

## SECTION 10155 - TOILET COMPARTMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes **plastic-laminate** units as follows:
  - 1. Toilet Enclosures: **Floor and ceiling anchored.**
  - 2. Urinal Screens: **Wall hung.**
- B. Related Sections include the following:
  - 1. Division 5 Section "Metal Fabrications" for supports that attach **floor-and-ceiling-anchored** units to overhead structural system.
  - 2. Division 6 Section "**Miscellaneous Carpentry**" for **blocking.**
  - 3. Division 10 "Toilet and Bath Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
  - 1. Show locations of cutouts for compartment-mounted toilet accessories.
  - 2. Show locations of reinforcements for compartment-mounted grab bars.
- C. Samples for Initial Selection: For each type of unit indicated.
- D. Samples for Verification: Of each type of color and finish required for units, prepared on **6-inch- (150-mm-)** square Samples of same thickness and material indicated for Work.

#### 1.4 QUALITY ASSURANCE

- A. Comply with requirements in CID-A-A-60003, "Partitions, Toilets, Complete."

## 1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication and indicate measurements on Shop Drawings.
  - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating toilet compartments without field measurements. Coordinate wall, floor, ceilings, and other contiguous construction to ensure that actual dimensions correspond to established dimensions.

## PART 2 - PRODUCTS

### 2.1 PLASTIC-LAMINATE UNITS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Accurate Partitions Corporation.
  - 2. All American Metal Corp.
  - 3. American Sanitary Partition Corporation.
  - 4. Ampco.
  - 5. Bobrick Washroom Equipment, Inc.
  - 6. Bradley Corporation; Mills Partitions.
  - 7. Flush Metal Partition Corp.
  - 8. General Partitions Mfg. Corp.
  - 9. Global Steel Products Corp.
  - 10. Knickerbocker Partitions Corp.
  - 11. Lambaton Universal.
  - 12. Metpar Corp.
  - 13. Partition Systems, Inc.
  - 14. Sanymetal; a Crane Plumbing Company.
  - 15. Tex-Lam Manufacturing, Inc.
  - 16. Weis-Robart Partitions, Inc.
- B. Plastic Laminate: NEMA LD 3, HGS, **0.048-inch (1.2-mm)** nominal thickness.
  - 1. Color and Pattern: **One color and pattern** in each room as selected by Architect from manufacturer's full range of colors and patterns.
- C. Door, Panel, and Pilaster Construction: Plastic-laminate facing sheets are pressure laminated to core material without splices or joints in facings or cores. Laminate is applied to edges before broad surfaces to seal edges and prevent laminate from being pried loose. Exposed core material is sealed at cutouts to protect core from moisture.
  - 1. Core Material: ANSI A208.1, Grade M-2 particleboard with **45-lb (20.4-kg)** density.
  - 2. Doors and Panels: Finished to not less than **1 inch (25 mm)** thick.

3. Pilasters: Provide construction to comply with **one of** the following:
  - a. Finished to not less than **1-1/4 inches (32 mm)** thick **and with internal, 0.1196-inch- (3.0-mm-) thick steel-sheet reinforcement.**
  - b. Finished to **1-1/4 inches (32 mm)** thick and with manufacturer's standard core of corrosion-resistant steel sheet laminated to both sides of honeycomb of resin-impregnated kraft paper in lieu of particleboard core.
  - c. Finished to not less than **1 inch (25 mm)** thick and with internal, **0.1196-inch- (3.0-mm-) thick steel-sheet reinforcement.**
- D. Pilaster **Shoes and Sleeves (Caps)**: Stainless steel, ASTM A 666, Type 302 or 304, not less than **0.0312 inch (0.8 mm)** specified thickness and **3 inches (75 mm)** high, finished to match hardware.
- E. Brackets (Fittings):
  1. Stirrup Type: Ear or U-brackets, **chrome-plated, nonferrous, cast zinc alloy (zamac) or clear anodized aluminum.**
  2. Full-Height (Continuous) Type: Manufacturer's standard design; [**stainless steel**] [**aluminum**].

