

Part 1 General

1.1 REFERENCES

- .1 Aluminum Association (AA)
 - .1 DAF 45, Designation System for Aluminum Finishes.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB - 11.3, Hardboard.
- .3 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A247, Insulating Fibreboard.
- .4 Underwriter's Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102, Surface Burning Characteristics of Building Materials and Assemblies.

1.2 SUBMITTALS

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate location, type, size, panel arrangement, backing, hardware, anchor or mounting details, frame or trim and accessories.
- .3 Submit duplicate 300 x 300 mm sample of each type of tackboard and 300 mm long sample of each type of trim.
- .4 Submit manufacturer's printed product literature, specifications and data sheet.
 - .1 Submit two copies of WHMIS MSDS - Material Safety Data. Indicate VOC's:
 - .1 For caulking materials during application and curing.
 - .2 For adhesives.
- .5 Submit manufacturer's installation instructions.

1.3 REGULATORY REQUIREMENTS

- .1 Surface burning characteristics of materials: listed and labeled by an organization accredited by Standards Council of Canada.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 00 – Cleaning and Waste Management.

1.5 MAINTENANCE DATA

- .1 Provide maintenance data in accordance with Section 01 78 00 - Closeout Submittals.

Part 2 Products

2.1 MATERIALS

- .1 Utility sheet aluminum: plain, 1.5 mm minimum thickness.
- .2 Laminating adhesive: to manufacturer's standard.
- .3 Mounting adhesive: to manufacturer's standard.
- .4 Anchor clips, brackets and fasteners: concealed type recommended by manufacturer selected by Contract Administrator for fixed mounting.
- .5 Facings:
 - .1 Natural cork tackboards: single layer natural cork fine grain sheet, 6.0 mm thick, natural colour.
- .6 Core:
 - .1 Fibreboard: to CAN/CSA A247, Type II, natural color.
- .7 Backing:
 - .1 Fibreboard to CAN/CSA A247, Type II.

2.2 COMPONENTS

- .1 Extruded aluminum: Aluminum Association alloy AA6063-T5. Minimum 1.5 mm wall thickness.
- .2 Tackboard trim and framing: perimeter trim or frame, map rail with cork insert, of manufacturer's standard sections appropriate for installation conditions.

2.3 FABRICATION

- .1 Fabricate tackboard panels to sizes indicated.
- .2 Install trim on panels in factory. Make mitres and joints to hair-line fit, free of rough edges with concealed brackets to reinforce and hold joints tight and flush. No exposed fasteners permitted.
- .3 Overlap trim 6.0 mm onto panels. Provide closed ends for open-end extrusions.
- .4 Factory fit assemblies too large for shipment to site in one piece, disassemble for delivery and site assembly.

2.4 FINISHES

- .1 Aluminum trim finishes.
 - .1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.
 - .2 Clear anodic finish: designation AA-M32, C 12, C 22 A 31.
 - .3 Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.

Part 3 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 Install tackboards in accordance with manufacturer's instructions, parallel to floor with uniform vertical surface plumb and level, to provide rigid, secure surface.
- .2 Mechanical attachment:
 - .1 To concrete or solid masonry use lag screw and expansion bolts or screws and fibre plugs as appropriate for stresses involved.
 - .2 To hollow masonry use toggle bolts or equivalent in accordance with B6.
 - .3 To wood or sheet metal use screws. Secure into framing members in stud walls.

3.3 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Clean surfaces after installation using manufacturer's recommended cleaning procedures.
- .3 Clean aluminum with damp rag and approved non-abrasive cleaner.
- .4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A653/A653M-[01a], Standard Specification for Steel Sheet, Zinc-Coated, (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .2 ASTM B32-[00], Standard Specification for Solder Metal.
 - .3 ASTM B456-[95], Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
- .2 Aluminum Association, Inc. (AA)
 - .1 Designation System for Aluminum Finishes
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.81-[M90], Air Drying and Baking Alkyd Primer for Vehicles and Equipment.
 - .2 CAN/CGSB-1.88-[92], Gloss Alkyd Enamel, Air Drying and Baking.
 - .3 CGSB 31-GP-107Ma-[90], Non-Inhibited Phosphoric Acid Base Metal Conditioner and Rust Remover.
 - .4 CGSB 41-GP-6M-[1983], Sheets, Thermosetting Polyester Plastics, Glass Fibre Reinforced.
- .4 Canadian Standards Association (CSA)
 - .1 CAN/CSA-G164-[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .2 CSAW47.2-[M1987(R1998)], Certification of Companies for Fusion Welding of Aluminum.
 - .3 CSA W59-[M1989(R2001)], Welded Steel Construction (Metal Arc Welding) (Imperial Version).
 - .4 CSA W59.2-[M1991(R1998)], Welded Aluminum Construction.
- .5 Canadian Sheet Steel Building Institute (CSSBI)
 - .1 Sheet Steel Facts # 6, Metallic Coated Sheet Steel for Structural Building Products.
- .6 The Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual

