PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Non-rated, fire rated and thermally insulated steel frames.

.2 Louvers. Glass and glazing.

.3 Non-rated, fire rated and thermally insulated steel doors.

.4 Glazed light frames.

1.2 RELATED SECTIONS

.1 Section 04811 – Single Wythe Masonry: Masonry grout fill of metal frames.

.2 Section 08700 - Door Hardware: Hardware, silencers, and weather-stripping.

.3 Section 08800 - Glazing.

.4 Section 09900 – Paint and Coatings: Field painting of frames.

.5 Division 16 - Electrical: Electrical Hardware

1.3 REFERENCES

.1 ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.

.2 ASTM A653/A653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.3 ASTM E152 - Methods of Fire Tests of Door Assemblies.

.4 CSDFMA (Canadian Steel Door and Frame Manufacturers Association).

.5 DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.

.6 NFPA 80 - Fire Doors and Windows.

.7 NFPA 252 - Fire Tests for Door Assemblies.

.8 SDI-100 - Standard Steel Doors and Frames.

.9 UL 10B - Fire Tests of Door Assemblies.

1.4 SUBMITTALS

.1 Section 01000: General Provisions: Submission procedures.

.2 Product Data: Indicate frame configuration and finishes. Indicate door configurations, location of cut-outs for hardware reinforcement.

.3 Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacings, location of cut-outs for hardware, and finish. Indicate door elevations, internal reinforcement, closure method, and cut-outs for glazing, and finishes.

1.5 QUALITY ASSURANCE

.1 Conform to requirements of CSDFMA SDI-100 and ANSI A117.1.

.2 Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.6 REGULATORY REQUIREMENTS

.1 Fire Rated Frame Construction: Conform to UL 10B.

.2 All doors in fire walls rated 2 hours or more shall be listed and labelled with a maximum temperature rise limitation of 250 C degrees after 30 minutes in accordance with the National Building Code.

.3 Installed Door and Frame Assembly: Conform to NFPA 80 for fire rated class as scheduled.

1.7 PROJECT CONDITIONS

.1 Coordinate the Work with frame opening construction, door, and hardware installation.

.2 Sequence installation to ensure wire connections are achieved in an orderly and expeditious manner.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

.1 Pero Steldor

.2 Shanahans

2.2 FRAMES

.1 Frames: 1.5 mm thick material, base metal thickness with ZF75 Colourbond coating. Frames for security glazing to be 1.9 mm thick base metal.

.2 Removable Stops: Rolled steel shape, mitered corners; prepared for countersink style tamper proof screws.

.3 Anchors: purpose made to rigidly secure frames, 3 per jamb.

.4 Mortar Guard Boxes: 0.76 mm welded in place.

.5 Bituminous Coating: Fibered asphalt emulsion.

.6 Primer: Zinc chromate type.

.7 Silencers: Resilient rubber set in steel fitted into drilled hole.

.8 Insulation: Fibreglass

2.3 DOORS

.1 Insulated Core Doors: minimum , 1.2 mm surface sheets, and top and bottom end channels; cores filled with insulation.

.2 Honeycomb Core Doors: minimum , 1.2 mm surface sheets and , top and bottom end channels; cores filled with honeycomb material laminated under pressure to surface sheets.

.3 Fire Rated Doors: Minimum , 1.2 mm surface sheets and, top and bottom end channels, of ULC label requirements indicated on drawings.

.4 Reinforcement for hardware:

.1 Locks: minimum 1.52 mm steel.

.2 Butts: minimum 3.42 mm steel.

.3 Flush Bolts: minimum 3.42 mm steel.

.4 Door Closures: minimum 1.9 mm steel.

.5 Glazing Stops: 1.9 mm rolled steel channel shape, butted corners; 16 mm high profile; prepared for countersink screws.

2.4 FABRICATION FRAMES

.1 Fabricate frames as welded unit.

.2 Provide custom frames for security glazing – refer to details for profile.

.3 Mullions for Double Doors: Fixed type, of same profiles as jambs.

.4 Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.

.5 Reinforce frames wider than 1 200 mm with roll formed steel channels fitted tightly into frame head, flush with top.

.6 Prepare frames for silencers. Provide three single silencers for single doors and mullions of double doors on strike side. Provide two single silencers on frame head at double doors without mullions.

.7 Attach fire rated label to each fire rated frame unit.

.8 Provide drywall returns on all frames.

.9 Attach channel spreaders at bottom of frames for shipping.

2.5 FABRICATION - DOORS

.1 Fabricate hollow metal doors and panels in accordance with requirements of "Canadian Manufacturing Standards for Steel Doors and Frames" produced by the Canadian Steel Door and Frame Manufacturer's Association and as indicated on Drawings.Fabricate doors with hardware reinforcement welded in place.

.2 Fabricate fire rated hollow metal doors in accordance with requirements of Underwriters Laboratories of Canada (ULC). Place ULC labels where visible when in installed position.

.3 Mechanically interlock longitudinal seams of doors, weld seams and sand flush. Top and bottom of doors closed with end channels recessed and spot welded in place.

.4 Reinforce and prepare doors to receive hardware. Refer to Section 08700 for hardware requirements.

.5 Each exterior hollow metal door to be supplied complete with a full minimum 3.42 mm anti-intrusion plate welded to latch side of door.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verify that opening sizes and tolerances are acceptable.

3.2 INSTALLATION

.1 Install frames in accordance with CSDFMA.

.2 Coordinate with masonry, gypsum board, concrete wall construction for anchor placement.

.3 Coordinate installation of glass and glazing.

.4 Coordinate installation of doors and frames with installation of hardware specified in Section 08700

.5 Install roll formed steel reinforcement channels between two abutting frames. Anchor to structure and floor.

.6 After installation, touch up all scratched or damaged surface and prime.

.7 Insulate all frames exposed to the exterior.

.8 Install door louvers, plumb and level.

3.3 ERECTION TOLERANCES

.1 Maximum Diagonal Distortion: 1.5 mm measured with straight edges, crossed corner to corner.

.2 Clearance on steel doors at head and jambs shall be: 3 mm maximum, and 3 mm maximum between pairs of doors

3.4 ADJUSTING

.1 Adjust door for smooth and balanced door movement.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Flush wood doors; non-rated.

1.2 RELATED SECTIONS

.1 Section 08100 – Metal Doors and Frames.

.2 Section 08700 - Door Hardware.

.3 Section 08800 - Glazing.

.4 Section 09900 – Paint and Coatings: Site finishing of doors.

1.3 REFERENCES

.1 ASTM E152 - Methods of Fire Tests of Door Assemblies.

.2 AWI/AWMAC - Quality Standards Illustrated (QSI), current edition.

.3 HPMA HP - Hardwood and Decorative Plywood.

1.4 SUBMITTALS FOR REVIEW

.1 Section 01000: General Provisions: Submission procedures.

.2 Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

.3 Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, identify cutouts for glazing.

.4 Samples: Submit two samples of door veneer, x mm in size illustrating wood grain and colour.

1.5 QUALITY ASSURANCE

.1 Perform Work in accordance with AWI/AWMAC QSI, Custom Grade.

.2 Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND PROTECTION

.1 Package, deliver and store doors in accordance with AWI/AWMAC QSI.

.2 Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on Site to permit ventilation.

1.7 WARRANTY

.1 Provide 3 year warranty.

.2 Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, telegraphing core construction.

PART 2 PRODUCTS

2.1 DOOR TYPES

.1 Flush Interior Doors: 44 mm thick; solid core construction.

2.2 DOOR CONSTRUCTION

.1 Core Solid, Non-Rated: Solid particleboard core: stile and rail frame bonded to particleboard core with wood lock blocks 5-ply construction.

2.3 FLUSH DOOR FACING

.1 Veneer Facing: QSI A Grade quality maple species wood, plain sliced, with centre balanced matched grain, for transparent finish.

.2 Glazing Stops: Wood, of same species as door facing mitered corners; lip moulding, prepared for countersink style screws.

2.4 ADHESIVE

.1 Facing Adhesive: II - water resistant.

2.5 ACCESSORIES

.1 Glazing Stops: Wood, of same species as door facing mitered corners; prepared for countersink style screws.

2.6 FABRICATION

.1 Fabricate non-rated doors in accordance with QSI Custom Grade Quality Standards requirements.