## 2.2 PHENOLIC-CORE UNITS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  1. Accurate Partitions Corporation.
  2. American Sanitary Partition Corporation.
  3. Ampco.
  4. Bobrick Washroom Equipment, Inc.
  5. Bradley Corporation; Mills Partitions.
  6. Capitol Partitions, Inc.
  7. Flush Metal Partition Corp.
  8. General Partitions Mfg. Corp.
  9. Global Steel Products Corp.
  10. Knickerbocker Partitions Corp.
  11. Lambaton Universal.
  12. Metpar Corp.
  13. Partition Systems, Inc.
  14. Sanymetal; a Crane Plumbing Company.
  15. Tex-Lam Manufacturing, Inc.
  16. Weis-Robart Partitions, Inc.
  17. Young Group, Ltd. (The); DesignRite Partitions.
  18. **<Insert manufacturer's name.>**

- C. Door, Panel and Pilaster Construction: Solid phenolic-core panel material with melamine facing on both sides fused to substrate during panel manufacture (not separately laminated), and with eased and polished edges. Provide minimum **3/4-inch- (19-mm-)** thick doors and pilasters and minimum **1/2-inch- (13-mm-)** thick panels.
  - 1. Facing Sheet Color: **[One color]** **[Two colors]** in each room as selected by Architect from manufacturer's full range of colors.
  - 2. Core Color: Manufacturer's standard dark color.
- D. Pilaster **[Shoes]** **[and]** **[Sleeves (Caps)]**: Stainless steel, ASTM A 666, Type 302 or 304, not less than **0.0312 inch (0.8 mm)** specified thickness and **3 inches (75 mm)** high, finished to match hardware.
- E. Brackets (Fittings):
  - 1. Stirrup Type: Ear or U-brackets, **[stainless steel]** **[chrome-plated, nonferrous, cast zinc alloy (zamac) or clear anodized aluminum]** **[chrome-plated brass]**.
  - 2. Full-Height (Continuous) Type: Manufacturer's standard design; **[stainless steel]** **[aluminum]**.

### 2.3 SOLID-POLYMER UNITS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Accurate Partitions Corporation.
  - 2. Ampco.
  - 3. Bradley Corporation; Mills Partitions.
  - 4. Capitol Partitions, Inc.
  - 5. Comtec Industries.
  - 6. General Partitions Mfg. Corp.
  - 7. Global Steel Products Corp.
  - 8. Metpar Corp.
  - 9. Santana Products, Inc.
  - 10. Sanymetal; a Crane Plumbing Company.
  - 11. Weis-Robart Partitions, Inc.
  - 12. **<Insert manufacturer's name.>**
- C. Door, Panel, and Pilaster Construction: Solid, **[high-density polyethylene (HDPE)]** **[or]** **[polypropylene (PP)]** panel material, not less than **1 inch (25 mm)** thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.
  - 1. Color and Pattern: **[One color and pattern]** **[Two colors and patterns]** in each room as selected by Architect from manufacturer's full range of colors and patterns.

- D. Pilaster **[Shoes]** **[and]** **[Sleeves (Caps)]**: Manufacturer's standard design; **[polymer or stainless steel]** **[polymer]** **[stainless steel]**.
  - 1. Polymer Color and Pattern: **[Matching pilaster]** **[Contrasting with pilaster, as selected by Architect from manufacturer's full range of colors and patterns]**.
- E. Brackets (Fittings):
  - 1. Stirrup Type: Ear or U-brackets, **[chrome-plated, nonferrous, cast zinc alloy (zamac) or clear anodized aluminum]** **[stainless steel]** **[chrome-plated brass]**.
  - 2. Full-Height (Continuous) Type: Manufacturer's standard design; **[polymer or extruded aluminum]** **[polymer]** **[extruded aluminum]** **[stainless steel]**.
    - a. Polymer Color and Pattern: **[Matching pilaster]** **[Contrasting with pilaster, as selected by Architect from manufacturer's full range of colors and patterns]**.
- F. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum strip fastened to exposed bottom edges of solid-polymer components to prevent burning.
- G. Overhead Cross Bracing for Ceiling-Hung Units: As recommended by manufacturer and fabricated from solid polymer.

