and adequately prepared.

.11 Apply each coat of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.12 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.13 Sand and dust between each coat to remove visible defects.

.14 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.

.15 Paint both sides and edges of backboards for electrical equipment before installation. Leave equipment in original finish except for touch-up as required.

3.7 CLEANUP

.1 Clean and reinstall all hardware items that were removed before undertaken coating operations.

.2 Remove over-spray, paint splatter and spills from exposed surfaces that were not intended for painting. Remove smears and spatter immediately as operations progress, using appropriate methods as per manufacturer's instructions.

3.8 PUMPS

.1 Do not apply primer or paint to pumps.

3.9 MECHANICAL/ELECTRICAL EQUIPMENT

.1 Do not paint exposed conduit, ductwork and hangers, unless otherwise indicated.

.2 Paint exposed piping. Colour and texture to match adjacent surfaces, except as noted otherwise.

.3 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.

.4 Do not paint over nameplates, brass or bronze surfaces or machined surfaces.

.5 Paint both sides and edges of backboards for telephone and electrical equipment before installation. Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.

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 splashes 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 the Contract Administrator. Avoid scuffing newly applied paint.

.5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by the Contract Administrator.

3.11 STANDARDS OF ACCEPTANCE

.1 Walls: No defects visible from a distance of 1000 mm at 90 degrees to surface when viewed using final lighting source.

.2 Ceilings: No defects visible from floor at 45 degrees to surface when viewed using final lighting source.

.3 Piping, valves and pumping equipment: No visible defects from a distance of 1000 millimetres at 90 degrees to surface when viewed using final lighting source.

.4 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

END OF SECTION