

2016-Jan-29

1 General

1.1 RELATED SECTIONS

- .1 Section 10 95 00 - Miscellaneous Specialties.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
- .3 Shop Drawings:
 - .1 Indicate location, type, size, elevation and panel arrangement, backing, hardware, anchor or mounting details, frame or trim and accessories.
- .4 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.3 SUSTAINABLE DESIGN SUBMITTALS

- .1 Construction waste management plan.
 - .1 A Construction Waste Management Plan is in place to divert waste material from landfill. Wherever practical, send waste material for reuse or recycling, and generally document this for the contractor's waste management final report.
- .2 Recycled Content.
 - .1 Refer to Section 01 47 15 - Sustainable Requirements for "List of Products Requiring Recycled Content".
 - .2 If products within this section are indicated on the "List of Products Requiring Recycled Content", only products with recycled content will be acceptable.
 - .3 For products not identified on list, source products with highest recycled content available when practical.
 - .4 Include following information with product data submission.
 - .1 Percentage of pre-consumer and post-consumer recycled content for each product.
- .3 Regional Materials.
 - .1 Refer to Section 01 47 15 - Sustainable Requirements for "List of Products Required to be Locally Sourced".
 - .2 If products within this section are indicated on the "List of Products Required to be Locally Sourced", include following information with Product Data submission:
 - .1 Extraction/Manufacturing location(s): Indicate location of extraction site or manufacturing plant, and indicate distance between extraction site or manufacturing plant and Project site.
- .4 Adhesives and Sealants.
 - .1 Include following information with Product Data submission for materials specified under this section:
 - .1 Submit manufacturer's certification indicating VOC limits of Products used onsite and within the building envelope. Product shall comply with California's SCAQMD #1168.
- .5 If requesting substitute product, ensure proposed substitution achieves above stated goals.

1.4 MAX. VOC CONTENT FOR SOLVENT CLEANING ACTIVITIES

- .1 Following are some of the Maximum allowed VOC Content for following activities, as per SCAQMD Rule 1171-9 (refer to SCAQMD manual for complete list and updates):
 - .1 Product cleaning during onsite surface preparation for coatings or adhesives application, and repair and maintenance cleaning:
 - .1 General maximum VOC 25g/L.
 - .2 Electrical apparatus components and electronic components.
 - .3 Cleaning of coatings or adhesives application equipment max. VOC 25g/L.
 - .2 Refer to SCAQMD for additional information and clarification and complete list of applications.
 - .3 Any discrepancies are to be approved by Departmental Representative. Obtain written approval prior to use on site.

2 Products

2.1 WHITEBOARDS

- .1 Whiteboard: consisting of a sandwich type construction composed of face panel, core and balancing rear sheet.
- .2 Construction:
 - .1 Face panel: 0.76 mm high quality enamelling steel base with a porcelain-enamel writing surface; colour white.
 - .2 Core: 11 mm impregnated, sound-absorbing fibreboard.
 - .3 Backup balancing sheet: 0.45 mm zinc-coated stretcher levelled steel in one unjointed section. Overall thickness of whiteboard lamination shall be 13 mm.
 - .4 Jointing: 25 mm x 1.9 mm steel spline and an extruded polyvinyl slotted insert that ensures continuously closely aligned seams.
 - .5 Permanently attach the following note across the top of each board: "NOTE, USE PROPER MARKERS ONLY".
- .3 Trim: aluminum, extruded from 6063-T5 alloy, with clear-etched and anodized satin finish, free from extruding draw marks and surface scratches.
 - .1 Perimeter: 19 mm exposed face, for perimeter of chalkboards and tackboards except as noted below.
 - .2 Divider bar: 19 mm exposed face, for use between vertical joints at chalkboard to tackboard transitions.
 - .3 Maprail: 50 mm wide, for use between horizontal joints of chalkboard/tackboards only, complete with integral cork insert, end stops and two (2) combination roller maphooks per 1800 mm.
 - .4 Chalk tray: continuous, heavy-duty, triangular box section, complete with contour fitting end castings, 100 mm projection from wall.
- .4 Fasteners: to suit substrate.
- .5 Accessories: supply with each whiteboard, four low-odour dry erasable markers (black, blue, green and red), one brush and one bottle of whiteboard cleaner.

2.2 FABRICATION

- .1 Mitre corners where possible; otherwise, use butt joint. Make joints hairline and inconspicuous.
- .2 Check trim in factory for proper fit; bundle and tag each unit.

