SECTION 105113 - METAL LOCKERS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

This Section may include provision for LEED 2009, LEED v4, ASHRAE 189.1, IgCC, and Green Globes. Note that some sustainable design requirements are either mandatory or optional requirements that may be inserted in the Section Text using the hypertext links. Other requirements that are associated with sustainable design, and may be considered "best practice" or retained even if a sustainable design standard is not a project requirement, are discussed in the Evaluations.

1. GENERAL
   * + 1. RELATED DOCUMENTS
          1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
       2. SUMMARY
          1. Section Includes:

Knocked-down corridor lockers.

Welded corridor lockers.

Knocked-down athletic lockers.

Welded athletic lockers.

Knocked-down, open-front athletic lockers.

Welded, open-front athletic lockers.

Locker benches.

* + - * 1. Related Requirements:

Retain Subparagraph below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 105113.13 "Coin-Operated Metal Lockers" for coin-operated lockers used in public facilities for temporary storage of personal belongings.

* + - 1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" Paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.
      1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal locker[**and bench**].

* + - * 1. Sustainable Design Submittals:
        2. Shop Drawings: For metal lockers.

Include plans, elevations, sections, and attachment details.

Show locker trim and accessories.

Include locker identification system and numbering sequence.

Retain "Samples" Paragraph below for single-stage Samples, with a subordinate list if applicable. Retain "Samples for Initial Selection" and "Samples for Verification" Paragraphs for two-stage Samples.

* + - * 1. Samples: For each color specified, in manufacturer's standard size.
        2. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available.
        3. Samples for Verification: For the following products, in manufacturer's standard size:

Lockers and equipment in the form of a small scale sample.

Locker bench material.

* + - * 1. Product Schedule: For lockers.[**Use same designations indicated on Drawings.**]

Use Paragraph below for large Projects only.

* + - * 1. Qualification Data: For Installer.
        2. Sample Warranty: For special warranty.
      1. CLOSEOUT SUBMITTALS
         1. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.
      2. MAINTENANCE MATERIAL SUBMITTALS
         1. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

The following metal locker hardware items equal to 10 percent of amount installed for each type and finish installed, but no fewer than five units:

Locks.

Blank identification plates.

Hooks.

* + - 1. DELIVERY, STORAGE, AND HANDLING
         1. Do not deliver metal lockers until spaces to receive them are clean, dry, and ready for their installation.
      2. FIELD CONDITIONS
         1. Field Measurements: Verify actual dimensions of recessed openings by field measurements before fabrication.
      3. COORDINATION

Delete first Paragraph below if only metal legs or continuous metal bases are required.

* + - * 1. Coordinate sizes and locations of [**concrete**] [**concrete masonry**] [**wood**] bases for metal lockers.
        2. 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. WARRANTY
         1. Special Warranty: Manufacturer agrees to repair or replace components of metal lockers that fail in materials or workmanship, excluding finish, within specified warranty period.

Failures include, but are not limited to, the following:

Structural failures.

Faulty operation of latches and other door hardware.

Damage from deliberate destruction and vandalism is excluded.

Verify available warranties and warranty periods for units and components.

Warranty Period for Knocked-Down Metal Lockers: Two years from date of Substantial Completion.

Warranty Period for Welded Metal Lockers: Lifetime from date of Substantial Completion.

1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. MANUFACTURERS
         1. Source Limitations: Obtain metal lockers[**, locker benches,**] and accessories from single source from single locker manufacturer.

Obtain locks from single lock manufacturer.

* + - 1. PERFORMANCE REQUIREMENTS

Generally, retain only one of second and third options in "Accessibility Standard" Paragraph below. Retain second option for facilities covered under the Americans with Disabilities Act (ADA) of 1990. Retain third for facilities covered under the Architectural Barriers Act (ABA)..

* + - * 1. Accessibility Standard: For lockers[**and locker benches**] indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ANSI A117.1.
      1. KNOCKED-DOWN CORRIDOR LOCKERS <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

Retain first option in "Doors" Paragraph below for standard-thickness doors; retain second option for heavy-duty doors offered by many manufacturers. Coordinate door thickness with models retained in "Manufacturers" Paragraph. If needed, revise "Doors" Paragraph for double-panel construction, which is available from some manufacturers.

* + - * 1. Doors: One piece; fabricated from [**0.060-inch (16 ga)** ] [**0.075-inch (14 ga)** ] nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.

Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.

Retain "Sound-Dampening Panels" Subparagraph below for quiet-type metal lockers. Verify availability with manufacturers.

Sound-Dampening Panels: Manufacturer's standard, designed to stiffen doors and reduce sound levels when doors are closed, of die-formed metal with full perimeter flange and sound-dampening material; welded to inner face of doors.

Retain first option in "Door Style" Subparagraph below for quiet-type metal lockers.

Door Style: [**Unperforated panel.**] [**Vented panel as follows:**]

Retain "Louvered Vents," "Security Vents," "Perforated Vents," or "Concealed Vents" Subparagraph below for vented panels. Delete all four Subparagraphs if retaining "Frame Vents" Subparagraph.

Louvered Vents: No fewer than [**six louver openings at top and bottom for single-tier**] [**three louver openings at top and bottom for double-tier**] [**two louver openings at top and bottom, or three louver openings at top or bottom, for triple-tier**] lockers.

Security Vents: Manufacturer's standard, stamped horizontal or vertical.

Revise "Perforated Vents" Subparagraph below if a specific perforation shape is needed.

Perforated Vents: Manufacturer's standard shape and configuration.

Retain "Concealed Vents" Subparagraph below if required. Many quiet-type metal lockers have concealed vents in door return flanges because doors are unperforated.

Concealed Vents: Slotted perforations in top and bottom horizontal door return flanges.

* + - * 1. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

Tops, Bottoms, and Intermediate Dividers: 0.024-inch (24 ga) nominal thickness, with single bend at sides.

Backs and Sides: 0.024-inch (24 ga) nominal thickness, with full-height, double-flanged connections.

