

Fort Langley National Historical Park

Kitchen Upgrade
Fort Langley, BC

Project No. R.081108.001

08 06 10
DOOR SCHEDULE

November 2017

No.	DOOR				FRAME				RATING	REMARKS	LOCATION		
	Door W (mm)	Opening H (mm)	Type	Mat'l	Finish	Glass Type	Type	Mat'l				Finish	Glass Type
	1070	2134	-	WD	VN	-	-	WD	VN	-	-	#1	KITCHEN
	EX	EX		EX	VN	-	-	-	VN	-	-	#2	MALE WR
	EX	EX		EX	VN	-	-	-	VN	-	-	#2	FEMALE WR
	840	2450		HM	PTD	-	-	-	VN	-	-	#1	ENTRY DOOR
D6	915	2134	D1	AL	-	-	F1	AL	-	ITF	-	#1	FEMALE VANITY
D8	765	2134	D3	HM	PTD	-	F2	PSS	PTD	-	-	#4	FEMALE SHOWER

LEGEND

HM HOLLOW METAL
PTD PAINT FINISH
WD SOLID CORE WOOD

Remarks

#1 Refer Elevation & Details
#2 Refer Elevation

END OF SECTION 08 06 10

1.0 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Rough Carpentry Section 06 10 11
- .2 Finish Carpentry Section 06 20 00
- .3 Door Hardware Section 08 71 00
- .4 Exterior Painting Section 09 91 13
- .5 Interior Painting Section 09 91 23

1.2 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.
 - .2 CGSB 41-GP-19Ma-84, Rigid Vinyl Extrusions for Windows and Doors.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CSA W59-03, Welded Steel Construction (Metal Arc Welding).
- .3 Canadian Steel Door Manufacturers' Association (CSDMA)
 - .1 CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, 2000.
 - .2 CSDMA, Selection and Usage Guide for Commercial Steel Doors, 1990.
- .4 National Fire Protection Association (NFPA)
 - .1 NFPA 80-2007, Standard for Fire Doors and Fire Windows.
 - .2 NFPA 252-2012, Standard Methods of Fire Tests of Door Assemblies.
- .5 South Coast Air Quality Management District (SCAQMD), California State
 - .1 SCAQMD Rule 1113-04, Architectural Coatings.
 - .2 SCAQMD Rule 1168-05, Adhesives and Sealants Applications.
- .6 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S701-05, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.
 - .2 CAN/ULC-S702-09, Standard for Thermal Insulation, Mineral Fibre, for Buildings.
 - .3 CAN/ULC-S704-03, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.
 - .4 CAN4-S104-M80, Standard Method for Fire Tests of Door Assemblies.
 - .5 CAN4-S105-M85, Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104.

1.3 SYSTEM DESCRIPTION

- .1 Design Requirements:
 - .1 Provide fire labeled frames for openings requiring fire protection ratings. Test products in conformance with CAN4-S104, and listed by nationally recognized agency having factory inspection services and to ULC fire protection rating.

1.4 SUBMITTALS

- .1 Provide shop drawings: in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazed, arrangement of hardware and fire rating and finishes.
 - .2 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and finishes.
 - .3 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Hot dipped galvanized steel sheet: to ASTM A 653M, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts.
 - .1 Interior Door and Frame: galvanized with ZF75 designation
 - .2 Exterior Door and Frame: galvanized with Z275 designation with zinc coating
- .2 Reinforcement to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A 653M, ZF75.
- .3 Exterior and Interior Door and Frames: 16ga typical, 12ga for oversized door frame

2.2 DOOR CORE MATERIALS

- .1 Honeycomb construction:
 - .1 Structural small cell, 24.5 mm maximum kraft paper 'honeycomb', weight: 36.3 kg per ream minimum, density: 16.5 kg/m³ minimum sanded to required thickness.
- .2 Stiffened: doors to be reinforced with 0.8mm (20 gauge) hat shaped steel stiffeners welded to inside of face sheets. Stiffeners to be located a maximum 152mm (6") on center and welded to face sheet on 100mm(4") centers. Areas between stiffeners to be filled with fiberglass insulation.
- .3 All exterior doors are to be insulated.