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 boards in accordance with manufacturer's instructions, parallel to floor, plumb and level, to provide rigid, secure surface.
- .2 Install trim around board panels. Make mitres and joints to hair-line fit, free of rough edges. Use concealed brackets to reinforce and hold joints tight and flush. No exposed fasteners permitted.
- .3 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.
 - .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

1 General

1.1 RELATED REQUIREMENTS

- .1 Section 10 28 10 - Washroom Accessories.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA).
 - .1 CSA B651-12, Accessible Design for the Built Environment.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.
- .2 Product data:
 - .1 Compartment literature shall clearly indicate material thickness; type of material and finish, hardware and other relevant information.
- .3 Shop drawings:
 - .1 Indicate room plans, partition locations and dimensions, elevations, and installation details.
 - .2 Plans shall indicate clear interior dimensions of barrier-free compartments.
 - .3 Dimensions to be metric or imperial with metric conversions. Imperial only dimensions are not acceptable.
- .4 Samples:
 - .1 Submit duplicate samples of each hardware item, including brackets, fastenings and trim.
- .5 Closeout submittals:
 - .1 Provide maintenance data for incorporation into maintenance manual

1.4 SUSTAINABLE DESIGN SUBMITTALS

- .1 Construction waste management plan.
 - .1 A Construction Waste Management Plan is in place to divert waste material from landfill. Wherever practical, send waste material for reuse or recycling, and generally document this for the contractor's waste management final report.
- .2 Recycled Content.
 - .1 Refer to Section 01 47 15 - Sustainable Requirements for "List of Products Requiring Recycled Content".
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 - .4 Include following information with product data submission.
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- .3 Regional Materials.
 - .1 Refer to Section 01 47 15 - Sustainable Requirements for "List of Products Required to be Locally Sourced".

- .2 If products within this section are indicated on the "List of Products Required to be Locally Sourced", include following information with Product Data submission:
 - .1 Extraction/Manufacturing location(s): Indicate location of extraction site or manufacturing plant, and indicate distance between extraction site or manufacturing plant and Project site.
 - .4 Adhesives and Sealants.
 - .1 Include following information with Product Data submission for materials specified under this section:
 - .1 Submit manufacturer's certification indicating VOC limits of Products used onsite and within the building envelope. Product shall comply with California's SCAQMD #1168.
 - .5 If requesting substitute product, ensure proposed substitution achieves above stated goals.
- 1.5 MAX. VOC CONTENT FOR SOLVENT CLEANING ACTIVITIES
- .1 Following are some of the Maximum allowed VOC Content for following activities, as per SCAQMD Rule 1171-9 (refer to SCAQMD manual for complete list and updates):
 - .1 Product cleaning during onsite surface preparation for coatings or adhesives application, and repair and maintenance cleaning:
 - .1 General maximum VOC 25g/L.
 - .2 Electrical apparatus components and electronic components.
 - .3 Cleaning of coatings or adhesives application equipment max. VOC 25g/L.
 - .2 Refer to SCAQMD for additional information and clarification and complete list of applications.
 - .3 Any discrepancies are to be approved by Departmental Representative. Obtain written approval prior to use on site.
- 1.6 DELIVERY, STORAGE AND HANDLING
- .1 Deliver, store and handle materials in accordance with Section 01 10 01 - General Requirements and manufacturer's written instructions.
 - .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect compartments from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- 2 Products
- 2.1 COMPARTMENTS
- .1 Type: solid phenolic core panel, Class 'A' fire rating; floor supported, overhead braced.
 - .1 Acceptable Materials: Duraline 1180 Series by Bobrick, Phenolic - Black Core Class 'A' by Global Partitions.
- 2.2 MATERIALS AND HARDWARE
- .1 Solid core laminate for compartments: rigid self-supporting moisture resistant phenolic core, consisting of a multi-layer resin impregnated core built up to required thickness under intense heat and pressure to fuse layers into a solid panel.

- .2 Posts: 25 mm x 38mm tubing; 18-8, type-304, 1.6 mm stainless steel with satin-finish. Post height to extend from floor to underside structure.
- .3 Hardware:
 - .1 General:
 - .1 Hinges: Heavy duty stainless steel, satin finish; adjustable door-open angle.
 - .2 Latch, keeper/bumper: stainless steel construction. Allows for emergency access by lifting door.
 - .3 Coat hook: combination coat hook/door bumper, cast aluminum.
 - .1 Acceptable Materials: Model B-212 by Bobrick.
 - .4 Mounting hardware: of type 304 stainless steel, satin finish.
 - .1 Continuous U-channels for panel-to-pilaster connection.
 - .2 Continuous angle both sides for panel-to-wall connections.
 - .2 Barrier-free hardware:
 - .1 Door pulls: 19 mm diameter x minimum 150 mm pull centres; satin stainless steel.
 - .2 Door stop: rubber bumper, tape application
 - .1 Acceptable Materials: S128 by Standard Metal.
 - .3 Coat hook: single hook, maximum 40 mm projection, stainless steel.
 - .1 Acceptable Materials: B-233 by Bobrick.
 - .4 Headrail: anodized aluminum with satin finish, anti-grip design.
 - .5 Levelling device: corrosion-resistant, chromate-treated, double zinc-coated steel levelling bar bolted to top of pilaster.
 - .6 Shoe: minimum 75 mm high polished stainless steel, one-piece construction.
 - .7 Fasteners: tamper-resistant; hex-pin, Torx-pin or similar as approved by Departmental Representative.

2.3 FABRICATION

- .1 Dividing panels: 13 mm thick plastic laminate panels.
- .2 Doors and pilasters: 19 mm thick plastic laminate panels.
- .3 Factory install threaded steel inserts for installation of hinges and door latch.
- .4 Chamfer edges uniformly at approximately 20°.