Shelves: 0.024-inch (24 ga) nominal thickness, with double bend at front and single bend at sides and back.

* + - * 1. Frames: Channel formed; fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

Retain "Cross Frames between Tiers" Subparagraph below if required; cross frames between tiers are not offered by all manufacturers. Subparagraph is applicable only to double-tier, triple-tier, box, and two-person configurations.

Cross Frames between Tiers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.

Retain "Frame Vents" Subparagraph below for lockers with frame vents offered by some manufacturers in lieu of door vents specified in "Door Style" Subparagraph.

Frame Vents: Fabricate face frames with vents.

Retain option in "Hinges" Paragraph below if self-closing hinges are required; do not retain for lockers with combination locks.

* + - * 1. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

Retain "Knuckle Hinges," "Continuous Hinges," or "Hinges" Subparagraph below.

Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.

"Projecting Door Handle and Latch" and "Recessed Door Handle and Latch" Paragraphs below are for single-tier, double-tier, triple-tier, duplex, and two-person lockers.

* + - * 1. Projecting Door Handle and Latch: Finger-lift latch control designed for use with either built-in combination locks or padlocks; positive automatic latching, chromium plated; pry and vandal resistant.

Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.105-inch (12 ga) nominal-thickness steel sheet; welded or riveted to full-height door strikes; with resilient silencer on each latch hook.

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.

* + - * 1. Recessed Door Handle and Latch: Stainless steel cup with integral door pull, recessed so locking device does not protrude beyond door face; pry and vandal resistant.

Retain "Multipoint Latching" or "Single-Point Latching" Subparagraph below; coordinate with models retained in "Manufacturers" Paragraph.

Multipoint Latching: Finger-lift latch control designed for use with built-in combination locks, built-in key locks, or padlocks; positive automatic latching and prelocking.

Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.105-inch (12 ga) nominal-thickness steel sheet; welded or riveted to full-height door strikes; with resilient silencer on each latch hook.

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.

Single-Point Latching: Nonmoving latch hook [**designed to engage bolt of built-in combination or cylinder lock**] [**with steel padlock loop that projects through recessed cup and is finished to match metal locker body**].

Latch Hook: Equip each door with one latch hook, fabricated from 0.105-inch (12 ga) nominal-thickness steel sheet; welded midway up full-height door strike; with resilient silencer.

Delete "Door Handle and Latch for (Box) (16-Person) Lockers" Paragraph below if neither locker type is included in Project.

* + - * 1. Door Handle and Latch for [**Box**] [**16-Person**] Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.
        2. Locks: [**Combination padlocks**] [**Built-in combination locks**] [**Cylinder locks**] [**Built-in, card-operated locks**] [**Digital keypad locks**] [**Built-in, coin-operated locks**].
        3. Identification Plates: Manufacturer's standard, etched, embossed, or stamped [**aluminum**] [**plastic**] plates, with numbers and letters at least 3/8 inch high.
        4. Hooks: Manufacturer's standard ball-pointed hooks, aluminum or steel; zinc plated.

Retain "Legs" Paragraph below if no concrete base or continuous metal base is required. Revise if integral extended legs with benches are required for food-industry metal lockers.

* + - * 1. Legs: 6 inches high; formed by extending vertical frame members, or fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; welded to bottom of locker.

Retain "Closed Front and End Bases" Subparagraph below if leg space is closed. Front bases fit between front legs and flush with locker front; end bases fit between front and rear legs at end of a row and flush with locker sides.

Closed Front and End Bases: Fabricated from 0.036-inch (20 ga) nominal-thickness steel sheet.

Retain "Continuous Zee Base" Paragraph below if continuous zee base is required. Zee bases create an overhang or "toe space" for lockers.

* + - * 1. Continuous Zee Base: Fabricated from manufacturer's standard thickness, but not less than 0.060-inch (16 ga) nominal-thickness steel sheet.

Height: 4 inches.

Retain "Continuous Sloping Tops" or "Individual Sloping Tops" Paragraph below, or delete both. Continuous sloping tops are installed in addition to separate flat tops; individual sloping tops are installed in lieu of flat tops.

* + - * 1. Continuous Sloping Tops: Fabricated from manufacturer's standard thickness, but not less than 0.036-inch (20 ga) nominal-thickness steel sheet.

Closures: [**Vertical**] [**Hipped**]-end type.

Retain Subparagraph below where two runs of metal lockers meet at right angles.

Sloping-top corner fillers, mitered.

* + - * 1. Individual Sloping Tops: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet.

Retain "Recess Trim" Paragraph below if required for recessed metal lockers.

* + - * 1. Recess Trim: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Panels in "Filler Panels" Paragraph below are for filling gaps between groups of metal lockers created by columns, piping, and other obstructions; retain if required.

* + - * 1. Filler Panels: Fabricated from manufacturer's standard thickness, but not less than 0.036-inch (20 ga) nominal-thickness steel sheet.

Retain "Boxed End Panels" or "Finished End Panels" Paragraph below if end panels are required. Boxed end panels conceal all fasteners and holes and are in addition to standard ends that permit fasteners and unused holes to be exposed. Finished end panels attach directly to ends of metal lockers and cover unused penetrations and fasteners, except for perimeter fasteners. See the Evaluations.

* + - * 1. Boxed End Panels: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Finished End Panels: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

Center dividers in "Center Dividers" Paragraph below are for single-tier lockers for two people sharing a locker or for separating work/athletic clothing from street clothing.

* + - * 1. Center Dividers: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet.
        2. Materials:

Generally, retain "Cold-Rolled Steel Sheet" Subparagraph below.

Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B, suitable for exposed applications.

Retain "Metallic-Coated Steel Sheet" Subparagraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

* + - * 1. Finish: Baked enamel or powder coat.

If frame and doors are different colors in "Color" Subparagraph below, identify parts of metal lockers to receive different colors.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**] [**Two colors, with door one color and frame and body another color; as selected by Director’s Representative from manufacturer's full range**].

* + - 1. WELDED CORRIDOR LOCKERS <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

* + - * 1. Doors: One piece; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.

Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.

Retain first option in "Door Style" Subparagraph below for quiet-type metal lockers.

Door Style: [**Unperforated panel.**] [**Vented panel as follows:**]

Retain "Louvered Vents," "Security Vents," or "Perforated Vents" Subparagraph below for vented panels.

Louvered Vents: No fewer than [**six louver openings at top and bottom for single-tier**] [**three louver openings at top and bottom for double-tier**] [**two louver openings at top and bottom, or three louver openings at top or bottom, for triple-tier**] lockers.

Security Vents: Manufacturer's standard, stamped horizontal or vertical.

Revise "Perforated Vents" Subparagraph below if a specific perforation shape is needed.

Perforated Vents: Manufacturer's standard shape and configuration.

* + - * 1. Body: Assembled by welding body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

Tops, Bottoms, and Sides: 0.060-inch (16 ga) nominal thickness.

Backs: 0.048-inch (18 ga) nominal thickness.

Shelves: 0.060-inch (16 ga) nominal thickness, with double bend at front and single bend at sides and back.

* + - * 1. Frames: Channel formed; fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

Retain "Cross Frames between Tiers" Subparagraph below if required; cross frames between tiers are not offered by all manufacturers.

Cross Frames between Tiers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.

Retain option in "Hinges" Paragraph below if self-closing hinges are required; do not retain for lockers with combination locks.

* + - * 1. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

Retain "Knuckle Hinges," "Continuous Hinges," or "Hinges" Subparagraph below.

Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.

Continuous Hinges: Manufacturer's standard, steel, full height.

Hinges: Manufacturer's standard, steel, continuous or knuckle type.

"Projecting Door Handle and Latch" and "Recessed Door Handle and Latch" Paragraphs below are for single-tier, double-tier, triple-tier, duplex, and two-person lockers.

* + - * 1. Projecting Door Handle and Latch: Finger-lift latch control designed for use with either built-in combination locks or padlocks; positive automatic latching, chromium plated; pry and vandal resistant.

Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.105-inch (12 ga) nominal-thickness steel sheet; welded or riveted to full-height door strikes; with resilient silencer on each latch hook.

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.

* + - * 1. Recessed Door Handle and Latch: Stainless steel cup with integral door pull, recessed so locking device does not protrude beyond door face; pry and vandal resistant.

Retain "Multipoint Latching" or "Single-Point Latching" Subparagraph below; coordinate with models retained in "Manufacturers" Paragraph.

Multipoint Latching: Finger-lift latch control designed for use with built-in combination locks or padlocks; positive automatic latching and prelocking.

Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.120-inch (11 ga) nominal-thickness steel sheet; welded to full-height door strikes; with resilient silencer on each latch hook.

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.

Single-Point Latching: Nonmoving latch hook [**designed to engage bolt of built-in combination or cylinder lock**] [**with steel padlock loop that projects through recessed cup and is finished to match metal locker body**].

Latch Hook: Equip each door with one latch hook, fabricated from 0.120-inch (11 ga) nominal-thickness steel sheet; welded midway up full-height door strike; with resilient silencer.

Delete "Door Handle and Latch for (Box) (16-Person) Lockers" Paragraph below if neither locker type is included in Project.

* + - * 1. Door Handle and Latch for [**Box**] [**16-Person**] Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.
        2. Locks: [**Combination padlocks**] [**Built-in combination locks**] [**Cylinder locks**] [**Built-in, card-operated locks**] [**Digital keypad locks**] [**Built-in, coin-operated locks**].
        3. Identification Plates: Manufacturer's standard, etched, embossed, or stamped [**aluminum**] [**plastic**] plates, with numbers and letters at least 3/8 inch high.
        4. Hooks: Manufacturer's standard ball-pointed, aluminum or steel; zinc plated.

Retain "Legs" Paragraph below if no concrete base or continuous metal base is required. Revise if integral extended legs with benches are required for food-industry metal lockers.

* + - * 1. Legs: 6 inches high; formed by extending vertical frame members, or fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; welded to bottom of locker.

Retain "Closed Front and End Bases" Subparagraph below if leg space is closed. Front bases fit between front legs and flush with locker front; end bases fit between front and rear legs at end of a row and flush with locker sides.

Closed Front and End Bases: Fabricated from 0.036-inch (20 ga) nominal-thickness steel sheet.

Retain "Continuous Zee Base" Paragraph below if continuous zee base is required. Zee bases create an overhang or "toe space" for lockers.

* + - * 1. Continuous Zee Base: Fabricated from, manufacturer's standard thickness, but not less than 0.060-inch (16 ga) nominal-thickness steel sheet.

Height: 4 inches.

* + - * 1. Continuous Sloping Tops: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

Closures: [**Vertical**] [**Hipped**]-end type.

Retain "Recess Trim" Paragraph below if required for recessed metal lockers.

* + - * 1. Recess Trim: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Panels in "Filler Panels" Paragraph below are for filling gaps between groups of metal lockers created by columns, piping, and other obstructions; retain if required.

* + - * 1. Filler Panels: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Boxed End Panels" or "Finished End Panels" Paragraph below if end panels are required. Boxed end panels in "Boxed End Panels" Paragraph below conceal all fasteners and holes and are in addition to standard ends that permit fasteners and unused holes to be exposed. Finished end panels attach directly to ends of metal lockers and cover unused penetrations and fasteners, except for perimeter fasteners. See the Evaluations.

* + - * 1. Boxed End Panels: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.
        2. Finished End Panels: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
        3. Materials:

Generally, retain "Cold-Rolled Steel Sheet" Subparagraph below.

Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B, suitable for exposed applications.

Retain "Metallic-Coated Steel Sheet" Subparagraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

* + - * 1. Finish: Baked enamel or powder coat.

If frame and doors are different colors in "Color" Subparagraph below, identify parts of metal lockers to receive different colors.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**] [**Two colors, with door one color and frame and body another color; as selected by Director’s Representative from manufacturer's full range**].