2.3 ADHESIVES

- .1 Honeycomb cores and steel components: heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact cement.
 - .1 Adhesive: maximum VOC content 50 g/L to SCAQMD Rule 1168.
- .2 Lock-seam doors: fire resistant, resin reinforced polychloroprene, high viscosity, and sealant/adhesive.

2.4 PRIMER

- .1 Touch-up prime CAN/CGSB-1.181.
- .1 Maximum VOC limit 50 g/L to GC-03.

2.5 PAINT

- .1 Field paint steel doors and frames in accordance with Sections 09 91 13 – Exterior Painting and 09 91 23 - Interior Painting. Protect weatherstrips from paint. Provide final finish free of scratches or other blemishes.
- .1 Maximum VOC emission level 50 g/L to GS-11 to SCAQMD Rule 1113.

2.6 ACCESSORIES

- .1 Door silencers: single stud rubber/neoprene type.
- .2 Exterior and interior top and bottom caps: rigid polyvinylchloride extrusion conforming to CGSB 41- GP-19Ma.
- .3 Fabricate glazing stops as formed channel, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with counter-sunk oval head sheet metal screws.
- .4 Metallic paste filler: to manufacturer's standard.
- .5 Fire labels: metal riveted.
- .6 Sealant:
 - .1 Maximum VOC limit 250 g/L to SCAQMD Rule 1168.
- .7 Glazing: Refer to Section 08 80 50.

2.7 FRAMES FABRICATION GENERAL

- .1 Fabricate frames in accordance with CSDMA specifications.
- .2 Fabricate frames to profiles and maximum face sizes as indicated.
- .3 Interior and exterior frames: 1.2 mm welded type construction.
- .4 Blank, reinforce, drill and tap frames for mortised, templated hardware, and electronic hardware using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.
- .5 Prepare frame for door silencers, 3 for single door, 2 at head for double door.
- .6 Manufacturer's nameplates on frames and screens are not permitted.
- .7 Conceal fastenings except where exposed fastenings are indicated.
- .8 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.

2.8 FRAME ANCHORAGE

- .1 Provide appropriate anchorage to floor and wall construction.

- .2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.
- .3 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.

2.9 FRAMES: WELDED TYPE

- .1 Welding in accordance with CSA W59.
- .2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.
- .3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.
- .4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.
- .5 Securely attach floor anchors to inside of each jamb profile.
- .6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

2.10 DOOR FABRICATION GENERAL

- .1 Doors: swing type, flush, with provision for glass and/or louvre openings as indicated.
- .2 Fabricate doors with longitudinal edges welded. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.
- .3 Blank, reinforce, drill doors and tap for mortised, templated hardware and electronic hardware.
- .4 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.
- .5 Reinforce doors where required, for surface mounted hardware. Provide flush steel top caps to exterior doors. Provide inverted, recessed, spot welded channels to top and bottom of interior doors.
- .6 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.
- .7 Provide ULC OR WHI fire labelled doors for those openings requiring fire protection ratings, as scheduled. Test such products in conformance with and list by nationally recognized agency having factory inspection service and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.
- .8 Manufacturer's nameplates on doors are not permitted.

2.11 DOORS: HONEYCOMB CORE CONSTRUCTION

- .1 Form face sheets for exterior and interior doors from 1.2 mm sheet steel with honeycomb or laminated under pressure to face sheets.

2.12 HOLLOW STEEL CONSTRUCTION

- .1 Form face sheets for interior doors from 1.2mm sheet steel.
- .2 Reinforce doors with vertical stiffeners, securely welded to face sheets at 150 mm on centre maximum.
- .3 Fill voids between stiffeners of interior doors with honeycomb core.

3.0 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 INSTALLATION GENERAL

- .1 Install labelled steel fire rated doors and frames to NFPA 80 except where specified otherwise.
- .2 Install doors and frames to CSDMA Installation Guide.