#### 2.4 ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories.
  - 1. Material: **[Chrome-plated, nonferrous, cast zinc alloy (zamac) or clear anodized aluminum]** **[Stainless steel]** **[Chrome-plated brass]**.
- B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- C. Support Posts for Urinal Screens: Manufacturer's standard aluminum post with floor shoe for anchoring to floor construction.
- D. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

#### 2.5 FABRICATION

- A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, fasteners, and anchors at pilasters to suit floor conditions. Make provisions for setting and securing continuous head rail at top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.

- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Ceiling-Hung Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for connection to structural support above finished ceiling. Provide assemblies that support pilasters from structure without transmitting load to finished ceiling. Provide sleeves (caps) at tops of pilasters to conceal anchorage.
- D. Floor-and-Ceiling-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with leveling adjustment at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.
- E. Doors: Unless otherwise indicated, provide **24-inch- (610-mm-)** wide in-swinging doors for standard toilet compartments and **36-inch- (914-mm-)** wide out-swinging doors with a minimum **32-inch- (813-mm-)** wide clear opening for compartments indicated to be accessible to people with disabilities.
  - 1. Hinges: Manufacturer's standard self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.
  - 2. Latch and Keeper: Manufacturer's standard [**recessed**] [**surface-mounted**] latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be accessible to people with disabilities.
  - 3. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
  - 4. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors[ **and entrance screen doors**].
  - 5. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with accessibility requirements of authorities having jurisdiction. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
  - 1. Maximum Clearances:
    - a. Pilasters and Panels: **1/2 inch (13 mm)**.
    - b. Panels and Walls: **1 inch (25 mm)**.

2. Stirrup Brackets: Secure panels to walls and to pilasters with not less than **[two brackets attached]** **[three brackets attached at midpoint and]** near top and bottom of panel.
  - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
  - b. Align brackets at pilasters with brackets at walls.
- B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Secure continuous head rail to each pilaster with not less than two fasteners. Hang doors to align tops of doors with tops of panels and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
- C. Floor-Anchored Units: Set pilasters with anchors penetrating not less than **2 inches (50 mm)** into structural floor, unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
- D. Ceiling-Hung Units: Secure pilasters to supporting structure and level, plumb, and tighten. Hang doors and adjust so bottoms of doors are level with bottoms of pilasters when doors are in closed position.
- E. Floor-and-Ceiling-Anchored Units: Secure pilasters to supporting construction and level, plumb, and tighten. Hang doors and adjust so doors are level and aligned with panels when doors are in closed position.
- F. **[Wall-Hung]** **[and]** **[Post-Supported]** Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb and to resist lateral impact.

### 3.2 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors **[ and doors in entrance screens]** to return doors to fully closed position.

END OF SECTION 10155

## **SECTION 10441 -INTERIOR SIGNS**

### **PART 1 GENERAL**

#### **.1 SUMMARY**

- A. Related Documents: Provisions established within the General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.
- B. Section Includes:
  - 1. Interior unframed signs.

#### **.2 QUALITY ASSURANCE**

- A. Supplier: Obtain all products in this section from a single supplier.
- B. Regulatory Requirements: Products shall meet requirements of the Americans With Disabilities Act Accessibility Guidelines (ADAAG) and local amendments and modifications.
- C. Installer: Installation shall be performed by installer specialized and experienced in work similar to that required for this project.

#### **.3 SUBMITTALS**

- A. Submit in accordance with requirements of Division 1.
- B. Product Data: Submit product data for specified products. Include material details for each sign specified.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including dimensions, anchorage, and accessories.
- D. Samples: Submit supplier's standard color chart for selection purposes and selected colors for verification purposes.
- E. Installation: Submit supplier's installation instructions.
- F. Closeout Submittals:
  - 1. Submit operation and maintenance data for installed products, including precautions against harmful cleaning materials and methods.
  - 2. Submit warranty documents specified herein.

#### **.4 DELIVERY, STORAGE, AND HANDLING**

- A. Comply with requirements of Division 1.
  - 1. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
  - 2. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
  - 3. Store products protected from weather, temperature, and other harmful conditions as recommended by supplier.
  - 4. Handle products in accordance with manufacturer's instructions.

#### **.5 WARRANTY**

- A. Project Warranty: Comply with requirements of Division 1.