* + - 1. KNOCKED-DOWN ATHLETIC LOCKERS <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

* + - * 1. Perforated Doors: One piece; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet with manufacturer's standard diamond perforations; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges and latch point (bottom) and right-angle single bend at remaining edges for box lockers.

Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.

* + - * 1. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

Tops and Bottoms: 0.060-inch (16 ga) nominal thickness, with single bend at edges.

Backs: 0.048-inch (18 ga) nominal thickness.

Shelves: 0.060-inch (16 ga) nominal thickness, with double bend at front and single bend at sides and back.

Retain "Unperforated Sides," "Perforated Sides," or "Expanded-Metal Sides" Paragraph below.

* + - * 1. Unperforated Sides: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.
        2. Perforated Sides: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet with manufacturer's standard diamond perforations.
        3. Expanded-Metal Sides: Fabricated from 0.090-inch (13 ga) nominal-thickness expanded metal; welded to 0.105-inch (12 ga) nominal-thickness steel angles or 0.060-inch (16 ga) nominal-thickness steel channel frames.
        4. Frames: Channel formed; fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet or 0.097-inch (12 ga) nominal-thickness steel angles; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

Retain "Cross Frames for (Double-Tier) (Triple-Tier) Lockers" Subparagraph below if required; cross frames between tiers are not offered by all manufacturers.

Cross Frames for Double-Tier or Triple-Tier Lockers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.

Retain option in "Hinges" Paragraph below if self-closing hinges are required; do not retain for lockers with combination locks.

* + - * 1. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

Retain "Knuckle Hinges," "Continuous Hinges," or "Hinges" Subparagraph below.

Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.

Continuous Hinges: Manufacturer's standard, steel; side or top mounted as required by locker configuration.

Hinges: Manufacturer's standard, steel, continuous or knuckle type.

Retain one of first three Paragraphs below. "Recessed Door Handle and Latch" and "Projecting Turn-Handle and Latch" Paragraphs are for single-, double-, and triple-tier lockers. "Door Handle and Latch for Box Lockers" Paragraph is for box lockers.

* + - * 1. Recessed Door Handle and Latch: Stainless steel cup with integral door pull, recessed so locking device does not protrude beyond door face; pry and vandal resistant.

Retain "Multipoint Latching" or "Single-Point Latching" Subparagraph below; coordinate with models retained in "Manufacturers" Paragraph.

Multipoint Latching: Finger-lift latch control designed for use with built-in combination locks, built-in cylinder locks, or padlocks; positive automatic latching and prelocking.

Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.120-inch (11 ga) nominal-thickness steel sheet; welded to full-height door strikes; with resilient silencer on each latch hook.

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.

Single-Point Latching: Nonmoving latch hook [**designed to engage bolt of built-in combination or cylinder lock**] [**with steel padlock loop that projects through recessed cup and is finished to match metal locker body**].

Latch Hook: Equip each door with one latch hook, fabricated from 0.120-inch (11 ga) nominal-thickness steel sheet; welded midway up full-height door strike; with resilient silencer.

* + - * 1. Projecting Turn-Handle and Latch: Steel handle welded to manufacturer's standard, three-point, cremone-type latching mechanism consisting of steel rods or bars that engage locker frame at top and bottom of door, and center latch that engages strike jamb; with steel padlock loop.
        2. Door Handle and Latch for Box Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.
        3. Locks: [**Combination padlocks**] [**Built-in combination locks**] [**Cylinder locks**] [**Built-in, card-operated locks**] [**Digital keypad locks**] [**Built-in, coin-operated locks**].
        4. Identification Plates: Manufacturer's standard, etched, embossed, or stamped [**aluminum**] [**plastic**] plates, with numbers and letters at least 3/8 inch high.
        5. Hooks: Manufacturer's standard ball-pointed, aluminum or steel; zinc plated.
        6. Coat Rods: Manufacturer's standard.

Retain "Legs" Paragraph below if no concrete base or continuous metal base is required. Verify availability with manufacturers.

* + - * 1. Legs: 6 inches high; formed by extending vertical frame members, or fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; welded to bottom of locker.

Retain "Closed Front and End Bases" Subparagraph below if leg space is closed. Front bases fit between front legs and flush with locker front; end bases fit between front and rear legs at end of a row and flush with locker sides.

Closed Front and End Bases: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Continuous Zee Base" Paragraph below if continuous zee base is required. Zee bases create an overhang or "toe space" for lockers.

* + - * 1. Continuous Zee Base: 4 inches high; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet.
        2. Continuous Sloping Tops: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

Closures: [**Vertical**] [**Hipped**]-end type.

Retain "Recess Trim" Paragraph below if required for recessed metal lockers.

* + - * 1. Recess Trim: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Panels in "Filler Panels" Paragraph below are for filling gaps between groups of metal lockers created by columns, piping, and other obstructions; retain if required.

* + - * 1. Filler Panels: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Boxed End Panels" or "Finished End Panels" Paragraph below if end panels are required. Boxed end panels in "Boxed End Panels" Paragraph below conceal all fasteners and holes and are in addition to standard ends that permit fasteners and unused holes to be exposed. Finished end panels attach directly to ends of metal lockers and cover unused penetrations and fasteners, except for perimeter fasteners. See the Evaluations.

* + - * 1. Boxed End Panels: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Finished End Panels: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
        3. Materials:

Generally, retain "Cold-Rolled Steel Sheet" Subparagraph below.

Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B, suitable for exposed applications.

Retain "Metallic-Coated Steel Sheet" Subparagraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

Expanded Metal: ASTM F1267, Type II (flattened), Class I (uncoated), 3/4-inch steel mesh, with at least 70 percent open area.

* + - * 1. Finish: Baked enamel or powder coat.

If frame and doors are different colors in "Color" Subparagraph below, identify parts of metal lockers to receive different colors.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**] [**Two colors, with door one color and frame and body another color; as selected by Director’s Representative from manufacturer's full range**] .