3.3 FRAME INSTALLATION

- .1 Set frames plumb, square, level and at correct elevation.
- .2 Secure anchorages and connections to adjacent construction.
- .3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are built-in.
- .4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.
- .5 Caulk perimeter of frames between frame and adjacent material.
- .6 Maintain continuity of air barrier and vapour retarder.

3.4 DOOR INSTALLATION

- .1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 00 - Door Hardware.
- .2 Provide even margins between doors and jambs and doors and finished floor and thresholds as follows.
 - .1 Hinge side: 1.0 mm.
 - .2 Latchside and head: 1.5 mm.
 - .3 Finished floor: 13 mm.

- .3 Adjust operable parts for correct function.

3.5 FINISH REPAIRS

- .1 Touch up with primer finishes damaged during installation.
- .2 Fill exposed frame anchors and surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

END OF SECTION 08 11 00

1.0 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Rough Carpentry for Minor Works Section 06 08 00
- .2 Finish Carpentry Section 06 20 00
- .3 Doors Hardware Section 08 71 00
- .4 Painting Section 09 91 23

1.2 REFERENCES

- .1 Architectural Woodwork Manufacturers Association of Canada (AWMAC).
 - .1 Quality Standards for Architectural Woodwork latest edition.
- .2 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-71.19-M88, Adhesive, Contact, Sprayable.
 - .2 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.
- .3 Canadian Standards Association (CSA International).
 - .1 CSA A440.2-98, Energy Performance of Windows and Other Fenestration Systems.
 - .2 CSA O115-M1982(R2001), Hardwood and Decorative Plywood.
 - .3 CAN/CSA O132.2 Series-90 (R1998), Wood Flush Doors.
 - .4 CAN/CSA-O132.5-M1992 (R1998), Stile and Rail Wood Doors.
 - .5 CAN/CSA-Z808-96, A Sustainable Forest Management System: Guidance Document.
 - .6 CSA Certification Program for Windows and Doors 00.
- .4 Environmental Choice Program (ECP).
 - .1 CCD-045-92, Sealants and Caulking Compounds.
 - .2 CCD-046-92, Adhesives.
- .5 National Fire Protection Association (NFPA).
 - .1 NFPA 80-1999, Standard for Fire Doors and Fire Windows.
 - .2 NFPA 252-1999, Standard Method of Fire Tests of Door Assemblies.
- .6 Underwriters' Laboratories of Canada (ULC).
 - .1 CAN-4S104M-80 (R1985), Fire Tests of Door Assemblies.
 - .2 CAN4-S105M-85 (R1992), Fire Door Frames Meeting the Performance Required by CAN4-S104.
- .7 LEED CI 1.0 2007 – Commercial Interiors

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC content:
 - .1 For caulking materials during application and curing.

- .2 For door materials and adhesives.
- .3 Submit FSC Chain of Custody Certificate.

2 Shop Drawings:

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate door types and cutouts for lights and louvres, sizes, core construction, transom panel construction and cutouts.

1.4 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit one 300 x 300 mm corner sample of each type wood door.
- .3 Show door construction, core, glazing detail and faces.
- .4 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- .1 Regulatory Requirements:
 - .1 Wood fire rated doors: labelled and listed by an organization accredited by Standards Council of Canada.
- .2 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .3 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Storage and Protection:
 - .1 Protect doors from dampness. Arrange for delivery after work causing abnormal humidity has been completed.
 - .2 Store doors in well ventilated room, off floor, in accordance with manufacturer's recommendations.
 - .3 Protect doors from scratches, handling marks and other damage. Wrap doors.
 - .4 Store doors away from direct sunlight.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Dispose of corrugated cardboard polystyrene plastic packaging material in appropriate on-site bin for recycling in accordance with site waste management program.
- .3 Unused or damaged glazing materials are not recyclable and must not be diverted to municipal recycling programs.
- .4 Divert unused adhesive material from landfill to official hazardous material collections site approved by Departmental Representative.