2.4 FINISH

- .1 Laminate to have suede finish.
- .2 Colour as selected later from manufacturer's standard range.

3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for toilet compartment installation in accordance with manufacturer's written instructions.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied.

3.2 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.

3.3 INSTALLATION

- .1 Do work in accordance with CSA B651 and manufacturer's written instructions.
- .2 Install partitions secure, plumb and square.
- .3 Anchor mounting brackets to masonry or concrete surfaces using screws and shields: to hollow walls using bolts and toggle type anchors.
- .4 Attach pilasters to overhead support with pilaster supports and level, plumb, and tighten installation with levelling device. Conceal with shoe
- .5 Attach panel and pilaster to brackets with through type sleeve bolt and nut.
- .6 Secure pilaster shoes in position.
- .7 Set tops of doors parallel with overhead brace when doors are in closed position.
- .8 Install post at ends of panels that have no pilaster.
- .9 Hardware installation.
 - .1 Equip standard toilet compartments with:
 - .1 Hinges.
 - .2 Latch and keeper.
 - .3 Continuous door stop.
 - .4 Door bumper/coat hook mounted on door.
 - .2 Equip barrier-free toilet compartments with:
 - .1 Hinges.
 - .2 Latch and keeper.
 - .3 Continuous door stop.
 - .4 Bumper mounted on wall.
 - .5 Exterior pull, mounted horizontally; midpoint located 120 mm to 220 mm from latch edge of door and 800 mm to 1000 mm from floor.
 - .6 Interior pull, mounted horizontally; midpoint located 200 mm to 300 mm from hinge side of door and 800 mm to 1000 mm from floor.
 - .7 Barrier-free coat hook mounted on side wall; mounting height 1400 mm.
 - .3 Adjust and align hardware for proper function. Set door open position at 30° to front.

3.4 CLEANING

- .1 Upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 10 01 - General Requirements.
 - .1 Clean surfaces after installation using manufacturer's recommended cleaning procedures.
 - .2 Clean aluminum with damp rag and approved non-abrasive cleaner.
 - .3 Clean and polish hardware and stainless components.

END OF SECTION

1 General

1.1 RELATED SECTIONS

- .1 08 80 00 - Glazing: Frameless Mirror (WA5).

1.2 REFERENCES

- .1 American National Standards Institute (ANSI).
 - .1 ICC/ANSI A117.1-2009, Accessible and Useable Buildings and Facilities.
- .2 ASTM International (ASTM).
 - .1 ASTM A240/A240M-13c, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - .2 ASTM A653/A653M-13, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .3 ASTM F2285-04(2010), Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use.
- .3 Canadian Standards Association (CSA)
 - .1 ASTM A123/A123M-13, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.
- .2 Shop Drawings:
 - .1 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.
- .3 Samples:
 - .1 Samples to be returned for inclusion into work.
 - .2 Submit one sample of each washroom accessory.

1.4 EXTRA MATERIALS

- .1 Provide keys and special tools required for accessing, assembly/disassembly or removal for washroom accessories.
- .2 Deliver special tools to Departmental Representative.

2 Products

2.1 MATERIALS

- .1 Sheet steel: to ASTM A653/A653M with ZF001 designation zinc coating.
- .2 Stainless steel sheet metal: to .1 ASTM A240/A240M , Type 304, with No.4 finish.
- .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 Model numbers listed herein may not contain all prefix, suffix or other variations/designations that may be required to conform to product description. Indicate full model number on shop drawings including required prefixes, suffixes and model number variations/designations to accommodate description of product.
- .2 Locks: locks for all washroom accessories to be keyed alike.
- .3 WA1 - Toilet paper dispenser: N.I.C.
- .4 WA2 - Sanitary napkin disposal: container and cover fabricated from 0.8 mm stainless steel; equip cover with full-length stainless steel piano hinge; container shall have radiused corners.
 - .1 Acceptable Materials: B-270 by Bobrick, 4781-15 by Bradley, 0852 by ASI/Watrous.
- .5 WA3, WA4 - Grab bars:
 - .1 Wall mounted: 40 mm o.d. x 1.2 mm wall tubing of stainless steel, length indicated, 75 mm diameter wall flanges welded to tubular bar, concealed screw attachment using snap flange cover, provided with steel back plates and all accessories. Peened finish. Grab bar and anchorage to withstand a force of 1.3 kN applied in any direction.
 - .1 Acceptable Materials: B-6806.99 by Bobrick, 812 by Bradley, 3800-P by ASI/Watrous.
 - .2 Grab bar anchoring devices:
 - .1 Stud partition: 3 mm thick steel plate; 100 mm high; length to suit grab bar and attach to a minimum of two studs.
 - .2 Hollow block: toggle bolts or sleeve anchors.
 - .3 Poured concrete or solid block: wedge anchors.
 - .4 Toilet partition: stainless steel plate system with internally threaded posts to prevent exposed fasteners on side opposite grab. Fabricated from 18-8, Type 304 stainless steel. Fasteners to be stainless steel.
 - .5 Any substrates: Manufacturer's proprietary anchoring devices designed specifically for grab bar installation on applicable substrate.
- .6 WA5 - Frameless Mirror
 - .1 By Section 08 80 00 - Glazing.
- .7 WA6 - Soap dispenser (SD): N.I.C.
- .8 WA7: Not Used.
- .9 WA8 - Waste disposal: Semi-recessed:
 - .1 Cabinet: 0.8 mm stainless steel construction; 25 mm wide, one-piece seamless flanges.
 - .2 Waste receptacle: Open top, exposed edges hemmed; fabricated from 0.8 mm thick stainless steel; 45 litre capacity. Secure waste receptacle with lock.
 - .3 Acceptable Materials: B-3644 by Bobrick, 346-10 by Bradley, 0458-9 by ASI/Watrous.
- .10 WA9 - Paper towel dispenser: N.I.C.
- .11 WA10 - Framed Mirrors:
 - .1 MIR1: fixed channel frame.
 - .1 Frame: stainless steel channel frame, 13 mm x 13 mm x 9.5 mm; bright polished finish. One piece frame with 90° degree mitred corners.