1.2 SHOP DRAWINGS

- .1 Submit representative sample of each type of sign, sign image and mounting method, including, but not limited to graphic, cast letters, sign box installation method, channel letters and wall plates fixed mounting installation method.
- .2 Indicate materials, thicknesses, sizes, finishes, colours, construction details, removable and interchangeable components, mounting methods, schedule of signs.
- .3 Submit drawn-to-scale details for individually fabricated or incised lettering indicating word and letter spacing.

- .4 Submit representative sample of each type sign, sign image and mounting method.
- .5 Submit manufacturer's printed product literature panel signage or components, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .6 Submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

1.3 MAINTENANCE DATA

- .1 Provide maintenance data for illuminated signs for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 QUALITY ASSURANCE

- .1 Welding Certification in accordance with CSA W47.2.

Part 2 Products

2.1 MATERIALS

- .1 Aluminum extrusions: to AA 6063-T5 or AA 6006-T5.
- .2 Sheet aluminum: utility quality.
- .3 Prefinished sheet aluminum: plain utility sheet with manufacturer applied baked enamel finish 0.25 mm thick on face and 0.0076 mm thick on back.
- .4 Casting aluminum: CSA HA Series - HA.9-SG7ON-T6.
- .5 Prefinished sheet steel: conforming to CSSBI - Sheet Steel Facts #6: for normal environments.
- .6 Galvanized steel sheet to ASTM A653/A653M: Commercial Quality
- .7 Acrylic sheet: polymethylmethacrylate (PMMA) cast sheet suitable for intended use in sign fabrication, colours as indicated.
- .8 Engraving sheet: lamicoid 3.2 mm thick plastic sheet, white core.
- .9 Self-stick foam tape: 1.6 mm thick, 352.4 kg/m³ density polyurethane open-cell foam tape for sign purposes, with synthetic self-stick adhesive on both sides. Width: to suit sign sizes.
- .10 Adhesives, paints, sealants and solvents for acrylic sheet: type recommended by sheet manufacturer for applicable condition.
- .11 Acrylic top-coat: clear, non-yellowing, exterior grade, satin finish, acrylic polyester resin protective coating, compatible with acrylic surface of type recommended by sheet manufacturer.
- .12 Bituminous paint: to CAN/CGSB-1.108, type 2.

2.2 EXTERIOR NAME

- .1 Name and size of letters as indicated on the drawings
 - .1 14" (356 mm) high CNC cut letters, Century Gothic typeface, finish to be 'autophoretic' coating, black colour, rust –proofing dip.
 - .2 Materials: Steel, 1/4" (6 mm) thickness.

2.3 SIGN GRAPHICS

- .1 Sign graphics to be well defined, arranged for balanced appearance, and properly word and letter spaced.
- .2 Cut and spray process: mask surfaces, accurately cut-out image, then spray apply uniform coating to obtain opaque finish.
- .3 Silk screen process: apply multi-colour photographic produced silk screen printed images to back side of transparent sign faces; face side of opaque sign faces.
- .4 Engraving: apply sign images using pantograph mechanical engraving machine to obtain incised letters as detailed or specified.
- .5 Self-stick vinyl film: individual letters and numerals and symbols die cut from 0.1 mm thick black integral colour, matte finish, exterior grade PVC film, with self-stick adhesive backing.
- .6 Decals: silk screened or printed images on 0.038 mm, clear matte finish, mylar film, with self-stick adhesive backing. Protect image with laminated film overlay of same material as decal base.

2.4 CUT-OUT LETTERS

- .1 Cut letters and symbols from coloured acrylic.
- .2 Century Gothic typeface, upper and lower case; sizes and thicknesses as indicated. Make corners square cut.

2.5 WALL, DOOR AND NUMBER PLATES

- .1 Refer to Section 10 14 67 – Barrier Free Signage.

2.6 GENERAL FABRICATION REQUIREMENTS

- .1 Fabricate signs in accordance with details, specifications and shop drawings.
- .2 Build units square, true, accurate to size, free from visual or performance defects.
- .3 Accurately fit and securely join sections to obtain tight, closed joints.
- .4 Allow for thermal movement without distortion of components.
- .5 Exposed fasteners permitted only where indicated or approved by Contract Administrator and to be inconspicuous and same finish and colour as base material, or as noted.
- .6 Polish exposed edges of plastic and metal to smooth, slightly convex profile.