- .5 Do not dispose of unused paint materials into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

1.8 GUARANTEE

- .1 This section shall furnish the Departmental Representative with a two (2) year M.M.A.B.C. (The BC Chapter of AWMAC) Guarantee Certificate or an equivalent maintenance bond, to the full value of the architectural woodwork sub-contract, certifying that the architectural woodwork supplied will be in accordance with the Standards incorporated in the AWMAC Quality Standards manual, latest edition.
- .2 The Guarantee shall cover replacing and refinishing to make good any defects in architectural woodwork due to faulty workmanship or defective materials supplied by this Section, which appear during a two (2) year period following the substantial completion of the Project.

2.0 PRODUCTS

2.1 WOOD FLUSH DOORS

- .1 Solid core: to CAN/CSA-0132.2.1.
 - .1 Construction:
 - .1 Core: Agfiber particleboard to ANS1 A280.1 LD7
 - .2 Face Panels as scheduled:
 - .1 HPVA Architectural "A" grade wood veneer (minimum thickness 1/50") slip match, fir to match existing.
 - .2 Adhesive: Type I (waterproof) no urea formaldehyde for all doors.
 - .3 Stiles:
 - .1 CE Compatible with face veneer mill option AWS Type B veneered
 - .2 Standard: AWMAC Custom Grade
 - .4 Environmental:
 - .1 All wood in door FSC certified or FSC controlled
 - .2 Manufactured with pre-consumer recycled material

2.3 GLAZING

- .1 Glass: As per Glazing Section 08 80 50

2.4 FABRICATION

- .1 Vertical edge strips to match face veneer.
- .2 Prepare doors for louvres and glazing. Provide to match face veneer glazing stops with mitred corners.
- .3 Bevel vertical edges of single acting doors 3 mm in 50 mm on lock side and 1.5 mm in 50 mm on hinge side.
- .4 Radius vertical edges of double acting doors to 60 mm radius.

3.0 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

- .1 Unwrap and protect doors in accordance with CAN/CSA-O132.2 Series, Appendix A.
- .2 Install labelled fire rated doors to NFPA 80.
- .3 Install doors and hardware in accordance with manufacturer's printed instructions and CAN/CSA-O132.2 Series, Appendix A.
- .4 Adjust hardware for correct function.
- .5 Install glazing in accordance with Section 08 80 50 - Glazing.
- .6 Install louvres and stops.
- .7 Secure transom and side panels by means of stops concealed fasteners or countersunk screws concealed by means of wood plugs matching panel in grain and colour.

3.3 ADJUSTMENT

- .1 Re-adjust doors and hardware just prior to completion of building to function freely and properly.

3.4 CLEANING

- .1 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .2 Remove traces of primer, caulking; clean doors and frames.
- .3 Clean glass and glazing materials with approved non-abrasive cleaner.
- .4 On completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION 08 14 16

1.0 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Finish Carpentry Section 06 20 00
- .2 Metal Doors & Frames Section 08 11 00
- .3 Aluminum Doors & Frames Section 08 11 16
- .4 Glazed Aluminum Curtain Walls Section 08 44 13

1.2 REFERENCES

- .1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
 - .1 ANSI/BHMA A156.1- 2000 , American National Standard for Butts and Hinges.
 - .2 ANSI/BHMA A156.2- 2003 , Bored and Preamsembled Locks and Latches.
 - .3 ANSI/BHMA A156.3- 2001 , Exit Devices.
 - .4 ANSI/BHMA A156.4- 2000 , Door Controls - Closers.
 - .5 ANSI/BHMA A156.5- 2001 , Auxiliary Locks and Associated Products.
 - .6 ANSI/BHMA A156.6- 2005 , Architectural Door Trim.
 - .7 ANSI/BHMA A156.8- 2005 , Door Controls - Overhead Stops and Holders.
 - .8 ANSI/BHMA A156.10- 1999 , Power Operated Pedestrian Doors.
 - .9 ANSI/BHMA A156.12- 2005 , Interconnected Locks and Latches.
 - .10 ANSI/BHMA A156.13- 2002 , Mortise Locks and Latches Series 1000.
 - .11 ANSI/BHMA A156.14- 2002 , Sliding and Folding Door Hardware.
 - .12 ANSI/BHMA A156.15- 2006 , Release Devices - Closer Holder, Electromagnetic and Electromechanical.
 - .13 ANSI/BHMA A156.16- 2002 , Auxiliary Hardware.
 - .14 ANSI/BHMA A156.17- 2004 , Self-closing Hinges and Pivots.
 - .15 ANSI/BHMA A156.18- 2006 , Materials and Finishes.
 - .16 ANSI/BHMA A156.19- 2002 , Power Assist and Low Energy Power - Operated Doors.
 - .17 ANSI/BHMA A156.20- 2006 , Strap and Tee Hinges and Hasps.
- .2 Canadian Steel Door and Frame Manufacturers' Association (CSDMA)
 - .1 CSDMA Recommended Dimensional Standards for Commercial Steel Doors and Frames - 2009.