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- B. Manufacturer's Warranty: Submit manufacturer's standard warranty document executed by authorized company official.
  - 1. Warranty Period: One year from product ship date.

## **PART 2 PRODUCTS**

### **.1 SIGNAGE SYSTEMS**

- A. Acceptable Manufacturers:
  - 1. ASI Modulex, 1101 24th Street Kenner LA 70062; (504) 704 1000 telephone; (504) 704 1006 facsimile
  - 2. Substitutions: Must be submitted for prior approval 10 days before bid date.
- B. Acceptable Product: ASI InCast™ Plaque Signs with requirements indicated for materials, thickness, finish colors, designs, shapes, sizes and details.

### **.2 SIGN MATERIALS**

- A. Sign Face: High impact polyester acrylate resins, pressure molded into a single polymerized component, using Unibond™ co-molding process.
- B. Tactile Graphics and Text: Provide tactile copy [and grade 2 Braille] raised 1/32 inch minimum from plaque surface using manufacturer's co-molding process.
  - 1. Provide lettering and graphics precisely formed, uniformly opaque to comply with relevant ADA regulations and requirements indicated for size, style, spacing, content, position, and colors.
- C. Colors: High contrast semi-matte integral colors for graphics. All integral resins are U.V. stabilized resins utilizing automotive grade pigments.
- D. No paint or ink finishes allowed on signs. All colors are integral resins.

### **.3 FABRICATION OPTIONS**

- A. Depth: 1/4 inch thickness.
- B. Panel appearance:
  - 1. Etched Glass-Look Acrylic w/ Metallic Silver Background
- C. Surface Texture:
  - 1. [Fine stipple Non-Glare]
- D. Letter style[s], and size[s] and layout position: [Specify from manufacturer's standard letter styles and color charts.]
- E. Text color: Aluminum Powder Resin Finish
- F. Sign Types:
  - 1. Restroom ID – 8”h x 8”w – Qty.15
  - 2. Stair ID – 6”h x 6”w – Qty.5
  - 3. Room ID – 6”h x 8”w – Qty.63
  - 4. Office ID – 6”h x 6”w – Qty.4
  - 5. Elevator ID – 8”h x 8”w – Qty.6
  - 6. Stairwell ID – 8”h x 8”w – Qty.9
  - 7. Exit ID – 6”h x 6”w – Qty.6
- G. Sign Shape: Square with Square Corners.
- H. Integral Window Option:
  - 1. Subsurface, lateral slot, separate changeable graphic insert plaque construction in compliance with indicated materials, thickness, finish, colors, designs, shapes, sizes, and details. Subsurface graphics to comply with manufacturer's standard process for precisely

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formed, uniformly opaque graphics for indicated size, style, spacing, content, position, and colors.

2. Graphic Insert: Die-cut paper as supplied by ASI, and laser printed in accordance with manufacturer's proprietary software.
3. Visible Window Opening Size: 2 inch high x Width of Plaque.

.4 INSTALLATION METHOD

- A. [VT, vinyl tape.]

.5 FABRICATION - GENERAL

- A. General: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
- B. Preassemble signs in the shop to the greatest extent possible to minimize field assembly. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in a location not exposed to view after final assembly.
- C. Conceal fasteners if possible; otherwise, locate fasteners to appear inconspicuous.
- D. Form panels to required size and shape. Comply with requirements indicated for design, dimensions, finish, color, and details of construction.
- E. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

**PART 3 EXECUTION**

.1 EXAMINATION

- A. Site Verification of Conditions: Verify installation conditions previously established under other sections are acceptable for product installation in accordance with manufacturer's instructions.
- B. Scheduling of installation by Owner or its representative implies that substrate and conditions are prepared and ready for product installation. Proceeding with installation implies installer's acceptance of substrate and conditions.

.2 INSTALLATION

- A. Install product in accordance with supplier's instructions.
- B. Install product in locations indicated using mounting methods recommended by sign manufacturer and free from distortion, warp, or defect adversely affecting appearance.
- C. Install product level, plumb, and at heights indicated.
- D. Install product at heights to conform to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and applicable local amendments and regulations.
- E. Install signs within the following tolerances and in accordance with manufacturer's recommendations:
  1. Interior Signs: Within 1/4 inch vertically and horizontally of intended location.