- .2 Mirror:
 - .1 No. 1 quality, 6 mm thick, guaranteed for 10 years against silver spoilage. Provide shock absorbing material.
 - .2 Galvanized steel back with integral hanging brackets.
 - .3 Hanging: concealed wall hanger and bracket assembly of either:
 - .1 Snap lock design: designed to automatically lock mirror into hanger without use of set screws or
 - .2 Tamper-resistant set screws.
 - .3 Accessories:
 - .1 Mirror removal tool: where required, manufacturer's special tool for removal of mirrors.
 - .4 Acceptable Materials: B-165-Series by Bobrick, 781-Series by Bradley, 0620 by ASI/Watrous.
- .2 Sizes: refer to drawing for mirror sizes.
- .12 WA11 - Folding seat: Rectangular shape, solid laminate seat, fold-up; stainless steel tubular frame, guide bracket and stainless steel fasteners.
 - .1 Acceptable Materials: B-5191 by Bobrick, 9558 by Bradley, Model 1235 P by Saferail, W-8203 by Watrous.
 - .2 Size: 432 mm to 457 mm wide x 371 mm deep and projects 35 mm from wall.
 - .3 Seat material: solid laminate; 13 mm thick; 8 mm thick when fully supported around perimeter.
- .13 WA12 - Soap dish: recessed mounted, one-piece construction, fabricated from 1.0 mm thick stainless steel; satin finish, 140 mm W x 90 mm D inside opening.
 - .1 Acceptable Materials: B-438 by Bobrick.
- .14 WA13 - Shower curtain and rod:
 - .1 Shower rods: 32 mm diameter x 0.91 mm wall thickness satin stainless steel tubing of required length with satin stainless steel flanges, exposed fasteners. Shower rod material and anchorage to withstand downward pull of 0.9 kN.
 - .1 Acceptable Materials: B-6107 by Bobrick, 9531 by Bradley, 1377S by Saferail, 1214 by ASI/Watrous.
 - .2 Curtain: 0.2 mm thick opaque vinyl shower curtain, hemmed edges, plated brass grommets, complete with stainless steel hooks.
 - .1 Acceptable Materials: 204-Series by Bobrick, 9537 by Bradley, 1382 by Saferail, 1200-V by ASI/Watrous.
- .15 WA14 - Robe hook: single hook, maximum 40 mm projection, fabricated from 2.8 mm thick stainless steel.
 - .1 Acceptable Materials: B-233 by Bobrick, 917 by Bradley, 8425 by ASI/Watrous.
- .16 WA15 - Towel bar: Surface-mounted, fabricated from Type-304 stainless steel with satin finish.
 - .1 Flanges and support arms: equipped with concealed, mounting brackets; secured to concealed 1.2 mm wall plates with locking setscrews.
 - .2 Towel bar: 19 mm square tubing x457 mm long.
 - .3 Acceptable Materials: B-6737 Series by Bobrick; 9054 Series by Bradley, 7360-S Series by ASI/Watrous

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 ASTM A123/A123M.
- .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.
- .10 Manufacturer or brand names on face of units not acceptable.

3 Execution

3.1 INSTALLATION

- .1 Install and secure accessories rigidly in place as follows:
 - .1 Stud walls: install steel anchor 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, marble, stone 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 using same materials and methods as those used for mock-ups.
- .3 Use tamper proof screws/bolts for fasteners.
- .4 Fill units with necessary supplies shortly before final acceptance of building.

3.2 FIELD TESTING OF GRAB BARS

- .1 Allow for site testing 25% of grab bars to verify compliance with mock-up. Departmental Representative will identify grab bars to be tested.
- .2 Test grab bars using same method as that used for mock-up.
- .3 Work which does not comply with the mock-up will be rejected, taken down and installed to compliance with mock-up, at no increase in contract price.
- .4 Departmental Representative's decision as to compliance with the mock-up will be final.

3.3 SCHEDULE

- .1 Refer to drawings for quantities and locations.