1.3 HARDWARE/SECURITY COORDINATION

- .1 Prior to preparation and submittal of hardware list, door hardware supplier's hardware consultant shall arrange a coordination meeting with the following attendees:
 - .1 Hardware supplier's hardware consultant.
 - .2 Facility's Building Maintenance Manager.
 - .3 Departmental Representative.
 - .4 General Contractor.
- .2 The final door hardware lists shall reflect all decisions made at said coordination meeting.

1.4 ACTION & INFORMAL 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

door hardware and include product characteristics, performance criteria, physical size, finish and limitations.

- .3 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
 - .4 After approval samples will be returned for incorporation in Work.

- .4 Hardware List:
 - .1 Submit contract hardware list.
 - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.

- .5 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

- .6 Manufacturer's Instructions: submit manufacturer's installation instructions.

- .7 Sustainable Design Submittals:
 - .1 LEED Canada CI Version 1.0. Submittals: in accordance with Section 01 35 21 - LEED Requirements.
 - .2 Construction Waste Management:
 - .1 Submit project Construction Waste Management Plan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates salvage rates, and landfill rates demonstrating that 75% of construction wastes were recycled or salvaged.
 - .3 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
 - .4 Regional Materials: submit evidence that project incorporates required percentage 20 % of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

1.5 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.

- .2 Operation and Maintenance Data: submit operation and maintenance data for door hardware for incorporation into manual.

1.6 MAINTENANCE MATERIALS SUBMITTALS

- .1 Extra Stock Materials:
 - .1 Supply maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Tools:
 - .1 Supply 2 sets of wrenches for door closers, locksets, and fire exit hardware.

1.7 QUALITY ASSURANCE

- .1 Regulatory Requirements:
 - .1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.
 - .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.8 DELIVERY, STORAGE & 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 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.
- .4 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect door hardware from nicks, scratches, and blemishes.
 - .3 Protect prefinished surfaces with wrapping strippable coating.
 - .4 Replace defective or damaged materials with new.
- .5 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 and Section 01 35 21 - LEED Requirements.

1.9 REDUNDANT LOCKSETS

- .1 Where existing and other lock-bearing devices are to be removed and disposed of: turn-over to Departmental Representative and obtain receipt. In order to maintain building keying security, no existing locksets are to be removed from building.

1.10 MAINTENANCE

- .1 Extra Materials:
 - .1 Provide maintenance materials in accordance with Section 01 78 30-Closeout Submittals.
 - .2 Supply two sets of wrenches for door closers.

2.0 PRODUCTS

2.1 HARDWARE ITEMS

- .1 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

- .1 Locks and latches:
 - .1 Mortise locks and latches: to ANSI/BHMA A156.13, series 1000 mortise lock, grade 1, designed for function and keyed as stated in Hardware Schedule.
 - .2 Lever handles: plain 64mm x 114mm x 51mm design.