* + - 1. WELDED ATHLETIC LOCKERS <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

* + - * 1. Perforated Doors: One piece; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet with manufacturer's standard diamond perforations; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges and latch point (bottom) and right-angle single bend at remaining edges for box lockers.

Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.

* + - * 1. Body: Assembled by welding body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

Tops and Bottoms: 0.060-inch (16 ga) nominal thickness, with single bend at edges.

Backs: 0.048-inch (18 ga) nominal thickness.

Shelves: 0.060-inch (16 ga) nominal thickness, with double bend at front and single bend at sides and back.

Retain "Unperforated Sides," "Perforated Sides," or "Expanded-Metal Sides" Paragraph below.

* + - * 1. Unperforated Sides: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.
        2. Perforated Sides: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet with manufacturer's standard diamond perforations.
        3. Expanded-Metal Sides: Fabricated from 0.090-inch (13 ga) nominal-thickness expanded metal; welded to 0.105-inch (12 ga) nominal-thickness steel angles or 0.060-inch (16 ga) nominal-thickness steel channel frames.
        4. Frames: Channel formed; fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet or 0.097-inch (12 ga) nominal-thickness steel angles; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

Retain "Cross Frames for (Double-Tier) (Triple-Tier) Lockers" Subparagraph below if required; cross frames between tiers are not offered by all manufacturers.

Cross Frames for Double-Tier or Triple-Tier Lockers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.

Retain "Reinforced Bottoms" Paragraph below if required; reinforced bottom is optional feature with some manufacturers.

* + - * 1. Reinforced Bottoms: Structural channels, formed from 0.060-inch (16 ga) nominal-thickness steel sheet; welded to front and rear of side-panel frames.

Revise "Hinges" Paragraph below to suit Project; a few manufacturers use hinges that are more than 2 inches (51 mm) high. Retain option if self-closing hinges are required; do not retain for lockers with combination locks.

* + - * 1. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

Retain "Knuckle Hinges," "Continuous Hinges," or "Hinges" Subparagraph below.

Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.

Continuous Hinges: Manufacturer's standard, steel; side or top mounted as required by locker configuration.

Hinges: Manufacturer's standard, steel, continuous or knuckle type.

Retain one of first three Paragraphs below. "Recessed Door Handle and Latch" and "Projecting Turn-Handle and Latch" Paragraphs are for single-, double-, and triple-tier lockers. "Door Handle and Latch for Box Lockers" Paragraph is for box lockers.

* + - * 1. Recessed Door Handle and Latch: Stainless -steel cup with integral door pull, recessed so locking device does not protrude beyond door face; pry and vandal resistant.

Retain "Multipoint Latching" or "Single-Point Latching" Subparagraph below; coordinate with models retained in "Manufacturers" Paragraph.

Multipoint Latching: Finger-lift latch control designed for use with built-in combination locks, built-in cylinder locks, or padlocks; positive automatic latching and prelocking.

Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.120-inch (11 ga) nominal-thickness steel sheet; welded to full-height door strikes; with resilient silencer on each latch hook.

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.

Single-Point Latching: Nonmoving latch hook [**designed to engage bolt of built-in combination or cylinder lock**] [**with steel padlock loop that projects through recessed cup and is finished to match metal locker body**].

Latch Hook: Equip each door with one latch hook, fabricated from 0.120-inch (11 ga) nominal-thickness steel sheet; welded midway up full-height door strike; with resilient silencer.

* + - * 1. Projecting Turn-Handle and Latch: Steel handle welded to manufacturer's standard, three-point, cremone-type latching mechanism consisting of steel rods or bars that engage locker frame at top and bottom of door, and center latch that engages strike jamb; with steel padlock loop.
        2. Door Handle and Latch for Box Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.
        3. Locks: [**Combination padlocks**] [**Built-in combination locks**] [**Cylinder locks**] [**Built-in, card-operated locks**] [**Digital keypad locks**] [**Built-in, coin-operated locks**].
        4. Identification Plates: Manufacturer's standard, etched, embossed, or stamped [**aluminum**] [**plastic**] plates, with numbers and letters at least 3/8 inch high.
        5. Hooks: Manufacturer's standard ball-pointed, aluminum or steel; zinc plated.
        6. Coat Rods: [**1-inch- diameter steel, chrome finished**] [**1-inch- diameter steel, nickel plated**] [**3/4-inch- diameter steel, chrome finished**] [**3/4-inch- diameter steel, nickel plated**] [**Manufacturer's standard**].

Retain "Legs" Paragraph below if no concrete base or continuous metal base is required. Verify availability with manufacturers.

* + - * 1. Legs: 6 inches high; formed by extending vertical frame members, or fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; welded to bottom of locker.

Retain "Closed Front and End Bases" Subparagraph below if leg space is closed. Front bases fit between front legs and flush with locker front; end bases fit between front and rear legs at end of a row and flush with locker sides.

Closed Front and End Bases: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Continuous Zee Base" Paragraph below if continuous zee base is required. Zee bases create an overhang or "toe space" for lockers.

* + - * 1. Continuous Zee Base: 4 inches high; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet.
        2. Continuous Sloping Tops: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

Closures: [**Vertical**] [**Hipped**]-end type.

Retain "Recess Trim" Paragraph below if required for recessed metal lockers.

* + - * 1. Recess Trim: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Panels in "Filler Panels" Paragraph below are for filling gaps between groups of metal lockers created by columns, piping, and other obstructions; retain if required.

* + - * 1. Filler Panels: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Boxed End Panels" or "Finished End Panels" Paragraph below if end panels are required. Boxed end panels in "Boxed End Panels" Paragraph below conceal all fasteners and holes and are in addition to standard ends that permit fasteners and unused holes to be exposed. Finished end panels attach directly to ends of metal lockers and cover unused penetrations and fasteners, except for perimeter fasteners. See the Evaluations.

* + - * 1. Boxed End Panels: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Finished End Panels: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
        3. Materials:

Generally, retain "Cold-Rolled Steel Sheet" Subparagraph below.

Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B, suitable for exposed applications.