.2 Provide lock blocks at lock edge and top of door for closer for hardware reinforcement.

.3 Vertical Exposed Edge of Stiles: Of same species as veneer facing.

.1 Door Edge Detail to conform to QSI No. 2 Edge, hardwood vertical edges of species to match face veneer.

.4 Bond edge banding to cores.

.5 Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware.

.6 Provide edge clearances in accordance with AWI / AWMAC.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verify that opening sizes and tolerances are acceptable.

.2 Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

.1 Install doors in accordance with manufacturer's instructions.

.2 Trim non-rated door width by cutting equally on both jamb edges.

.3 Trim door height by cutting bottom edges to a maximum of 19 mm.

.4 Machine cut for hardware.

.5 Coordinate installation of doors with installation of frames specified in Section 08100 and hardware specified in Section 08700.

.6 Coordinate installation of glass and glazing.

3.3 INSTALLATION TOLERANCES

.1 Conform to QSI requirements for fit and clearance tolerances.

.2 Maximum Distortion : 5 mm measured with straight edge or taut string, corner to corner, over an imaginary 915 X 2 130 mm surface area.

3.4 ADJUSTING

.1 Adjust door for smooth and balanced door movement.

.2 Adjust closer for full closure.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Aluminum doors and frames.

.2 Vision glass and glass.

.3 Perimeter sealant.

1.2 RELATED SECTIONS

.1 Section 07212 – Insulation., Air and Vapour Barriers: Perimeter vapour seal between glazing system and adjacent construction.

.2 Section 07900 - Joint Sealers: System perimeter sealant and back-up materials.

.3 Section 08700 - Door Hardware

.4 Section 08800 - Glazing.

.5 Section 08910 - Glazed Aluminum Curtain Wall Assembly.

1.3 REFERENCES

.1 AA (Aluminum Association) - Designation System for Aluminum Finishes.

.2 AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

.3 AAMA 606.1 - Specifications and Inspection Methods for Integral Colour Anodic Finishes for Architectural Aluminum.

.4 AAMA SFM-1 - Aluminum Storefront and Entrance Manual.

.5 ANSI A117.1 - Safety Standards for the Handicapped.

.6 ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.7 ASTM A653/A653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.8 ASTM B209M - Aluminum and Aluminum-Alloy Sheet and Plate.

.9 ASTM B221M - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.

.10 ASTM E283 - Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.

.11 ASTM E330 - Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

.12 ASTM E331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

.13 ASTM E1105 - Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls, and Doors by Uniform or Cyclic Static Air Pressure Difference.

1.4 SYSTEM DESCRIPTION

.1 Aluminum entrances and storefront system includes tubular aluminum sections with supplementary internal support framing, shop fabricated, factory finished, vision glass, glass, related flashings, anchorage and attachment devices.

.2 System Assembly: Site assembled.

1.5 PERFORMANCE REQUIREMENTS

.1 System Design: Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of wall:

.1 As calculated in accordance with building code, As measured in accordance with ASTM E330.

.2 Deflection: Limit mullion deflection to flexure limit of glass 1/175 of span; with full recovery of glazing materials.

.3 System Assembly: Accommodate without damage to components or deterioration of seals, movement within system, movement between system and peripheral construction, dynamic loading and release of loads, deflection of structural support framing.

.4 Air Infiltration: Limit air leakage through assembly to 0. 0.015 cu m/s/sq m of wall area, measured at a reference differential pressure across assembly of 75 Pa as measured in accordance with ASTM E283.

.5 Air and Vapour Seal: Maintain continuous air barrier and vapour barrier throughout assembly, primarily in line with inside pane of.

.6 Water Leakage: None, when measured in accordance with ASTM E331.

.7 Expansion / Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 95 degrees C over a 12 hour period without causing detrimental effect to system components and anchorage.

.8 System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.

1.6 SUBMITTALS FOR REVIEW

.1 Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work and expansion and contraction joint location and details.

.2 Submit two samples x mm in size illustrating finished aluminum surface, glass units, infill panels, glazing materials.

1.7 QUALITY ASSURANCE

.1 Perform Work in accordance with AAMA SFM-1 and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

.2 Conform to requirements of ANSI A117.1.

.3 Installer: Company specializing in installing aluminum glazing systems with minimum five years documented experience.

.4 Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the place where the Project is located.

1.8 DELIVERY, STORAGE, AND PROTECTION

.1 Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Extruded Aluminum: ASTM B221M. 6063-T5 alloy.

.2 Sheet Aluminum: ASTM B209M.

.3 Sheet Steel: ASTM A653/A653M ; galvanized in accordance with .

.4 Fasteners: Stainless steel.

2.2 COMPONENTS

.1 Frame: 50 x112 mm nominal dimension; thermally broken with interior tubular section insulated from exterior; flush applied glazing stops; drainage holes; internal weep drainage system. Trifab VG 451T manufactured by Kawneer.

.2 Doors: 44 mm thick, 89 mm wide top rail, 89 mm wide vertical stiles, 190 mm wide bottom rail; beveled glazing stops 350 swing door manufactured by Kawneer.

.3 Flashings: mm thick aluminum, finish to match mullion sections where exposed.

2.3 GLASS AND GLAZING MATERIALS

.1 Glass and Glazing Materials: As specified in Section 08800.

2.4 SEALANT MATERIALS

.1 Sealant and Backing Materials:

.1 Perimeter Sealant: Type as specified in Section 07900.

2.5 HARDWARE

.1 Specified in Section 08700.

2.6 FABRICATION

.1 Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

.2 Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

.3 Prepare components to receive anchor devices. Fabricate anchors.

.4 Arrange fasteners and attachments to conceal from view.

.5 Prepare components with internal reinforcement for door hardware and door operator hinge hardware.

.6 Reinforce framing members for imposed loads.

2.7 FINISHES

.1 Finish Coatings: Conform to AAMA 606.1.

.2 Exposed Aluminum Surfaces: Bronze anodized to match existing aluminum windows.

.3 Concealed Steel Items: Galvanized in accordance with ASTM A123 to 610 gm/sq m.

.4 Apply one coat of bituminous paint to concealed aluminum surfaces in contact with cementitious or dissimilar materials.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verification of existing conditions before starting Work.

.2 Verify dimensions, tolerances, and method of attachment with other Work.

.3 Verify wall openings and adjoining air and vapour seal materials are ready to receive Work of this Section.

3.2 INSTALLATION

.1 Install wall system in accordance with manufacturer's instructions and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

.2 Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

.3 Provide alignment attachments and shims to permanently fasten system to building structure.

.4 Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent Work.

.5 Provide thermal isolation where components penetrate or disrupt building insulation.

.6 Install sill flashings. Turn up ends and edges; seal to adjacent Work to form water tight dam.

.7 Coordinate attachment and seal of perimeter air and vapour barrier materials.

.8 Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

.9 Install flashings.

.10 Set thresholds in bed of mastic and secure.

.11 Install hardware using templates provided. Refer to Section 08700

.12 Install glass in accordance with Section 08800, to glazing method required to achieve performance criteria.

3.3 ERECTION TOLERANCES

.1 Maximum Variation from Plumb: 0.06 inches every 1.5 mm/m non-cumulative or 1.5 mm/3 m, whichever is less.

.2 Maximum Misalignment of Two Adjoining Members Abutting in Plane: 0.8 mm.

3.4 ADJUSTING

.1 Adjust operating hardware for smooth operation.

3.5 CLEANING

.1 Remove protective material from pre-finished aluminum surfaces.

.2 Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.

.3 Remove excess sealant by method acceptable to sealant manufacturer.

3.6 PROTECTION OF FINISHED WORK

.1 Protect finished Work from damage.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Hardware for wood, hollow steel and aluminum doors.

.2 Thresholds.

.3 Weatherstripping, seals, and door gaskets.

1.2 RELATED SECTIONS

.1 Section 06200 – Finish Carpentry: Cabinet hardware.

.2 Section 08100 – Metal Doors and Frames.

.3 Section 08211 - Flush Wood Doors.

.4 Section 08411 - Aluminum Entrances and Storefronts

.5 Division 16 - Power supply to electric hardware devices.

1.3 REFERENCES

.1 AWMAC (Architectural Woodwork Manufacturers Association of Canada) - Quality Standards.