- .3 Roses: round
 - .4 Normal strikes: box type, lip projection not beyond jamb.
 - .5 Cylinders: key into keying system as noted as directed.
 - .6 Finished to 652, 626 & 630
 - .7 6 pin (or 7) tumbler keying to Maintenance's Master System.
 - .8 Dead bolt equivalent to BEST lock 83T series.
- .2 Butts and hinges:
- .1 Butts and hinges: to CAN/CGSB-69.18 / ANSI/BHMA A156.1, designated by letter A and numeral identifiers, followed by size and finish, listed in Hardware Schedule.
- .3 Exit devices: to ANSI/BHMA A156.3, type & function as listed, grade (1)
- .1 Auxiliary items: door coordinator.
- .4 Door Closers and Accessories:
- .1 Door controls (closers): to CAN/CGSB-69.20 / ANSI/BHMA A156.4, listed in Hardware Schedule, multi-sized sized 1 to though 6 in accordance with ANSI/BHMA A156.4, table A1, finished to 689.
 - .2 Door controls - overhead holders: to CAN/CGSB-69.24 / ANSI/BHMA A156.8, designated by letter C and numeral identifiers listed in Hardware Schedule, finished to 626.
 - .3 Closer/holder release devices: to CAN/CGSB/ANSI / ANSI/BHMA listed in hardware schedule, finished to 689.
 - .4 Door co-ordinator: surface for pairs of doors with overlapping astragal.
 - .5 Magnetic holder floor or wall mounted release on fire alarm: finished to 689.
- .5 Auxiliary locks and associated products: to ANSI/BHMA A156.5, numeral identifiers listed in Hardware Schedule, finished to 626.
- .1 Cylinders: type as listed, finished to 626, for installation in deadlocks provided with special doors as listed in Hardware Schedule. Key into keying system [as noted] [as directed].
- .6 Architectural door trim: to ANSI/BHMA A156.6, designated by letter J and numeral identifiers listed in Hardware Schedule as listed below, finished to 626 or 630.
- .1 Architectural door trim: to ANSI/BHMA A156.6, listed in Hardware Schedule as listed below, finished to 626 or 630
 - .1 Door protection plates: kick plate type as listed, 1.27 mm thick stainless steel 1 edges, finished to 630.
 - .2 Push plates: type as listed, 1.27 mm thick stainless steel 1 edge, as listed, finished to 630.
 - .3 Push/Pull units: type as listed, finished to 630.
- .7 Auxiliary hardware: to ANSI/BHMA A156.16, listed in Hardware Schedule finished to 626 or 630.
- .8 Door bottom seal: heavy duty, door seal of extruded aluminum frame and solid closed cell neoprene weather seal, recessed in door bottom surface mounted recessed in door face, closed ends, adjustable automatic retract mechanism when door is open, clear anodized finish.

- .9 Thresholds: 127mm wide x full width of door opening, extruded aluminum mill finish, serrated surface, with lip and vinyl door seal insert.
- .10 Weatherstripping:
 - .1 Head and jamb seal:
 - .1 Adhesive backed neoprene vinyl covered foam material.
 - .2 Door bottom seal:
 - .1 Extruded aluminum frame and [closed cell neoprene vinyl sweep, clear anodized finish.
- .11 Astragal: overlapping, Primed steel meeting stiles Pile
- .12 Barrier Free Electric Door Operator:
 - .1 Power-operated pedestrian doors: to ANSI/BHMA A156.10.
 - .2 Power assist and low energy power operated doors: to ANSI/BHMA A156.19.
 - .3 Heavy duty pneumatically assisted door closer, capable of multi-door operation, complete with actuators, control boxes, and electric motor.
 - .4 Self-contained control box/compressor combination for independent operation of two door leaves.
 - .5 Control boxes: complete with electric strike relay.
 - .6 Mount operators on either push or pull sides of doors as required to place them inside rooms.
 - .7 Actuation of operators by push button.
 - .8 Electrical box and actuator: Hardwired low voltage actuator with stainless steel 114 mm round plate, engraved blue filled with handicap symbol. Box 51 mm wide x 102 mm high x 50 mm deep single gang electrical box, flush mounted in wall, locations indicated.
 - .9 Supply switched line voltage to control box. Locate switch adjacent to box.
- .13 Electric Strikes
 - .1 Weatherproof type includes all accessories, transformer and housing. Conduit by Division 26, connection by Division 28.

2.3 MISCELLANEOUS HARDWARE

- .1 Indexed key control system: to ANSI/BHMA A156.5, designated by letter E and numeral identifiers, wall mounted, type 50% expandable colour enamel paint finish.