END OF SECTION

1 General

1.1 RELATED SECTIONS

- .1 Section 05 05 14 - Powder Coating.
- .2 Section 10 21 14 - Plastic Laminate Toilet Compartments.
- .3 Section 10 28 10 - Washroom Accessories.
- .4 Section 21 13 00 - Fire Suppression: Fire Extinguishers.
- .5 Section 23 37 25 - Louvres.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.
- .2 Shop drawings:
 - .1 Submit shop drawings for all miscellaneous specialties.
 - .2 Submit room layout, indicating specialty location and dimensions, for products indicated.
 - .3 Where indicated, shop drawings shall be stamped and signed by professional engineer registered or licensed in Province of New Brunswick, Canada.
- .3 Product data:
 - .1 Clearly show material thickness and gauges; type of material and finish; and all other relevant details and information.
- .4 Samples:
 - .1 Submit samples of manufacturer's standard colours. Colour samples to be actual materials; electronic, photographic and printed samples are not acceptable.

1.3 SUSTAINABLE DESIGN SUBMITTALS

- .1 Construction waste management plan.
 - .1 A Construction Waste Management Plan is in place to divert waste material from landfill. Wherever practical, send waste material for reuse or recycling, and generally document this for the contractor's waste management final report.
- .2 Recycled Content.
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 - .1 Percentage of pre-consumer and post-consumer recycled content for each product.
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- .2 If products within this section are indicated on the “List of Products Required to be Locally Sourced”, include following information with Product Data submission:
 - .1 Extraction/Manufacturing location(s): Indicate location of extraction site or manufacturing plant, and indicate distance between extraction site or manufacturing plant and Project site.
 - .4 Adhesives and Sealants.
 - .1 Include following information with Product Data submission for materials specified under this section:
 - .1 Submit manufacturer’s certification indicating VOC limits of Products used onsite and within the building envelope. Product shall comply with California’s SCAQMD #1168.
 - .5 If requesting substitute product, ensure proposed substitution achieves above stated goals.
- 1.4 JOB CONDITIONS
 - .1 Examine site conditions and surfaces for defects of work prepared by other trades.
 - .2 Report to Departmental Representative, in writing, defects of work which may adversely affect the quality of workmanship of this section.
- 1.5 MAX. VOC CONTENT FOR SOLVENT CLEANING ACTIVITIES
 - .1 Following are some of the Maximum allowed VOC Content for following activities, as per SCAQMD Rule 1171-9 (refer to SCAQMD manual for complete list and updates):
 - .1 Product cleaning during onsite surface preparation for coatings or adhesives application, and repair and maintenance cleaning:
 - .1 General maximum VOC 25g/L.
 - .2 Electrical apparatus components and electronic components.
 - .3 Cleaning of coatings or adhesives application equipment max. VOC 25g/L.
 - .2 Refer to SCAQMD for additional information and clarification and complete list of applications.
 - .3 Any discrepancies are to be approved by Departmental Representative. Obtain written approval prior to use on site.
- 1.6 DELIVERY AND STORAGE
 - .1 Schedule delivery of products and arrange storage area with Departmental Representative.
- 2 Products
 - 2.1 DOOR GRILLES
 - .1 Sightproof: nonfire-rated, minimum 25 mm thick, fabricated from 1.2 mm aluminum; clear anodized finish. Frame designed to clamp to door with exposed fasteners only on interior side.
 - .1 Acceptable Materials: Model CDL-Series by K.N. Crowder, ATG1 with C border by the E.H. Price.

2.2 PERSONAL STORAGE LOCKERS

- .1 Lockers: to CAN/CGSB-44.40.
 - .1 Types: single tier and double tier; 305 mm wide x 380 mm deep x 1830 mm high.
 - .2 Frame: 1.6 mm sheet steel.
 - .3 Back and side panels: minimum 0.45 mm sheet steel.
 - .4 Ventilation: provide ventilation slots in frame or door.
 - .5 Door construction:
 - .1 Solid door: double pan construction (0.91 mm x 0.61 mm) outer panel x inner panel.
 - .1 Acceptable Materials: Emperor by Hadrian, Decor Tri-Lok Corona by General Storage Systems (GSS), Series 50 Nova by Lincora, Clean Line Lockers by Anthony Steel Manufacturing.
 - .2 Door handle: recessed handle; chrome, stainless steel or aluminum finish.
 - .3 Locking: single point, by means of padlock and hasp.
- .2 Accessories
 - .1 Interior equipment:
 - .1 Equip each compartment with one shelf and three round tip plated metal coat hooks.
 - .2 Number plates: metal or plastic plate, riveted onto door fronts. Number sequence as determined by Departmental Representative.
 - .3 Provide trim, filler panels and end panels.
- .3 Finish
 - .1 Thoroughly clean parts, before painting, with a phosphoric acid-based cleaner.
 - .2 Electrostatically spray parts with one coat high-grade alkyd baking enamel, and bake using proper temperature time relationship to ensure thorough drying and tough durable finish.
 - .3 Colours: as selected by Departmental Representative from manufacturer's standard range. Only one colour will be used.
 - .4 Frame and doors shall be same colour.
- .4 Schedule:
 - .1 Provide lockers in rooms: 128B & 130B.