.3 CLEANING, PROTECTION, AND REPAIR

- A. Repair scratches and other damage which might have occurred during installation. Replace components where repairs were made but are still visible to the unaided eye from a distance of 5 feet.
- B. Remove temporary coverings and protection to adjacent work areas. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project in accordance with provisions in Division 1.

.4 SIGN SCHEDULE

- A. Schedule: Refer to signage schedule and Drawings for sizes, locations, and layout of signage types, sign text copy, and graphics.

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**END OF SECTION**

## SECTION 10505 - METAL LOCKERS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Knocked-down, standard metal lockers.
- B. Related Sections include the following:
  - 1. Division 6 Section Miscellaneous Carpentry for furring, blocking, and shims required for installing metal lockers and concealed within other construction before metal locker installation.

## 1.3 DEFINITIONS

- A. Uncoated Steel Sheet Thicknesses: Indicated as the minimum thicknesses.

## 1.4 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal locker
- B. Samples for Verification: For metal lockers, in manufacturer's standard sizes.
- C. Qualification Data: For Installer.
- D. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative of metal locker manufacturer for installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain metal lockers and accessories through one source from a single manufacturer.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- C. Regulatory Requirements: Where metal lockers are indicated to comply with accessibility requirements, comply with FED-STD-795, "Uniform Federal Accessibility Standards.
1. Provide not less than 1 shelf located no higher than **48 inches (1219 mm)** above the floor for forward **54 inches (1372 mm)** above the floor for side reach.
  2. Provide 1 shelf located at bottom of locker no lower than **15 inches (381 mm)** above the floor for forward **9 inches (230 mm)** above the floor for side reach.
  3. Provide hardware that does not require tight grasping, pinching, or twisting of the wrist, and that operates with a force of not more than **5 lbf (22.2 N)**.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Do not deliver metal lockers until spaces to receive them are clean, dry, and ready for metal locker installation.
  - B. Deliver master and control keys to Owner by registered mail or overnight package service.
- 1.7 PROJECT CONDITIONS
- A. Field Measurements: Verify the following by field measurements before fabrication and indicate measurements on Shop Drawings:
    1. Concealed framing, blocking, and reinforcements that support metal lockers before they are enclosed.
    2. Recessed openings.
- 1.8 COORDINATION
- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that metal lockers can be supported and installed as indicated.
- 1.9 WARRANTY
- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal lockers that fail in materials or workmanship, excluding finish, within specified warranty period.
    1. Failures include, but are not limited to, the following:
      - a. Structural failures.
      - b. Faulty operation of latches and other door hardware.

2. Damage from deliberate destruction and vandalism is excluded.
3. Warranty Period for Knocked-Down Metal Lockers: Two years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
  2. Products: Subject to compliance with requirements, provide one of the products specified.
  3. Basis-of-Design Product: The design for each metal locker specified is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

### 2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008, Commercial Steel (CS) Type B, suitable for exposed applications.
- B. Expanded Metal: ASTM F 1267, Type II (flattened), Class I, 3/4-inch (19-mm) steel mesh, with at least 70 percent open area.
- C. Stainless-Steel Sheet: ASTM A 666, Type 304.
- D. Extruded Aluminum: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated.
- E. Plastic Laminate: NEMA LD 3, Grade HGP.
- F. Fasteners: Zinc- or nickel-plated steel, slotless-type exposed bolt heads, and self-locking nuts or lock washers for nuts on moving parts.
- G. Anchors: Select material, type, size, and finish required for secure anchorage to each substrate.
  1. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance.
  2. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

### 2.3 KNOCKED-DOWN, STANDARD METAL LOCKERS

- A. Available Products:

1. Art Metal Products, Div. of Fort Knox Storage Co.; Standard K.D. Lockers.
  2. DeBourgh Mfg. Co.; Worley Lockers.
  3. Hadrian Inc.; Emperor Lockers.
  4. List Industries Inc.; Standard Quiet Lockers.
  5. Lyon Workspace Products; Standard Lockers.
  6. Republic Storage Systems Company; Standard Lockers.
- B. Locker Arrangement: As indicated on Drawings.
- C. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated, cold-rolled steel sheet with thicknesses as follows:
1. Tops, Bottoms, and Intermediate Dividers: **0.0209 inch (0.55 mm)**, with single bend at sides.
  2. Backs and Sides: **0.0209 inch (0.55 mm)** thick, with full-height, double-flanged connections.
  3. Shelves: **0.0209 inch (0.55 mm)** thick, with double bend at front and single bend at sides and back.
- D. Frames: Channel formed; fabricated from **0.0528-inch- (1.35-mm-)** thick, cold-rolled steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral door strike full height on vertical main frames.
1. Cross Frames between Tiers: Channel formed and fabricated from same material as main frames; welded to vertical frame members.
  2. Frame Vents: Fabricate vertical face frames with vents.
- E. Doors: One-piece; fabricated from **0.0528-inch- (1.35-mm-)** thick, cold-rolled steel sheet; formed into channel shape with double bend at vertical edges, and with right-angle single bend at horizontal edges.
1. Doors less than **12 inches (305 mm)** wide may be fabricated from **0.0428-inch- (1.1-mm-)** thick, cold-rolled steel sheet.
  2. Box lockers less than **15 inches (381 mm)** wide may be fabricated from **0.0428-inch- (1.1-mm-)** thick, cold-rolled steel sheet.
  3. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than **15 inches (381 mm)** wide; welded to inner face of doors.
  4. Stiffeners: Manufacturer's standard full-height stiffener fabricated from **0.0428-inch- (1.1-mm-)** thick, cold-rolled steel sheet; welded to inner face of doors.
  5. Door Style: Vented panel as follows:
    - a. Louvered Vents: Not less than six louver openings at top and bottom for single-tier lockers.
    - b. Security Vents: Manufacturer's standard, stamped horizontal or vertical.
    - c. Perforated Vents: Manufacturer's standard shape and configuration.
- F. Hinges: Self-closing; welded to door and attached to door frame with not less than 2 factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

1. Knuckle Hinges: Steel, full loop, 5 or 7 knuckles, tight pin; minimum 2 inches (51 mm) high. Provide not less than 3 hinges for each door more than 42 inches (1067 mm) high.
- G. Projecting Door Handle and Latch: Manufacturer's standard, finger-lift latch control designed for use with either built-in combination locks or padlocks; positive automatic, prelocking, pry resistant; chromium-plated, vandal-resistant, lift-up handle.
1. Latch Hooks: Equip doors 48 inches (1219 mm) and higher with 3 latch hooks and doors less than 48 inches (1219 mm) high with 2 latch hooks; fabricated from minimum 0.0966-inch- (2.5-mm-) thick steel; welded or riveted to full-height door strikes; with resilient silencer on each latch hook.
  2. Latching Mechanism: Manufacturer's standard rattle-free latching mechanism and moving components isolated to prevent metal-to-metal contact, and incorporating a prelocking device that allows locker door to be locked while door is open and then closed without unlocking or damaging lock or latching mechanism.
- H. Door Handle and Latch for Box Lockers: Stainless-steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.
- I. Cylinder Locks: Built-in, flush, cam locks with five-pin tumbler keyway, keyed separately and master keyed. Furnish two change keys for each lock and five master keys.
1. Key Type: Flat.
  2. Bolt Operation: Manually locking deadbolt.
- J. Equipment: Equip each metal locker with identification plate and the following, unless otherwise indicated:
1. Single-Tier Units: Shelf, one double-prong ceiling hook, and two single-prong wall hooks.
  2. Double-Tier Units: One double-prong ceiling hook and two single-prong wall hooks.
  3. Box Units: One double-prong ceiling hook.
  4. Coat Rods: For each compartment of double-tier metal lockers.
  5. Coat Rods: In lieu of ceiling hook for metal lockers 24 inches (610 mm) tall or greater.
  6. Coat Rods: In lieu of ceiling hook for metal lockers 18 inches (457 mm) deep or greater.
- K. Accessories:
1. Legs: Fabricated from 0.0528-inch- (1.35-mm-) thick, cold-rolled steel sheet.
    - a. Closed Front and End Bases: Fabricated from 0.0329-inch- (0.85-mm-) thick, cold-rolled steel sheet.
  2. Continuous Base: Fabricated from cold-rolled steel sheet, manufacturer's standard thickness, but not less than 0.0528 inch (1.35 mm) thick.
    - a. Height: 4 inches (102 mm).
  3. Filler Panels: Fabricated from cold-rolled steel sheet, manufacturer's standard thickness, but not less than 0.0329 inch (0.85 mm) thick.