2.4 FASTENINGS

- .1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.
- .2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.
- .3 Exposed fastening devices to match finish of hardware.
- .4 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.
- .5 Use fasteners compatible with material through which they pass.

2.5 KEYING

- .1 Doors, padlocks and cabinet locks to be keyed to grand master keyed as directed and as noted in Hardware Schedule. Prepare detailed keying schedule in conjunction with Departmental Representative.
- .2 Supply keys in duplicate for every lock in this Contract.
- .3 Supply (five) 5 master keys for each master key or grand master key group.
- .4 Supply 5 keys for each lock.
- .5 Stamp keying code numbers on keys and cylinders.
- .6 Supply construction cores.
- .7 Hand over permanent cores and keys to Departmental Representative.
- .8 All core to be high security interchangeable core.

2.6 KEYS

- .1 Use standard construction cylinders for locks for Contractor's use during the construction period.
- .2 Issue instructions to employees and sub-trades, as necessary, to ensure safe custody of the construction set of keys.
- .3 Upon completion of each phase of the construction, the Departmental Representative will, in conjunction with the lock manager:
 - .1 Prepare an operational keying schedule.
 - .2 Accept the operational keys and cylinders directly from the lock manufacturer.
 - .3 Arrange for removal and return of the construction cores and install the operational core in all locks.

2.7 ADDITIONAL DOOR HARDWARE SCHEDULED ELSEWHERE

- .1 Refer to Division 28- Electronic Safety and Security, for additional door items including, but not limited to the following:
 - .1 Access and intrusion control panels.
 - .2 Card readers.
 - .3 Door Contracts.
 - .4 Intrusion detection.
- .2 Refer to Division 26-Electrical for all wiring and conduit for above items.

3.0 EXECUTION

3.1 INSTALLATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

- .2 Supply metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Supply manufacturers' instructions for proper installation of each hardware component.
- .4 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction).
- .5 Where door stop contacts door pulls, mount stop to strike bottom of pull.
- .6 Install key control cabinet.
- .7 Use only manufacturer's supplied fasteners.
 - .1 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
- .8 Remove construction cores locks when directed by Departmental Representative.
 - .1 Install permanent cores and ensure locks operate correctly.

3.2 ADJUSTING

- .1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.
- .2 Lubricate hardware, operating equipment and other moving parts.
- .3 Adjust door hardware to ensure tight fit at contact points with frames.

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 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.
 - .3 Remove protective material from hardware items where present.
 - .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal 01 35 21 - LEED Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4 DEMONSTRATION

- .1 Keying System Setup and Cabinet:
 - .1 Set up key control system with file key tags, duplicate key tags, numerical index, alphabetical index and key change index, label shields, control book and key receipt cards.
 - .2 Place file keys and duplicate keys in key cabinet on their respective hooks.
 - .3 Lock key cabinet and turn over key to Departmental Representative.
- .2 Maintenance Staff Briefing:
 - .1 Brief maintenance staff regarding:
 - .1 Proper care, cleaning, and general maintenance of projects complete

- hardware.
 - .2 Description, use, handling, and storage of keys.
 - .3 Use, application and storage of wrenches for door closers locksets and fireexit hardware.
- .3 Demonstrate operation, operating components, adjustment features, and lubrication requirements.

3.5 PROTECTION

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

3.6 FINISH HARDWARE SCHEDULE

- .1 Kitchen Door:
 - .1 3 Ea. Double Swing Hinges, Self Closing
 - .2 2 Ea. S.S. Push Plate
 - .3 2 Ea. S.S. Kick Plate, 1000mm high
- .2 Entry Door:
 - .1 3 Ea. Butt Hinges
 - .2 1 Ea. Class Room Functions Lock
 - .3 1 Ea. S.S. Kick Plate, 300mm high
 - .4 Automatic Operator
- .3 Male & Female Washroom Doors
 - .1 Automatic Operator
 - .2 All Other Hardware, Re-use Existing
- .4 Corridor Door
 - .1 Automatic Operator
 - .2 All Other Hardware, Re-use Existing

END OF SECTION 08 71 00