2.3 EQUIPMENT STORAGE LOCKERS

- .1 Lockers:
 - .1 Double tier, 457 mm wide x 610 mm deep x 1830 mm high.
 - .2 Frame:
 - .1 Horizontal components: 1.2 mm sheet steel.
 - .2 Vertical components: 1.6 mm sheet steel.
 - .3 Hasp: 3.4 mm sheet steel.
 - .4 Back and side panels: 1.6 mm sheet steel.
 - .5 Ventilation: provide ventilation slots in frame or door.
 - .6 Door construction:
 - .1 Solid door: double pan construction (1.6 mm x 0.76 mm) outer panel x inner panel.
 - .2 Door handle: recessed handle; chrome, stainless steel or aluminum finish.
 - .3 Locking: single point, by means of padlock and hasp. Provide full-length astragal welded to active door of double door lockers.

- .2 Accessories
 - .1 Interior equipment:
 - .1 Equip each compartment with one shelf and three round tip plated metal coat hooks.
 - .2 Number plates: metal or plastic plate, riveted onto door fronts. Number sequence as determined by Departmental Representative.
 - .3 Provide trim, sloping top, filler panels and end panels.
 - .3 Finish
 - .1 Thoroughly clean parts, before painting, with a phosphoric acid-based cleaner.
 - .2 Electrostatically spray parts with one coat high-grade alkyd baking enamel, and bake using proper temperature time relationship to ensure thorough drying and tough durable finish.
 - .3 Colours: as selected by Departmental Representative from manufacturer's standard range. Only one colour will be used.
 - .4 Frame and doors shall be same colour.
- .4 Schedule:
 - .1 Single door type: Room 171.

2.4 UNIVERSAL WEAPONS RACK

- .1 Weapons rack:
 - .1 Kit contains necessary components for storing twelve M16 sized rifles with optics, using a 12-weapon base, three (3) 4 barrel support, and stock cups.
 - .2 Size: 1076 mm wide x 1140 mm high x 410 mm deep.
- .2 Cabinet: fully welded construction; fabricated from heavy gauge sheet metal; perforated for visual inspection.
- .3 Doors:
 - .1 Fabricated from heavy gauge sheet metal; fully perforated for visual inspection.
 - .2 Bi-fold type, retractable into cabinet to provide clear, unobstructed access to weapons.
 - .3 Riveted and welded hinges.
 - .4 Locking: Locking bars exceed military requirements. Padlock supplied by others.
- .4 For surfaces in contact with weapons, use powder-coated, vinyl-dipped, rubber, thermoplastic-coated, or thermoplastic components to ensure weapons are safe from damage.
- .5 Location: Room 144.

2.5 GUN LOCKERS

- .1 Style: Flush recessed design; compartments lined on bottom. Number of compartments as indicated on drawings. Locking: keyed differently.
- .2 Compartment size: approximately 130 mm x 265 mm x 150 mm deep.
- .3 Material: fabricate cabinet from minimum 1.6 mm thick steel; doors from 1.2 mm thick steel. Finish: high-grade alkyd baking enamel or powder coated paint; colour as selected from manufacturer's standard range.
- .4 Acceptable Materials: products by DSM Law Enforcement Products, Canadian Locker Company.

2.6 DISCHARGE STATIONS

- .1 Handgun station: Designed to accommodate handguns up to .44 magnum.
 - .1 Approved product (no substitutions): Tabletop Model Mini (Check-it) CH by Snail Systems, Guardian Jr. by Range Systems.
 - .2 Location: Room 140.
- .2 Freestanding type: floor mounted, 483 mm x 254 mm x 685 mm size.
 - .1 Approved product (no substitutions): Slugmaster by LC Action, Freestanding Chek-it by Snail Systems.
 - .2 Location: Room 144; location as determined by Departmental Representative.
- .3 Accessories: provide mounting assemblies as necessary for table top.

2.7 CORNER GUARDS

- .1 Resilient corner guard: vinyl/acrylic covering over extruded aluminum retainer; surface mounted, 75 mm leg x corner radius as indicated; angle to suit corner.
 - .1 6 mm corner radius:
 - .1 Acceptable Materials: Model SM-20/SM-20M by Construction Specialties, 150-Series by IPC Door and Wall Protection Systems, Koroguard G200-Series by Koroseal Wall Protection Systems, CG-10/CG-135 by Pawling Corporation.
 - .2 Covering: 1.9 mm thick high impact vinyl/acrylic extrusions; colour selected by Departmental Representative.
 - .3 Retainer: extruded aluminum, purpose made snap-in type, 1.6 mm thick, continuous for height of guard.
 - .4 Accessories: provide closure caps and fasteners.
- .2 Height: 1015 mm.

2.8 WALK-OFF MAT

- .1 Entry system: closed construction, 12 mm thick; consisting of alternating rows of scraper bars and wiper.
 - .1 Acceptable Materials: Nuway Tuftiguard by Forbo Flooring Systems.
- .2 Scrap bar: extruded aluminum.
- .3 Wiper: rubber construction; plain, unbuffed.
- .4 Size: floor area/shape less one row of floor tile at perimeter of room.