Retain "Metallic-Coated Steel Sheet" Subparagraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

Expanded Metal: ASTM F1267, Type II (flattened), Class I (uncoated), 3/4-inch steel mesh, with at least 70 percent open area.

* + - * 1. Finish: Baked enamel or powder coat.

If frame and doors are different colors in "Color" Subparagraph below, identify parts of metal lockers to receive different colors.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**] [**Two colors, with door one color and frame and body another color; as selected by Director’s Representative from manufacturer's full range**].

* + - 1. KNOCKED-DOWN, OPEN-FRONT ATHLETIC LOCKERS <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

Coordinate, with manufacturers, configuration in "Locker Arrangement" Paragraph below.

* + - * 1. Locker Arrangement: Open front, with [**seat/shelf**] [**seat/footlocker**] [**upper shelf**] [**upper shelf with security box**] [**and**] [**full-width security compartment**] [**configuration as indicated on Drawings**].
        2. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

Tops and Bottoms: 0.060-inch (16 ga) nominal thickness, with single bend at edges.

Backs: 0.048-inch (18 ga) nominal thickness.

Shelves: 0.060-inch 916 ga) nominal thickness, with double bend at front and single bend at sides and back.

Retain "Unperforated Sides," "Perforated Sides," or "Expanded-Metal Sides" Paragraph below.

* + - * 1. Unperforated Sides: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Perforated Sides: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet with manufacturer's standard diamond perforations. Perforations shall not occur [**above upper shelf**] [**at security compartment**] [**or**] [**at seat/footlocker**].
        3. Expanded-Metal Sides: Fabricated from 0.090-inch (13 ga) nominal-thickness expanded metal; welded to 0.105-inch (12 ga) nominal-thickness steel angles or 0.060-inch (16 ga) nominal-thickness steel channel frames.
        4. Frames: Channel formed; fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet or 0.105-inch (12 ga) nominal-thickness steel angles; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames.

Retain "Reinforced Bottoms" Paragraph below if required; reinforced bottom is optional feature with some manufacturers.

* + - * 1. Reinforced Bottoms: Structural channels, formed from 0.075-inch (14 ga) nominal-thickness steel sheet; welded to front and rear of side-panel frames.
        2. Seats/Shelves: Full width of metal locker; channel formed; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; with stiffeners for reinforcement.
        3. Seats/Footlockers: Enclosure full width of bottom of metal locker; fabricated from cold-rolled steel sheet.

Seat/Lid: 0.075-inch (14 ga) nominal-thickness steel sheet; channel formed and reinforced with stiffeners; with manufacturer's standard, steel continuous hinge that is completely concealed and tamper resistant when seat/lid is closed; with padlock hasp.

Front Panel: 0.075-inch (14 ga) nominal-thickness steel sheet; channel formed at top edge; with minilouvers for ventilation; recessed for padlock loop.

Coordinate options in "Sides" Subparagraph below with type of sides retained.

Sides: [**Integral part of unperforated**] [**Unperforated bottom portions of perforated**] [**0.060-inch (16 ga) nominal-thickness steel sheet inside expanded-metal**] sides.

* + - * 1. Security Boxes: Nonperforated, consisting of partition extending from upper shelf to top of metal locker, fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet; with channel-formed, 0.060-inch (16 ga) nominal-thickness, steel sheet door frame, and door fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet with right-angle single bend at edges; with manufacturer's standard, steel continuous hinge that is completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

Single-Point Latching: Stainless steel strike plate with integral pull; with steel, nonmoving latch hook [**designed to engage bolt of lock**] [**with steel padlock loop that projects through door and is finished to match metal locker body**].

Locks: [**Combination padlocks**] [**Built-in combination locks**].

* + - * 1. Security Compartments: Nonperforated, running full width of metal locker, with door fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet.

Locks: [**Combination padlocks**] [**Built-in combination locks**].

* + - * 1. Identification Plates: Manufacturer's standard, etched, embossed, or stamped [**aluminum**] [**plastic**] plates, with numbers and letters at least 3/8 inch high.
        2. Hooks: Manufacturer's standard ball-pointed, aluminum or steel; zinc plated.
        3. Coat Rods: Manufacturer's standard.
        4. Continuous Sloping Tops: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

Closures: [**Vertical**] [**Hipped**]-end type.

Retain "Recess Trim" Paragraph below if required for recessed metal lockers.

* + - * 1. Recess Trim: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Panels in "Filler Panels" Paragraph below are for filling gaps between groups of metal lockers created by columns, piping, and other obstructions; retain if required.

* + - * 1. Filler Panels: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Boxed End Panels" or "Finished End Panels" Paragraph below if end panels are required. Boxed end panels in "Boxed End Panels" Paragraph below conceal all fasteners and holes and are in addition to standard ends that permit fasteners and unused holes to be exposed. Finished end panels attach directly to ends of metal lockers and cover unused penetrations and fasteners, except for perimeter fasteners. See the Evaluations.

* + - * 1. Boxed End Panels: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Finished End Panels: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
        3. Materials:

Generally, retain "Cold-Rolled Steel Sheet" Subparagraph below.

Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B, suitable for exposed applications.

Retain "Metallic-Coated Steel Sheet" Subparagraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

Expanded Metal: ASTM F1267, Type II (flattened), Class I (uncoated), 3/4-inch steel mesh, with at least 70 percent open area.

* + - * 1. Finish: Baked enamel or powder coat.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - 1. WELDED, OPEN-FRONT ATHLETIC LOCKERS <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

Coordinate, with manufacturers, configuration in "Locker Arrangement" Paragraph below.

* + - * 1. Locker Arrangement: Open front, with [**seat/shelf**] [**seat/footlocker**] [**upper shelf**] [**upper shelf with security box**] [**and**] [**full-width security compartment**] [**configuration as indicated on Drawings**].

Retain "Material" Paragraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

* + - * 1. Material: Cold-rolled steel sheet.

Retain first option in "Body" Paragraph below if welded lockers are required; retain third option if knocked-down lockers are required.