- .7 Apply bituminous paint to aluminum in contact with dissimilar metals, concrete or masonry.
- .8 Manufacturer's nameplates on sign surface locations visible in completed work not acceptable.

Part 3 Execution

3.1 INSTALLATION, GENERAL

- .1 Erect and secure signs plumb and level at elevations indicated.
- .2 Comply with sign manufacturer's installation instructions and approved shop drawings.
- .3 Mechanical attachment:
 - .1 To concrete or solid masonry use lag screws and expansion bolts or screws and fibre plugs, as appropriate for stresses involved.
 - .2 To hollow masonry use toggle bolts or equivalent in accordance with B6.
 - .3 To steel use bolts with nut and lock washers, self-tapping screws, welding, as appropriate for stresses and metal thicknesses.
 - .4 To wood use screws.
 - .5 Secure into framing members behind stud walls or above ceilings.
 - .6 Mechanical fasteners on exterior to be non-staining, non-ferrous type.
 - .7 Fabricate special fasteners as required for installation conditions.
 - .8 Mechanical fasteners and methods of attachment subject to Contract Administrator approval. Obtain Contract Administrator approval before fixing to structural steel.
- .4 Adhesive attachment:
 - .1 Use self-stick adhesive foam tape to manufacturer's instructions to adequately fix sign and prevent "rocking". Keep tape maximum 1.6 mm from edges.

3.2 INSTALLATION, EXTERIOR NAME

- .1 Mounting method for 14" (356 mm) high steel letters to be 5" long x ¼" thick stainless steel threaded rod, drilled and tapped to back of letter, minimum 4 locations per letter (except for letter 'l'). 3/8" diameter holes drilled into concrete wall to accommodate threaded rod (pins). Rod set into holes with construction grade adhesive, c/w 2" spacer sleeve.

3.3 CLEANING

- .1 Leave signs clean. Remove debris from interior of sign boxes.
- .2 Touch up any damaged finishes.

3.3 SCHEDULE

- .1 Exterior Signage (all signage to be Century Gothic Typeface):
 - .1 356 mm (14") high prefinished steel letters reading: MAYFAIR RECREATION CENTRE

- .2 356 mm (14") high prefinished steel letters reading: MAYFAIR RECREATION CENTRE
- .3 1676 mm (5'-6") high white vinyl letters reading: 40
- .4 458 mm (1'-6") high white vinyl letters reading: 40
- .5 89 mm (3.5") high white vinyl letters reading: MAYFAIR RECREATION CENTRE
- .2 Refer to elevations for locations and further info.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A276- Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
 - .2 ASTM B209M- Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - .3 ASTM B210M- Specification for Aluminum-Alloy Drawn Seamless Tubes.
 - .4 ASTM B211M- Specification for Aluminum and Aluminum-Alloy Bar, Rods and Wire.
- .2 Canadian Standards Association (CSA)
 - .1 CAN/CSA-G40.21- Structural Quality Steels.
 - .2 CSA O121- Douglas Fir Plywood.
 - .3 CSA W47.2- Certification of Companies for Fusion Welding of Aluminum.
- .3 Canadian General Standards Board (CGSB)
 - .1 CGSB1-GP-12c- Standard Paint Colours:
 - .2 CAN/CGSB-1.28- Alkyd, Exterior House Paint.
 - .3 CAN/CGSB-1.59- Alkyd, Exterior Gloss Enamel.
 - .4 CAN/CGSB-1.99- Exterior and Marine Phenolic Resin Varnish.
 - .5 CAN/CGSB-1.104-Semigloss Alkyd Air Drying and Baking Enamel.
 - .6 CAN/CGSB-1.132- Zinc Chromate Primer, Low Moisture Sensitivity.
 - .7 CGSB 31-GP-3M- Corrosion Preventive Compound, Cold Application, Soft Film.
 - .8 CGSB 31-GP-101Ma- Chemical Conversion Films for Aluminum and Aluminum Alloys.
 - .9 CGSB 62-GP-11M- Marking Material, Retroreflective, Enclosed Lens, Adhesive Backing.