.2 BHMA (Builders Hardware Manufacturers Association) - A156 series.

.3 DHI (Door and Hardware Institute) - A115 series.

.4 ULC - List of Equipment and Materials

.5 NFPA 80 - Fire Doors and Windows.

.6 NFPA 252 - Fire Tests of Door Assemblies.

1.4 SUBMITTALS

.1 Submit shop drawings in vertical format to requirements of Section 01000 – General Provisions.

.2 Indicate on shop drawings, locations and mounting heights of each type of hardware.

.3 Hardware list shall list each door individually and shall list hardware for each door as a described item, not by a code as is done in the specification. Hardware list shall be in terminology understandable by a layman.

.4 Supply templates to door and frame manufacturer to enable accurate sizes, locations of cut outs, and reinforcement for hardware.

.5 Provide product data on specified hardware as requested.

.6 Submit 1 copy of manufacturers' catalogue cuts of each item, with hardware list.

.7 Put parts lists, manufacturers instructions, and catalogue cuts into maintenance manual as per Section 01000.

1.5 QUALITY ASSURANCE

.1 Hardware Supplier Qualifications: Company specializing in supplying institutional door hardware with 5 years documented experience. approved by manufacturers.

1.6 REGULATORY REQUIREMENTS

.1 Products Requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., as suitable for the purpose specified and indicated.

.2 Conform to applicable code and ULC for requirements applicable to fire rated doors, frames and hardware.

1.7 DELIVERY, STORAGE, AND PROTECTION

.1 Transport, handle, store, and protect products.

.2 Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

1.8 PROJECT CONDITIONS

.1 Coordinate the Work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.

.2 Supply templates to manufacturers of components affected by hardware.

.3 Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

.4 Coordinate City of Winnipeg's keying requirements during the course of the Work.

1.9 MAINTENANCE PRODUCTS

.1 Provide special wrenches and tools applicable to each different or special hardware component.

.2 Provide maintenance tools and accessories supplied by hardware component manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

.1 Refer to hardware Schedule listed at the end of this specification section.

2.2 KEYING

.1 Door Locks: Locks installed shall be ready to accept Abloy cylinders supplied and installed by City of Winnipeg.

.2 Include temporary construction keying.

2.3 KEY CABINET

.1 Cabinet Construction: Sheet aluminum construction, piano hinged door with lock master keyed to building system.

.2 Cabinet Size: Size for project keys plus 10percent growth.

.3 Horizontal metal strips for key hook labeling with clear plastic strip cover over labels.

.4 Finish: Baked enamel, colour as selected.

2.4 FINISHES

.1 Finishes: Identified in Schedule at end of section.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verify that doors and frames are ready to receive Work and dimensions are as instructed by the manufacturer.

.2 Verify that electric power is available to power operated devices and is of the correct characteristics.

3.2 INSTALLATION

.1 Install hardware in accordance with manufacturer's instructions.

.2 Use templates provided by hardware item manufacturer.

3.3 ADJUSTING

.1 Adjust hardware for smooth operation.

3.4 PROTECTION OF FINISHED WORK

.1 Do not permit adjacent Work to damage hardware or finish.

3.5 SCHEDULES

HW SET: 1

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	613	IVE
1	EA	PANIC HARDWARE	35A-EO 4'	313	VON
1	EA	PANIC HARDWARE	35A-NL-OP 4'	313	VON
2	EA	OFFSET DOOR PULL	8190-0	630	IVE
1	EA	SURFACE CLOSER	4041 & 18 ADAPTER	690	LCN
1	EA	AUTO-EQUALIZER	4642	690	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	DOOR SWEEP	W-13S	613	KNC
1	EA	THRESHOLD	CT-10	627	KNC
2	EA	WALL PLATE SWITCH	7910-956	630	LCN

HW SET: 2

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	613	IVE
2	EA	ELECTROMAG LOCK	70	628	LOC
2	EA	PULL/PUSHBAR	9103EZ-0	630	IVE
2	EA	AUTO-EQUALIZER	4642	690	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
2	EA	WALL PLATE SWITCH	7910-956	630	LCN

HW SET: 3

3	EA	HINGE	3CB1HW 4.5 X 4	630	IVE
1	EA	FIRE EXIT HARDWARE	98L-F 996L	626	VON
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
1	EA	DOME STOP	FS438	626	IVE
1	EA	WEATHERSTRIP	W-21	BLK	KNC
1	EA	DOOR BOTTOM	CT-52	627	KNC

HW SET: 4

3	EA	HINGE	3CB1HW 4.5 X 4 NRP	630	IVE
1	EA	PANIC HARDWARE	98EO	626	VON
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
1	EA	DOOR BOTTOM	CT-50	628	KNC
1	EA	DOOR SWEEP	W-13S	613	KNC
1	EA	THRESHOLD	CT-10	627	KNC

HW SET: 5

6	EA	HINGE	3CB1HW 4.5 X 4 NRP	652	IVE
2	EA	FIRE EXIT HARDWARE	98L-F 996L	626	VON

1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
2	EA	WALL STOP	WS406CCV	630	IVE
2	EA	WEATHERSTRIP	W-21	BLK	KNC
2	EA	DOOR BOTTOM	CT-52	627	KNC

HW SET: 6

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	613	IVE
1	EA	PANIC HARDWARE	35A-NL-OP 4'	313	VON
1	EA	OFFSET DOOR PULL	8190-0	630	IVE
1	EA	AUTO-EQUALIZER	4642	690	LCN
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR SWEEP	W-13S	613	KNC
1	EA	THRESHOLD	CT-10	627	KNC
2	EA	WALL PLATE SWITCH	7910-956	630	LCN

HW SET: 7

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	613	IVE
1	EA	PANIC HARDWARE	35A-NL-OP 4'	313	VON
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET DOOR PULL	8190-0	630	IVE
1	EA	AUTO-EQUALIZER	4642	690	LCN
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
1	EA	WALL STOP	WS406CCV	630	IVE
1	EA	WALL PLATE SWITCH	7910-956	630	LCN

HW SET: 8

3	EA	HINGE	3CB1HW 4.5 X 4 NRP	652	IVE
1	EA	CLASSROOM LOCK	ND70LD SPA	626	SCH
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
1	EA	DOME STOP	FS438	626	IVE

HW SET: 9

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE
1	EA	ENTRANCE LOCK	ND53LD SPA	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN

HW SET: 10

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	ENTRANCE LOCK	ND53LD SPA	626	SCH
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 11

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE

1	EA	STOREROOM LOCK	ND80LD SPA	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 12

3	EA	HINGE	3CB1HW 4.5 X 4 NRP	630	IVE
1	EA	STOREROOM LOCK	ND80LD SPA	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	DOME STOP	FS438	626	IVE

HW SET: 13

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	PASSAGE SET	ND10S SPA	626	SCH
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 14

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80LD SPA	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	OVERHEAD STOP	410S	630	GLY
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE

HW SET: 15

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80LD SPA	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	SURFACE CLOSER	4033	689	LCN
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 16

6	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB358 (UL)	626	IVE
1	EA	DEADBOLT	B660P	626	SCH
1	EA	CYLINDER PULL	H410	630	STD
2	EA	OVERHEAD HOLDER	450H	630	GLY

HW SET: 17

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE

1	EA	DEADBOLT	B660P	626	SCH
1	EA	OVERHEAD HOLDER	450H	630	GLY

HW SET: 18

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	PUSH PLATE	8200 6" X 16"	630	IVE
1	EA	PULL PLATE	8303-0 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 19

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	PUSH PLATE	8200 6" X 16"	630	IVE
1	EA	PULL PLATE	8303-0 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	OVERHEAD STOP	410S	630	GLY
1	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE

HW SET: 20

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	STOREROOM LOCK	ND80LD SPA	626	SCH
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	DOME STOP	FS438	626	IVE

HW SET: 21

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80LD SPA	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	WALL STOP	WS406CCV	630	IVE
1	EA	WEATHERSTRIP	W-21	BLK	KNC
1	EA	DOOR BOTTOM	CT-52	627	KNC

HW SET: 22

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	PASSAGE SET	AL10S NEP	626	SCH
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 23