- L. Finish: Baked enamel or powder coat.
  - 1. Color(s): As selected by Architect from manufacturer's full range.

## 2.4 FABRICATION

- A. General: Fabricate metal lockers square, rigid, and without warp; with metal faces flat and free of dents or distortion. Make exposed metal edges free of sharp edges and burrs, and safe to touch.
  - 1. Form body panels, doors, shelves, and accessories from one-piece steel sheet, unless otherwise indicated.
  - 2. Provide fasteners, filler plates, supports, clips, and closures as required for a complete installation.
- B. Unit Principle: Fabricate each metal locker with an individual[ **door and**] frame; individual top, bottom, and back; and common intermediate uprights separating compartments.
- C. Knocked-Down Construction: Fabricate metal lockers for nominal assembly at Project site using nuts, bolts, screws, or rivets. Factory weld frame members together to form a rigid, one-piece assembly.
- D. Hooks: Manufacturer's standard ball-pointed type, aluminum or steel; zinc plated.
- E. Coat Rods: Fabricated from **1-inch- (25-mm-)** diameter steel; nickel plated.
- F. Identification Plates: Manufacturer's standard etched, embossed, or stamped aluminum plates; with numbers and letters at least **3/8 inch (9 mm)** high.
- G. Legs: Formed by extending vertical frame members or by attaching gusset-type legs to locker body; with provision for fastening to floor; finished to match lockers.
  - 1. Closed Front and End Bases: Fabricate bases without overlap or exposed fasteners; finished to match lockers.
- H. Continuous Base: Formed into channel or Z profile for stiffness, and fabricated in lengths as long as practicable to enclose base and base ends of metal lockers; finished to match lockers.
- I. Recess Trim: Fabricated with minimum **2-1/2-inch (64-mm)** face width and in lengths as long as practicable; finished to match lockers.
- J. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip joint filler angle formed to receive filler panel.
- K. Boxed End Panels: Fabricated with **1-inch- (25-mm-)** wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.
  - 1. Provide one-piece panels for double-row (back-to-back) locker ends.

- L. Finished End Panels: Designed for concealing unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
  - 1. Provide one-piece panels for double-row (back-to-back) locker ends.
- M. Center Dividers: Full-depth, vertical partitions between bottom and shelf; finished to match lockers.

## 2.5 STEEL SHEET FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Factory finish steel surfaces and accessories except stainless-steel and chrome-plated surfaces.
- C. Surface Preparation: Clean surfaces of dirt, oil, grease, mill scale, rust, and other contaminants that could impair paint bond. Use manufacturer's standard methods.
- D. Baked-Enamel Finish: Immediately after cleaning, pretreating, and phosphatizing, apply manufacturer's standard thermosetting baked-enamel finish. Comply with paint manufacturer's written instructions for application, baking, and minimum dry film thickness.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine walls, floors, and support bases, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Install level, plumb, and true; shim as required, using concealed shims.
  - 1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than **36 inches (910 mm)** o.c. Install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion, using concealed fasteners.
  - 2. Anchor single rows of metal lockers to walls near top and bottom of lockers.
  - 3. Anchor back-to-back metal lockers to floor.
- B. Knocked-Down Metal Lockers: Assemble knocked-down metal lockers with standard fasteners, with no exposed fasteners on door faces or face frames.