* + - * 1. Body: Assembled by welding body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

Tops and Bottoms: 0.060-inch (16 ga) nominal thickness, with single bend at edges.

Backs: 0.048-inch (18 ga) nominal thickness.

Shelves: 0.060-inch (16 ga) nominal thickness, with double bend at front and single bend at sides and back.

Retain "Unperforated Sides," "Perforated Sides," or "Expanded-Metal Sides" Paragraph below.

* + - * 1. Unperforated Sides: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Perforated Sides: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet with manufacturer's standard diamond perforations. Perforations shall not occur [**above upper shelf**] [**at security compartment**] [**or**] [**at seat/footlocker**].
        3. Expanded-Metal Sides: Fabricated from 0.090-inch (13 ga) nominal-thickness expanded metal; welded to 0.105-inch (12 ga) nominal-thickness steel angles or 0.060-inch (16 ga) nominal-thickness steel channel frames.
        4. Frames: Channel formed; fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet or 0.105-inch (12 ga) nominal-thickness steel angles; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames.

Retain "Reinforced Bottoms" Paragraph below if required; reinforced bottom is optional feature with some manufacturers.

* + - * 1. Reinforced Bottoms: Structural channels, formed from 0.075-inch (14 ga) nominal-thickness steel sheet; welded to front and rear of side-panel frames.
        2. Seats/Shelves: Full width of metal locker; channel formed; fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet; with stiffeners for reinforcement.
        3. Seats/Footlockers: Enclosure full width of bottom of metal locker; fabricated from cold-rolled steel sheet.

Seat/Lid: 0.075-inch (14 ga) nominal-thickness steel sheet; channel formed and reinforced with stiffeners; with manufacturer's standard, steel continuous hinge that is completely concealed and tamper resistant when seat/lid is closed; with padlock hasp.

Front Panel: 0.075-inch (14 ga) nominal-thickness steel sheet; channel formed at top edge; with minilouvers for ventilation; recessed for padlock loop.

Coordinate options in "Sides" Subparagraph below with type of sides retained.

Sides: [**Integral part of unperforated**] [**Unperforated bottom portions of perforated**] [**0.060-inch (16 ga) nominal-thickness steel sheet inside expanded-metal**] sides.

* + - * 1. Security Boxes: Nonperforated, consisting of partition extending from upper shelf to top of metal locker, fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet; with channel-formed, 0.060-inch (a6 ga) nominal-thickness, steel sheet door frame, and door fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet with right-angle single bend at edges; with manufacturer's standard, steel continuous hinge that is completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

Single-Point Latching: Stainless steel strike plate with integral pull; with steel, nonmoving latch hook [**designed to engage bolt of lock**] [**with steel padlock loop that projects through door and is finished to match metal locker body**].

Locks: [**Combination padlocks**] [**Built-in combination locks**].

* + - * 1. Security Compartments: Nonperforated, running full width of metal locker, with door fabricated from 0.075-inch (14 ga) nominal-thickness steel sheet.

Locks: [**Combination padlocks**] [**Built-in combination locks**].

* + - * 1. Identification Plates: Manufacturer's standard, etched, embossed, or stamped [**aluminum**] [**plastic**] plates, with numbers and letters at least 3/8 inch high.
        2. Hooks: Manufacturer's standard ball-pointed, aluminum or steel; zinc plated.
        3. Continuous Sloping Tops: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

Closures: [**Vertical**] [**Hipped**]-end type.

Retain "Recess Trim" Paragraph below if required for recessed metal lockers.

* + - * 1. Recess Trim: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Panels in "Filler Panels" Paragraph below are for filling gaps between groups of metal lockers created by columns, piping, and other obstructions; retain if required.

* + - * 1. Filler Panels: Fabricated from 0.048-inch (18 ga) nominal-thickness steel sheet.

Retain "Boxed End Panels" or "Finished End Panels" Paragraph below if end panels are required. Boxed end panels in "Boxed End Panels" Paragraph below conceal all fasteners and holes and are in addition to standard ends that permit fasteners and unused holes to be exposed. Finished end panels attach directly to ends of metal lockers and cover unused penetrations and fasteners, except for perimeter fasteners. See the Evaluations.

* + - * 1. Boxed End Panels: Fabricated from 0.060-inch (16 ga) nominal-thickness steel sheet.
        2. Finished End Panels: Fabricated from 0.024-inch (24 ga) nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
        3. Materials:

Generally, retain "Cold-Rolled Steel Sheet" Subparagraph below.

Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B, suitable for exposed applications.

Retain "Metallic-Coated Steel Sheet" Subparagraph below for zinc-iron, alloy-coated (galvannealed) lockers. Lockers fabricated from metallic-coated steel sheet are upgrades available only from some manufacturers. Indicate locations on Drawings or in schedules if using both uncoated and metallic-coated steel lockers.

Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

Expanded Metal: ASTM F1267, Type II (flattened), Class I (uncoated), 3/4-inch steel mesh, with at least 70 percent open area.

* + - * 1. Finish: Baked enamel or powder coat.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - 1. LOCKS

Retain required locking device(s) and options in this article as required for locker type(s) in other Part 2 articles. If retaining more than one kind of operation for a lock type, indicate location of each on Drawings or by inserts.

* + - * 1. Combination Padlock: [**Key-controlled, three-number dialing combination locks; capable of five combination changes**] [**Provided by Facility**].
        2. Built-in Combination Lock: Key-controlled, three-number dialing combination locks; capable of at least five combination changes made automatically with a control key.

Bolt Operation: Manually locking deadbolt or automatically locking spring bolt.

Lock in "Cylinder Lock" Paragraph below are deadbolt locks, surface mounted on inside of door, with only the cylinder exposed on outside; revise to suit Project.

* + - * 1. Cylinder Lock: Built-in, flush, cam lock with five-pin tumbler keyway, keyed separately and master keyed. Furnish two change keys for each lock and two master keys.

Key Type: [**Flat**] [**Grooved**][**, with minimum 2- by 2.68-inch key head for accessible lockers**].

Bolt Operation: Manually locking deadbolt or automatically locking spring bolt.