3	EA	HINGE	3CB1 4.5 X 4 NRP	652	IVE
1	EA	CLASSROOM LOCK	ND70LD SPA	626	SCH
1	EA	SURFACE CLOSER	4133 EDA	689	LCN
1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 24

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	PASSAGE SET	AL53LD NEP	626	SCH

1	EA	WALL STOP	WS406CCV	630	IVE

HW SET: 25

3	EA	HINGE	3CB1 4.5 X 4	652	IVE
1	EA	ENTRANCE LOCK	AL53LD NEP	626	SCH
1	EA	WALL STOP	WS406CCV	630	IVE

END OF SECTION

DOOR								FRAME				RATING	LINTEL TYPE	REMARKS
NO.	WIDTH HEIGHT THICK.	TYPE	MATL	CORE	FIN	CLR	HDWRE	TYPE	MATL	FIN	CLR			
100-1-A	1000 x 2100	F	ALUM		BRONZE	--	1	1	ALUM	BRONZE	--	--		Right door is active / insulated H/C
100-1-B	900 x 2100	D1	MAPLE	S	ST		2	3	HM	PT	PT-5	--		Card reader on both sides c/w mag lock & SS kickplates
100-2-A	1000 x 2100	B	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-2-B	1000 x 2100	A	HM	S	PT	PT-5, 7	4	5	HM	PT	PT-5, 7	--		Insulated / no outside hardware. Inside door and frame to be PT-5, exterior side of door and frame to be PT-7.
100-2-C	1000 x 2100	B	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-2-D	1000 x 2100	A	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-3-A	1000 x 2100	C	MAPLE	S	ST		5	6	HM	PT	PT-5	1-1/2 HR		Card reader & SS kickplate
100-4-A	1000 x 2100	B	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-4-B	1000 x 2100	A	HM	S	PT	PT-5, 7	4	5	HM	PT	PT-5, 7	--		Insulated / no outside hardware. Inside door and frame to be PT-5, exterior side of door and frame to be PT-7.
100-4-C	1000 x 2100	B	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-4-D	1000 x 2100	B	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-4-E	1000 x 2100	A	HM	S	PT	PT-5	3	4	HM	PT	PT-5	45 MIN		
100-4-F	1000 x 2100	A	HM	S	PT	PT-5, 7	3	4	HM	PT	PT-5, 7	1-1/2 HR		Insulated. Inside door and frame to be PT-5, exterior side of door and frame to be PT-7.
100-5-A	1000 x 2100	C	MAPLE	S	ST		5	4	HM	PT	PT-5	1-1/2 HR		Card reader & SS kickplate
100-6-A	1000 x 2100	F	ALUM		BRONZE	--	6	2	ALUM	BRONZE	--	--		H/C - insulated
100-6-B	1000 x 2100	D2	MAPLE	S	ST		7	4	HM	PT	PT-5	--		H/C, card reader & SS kickplate
100-7-A	1000 x 2100	A	HM	S	PT	PT-5	8	4	HM	PT	PT-5	1-1/2 HR		
100-8-A	TO SUIT EXISTING OPENING	A	HM	S	PT	PT-5	9	*	HM	PT	PT-5	1-1/2 HR		

DOOR								FRAME				RATING	LINTEL TYPE	REMARKS
NO.	WIDTH HEIGHT THICK.	TYPE	MATL	CORE	FIN	CLR	HDWRE	TYPE	MATL	FIN	CLR			
100-8-B	TO SUIT EXISTING OPENING	A	HM	S	PT	PT-5	--	*	HM	PT	PT-5	1-1/2 HR		Rated access hatch to crawlspace
100-9-A	900 x 2100	A	MAPLE	S	ST	PT-5 Match	10	7	HM	PT	PT-5 Match	--		Lockset. Frame on east side to match existing walls.
102-A	900 x 2100	B	MAPLE	S	ST		11	7	HM	PT	PT-5	--		Card reader
104-A	1000 x 2100	A	HM	S	PT	PT-5	12	4	HM	PT	PT-5	45 MIN		Card reader
105-A	900 x 2100	D1	MAPLE	S	ST		13	7	HM	PT	PT-5	--		
106-A	900 x 2100	E	MAPLE	S	ST		13	7	HM	PT	PT-5	--		C/w mini blinds
107-A	900 x 2100	B	MAPLE	S	ST		14	7	HM	PT	PT-5	--		Card reader
108-A	900 x 2100	A	MAPLE	S	ST		15	8	HM	PT	PT-5	--		Card reader
109-A	900 x 2100	A	MAPLE	S	ST		15	7	HM	PT	PT-5	--		Card reader
110-A	900 x 2100	B	MAPLE	S	ST		15	7	HM	PT	PT-5	--		Card reader
110-B	WIDTH TO SUIT x 2100	A	WOOD	S	PT	PT-6	16	11	HM	PT	PT-6	--		Elec. Closet - double door
110-C	WIDTH TO SUIT x 2100	A	WOOD	S	PT	PT-6	16	11	HM	PT	PT-6	--		Elec. Closet - double door
110-D	WIDTH TO SUIT x 2100	A	WOOD	S	PT	PT-6	16	11	HM	PT	PT-6	--		Elec. Closet - double door
110-E	650 x 2100	A	WOOD	S	PT	PT-6	17	10	HM	PT	PT-6	--		Elec. Closet - single door
111-A	900 x 2100	A	MAPLE	S	ST		18	7	HM	PT	PT-5	--		H/C
112-A	900 x 2100	A	MAPLE	S	ST		19	7	HM	PT	PT-5	--		H/C
115-A	900 x 2100	A	HM	S	PT	PT-5	20	7	HM	PT	PT-5	45 MIN		
122-A	900 x 2100	B	MAPLE	S	ST		15	7	HM	PT	PT-5	--		Card reader
122-B	SITE CHECK x 2100	A	WOOD	S	PT	PT-6	16	**	HM	PT	PT-6	--		Elec. Closet - double door
122-C	SITE CHECK x 2100	A	WOOD	S	PT	PT-6	16	**	HM	PT	PT-6	--		Elec. Closet - double door
122-D	SITE CHECK x 1945	A	WOOD	S	PT	PT-6	17	13	HM	PT	PT-6	--		Elec. Closet - double door
122-E	650 x 1945	A	WOOD	S	PT	PT-6	17	12	HM	PT	PT-6	--		Elec. Closet
124-A	900 x 2100	A	MAPLE	S	ST		10	7	HM	PT	PT-5	--		Lock set
125-A	900 x 2100	A	HM	S	PT	PT-5	15	7	HM	PT	PT-5	45 MIN		Card reader

DOOR								FRAME				RATING	LINTEL TYPE	REMARKS
NO.	WIDTH HEIGHT THICK.	TYPE	MATL	CORE	FIN	CLR	HDWRE	TYPE	MATL	FIN	CLR			
126-A	900 x 2100	A	HM	S	PT	PT-5	21	7	HM	PT	PT-5	45 MIN		Card & insulated
127-A	900 x 2100	A	MAPLE	S	ST		10	9	HM	PT	PT-5	--		Lock set
128-A	900 x 2100	B	MAPLE	S	ST		15	7	HM	PT	PT-5	--		Card reader
129-A	900 x 2100	E	MAPLE	S	ST		22	7	HM	PT	PT-5	--		C/w mini blinds
130-A	900 x 2100	A	HM	S	PT	PT-5	15	7	HM	PT	PT-5	45 MIN		Card reader
131-A	900 x 2100	B	MAPLE	S	ST		23	7	HM	PT	PT-5	--		
131-B	WIDTH TO SUIT x 2100	A	MAPLE	S	ST		17	11	HM	PT	PT-5	--		Elec. Closet
132-A	1000 x 2100	B	MAPLE	S	ST		12	4	HM	PT	PT-5	--		Card reader
201-A	900 x 2100	A	MAPLE	S	ST		14	7	HM	PT	PT-5	45 MIN		Card reader
201-B	900 x 2100	B	MAPLE	S	ST		14	7	HM	PT	PT-5	45 MIN		Card reader
201-C	WIDTH TO SUIT x 2100	A	MAPLE	S	ST		16	16	HM	PT	PT-4	--		Coat closet
201-D	WIDTH TO SUIT x 2100	A	MAPLE	S	ST		16	16	HM	PT	PT-4	--		Elec. Closet
202-A	900 x 2100	A	MAPLE	S	ST		24	14	HM	PT	PT-5	--		
203-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set
204-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set
205-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set
206-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set
207-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set
208-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set
209-A	900 x 2100	A	MAPLE	S	ST		24	15	HM	PT	PT-5	--		Lock set