1.2 DESIGN REQUIREMENTS

- .1 Sign supports to be capable of withstanding summation of following loads:
 - .1 Wind load in any direction of 0.60 kPa on signboards and 0.60 kPa on sign supports and appurtenances.
 - .2 Dead load of signboards, sign supports and appurtenances.
 - .3 Ice load of 0.25 kPa on one face of signboards and around surface of all structural members and appurtenances.
- .2 Structural deflections and vibration in accordance with American Association of State Highway and Transportation Officials (AASHTO), "Specifications for the Design and Construction of Structural Supports for Highway Signs".

Part 2 Products

2.1 MATERIALS

- .1 Sign supports.

- .1 Steel posts: to CAN/CSA-G40.21, 4.0 m long, flanged "U" shaped in cross section, measuring 65 mm wide by 30 mm deep. Metal thickness: 4.5 mm. Hot dipped galvanized: to CAN/CSA-G164, minimum zinc coating g/m.
 - .2 Standard tubular supports for small signs: to ASTM B210M.
 - .3 Aluminum tubular members: belt ground satin finish.
 - .4 Base plates for ground mounted signs: to ASTM B209M. Base plates for overhead supports: to ASTM B209M.
 - .5 Tubular support caps for ground mounted signs: to ASTM B210M or fabricated from aluminum plate as specified in ASTM B209M. Castings for overhead signs: to ASTM B211M.
 - .6 Aluminum flanges: to ASTM B211M.
 - .7 Corrosion preventive compound: to CGSB31-GP-3M.
 - .8 Anchor and connecting bolts, 'U' clamps and miscellaneous hardware for overhead sign installations: fabricate from 304 stainless steel as specified in ASTM A276.
 - .9 Fasteners: bolts, nuts, washers and other hardware for roadside signs to be cast aluminum alloy, or galvanized steel.
- .2 Signboards
- .1 Aluminum sheet: to ASTM B209M, precut to required dimensions. Thickness to be 1.6 mm for signboards up to 750 mm wide. Thickness to be 2.1 mm for signboards 750-1200 mm wide. Use 1.0 mm thickness for refurbishing existing sign panels .
 - .2 Aluminum extrusions: to ASTM B211M, 150 mm or 300 mm panels suitable for bolting together.
 - .3 T-shape stiffeners for signboards: to ASTM B210M.
 - .4 Connecting straps and brackets: to ASTM B209M.
 - .5 Aluminum materials: to ASTM B209M.
 - .6 Xylene thinner: to CAN/CGSB-1.94.
 - .7 Chemical conversion coating for aluminum: to CGSB 31-GP-101Ma.
 - .8 Primer for aluminum: to CAN/CGSB-1.132.
 - .9 Finish paint: to CAN/CGSB-1.59.
 - .10 Silk screen ink:
 - .1 Transparent or opaque colours: to CGSB 1-GP-12c, and as indicated.
 - .11 Reflective sheeting and tape: to CGSB 62-GP-11M. Adhesive, class of reflectivity and colour as indicated.
 - .12 Transparent tape: flexible, smooth-surfaced, moisture resistant tape with pressure sensitive adhesive.

2.2 FABRICATION

- .1 Supports.
 - .1 Connect aluminum support members by welding in accordance with CSA W47.2. Work to be performed by Canadian Welding Bureau qualified members only. Flame cutting of members not permitted.
 - .2 Welds to be of same strength as adjacent member or casting.
 - .3 Remove sharp edges and burrs.
 - .4 Drive to required depth without damage to posts.
 - .5 If rock or concrete is encountered, drill hole to required depth and set post in sand.

- .6 In finished concrete surfaces, backfill with concrete or grout. Protect from adverse conditions until cured.
- .2 Signboards.
 - .1 Aluminum blanks:
 - .1 Degrease, etch and bonderize with chemical conversion coating.
 - .2 Clean surfaces with xylene thinner. Dry.
 - .3 For non-reflective signs, spray face with one coat vinyl pretreatment coating and two finish coats of required colour.
 - .4 For aluminum signboards that are to be painted before installation, spray and bake face of signboards with two coats of enamel in accordance with CAN/CGSB-1.104.
 - .2 Reflective background sheeting and lettering
 - .1 Cut and apply in accordance with manufacturer's instructions.
 - .2 Apply adhesive coated material with heat lamp vacuum applicator or by squeeze roll application method. Apply pressure sensitive material with roller or squeegee.
 - .3 Edge wrap sheeting on each extrusion prior to bolting extrusions. Match pieces of sheeting from different rolls for each signboard to ensure uniform appearance and brilliance by day and night.
 - .4 Reflective signboard faces may be prepared using silk screen transparent ink.
 - .3 Non-reflective lettering and symbols: cut from vinyl film as specified in CGSB 62-GP-9M, or paint using required colour of finish paint or silk screen transparent ink.
 - .4 Clean signboards completely and apply transparent tape over top edge and extending 25mm minimum down back and front of signboard.
- .3 Sign identification:
 - .1 Apply sign number and date of installation with 25mm high stencil painted black letters on lower left back face of each signboard.