2.9 FLAG POLES

- .1 Pole: aluminum, cone-tapered, internal halyard system, ground set stationary type base.
- .2 Design Criteria
 - .1 Flagpole, bases and anchorage devices to resist minimum wind velocity of 145 km/h un-flagged, 100 km/h flagged.
 - .2 Description:
 - .1 Exposed Height: 7620 mm.
 - .2 Butt Diameter: 127 mm.
 - .3 Top Diameter: 76 mm.
 - .4 Wall Thickness: 3.9 mm.
 - .5 Cap: revolving cap with ball finial.

- .3 Halyard system: internal system, accessible through locked access door.
 - .1 Cabling: stainless steel cable and durable plastic chain routed through interior of shaft and secured using a fastening hook.
- .4 Finish: factory coat exposed surfaces, after assembly, with clear anodized finish in accordance with Aluminum Association AAM10C22A31.

2.10 BICYCLE RACKS

- .1 Rack: 60 mm o.d. steel pipe, one-piece serpentine design; surface mounting complete with flange to cover bolts, exposed height approximately 900 mm; 3300 mm long.
 - .1 Acceptable Materials: Ribbon Rack by AAA Ribbon Rack Co., Barco Products Canada, Blue Imp Playgrounds.
 - .2 Capacity: 5 bicycles.
 - .3 Quantity: two (2).
- .2 Materials:
 - .1 Steel pipe: to ASTM A53/A53M, Schedule 40, Grade A.
- .3 Finish: hot-dipped galvanized with powder-coat finish as specified in Section 05 05 14 - Powder Coating.
 - .1 Colour: as specified in Section 05 05 14 - Powder Coating.

2.11 LIGHT BOLLARD

- .1 Denoted by Type "Y" on Division 26 drawings.
- .2 Style: twisted design, having three cast aluminum panels of different heights surrounding large optical element that houses LEDs arranged in vertical arrays. Light is emitted through the vertical slits between panels at 120 degree angles.
- .3 Construction:
 - .1 Exterior vertical panels: Aluminum casting.
 - .2 Interior sub-structure: Aluminum tube welded to aluminum castings.
 - .3 Interior vertical panels: Aluminum casting, secured to sub-structure.
 - .4 Lens: Thermoformed white acrylic diffusing lens (59% transmission)
- .4 Fasteners: steel, with rust inhibitor.
- .5 Anchoring hardware: as recommended by manufacturer for surface mount application.
- .6 LED Lighting:
 - .1 Light Cartridge Assemblies: IP 67 rated; RoHS compliant; UL listed
 - .1 Vertical Light Cartridge: 3 mm thick white translucent acrylic LED diffuser lens bonded to interior vertical panel.
 - .2 Top Light Cartridge: 4.5 mm thick white translucent acrylic bonded to aluminum housing. Secure assembly to sub-structure with cap screws.
 - .2 Driver Circuitry: UL listed to Canadian safety standards.
 - .1 Driver: UL 8750/UL 48, Output: 12 Watts, 700mA constant current, 8-16Vdc; Input: 100-277 VAC Nominal, 60 Hz Nominal, 0.15A at 120VAC
 - .2 Surge Protector: UL 1449/ IEEE C62.41.2-2002 C High, 60Hz 120-277 VAC input, 430 Joules max energy
 - .3 Connectors: UL 1977, Grade 7 ingress protection (IEC 60529 IPX7)
- .7 Finish: powder-coat finish as specified in Section 05 05 14 - Powder Coating.
 - .1 Colour: as specified in Section 05 05 14 - Powder Coating.

2.12 ROOF HATCH

- .1 Hatch: stair access, 760 mm x 2440 mm inside dimensions.
- .2 Cover: preformed, insulated sandwich construction consisting of 2.3 mm aluminum cover, 25 mm thick rigid fibreglass insulation and 1.2 mm aluminum liner sheet.
- .3 Preformed metal curb: 300 mm high insulated sandwich construction consisting of 2.0 mm aluminum curb and 25 mm thick fibreboard/fibreglass insulation. Fabricate with 89 mm wide prepunched deck flange.
- .4 Locking: Deadbolt, having keyed cylinder access for both interior and exterior. Provide gasketed threaded cover plate at exterior.
- .5 Safety post: aluminum construction, mill finish; minimum 1050 mm long post, spring balanced to automatically raise and lock in full open position, mounting assembly to suit, stainless steel fasteners.