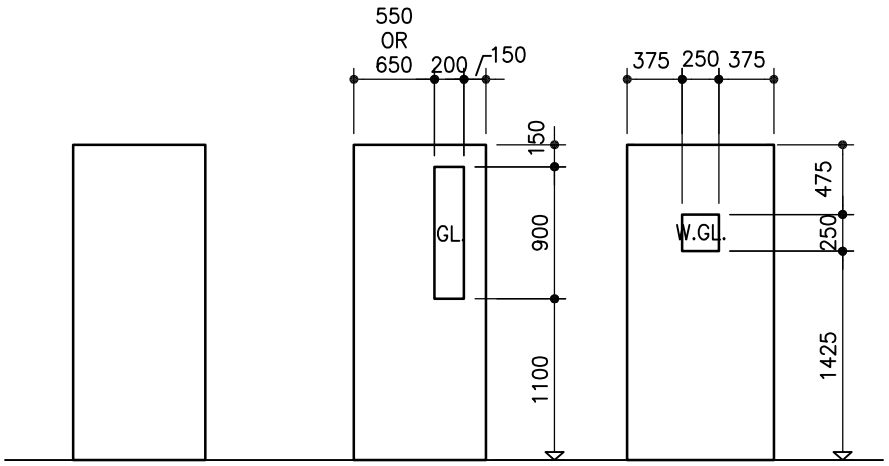
*	Site Check
**	Height of Door Frames 122-B&C = 2200mm

ABBREVIATIONS:

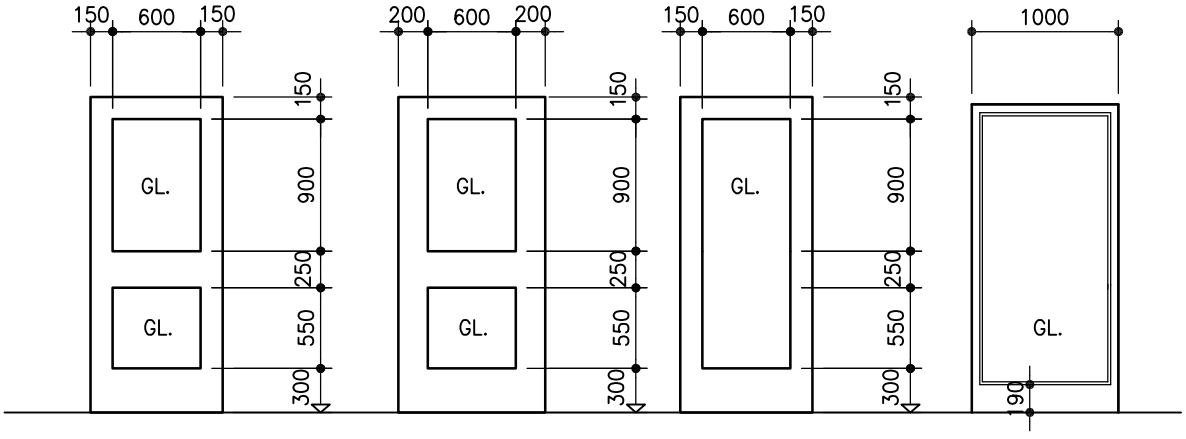
ALUM	Aluminum
HM	Hollow Metal
PT	Paint

DOOR								FRAME				RATING	LINTEL TYPE	REMARKS
NO.	WIDTH HEIGHT THICK.	TYPE	MATL	CORE	FIN	CLR	HDWRE	TYPE	MATL	FIN	CLR			
S	Solid													
ST	Stain													

DOOR TYPES



A B C



D1 D2 E F

project
CONSTRUCTION OF AN ALTERNATE COMMUNICATIONS CENTRE

700 ASSINIBOINE PARK DRIVE
DOOR TYPES
sheet title

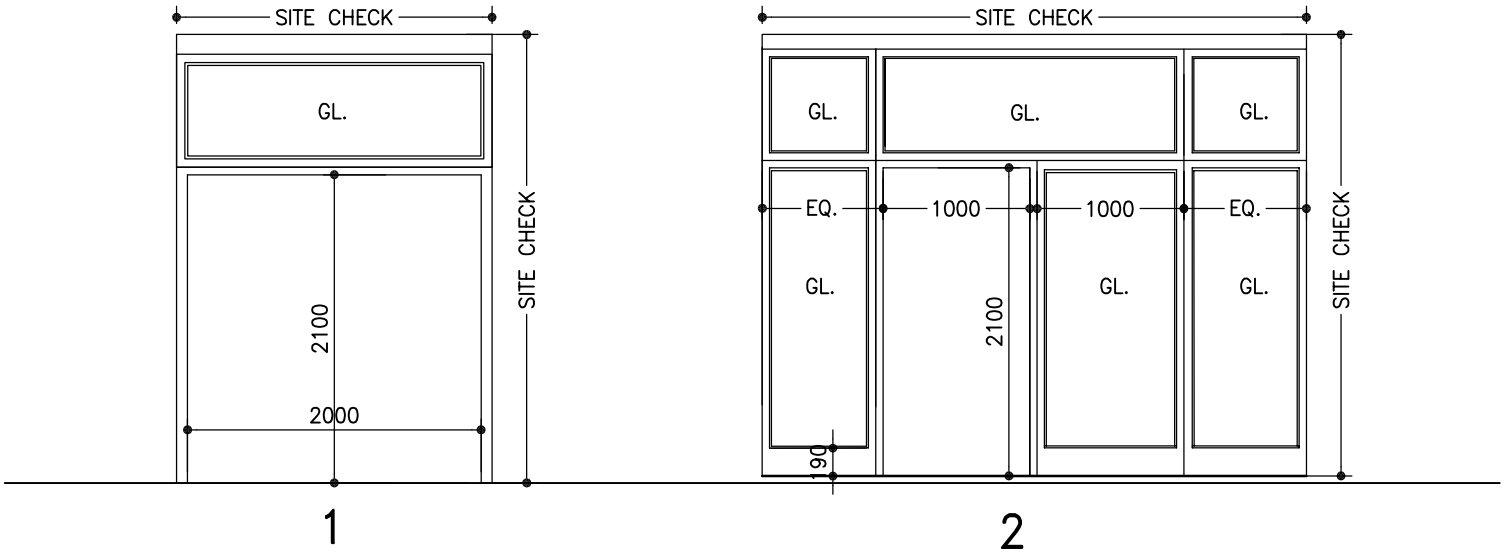
scale: 1:50
drawn by: KERRY
checked by: XXX
date: 8-04-2006