Part 3 Execution

3.1 INSTALLATION

- .1 Sign bridge.
 - .1 Erect sign bridge as indicated. Permissible tolerance: 12 mm maximum departure from vertical.
- .2 Sign support.
 - .1 Erect supports as indicated. Permissible tolerance: 50 mm maximum departure from vertical for direct buried supports. Where separate concrete footings have been placed, erect posts with base plates resting on levelling nuts and restrained with nuts and washers. Permissible tolerance: 12 mm maximum departure from vertical.
 - .2 Coat underside of base plate with corrosion protective paint before installation. Connect shoe base to shaft with inside and outside fillet welds.
 - .3 Close open aluminum tubes and posts with aluminum cap. Cut oblong holes in shoe bases to drain condensation. Install aluminum bolt cover on each base plate restraining nut.
 - .4 Erect posts plumb and square to details as indicated.

- .5 Join truss sections with wrought aluminum flanges welded to chords with inside and outside fillet welds. Build in camber to truss and monotube bridge supports to allow for deflection due to dead load of sign support, signboards, appurtenances; and an additional 1:300 camber.
- .3 Signboard
 - .1 Fasten signboard s to supporting posts and brackets as indicated.
 - .2 Use T-shape aluminum stiffeners to join portions of sign panel on site. Cover face of T-stiffener with material identical to face of sign panel.
- 3.2 PROTECTION**
 - .1 Place temporary covering on signboards where indicated. Covering to be capable of withstanding rain, snow and wind and be non-injurious to signboard. Replace deteriorated covering and remove covers as directed by Contract Administrator.
- 3.3 CORRECTING DEFECTS**
 - .1 Correct defects, identified by Contract Administrator in sign message, consistency of reflectivity, colour or illumination. Correct angle of signboard and adjust luminaire aiming angle for optimum performance during night conditions to approval of Contract Administrator.
- 3.4 SCHEDULE**
 - .1 305 mm (12") wide x 458 mm (18") high, reflective aluminum sign reading: AUTHORIZED VEHICLES ONLY, mounted as indicated on drawings.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 City of Winnipeg 2010 Accessibility Design Standards

1.2 SHOP DRAWINGS

- .1 Submit representative sample of each type of sign, sign image and mounting method, including, but not limited to graphic, cast letters, sign box installation method, channel letters and wall plates fixed mounting installation method.
- .2 Indicate materials, thicknesses, sizes, finishes, colours, construction details, removable and interchangeable components, mounting methods, schedule of signs.
- .3 Submit drawn-to-scale details for individually fabricated or incised lettering indicating word and letter spacing.
- .4 Submit representative sample of each type sign, sign image and mounting method.
- .5 Submit manufacturer's printed product literature panel signage or components, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .6 Submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

Part 2 Products

2.1 MATERIALS

- .1 Tactile signs shall include the following:
 - .1 Letters and numbers on signs shall
 - .1 Be sans serif fonts;
 - .2 Have Arabic numbers;
 - .3 Have a width-to-height ratio between 3:5 and 1:1
 - .4 Have a stroke-width-to-height ratio between 1:5 and 1:10.
 - .5 Character height dimensions for viewing distance shall comply with Table 1.2.4.1 on page 48 of the City of Winnipeg 2010 Accessibility Design Standards.
 - .6 Characters, symbols and backgrounds of signs shall have an eggshell, matte or other glare-free finish.
 - .7 Characters and symbols shall colour contrast with their background.
 - .8 Where signs are required to be tactile, letters and numerals shall:
 - .1 Be raised at least 0.8 mm (1/32"), not sharply edged;
 - .2 Be between 16 mm (5/8" and 50 mm (2") high
 - .3 Be a sans serif front, accompanied by Grade 1 uncontracted Braille.