- C. All-Welded Metal Lockers: Connect groups of all-welded metal lockers together with standard fasteners, with no exposed fasteners on face frames.
- D. Equipment and Accessories: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.
  - 1. Attach hooks with at least two fasteners.
  - 2. Attach door locks on doors using security-type fasteners.
  - 3. Identification Plates: Identify metal lockers with identification indicated on Drawings.
    - a. Attach plates to each locker door, near top, centered, with at least two aluminum rivets.
    - b. Attach plates to upper shelf of each open-front metal locker, centered, with a least two aluminum rivets.
  - 4. Attach recess trim to recessed metal lockers with concealed clips.
  - 5. Attach filler panels with concealed fasteners. Locate fillers panels where indicated on Drawings.
  - 6. Attach boxed end panels with concealed fasteners to conceal exposed ends of nonrecessed metal lockers.
  - 7. Attach finished end panels with fasteners only at perimeter to conceal exposed ends of nonrecessed metal lockers.

### 3.3 ADJUSTING, CLEANING, AND PROTECTION

- A. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding. Verify that integral locking devices operate properly.
- B. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit metal locker use during construction.
- C. Touch up marred finishes, or replace metal lockers that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by metal locker manufacturer.

END OF SECTION 10505

## SECTION 10801 - TOILET AND BATH ACCESSORIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Toilet and bath accessories.
  - 2. Infant-care products.
  - 3. Underlavatory guards.
- B. Related Sections include the following:
  - 1. Division 8 Section "Mirrored Glass" for frameless mirrors.
  - 2. Division 10 Section "Toilet Compartments" for compartments and screens.

#### 1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions and thicknesses, dimensions, profiles, fastening and mounting methods, specified options, and finishes for each type of accessory specified.
- B. Samples: For each accessory item to verify design, operation, and finish requirements.
  - 1. Approved full-size Samples will be returned and may be used in the Work.
- C. Setting Drawings: For cutouts required in other work; include templates, substrate preparation instructions, and directions for preparing cutouts and installing anchoring devices.
- D. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required. Use designations indicated in the Toilet and Bath Accessory Schedule and room designations indicated on Drawings in product schedule.
- E. Maintenance Data: For accessories to include in maintenance manuals specified in Division 1. Provide lists of replacement parts and service recommendations.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise approved by Architect.
- B. Product Options: Accessory requirements, including those for materials, finishes, dimensions, capacities, and performance, are established by specific products indicated in the Toilet and Bath Accessory Schedule.
  - 1. Products of other manufacturers with equal characteristics, as judged solely by Architect, may be provided.
  - 2. Other manufacturers' products with equal characteristics may be considered. See Division 1 Section "Substitutions."
  - 3. Do not modify aesthetic effects, as judged solely by Architect, except with Architect's approval. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.

#### 1.5 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by disabled persons, proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

#### 1.6 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, those indicated in the Toilet and Bath Accessory Schedule found on the drawings.

#### 2.2 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch (0.8-mm) minimum nominal thickness, unless otherwise indicated.

- B. Brass: ASTM B 19, leaded and unleaded flat products; **ASTM B 16 (ASTM B 16M)**, rods, shapes, forgings, and flat products with finished edges; ASTM B 30, castings.
- C. Sheet Steel: ASTM A 366/A 366M, cold rolled, commercial quality, **0.0359-inch (0.9-mm)** minimum nominal thickness; surface preparation and metal pretreatment as required for applied finish.
- D. Galvanized Steel Sheet: ASTM A 653/A 653M, **G60 (Z180)**.
- E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service), nickel plus chromium electrodeposited on base metal.
- F. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- G. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.

## 2.3 FABRICATION

- A. General: One, maximum **1-1/2-inch- (38-mm-)** diameter, unobtrusive stamped manufacturer logo, as approved by Architect, is permitted on exposed face of accessories. On interior surface not exposed to view or back surface of each accessory, provide printed, waterproof label or stamped nameplate indicating manufacturer's name and product model number.
- B. General: Names or labels are not permitted on exposed faces of accessories. On interior surface not exposed to view or on back surface of each accessory, provide printed, waterproof label or stamped nameplate indicating manufacturer's name and product model number.
- C. Surface-Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.
- D. Recessed Toilet Accessories: Unless otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors and access panels with full-length, stainless-steel hinge. Provide anchorage that is fully concealed when unit is closed.
- E. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

- B. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated.
- C. Install grab bars to withstand a downward load of at least 250 lbf (1112 N), when tested according to method in ASTM F 446.

### 3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 10801