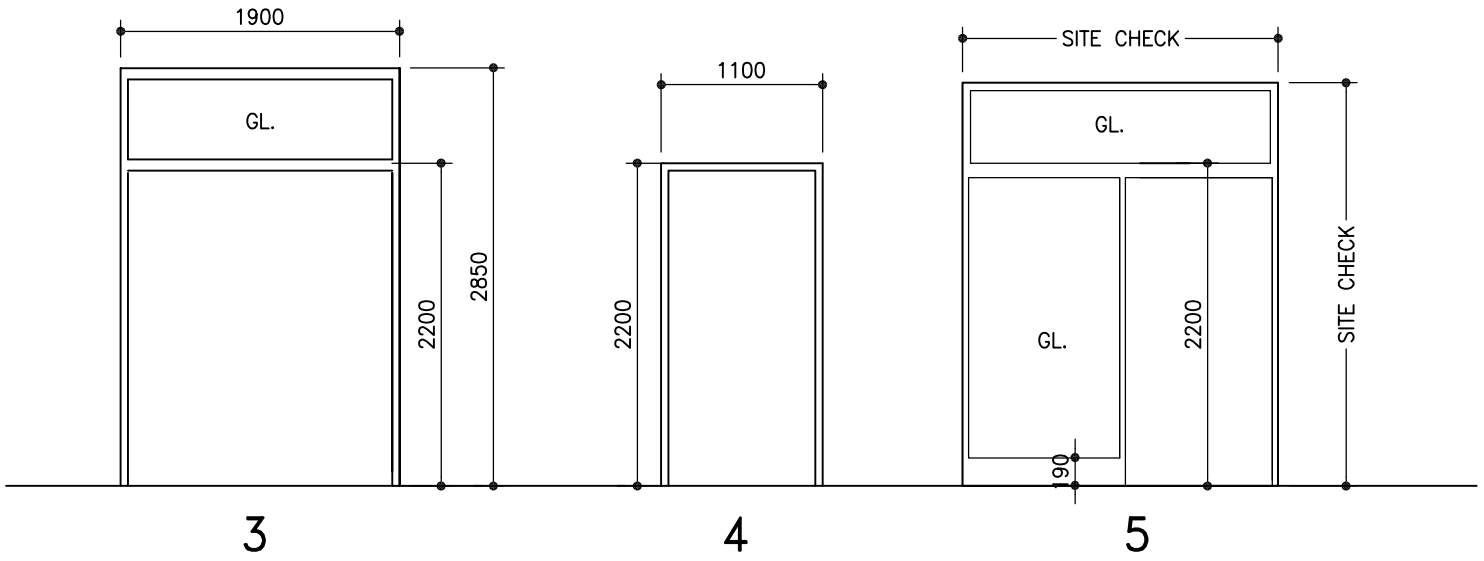
project no. 04136
sheet no. DA-2

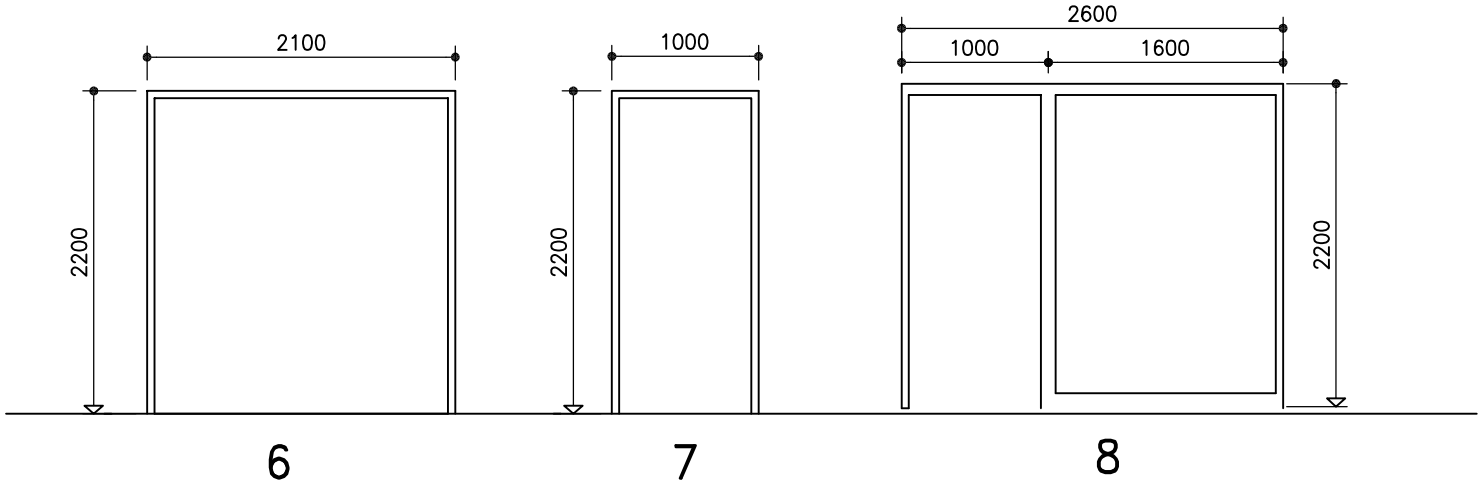
310 - 115 bannatyne ave.
winnipeg MB canada R3B 0R3
204 942.0981 f 204 947.9626
10@numberten.com

numberTEN
architectural group

112 - 826 north park dr.
victoria BC canada V8W 3B4
250 360.2106 f 250 360.2166
numberten@telus.net







CONSTRUCTION OF AN ALTERNATE EMERGENCY COMMUNICATIONS CTR.

project

700 ASSINIBOINE PARK DRIVE
FRAME TYPES (I)

sheet title

scale: 1:50

drawn by: KERRY

checked by: XXX

date: 8-04-2006

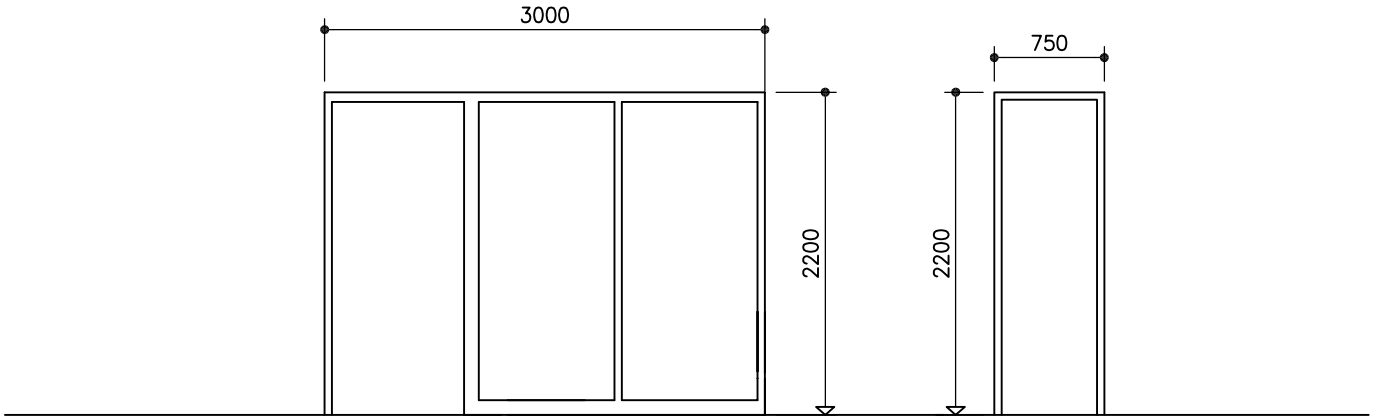
project no. 04136

sheet no. DA-3A

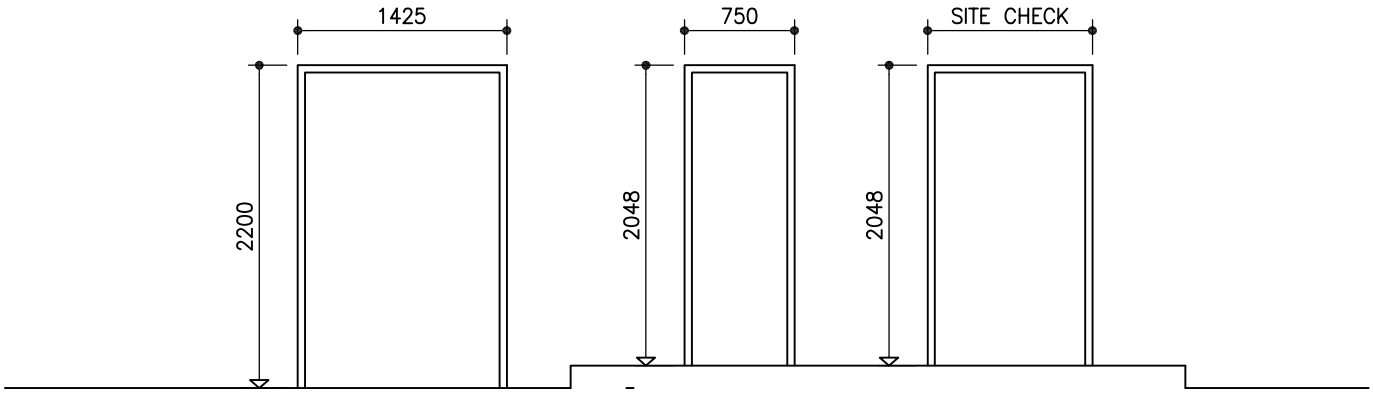
310 - 115 bannatyne ave.
winnipeg MB canada R3B 0R3
204 942.0981 f 204 947.9626
10@numberten.com