- .4 Pictograms shall be accompanied by an equivalent visual and tactile verbal description, placed directly below the pictogram. The border dimension of the pictogram shall be 150 mm (6") minimum in height.
- .2 Wall, door and number plates:
 - .1 Metal wall plates:
 - .1 Fabricate sign plates from brushed aluminum engraving stock, sizes as indicated.
 - .2 Sign graphics: apply by engraving.
 - .2 Interchangeable mounting: supply wall plates with approved type, semi-concealed, retaining holders that permit quick but vandal-resistant interchange of sign face. No exposed fasteners permitted. Exposed portions to match sign face.
 - .3 Fixed mounting: prepare wall plates for fixing by surface fasteners with rosette covers. Include back-up plates for fixing to uneven surfaces where required.
 - .4 Bracket mounting: fabricate brackets for wall projecting or ceiling suspended sign plates as detailed: of clear acrylic 4.8 mm thick.
- .3 Fully glazed sidelights and screens shall include the following:
 - .1 Minimum 50 mm (2") high row of decals or continuous stripe of highly contrasting colour, mounted with its centreline between 1472 mm (58") and 1525 mm (60") from the floor or ground.

Part 3 Execution

3.1 ERECTION

- .1 Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door, located with their centre line at a height between 1475 mm (58") and 1525 mm (60"). Confirm mounting locations with Contract Administrator prior to installation.
- .2 Where there is no wall space to the latch side of the door, including at double-leaf doors, signs shall be placed on the nearest adjacent wall, in a location that is easy to reach and touch.
- .3 The minimum level of illumination on signs shall be 200 lux.

3.2 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.3 SCHEDULE:

- .1 Room 101 Vestibule:
 - .1 Door D101:
 - .1 4" high sign c/w braille reading "Mayfair Recreation Centre" at pull side of door

- .2 Room 102 Multipurpose Room 1
 - .1 Door D102A:
 - .1 4" high sign c/w braille reading "Common Room" at pull side of door
 - .2 4" high sign c/w braille reading "Exit" at push side of door
 - .2 Door D102D:
 - .1 4" high sign c/w braille reading "Multipurpose Activity Room" at pull side of door
 - .2 4" high sign c/w braille reading "Common Room" at push side of door
- .3 Room 103 Servery:
 - .1 Door D103A:
 - .1 4" high sign c/w braille reading "Servery" at pull side of door
- .4 Room 104 Janitor:
 - .1 Door D104:
 - .1 4" high sign c/w braille reading "Janitor" at pull side of door
- .5 Room 105 Men's UTR
 - .1 Door D105:
 - .1 12" high sign c/w braille, male and wheelchair pictograms reading "Accessible Men's Washroom" at pull side of door
- .6 Room 106 Women's UTR:
 - .1 Door D106:
 - .1 12" high sign c/w braille, female and wheelchair pictograms reading "Accessible Women's Washroom" at pull side of door
- .7 Room 107 Multipurpose Room 2
 - .1 Door D107:
 - .1 4" high sign c/w braille reading "Exit" at push side of door
- .8 Room 108 Harvest Storage:
 - .1 Door D108:
 - .1 4" high sign c/w braille reading "Harvest Storage" at pull side of door
- .9 Room 109 Storage:
 - .1 Door D109:
 - .1 4" high sign c/w braille reading "Activity Room Storage" at pull side of door
- .10 Fully glazed sidelights and screens (where indicated on drawings):
 - .1 51 mm (2") high vinyl strips, mounted as indicated on drawings. Colour to be determined by Contract Administrator.

END OF SECTION

PART 1 General

1.1 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A167-99, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - .2 ASTM A653/A653M-99, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-12.5, Mirrors, Silvered.
- .3 Canadian Standards Association (CSA)
 - .1 CAN/CSA-B651-04, Barrier-Free Design.

1.2 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Indicate size and description of components, base material, surface finish inside and out, hardware and locks, attachment devices, description of rough-in-frame, building-in details of anchors for grab bars.

1.3 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Samples to be returned for inclusion into work.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for toilet and bath accessories for incorporation into manual.

1.5 EXTRA MATERIALS

- .1 Provide special tools required for accessing, assembly/disassembly or removal for toilet and bath accessories in accordance with requirements specified in Section 01 33 00 – Submittal Procedures.
- .2 Deliver special tools to Contract Administrator.

PART 2 Products

2.1 MATERIALS

- .1 Sheet steel: to ASTM A653/A653M with ZF001 designation zinc coating.
- .2 Stainless steel sheet metal: to ASTM A167.

- .3 Stainless steel tubing: Type 304, commercial grade, seamless welded, 1.2 mm wall thickness.
- .4 Fasteners: concealed screws and bolts hot dip galvanized, exposed fasteners to match face of unit. Expansion shields fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.