2.13 METAL STORAGE SHELVING

- .1 Refer to drawings for extent of each type of metal storage shelving.
- .2 Type 1 - General Storage:
 - .1 Type: interlocking, boltless type allowing shelves to be rearranged without dismantling.
 - .2 Shelf: 1.2 mm thick cold-rolled furniture-grade steel. Double formed on all sides. Closed corners with double thickness steel forming no-slip notch for shelf clip.
 - .1 Shelf Clip: 2.6 mm thick compression type; cadmium plated.
 - .2 Shelf Reinforcements: 25 mm x 2.6 mm thick bent steel angle, installed in front and rear flange of shelf.
 - .3 "T" Posts: 38 mm x 50 mm x 3 mm double-formed steel; T-style with smooth, unperforated face. Slotted at 25 mm o.c. for shelf adjustment.
 - .4 Panels:
 - .1 Closed End Panel Assembly: Consists of two "T" posts welded to cold-rolled steel side panel to form a single unit.
 - .2 Back Panels: Cold-rolled steel panel attached to uprights with cadmium-plated back clips.
 - .5 Base Plates: Formed on top and bottom to provide support for bottom shelf in addition to closing space under shelf.
 - .6 Finish: Prepare components for painting by cleaning, treating with iron phosphate and rinsing. Finish with electrostatically applied high-grade alkyd enamel.
 - .7 Size: 2540 mm high x 760 mm deep.
 - .8 Locations: Rooms 143, 144 & 145.
- .3 Type 2 - Records Storage:
 - .1 Type: boltless rivet type, four (4) shelves, three (3) compartments.
 - .2 Shelf construction:
 - .1 Double rivet, heavy angle beams, complete with centre support.
 - .2 Provide 15.5 mm thick particle board shelving.
 - .3 Shelf capacity: 362 kg to 454 kg.
 - .3 Posts:
 - .1 Heavy duty angle and "T" post, complete with foot plate for anchoring to floor.
 - .2 Provide key hole slots at 38 mm o.c.

- .4 Finish: Prepare components for painting by cleaning, treating with iron phosphate and rinsing. Finish with electrostatically applied high-grade alkyd enamel.
- .5 Size: 2743 mm high x 762 mm deep.
- .6 Acceptable Manufacturers: Penco, Tennsco.
- .7 Locations: Rooms 118 & 155.
- .4 Type 3 - Archive Storage
 - .1 Type: library-type, single sided, cantilevered; seven (7) adjustable shelves.
 - .2 Shelf: provide divider slots at 50 mm o.c. in shelf and backs to accept adjustable dividers.
 - .1 Provide one adjustable divider for each 300 mm length of shelf.
 - .3 Posts: L-shaped; 40 mm wide x 60 mm deep vertical, slotted at 25 mm o.c.; 50 mm HSS horizontal with two adjustable levelers.
 - .4 Finish: Prepare components for painting by cleaning, treating with iron phosphate and rinsing. Finish with electrostatically applied high-grade alkyd enamel.
 - .5 Size: 2185 mm high x 380 mm deep.
 - .6 Location: Room 137.

2.14 PROJECTION SCREEN

- .1 Screen: manually (spring roller) operated, ceiling recessed, front projection.
- .2 Recessed case:
 - .1 Fabricated from 1.2 mm steel housing, 180 mm x 180 mm; white paint finish and stamped steel end caps. Provide bottom perimeter flange to support ceiling.
 - .2 Bottom closure panel forms slot for passage of viewing surface and can be released to hang down or be removed for access to viewing surface.
 - .3 Provide mounting and levelling brackets.
 - .4 Roller: Auto Return spring roller with built-in inertia reduction mechanism to ensure viewing surface retracts slowly, smoothly and quietly into case. Provide intermediate stop positions.
- .5 Screen:
 - .1 Viewing Surface: Matt White, On Axis gain of 1.0. 180 degree viewing cone. Washable surface. GREENGUARD certified. Black masking borders.
 - .2 Viewing Area: 16:10 Format; 3124 mm diagonal, 1351mm high x 2642 mm wide.
 - .3 Securely attached to roller. Provide with pull cord.
- .6 Provide with 1220 mm long operating pole.

2.15 EXTERIOR CONCRETE STAIR ACCESSORIES

- .1 Stair nosing:
 - .1 Extruded aluminum with aluminum oxide epoxy grit strips, 6 mm thick x 125 mm long, with radiused nosing; hidden strap anchor for cast-in-place installation.

2.16 NO IDLING ZONE SIGNAGE

- .1 Sign: fabricate from 2 mm thick sheet aluminum; 400 mm x 610 mm size, factory painted graphics and wording.
- .2 Wording: provide official bilingual wording for "Idle Free Zone Turn Engine Off". Letter size 25 mm high.

- .3 Quantity:
 - .1 Room 163: one (1) required.
 - .2 Room 201: one (1) required.
- .4 Locations and mounting height as determined by Departmental Representative.

2.17 FASTENINGS

- .1 Supply miscellaneous specialties complete with required fastenings. Fastenings shall harmonize with the item being fastened.

3 Execution

3.1 PROTECTION

- .1 Protect work of this section and work of others during installation.
- .2 Repair and make good to approval of Departmental Representative, damage to other sections caused by this section.

3.2 INSTALLATION

- .1 Install in accordance with manufacturer's installation diagrams in a workmanlike manner, and neatly fitted. Set square, plumb, level, true to plane, and securely anchor to building construction.
- .2 Build recessed units into building construction in properly sized recess prepared by appropriate trades.
- .3 Provide templates, anchors, inserts or actual specialty items themselves for the placing of or future placing in cast-in-place concrete.

END OF SECTION