numberTEN
architectural group

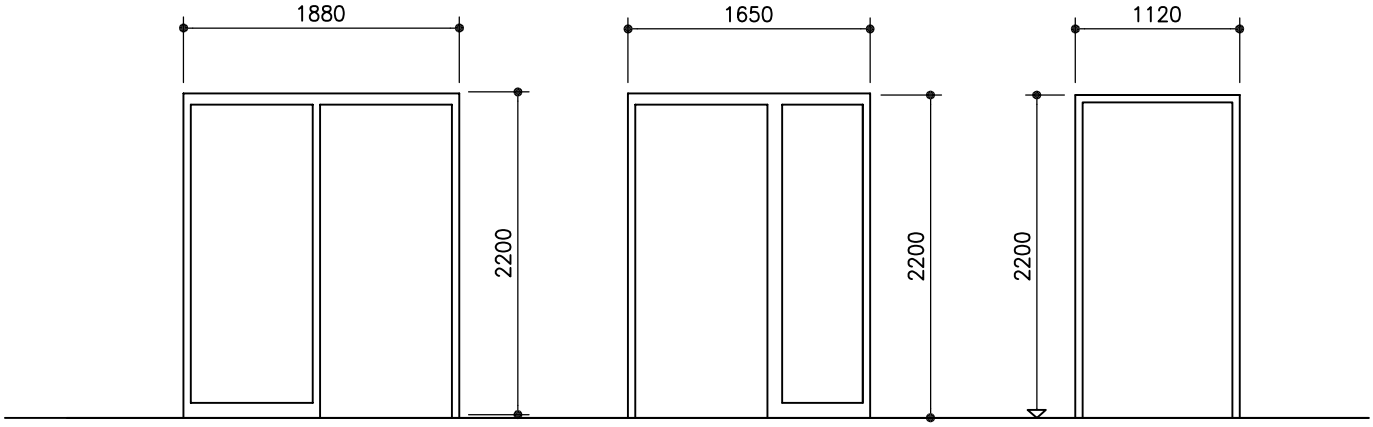
112 - 826 north park dr.
victoria BC canada V8W 3B4
250 360.2106 f 250 360.2166
numberten@telus.net



9 10



11 12 13



14 15 16

project: CONSTRUCTION OF AN ALTERNATE EMERGENCY COMMUNICATIONS CTR.

700 ASSINIBOINE PARK DRIVE
FRAME TYPE (II)

sheet title

scale: 1:50

drawn by: KERRY

checked by: XXX

date: 8-04-2006

project no. 04136

sheet no. DA-3B

310 - 115 bannatyne ave.
winnipeg MB canada R3B 0R3
204 942.0981 f 204 947.9626
10@numberten.com

numberTEN
architectural group

112 - 826 north park dr.
victoria BC canada V8W 3B4
250 360.2106 f 250 360.2166
numberten@telus.net

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Glass and glazing for hollow metal frames and screens, hollow metal doors, wood doors, aluminum doors, sidelights, windows, entrances, curtainwall.

.2 Mirrors.

1.2 RELATED SECTIONS

.1 Section 08100 – Metal Doors and Frames.

.2 Section 08211 - Flush Wood Doors

.3 Section 08411 - Aluminum Entrances and Storefronts.

.4 Section 08710 - Door Schedule

.5 Section 08910 - Glazed Aluminum Curtain Wall Assembly.

.6 Section 10805 – Washroom Accessories: Mirrors.

1.3 REFERENCES

.1 CAN/CGSB-12.1M - "Glass, Safety, Tempered or Laminated"

.2 CAN/CGSB-12.3M - "Glass, Polished Plate or Float, Flat, Clear"

.3 CAN/CGSB-12.11M - "Glass, Wired, Safety"

.4 CAN/CGSB-12.8M – "Insulating Glass Units".

1.4 PERFORMANCE REQUIREMENTS

.1 Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass as calculated in accordance with applicable code.

.2 Limit glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.

1.5 SUBMITTALS

.1 Samples: Submit two samples 300 x 300 mm in size, exampling each type of glass specified.

1.6 QUALITY ASSURANCE

.1 Installer Qualifications: Company specializing in performing the Work of this section with minimum 5 years documented experience.

1.7 WARRANTY

.1 Provide a five (5) year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

.2 Provide a five (5) year warranty to include coverage for delamination of laminated glass and replacement of same.

PART 2 PRODUCTS

2.1 FLAT GLASS MATERIALS

.1 Float Glass (Type A): CGSB 12-GP-3M, transparent flat, 6 mm minimum thick.

.2 Safety Glass (Type B): CAN/CGSB-12.1M; Clear, Type 2 fully tempered; 6 mm minimum thick.

.3 Wired Glass (Type C: CAN/CGSB-12.11M Clear Type 1, polished both sides, style 3-square mesh of woven stainless steel wire of 12 mm grid size; 6 mm thick.

.4 Ballistic Glass (Type D: multiple layers of glass and acrylic; 30 mm thick; Gardvue 2000; manufactured by Viracon .

.5 Mirror glass: Clear float type with copper and silver coating, 1/4" thick square and lapped edges

2.2 SEALED INSULATING GLASS MATERIALS

.1 Insulating Glass (type SG-1): CAN2-12.8M double pane; 6 mm outer pane of clear glass; 6 mm inner pane of clear glass with AFGD Comfort-Ti-R Low E argon filled cavities. Total unit thickness 25 mm.

.2 Insulating Glass (type SG-2): CAN2-12.8M double pane; 6 mm outer pane of clear tempered glass; 6 mm inner pane of clear tempered glass with AFGD Comfort E2 Low E argon filled cavities. Total unit thickness 25 mm.

.3 All glass units located in partial sun and subject to uneven heating or backed up with ballistic glass shall be heat strengthened or tempered as required to maintain specified warranty.

.4 Edge Seal Construction: silicone spacer; Architectural S class Superspacer manufactured by Edgetech, colour to be black.

2.3 GLAZING ACCESSORIES

.1 Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, length of 25 mm for each square metre of glazing or minimum 100 mm x width of glazing rabbet space minus 1.5 mm x height to suit glazing method and pane weight and area.

.2 Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, minimum 75 mm long x one half the height of the glazing stop x thickness to suit.

.3 Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15Shore A durometer hardness; coiled on release paper; Tremco polyshim II; black colour.

.4 Glazing Splines, Gaskets: Window manufacturers standard.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verify that openings for glazing are correctly sized and within tolerance.

.2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.2 PREPARATION

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

.3 Prime surfaces scheduled to receive sealant.

.4 Select either or both of the following two paragraphs as appropriate.

.5 Install sealant in accordance with manufacturer's instructions.

3.3 INSTALLATION - INTERIOR DRY METHOD (TAPE AND TAPE)

.1 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.

.2 Place setting blocks at 1/4 points with edge block no more than 150 mm from corners.

.3 Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.

.4 Place glazing tape on free perimeter of glazing in same manner described above.

.5 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

.6 Knife trim protruding tape.

3.4 EXTERIOR GLAZING

.1 To be installed window manufactures recommendations.

3.5 INSTALLATION – MIRRORS

.1 Install mirrors using glazing tape strips vertically at 400 mm o.c.

.2 Apply bead of silicone caulking 50 mm from edge around perimeter of mirror and vertically between glazing tape strips prior to setting mirror in place.

.3 Butt sides tight to adjacent mirrors and walls.

.4 Provide mechanical mirror clips at ¼ points top and bottom.

3.6 CLEANING

.1 Remove glazing materials from finish surfaces.

.2 Remove labels after Work is complete.

.3 Clean glass and adjacent surfaces.

3.7 PROTECTION OF FINISHED WORK

.1 After installation, mark pane with an 'X' by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.

3.8 SCHEDULE

.1 Glass in all locations not otherwise indicated: Type A.

.2 Interior Entrance doors: Type B.

.3 Glass in fire rated doors and sidelights: Type C

.4 Bullet resistant glass in security room and behind main floor windows: Type D

.5 Exterior windows: Types SG-1.

.6 Exterior Entrances: Types SG-2.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Aluminum tube framing system with vision glass.

.2 Insulated infill panels.

.3 Anchors, brackets, and attachments.

.4 Removal and relocation of existing aluminum windows.

.5 Perimeter sealant.