2.2 COMPONENTS

- .1 Surface-mounted twin jumbo toilet tissue dispenser, Bobrick Model B-2892.
 - .1 Cabinet shall be constructed of 18-8 S, type-304, 20-gauge (1.0mm) stainless steel with satin-finish, equipped with a tumbler lock keyed.
 - .2 Door shall be 18-8 S, type-304, 18-gauge (1.2mm) stainless steel with satin-finish.
 - .3 Dispensing Mechanism shall be High-impact ABS.
 - .4 Quantity: 2
- .2 Surface-mounted soap dispenser, Bobrick ConturaSeries® Model B-4112.
 - .1 Surface-mounted soap dispenser shall be constructed of type-304 stainless steel with satin finish. Front of soap dispenser shall have same degree of arc and match other Bobrick ConturaSeries® accessories in the washroom. Radius on all corners and edges of soap dispenser shall complement other Bobrick ConturaSeries® washroom accessories.
 - .2 Container shall be drawn, 20-gauge (0.9mm), one-piece seamless construction with satin finish. Container body and back plate shall be epoxy sealed to prevent warping and leakage. Locked, hinged filler top requires special key to open. Corrosion-resistant valve shall dispense commercially marketed all-purpose hand soaps. Valve shall be operable with one hand and require less than 5 lb of force (22.2 N) to comply with barrier-free accessibility guidelines (including ADAAG in U.S.A.). Capacity: 40-fl oz (1.2-L).
 - .3 Quantity: 2
- .3 Surface-Mounted Sanitary Napkin Disposal, Bobrick ConturaSeries® Model B-270.
 - .1 Container: 18-8 S, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish. Integral finger depression for opening cover. Front of container has same degree of arc as front of cover and other Bobrick ConturaSeries washroom accessories. Radius on side edges of container match corners and edges of cover and other ConturaSeries accessories. Cover: 18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Drawn, one-piece, seamless construction. Front of cover has same degree of arc as front of container and other Bobrick Contura Series washroom accessories. Radius on corners and edges of cover match side edges of container and other Contura Series accessories. Secured to container with a full-length stainless steel piano-hinge.
 - .2 Quantity: 1
- .4 Mirrors: Stainless steel channel frame mirror, Bobrick Series B-165 – 2448.
 - .1 Type-430 stainless steel, 1/2" x 1/2" x 3/8" (13 x 13 x 9.5mm) channel with 1/4" (6mm) return at rear with bright polished finish. One piece frame with 90 degree mitered corners. Galvanized steel back has integral horizontal hanging brackets near the top for hanging the mirror and near the bottom to prevent the bottom of

- the mirror from pulling away from the wall. Locking devices secure mirror to concealed wall hanger.
- .2 Quantity: 2
- .5 Shelf: Surface-mounted stainless steel shelf, Bobrick B-295 Series, 5" deep x 16" wide.
- .1 Surface-mounted shelf shall be constructed of type-304 stainless steel with satin finish. Mounting brackets shall be 16-gauge (1.6mm) and shall be welded to shelf. Shelf shall be 18-gauge (1.2mm) and have 3/4" (19mm) return edges. Front edge shall be hemmed.
- .2 Quantity: 2
- .6 Grab bars: Stainless steel grab bar, 1-1/2" (38mm) diameter, with snap flange cover, Bobrick Series B-5806.
- .1 Grab bar shall be type-304 stainless steel with satin finish. Grab bar shall have 18-gauge (1.2mm) wall thickness and 1-1/4" (32mm) outside diameter. Clearance between the grab bar and wall shall be 1-1/2" (38mm). Concealed mounting flanges shall be 1/8" (3mm) thick stainless steel plate, 2" x 3- 1/8" (50 x 80mm), and equipped with two screw holes for attachment to wall. Flange covers shall be 22-gauge (0.8mm) stainless steel, 3-1/4" (85mm) diameter, and shall snap over mounting flanges to conceal mounting screws and/or WingIt fasteners. Ends of grab bar shall pass through concealed mounting flanges and be heliarc welded to form one structural unit. Grab bars shall comply with barrier-free accessibility guidelines (WADS) for structural strength.
- .2 Quantity: 2 of B5806x24 and 2 of B5806 x 36
- .7 Waste receptacle: Floor standing large capacity waste receptacle, Bobrick Series B-2400.
- .1 Floor-standing waste receptacle shall be type-304, 16-gauge (1.6mm) stainless steel with satin finish. One-piece funnel top shall have 8-1/4" (210mm) diameter opening. Bottom of receptacle shall be recessed 1/2" (13mm) and equipped with four heavy duty rubber feet that elevate receptacle slightly off floor. Removable, rigid plastic liner shall have a wire handle and a minimum capacity of 33-gal. (125-L).
- .2 Quantity: 2
- .8 Hat & coat hook: Surface-mounted hat and coat hook, Bobrick Model B-6827 (satin).
- .1 Surface-mounted hat and coat hook shall be constructed of type-304 stainless steel with (select one: bright polish or satin) finish and shall project 3-1/16" (80mm) from wall. Flange and support arm shall be 22-gauge (0.8mm) and equipped with a concealed, 16-gauge (1.6mm) mounting bracket that is secured to a concealed, 16-gauge (1.6mm) wall plate with a stainless steel setscrew. Hook shall be 12-gauge (2.8mm) and shall be welded to support arm.
- .2 Quantity: 2
- .9 Mop rack: Mop and broom holder, Bobrick Model B-223, 36" (915mm) with 4 holders.
- .1 Mop and broom holder shall be constructed of type-304 stainless steel with satin finish. Shelf shall be 8" (203mm) deep and have 1-1/2" (38mm) return for maximum rigidity. Unit shall be equipped with replaceable, spring-loaded rubber cams that will securely hold handles from 7/8" to 1-1/4" (22 to 32mm) in diameter.
- .2 Quantity: 1