1.2 RELATED SECTIONS

.1 Section 07900 - Joint Sealers: System perimeter sealant and back-up materials.

.2 Section 08411 - Aluminum Entrances and Storefronts: Entrance doors, frames, and glazed lights.

.3 Section 08800 - Glazing.

1.3 REFERENCES

.1 AA (Aluminum Association) - Designation System for Aluminum Finishes.

.2 AAMA (American Architectural Manufacturers' Association) - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

.3 AAMA 501.2 - Methods of Test for Metal Curtain Walls.

.4 AAMA 608.1 - Specification and Inspection Methods for Electrolytically Deposited Colour Anodic Finishes for Architectural Aluminum.

.5 ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.6 ASTM A653/A653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.7 ASTM B209/B209M - Aluminum and Aluminum-Alloy Sheet and Plate.

.8 ASTM B221/B221M - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.

.9 ASTM E283 - Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.

.10 ASTM E331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

.11 ASTM E1105 - Test Method for Field Determination of Water Penetration of Installed

1.4 SYSTEM DESCRIPTION

.1 Curtain Wall System: Aluminum veneer sections, self supporting framing, factory prefinished, vision glass, spandrel infill,; related flashings, anchorage and attachment devices.

1.5 PERFORMANCE REQUIREMENTS

.1 System Design: Design and size components to withstand dead loads and live loads caused by positive and negative wind loads acting normal to plane of wall as calculated in accordance with applicable building code and in accordance with ASTM E330.

.2 For mullion corner and special change of wall plane conditions, limit glazing sealant design movement to 20 percent maximum for elastomeric sealants.

.3 Deflection: Limit mullion deflection to flexure limit of glass or L/175 whichever is less with full recovery of glazing materials.

.4 System Assembly: Accommodate without damage to system, components or deterioration of seals, movement within system, movement between system and perimeter framing components, dynamic loading and release of loads, deflection of structural support framing and tolerance of supporting components.

.5 Air Infiltration: Limit air infiltration through assembly to 0.015 l/s/sq m of wall area, measured at a reference differential pressure across assembly of 75 Pa as measured in accordance with ASTM E283.

.6 Water Leakage: None, when measured in accordance with ASTM E331 at a differential pressure of 286 Pa.

.7 Expansion / Contraction: System to provide for expansion and contraction within system components caused by a cycling temperature range of 95 degrees C over a 12 hour period without causing detrimental affect to system components.

.8 System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.

.9 Air and Vapour Seal: Maintain continuous air barrier and vapour barrier throughout assembly.

.10 Not Permitted: Vibration harmonics, wind whistles, noises caused by thermal movement, thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system.

1.6 SUBMITTALS

.1 Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details and water flow drainage diagrams.

.2 Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, anticipated deflection under load, affected related Work, weep drainage network, expansion and contraction joint location and details, and field welding required.

.3 Submit two samples 150 x150 mm in size exampling prefinished aluminum surface.

.4 Test Reports: If requested by Contract Administrator submit substantiating engineering data, test results of previous tests by independent laboratory which purport to meet performance criteria, and other supportive data.

1.7 QUALITY ASSURANCE

.1 Perform Work in accordance with AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual. AAMA - Aluminum Curtain Wall Design Guide Manual.

.2 Installer Qualifications: Company specializing in performing the Work of this section with minimum 10 years documented experience and approved by manufacturer.

.3 Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the place where the Project is located.

1.8 STORAGE AND PROTECTION

.1 Protect prefinished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather. Puncture wrappings at ends for ventilation.

1.9 COORDINATION

.1 Coordinate the Work with installation of firestopping, air barrier placement, vapour barrier placement, installing ductwork to rear of louvers, and components or materials.

1.10 WARRANTY

.1 Provide a five year warranty to include coverage for complete system for failure to meet specified requirements.

1.11 SEPARATE PRICES

.1 Refer to Bidding Procedures article B9.

.2 Provide a Separate Price No. 1 for the relocation of the existing first floor windows to the second floor.

.3 The Separate Price shall include the removal and disposal of the existing second floor windows to accommodate the relocated windows.

.4 If this separate Price is deleted from the Contract, the first floor windows removed to accommodate the specified new windows shall be turned over to the City of Winnipeg for their use.

.5 Indicate Separate Price amount on Form B: Prices.

PART 2 PRODUCTS

2.1 CURTAIN WALL SYSTEM

.1 Manufacturers:

.1 Kawneer Model 1600 series veneer system.

2.2 MATERIALS

.1 Extruded Aluminum: ASTM B221/B221M; 6063 alloy, T-5 temper.

.2 Sheet Aluminum: ASTM B209/B209M; 3003 alloy, H-14 temper.

.3 Sheet Steel: ASTM A653/A653M;

.4 Fasteners: Stainless steel.

2.3 COMPONENTS

.1 Mullion Profile: 63.5 mm wide profile, thermally broken with interior tubular section insulated from exterior pressure plate; matching stops and pressure plate of sufficient size and strength to provide bite on glass and infill panels; drainage holes, deflector plates and internal flashings to accommodate internal weep drainage system; internal mullion baffles to eliminate "stack effect" air movement within internal spaces.

.2 Infill Panel: 3 mm thick aluminum.

.3 Entrance doors: Refer to Section 08411 Aluminum Entrances and Store fronts.

.4 Flashings: 1.2 mm thick aluminum, finish to match curtain wall mullion sections where exposed, secured with concealed fastening method.

2.4 GLASS AND GLAZING MATERIALS

.1 Glass Materials: As specified in Section 08800.

.2 Glazing Materials: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.5 SEALANT MATERIALS

.1 Sealant and Backing Materials: As specified in Section 07900 of Types described below.

2.6 HARDWARE

.1 Provide door hardware as specified in Section 08700.

2.7 FABRICATION

.1 Fabricate system components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

.2 Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

.3 Prepare components to receive anchor devices. Fabricate anchors.

.4 Arrange fasteners and attachments to ensure concealment from view.

.5 Reinforce framing members for external imposed loads.

2.8 FINISHES

.1 Finish Coatings: Conform to AAMA 608.1.

.2 All Exposed Aluminum Surfaces: anodized to clear bronze colour to match existing windows.

.3 Concealed Steel Items: Galvanized in accordance with ASTM A123 to 610 gm/sq m. Primed with iron oxide paint.

.4 Apply one coat coats of bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar materials.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Verify dimensions, tolerances, and method of attachment with other Work.

.2 Verify wall openings and adjoining air barrier and vapour barrier materials are ready to receive Work of this section.

3.2 INSTALLATION

.1 Install curtain wall system in accordance with manufacturer instructions.

.2 Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

.3 Provide alignment attachments and shims to permanently fasten system to building structure.

.4 Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances and align with adjacent Work.

.5 Provide thermal isolation where components penetrate or disrupt building insulation.

.6 Install sill flashings.

.7 Coordinate attachment and seal of perimeter air barrier and vapour barrier materials.

.8 Pack insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

.9 Include one or more of the following three paragraphs to suit project requirements.

.10 Install glass and infill panels in accordance with Section 08800, to glazing method required to achieve performance criteria.

.11 Install perimeter sealant to method required to achieve performance criteria.

3.3 ERECTION TOLERANCES

.1 Maximum Variation from Plumb: 0.06 inches every 1.5 mm/m non-cumulative.

.2 Maximum Misalignment of Two Adjoining Members Abutting in Plane: 0.8 mm.

.3 Sealant Space Between Curtain Wall Mullions and Adjacent Construction: Maximum of 19 mm and minimum of 6 mm.

3.4 CLEANING

.1 Remove protective material from prefinished aluminum surfaces.

.2 Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.

.3 Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

3.5 REMOVAL AND REPLACEMENT OF EXISTING WINDOWS

.1 Remove main floor windows indicated on drawings. Remove carefully to avoid damage of frames or finishes.

.2 Store and protect removed windows for reinstallation into second floor.

.3 Remove second floor windows and frames to accommodate relocated windows. Remove from Site. Do not damage openings to receive relocated windows.

.4 Reinstall windows to second floor locations indicated on drawings. Any remaining first floor windows shall be turned over to the City of Winnipeg.

3.6 PROTECTION OF FINISHED WORK

.1 Protect finished Work from damage.

END OF SECTION