2.3 FABRICATION

- .1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.
- .2 Wherever possible form exposed surfaces from one sheet of stock, free of joints.
- .3 Brake form sheet metal work with 1.5 mm radius bends.
- .4 Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- .5 Back paint components where contact is made with building finishes to prevent electrolysis.
- .6 Hot dip galvanize concealed ferrous metal anchors and fastening devices to CSA G164.
- .7 Shop assemble components and package complete with anchors and fittings.
- .8 Deliver inserts and rough-in frames to job site at appropriate time for building-in. Provide templates, details and instructions for building in anchors and inserts.
- .9 Provide steel anchor plates and components for installation on studding and building framing.

2.4 FINISHES

- .1 Stainless steel as indicated.
- .2 Manufacturer's or brand names on face of units not acceptable.

PART 3 Execution

3.1 INSTALLATION

- .1 Install and secure accessories rigidly in place as follows:
 - .1 Stud walls: install steel back-plate to stud prior to plaster or drywall finish. Provide plate with threaded studs or plugs.
 - .2 Hollow masonry units or existing plaster/drywall: use toggle bolts drilled into cell/wall cavity.
 - .3 Solid masonry or concrete: use bolt with lead expansion sleeve set into drilled hole.
 - .4 Toilet/shower compartments: use male/female through bolts.
- .2 Install grab bars on built-in anchors provided by bar manufacturer.
- .3 Use tamper proof screws/bolts for fasteners.
- .4 Install mirrors in accordance with Section 08 80 00 - Glazing.

3.2 TESTING

- .1 Proof test grab bars to manufacturers specifications.

- .2 Provide certificate of test results.

3.3 SCHEDULE

- .1 Locate accessories where indicated. Exact locations determined by Contract Administrator.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI/NFPA 10-[1998], Portable Fire Extinguishers.
- .2 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S508-[M90(R1995)], Rating and Fire Testing of Fire Extinguishers and Class "D" Extinguishing Media.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 Submit shop drawings and product data in accordance with Section 01 33 00 - Submittal Procedures.

1.3 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 00 – Cleaning and Waste Management.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal materials from landfill to metal recycling facility.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products

2.1 MULTI-PURPOSE DRY CHEMICAL EXTINGUISHERS:

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C class protection. Locate as indicated on drawings.
 - .1 Size: 4.5 kg.

2.2 WET CHEMICAL EXTINGUISHERS:

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for K class protection. Locate as indicated on drawings.
 - .1 Size: 6 L/6.4 kg.

2.3 EXTINGUISHER BRACKETS

- .1 Type recommended by extinguisher manufacturer.

2.4 CABINETS

- .1 Recessed type as indicated, constructed of 1.6 mm thick steel, 180° opening door of 2.5 mm thick steel with latching device. Locate recessed cabinets as indicated in drawings.
- .2 Cabinet to maintain fire resistive rating of construction in which they occur.
- .3 Cabinet door: with 5 mm full glass panel.
- .4 Finish: Tub: prime coated.
 - .1 Door and frame: No.4 satin finish stainless steel.

2.5 IDENTIFICATION

- .1 Identify extinguishers in accordance with recommendations of [ANSI/NFPA 10] [CAN/ULC-S508].
- .2 Attach bilingual tag or label to extinguishers, indicating month and year of installation. Provide space for service dates.

Part 3 Execution

3.1 INSTALLATION

- .1 Install or mount extinguishers in cabinets or on brackets as indicated.

END OF SECTION