"Built-in, Card-Operated Lock" and "Digital Keypad Lock" Paragraphs below are often used for accessible lockers, are available from locker manufacturers on a limited basis, and are typically not standard. Retain if required and indicate types of metal lockers that are to be so equipped.

Card-operated lock in "Built-in, Card-Operated Lock" Paragraph below requires a projecting handle.

* + - * 1. Built-in, Card-Operated Lock: Self-contained units mounted on interior of door with replaceable lock cylinders keyed separately and master keyed. Mount instruction decals on both door faces. Furnish one change card key for each lock and one master card key.

Bolt Operation: Manually locking deadbolt or automatically locking spring bolt.

* + - * 1. Digital Keypad Lock: Battery-powered electronic keypad with reprogrammable codes that override access. Three consecutive incorrect code entries shall disable lock for three minutes.

Retain one of two Subparagraphs below.

Designed for permanently assigned access via entry of user's four-digit code.

Designed for shared or temporary access by multiple users, with user-defined code to lock and unlock. Provide LED indicator to show when lock is in use.

* + - * 1. Built-in, Coin-Operated Lock: Self-contained units mounted on interior of door with replaceable lock cylinders keyed separately and master keyed. Mount instruction decals on both door faces. Furnish one change key for each lock and one master key.

Bolt Operation: Manually locking deadbolt or automatically locking spring bolt.

Lock Type: Fee [**return/deposit**] [**collect/pay**].

Fee Type: [**Token**] [**Coin, one quarter**] [**Coin, two quarters**].

Retain "Coin Box" Subparagraph below if retaining "collect/pay" option in "Lock Type" Subparagraph.

Coin Box: Manufacturer's standard housing or stainless steel cash box with stainless steel flanged cover set into base of lock channel frame. Furnish with removable cylinder and key, and master code changer key.

* + - 1. LOCKER BENCHES <**Insert designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

AJW Architectural Products.

ASI Storage Solutions; ASI Group.

Lyon Workspace Products, LLC.

Approved equivalent.

If accessible benches are not positioned against a wall, back support is required. Verify, with manufacturers, the availability of back support on accessible benches before adding requirement to the Section Text.

* + - * 1. Provide bench units with overall assembly height of 17-1/2 inches.
        2. Bench Tops: Manufacturer's standard one-piece units, with rounded corners and edges.

Retain option in "Size" Subparagraph below for accessible benches.

Size: Minimum 9-1/2 inches wide by 1-1/4 inches thick[**except provide 20- to 24-inch- wide tops where accessible benches are indicated**].

Retain one of three Subparagraphs below.

Laminated clear hardwood with one coat of clear sealer on all surfaces and one coat of clear lacquer on top and sides.

Plastic laminate over particleboard core, with two steel tubes running full length of top and positioned to receive pedestal fasteners.

Color: [**Match metal lockers**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Extruded aluminum with clear anodic finish.

Retain "Fixed-Bench Pedestals" or "Movable-Bench Pedestals" Paragraph below.

* + - * 1. Fixed-Bench Pedestals: Manufacturer's standard supports, with predrilled fastener holes for attaching bench top and anchoring to floor, complete with fasteners and anchors, and as follows:

Tubular Steel:

Retain one of two Subparagraphs below or revise to suit Project.

1-1/2-inch- diameter steel tubing threaded on both ends, with standard pipe flange at top and bell-shaped cast-iron base; with baked-enamel or powder-coat finish; anchored with exposed fasteners.

Color: [**Match metal lockers**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - * 1. Movable-Bench Pedestals: Manufacturer's standard supports, with predrilled fastener holes for attaching bench top, complete with fasteners, and as follows:

Retain "Aluminum" or "Stainless Steel" Subparagraph below or revise to suit manufacturer's proprietary product.

Aluminum: 1/8-inch-thick by 3-inch-wide channel or 1/4-inch-thick by 3-inch-wide bar stock, shaped into [**trapezoidal**] [**inverted-T**] form; with nonskid pads at bottom.

Finish: [**Clear**] [**Black**] [**Gold**] anodic finish.

Stainless Steel: 1/8-inch-thick by 3-inch-wide channel or 1/4-inch-thick by 3-inch-wide bar stock, shaped into trapezoidal form; with nonskid pads at bottom.

Finish: [**Manufacturer's standard**] [**No. 4B**].

* + - * 1. Materials:

Stainless Steel Plate, Sheet, and Strip: ASTM A240 or ASTM A666, Type 304.

Plastic Laminate: NEMA LD 3, Grade HGP.

Extruded Aluminum: ASTM B221, alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated.

Steel Tube: ASTM A500, cold rolled.

Particleboard: ANSI A208.1, Grade M-2.

* + - 1. FABRICATION
         1. Fabricate metal lockers square, rigid, without warp, and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.

Form body panels, doors, shelves, and accessories from one-piece steel sheet unless otherwise indicated.

Provide fasteners, filler plates, supports, clips, and closures as required for complete installation.

* + - * 1. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments.
        2. Equipment: Provide each locker with an identification plate and the following equipment:

Revise "Single-Tier Units," "Double-Tier Units," or "Triple-Tier Units" Subparagraph below to suit Project.

Single-Tier Units: Shelf, one double-prong ceiling hook, and two single-prong wall hooks.

Locker units in "Double-Tier Units" and "Triple-Tier Units" Subparagraphs below do not typically contain shelves.

Double-Tier Units: One double-prong ceiling hook and two single-prong wall hooks.

Triple-Tier Units: One double-prong ceiling hook.

Retain "Coat Rods" Subparagraph below if required.

Coat Rods: [**As indicated on Drawings**] [**For each compartment of each locker**] [**In lieu of ceiling hook for metal lockers 24 inches high or more**] [**In lieu of ceiling hook for metal lockers 18 inches deep or more**].

Open-Front Athletic Lockers: Two single-prong wall hooks bolted to locker back and coat rod.

Retain "Knocked-Down Construction" or "Welded Construction" Paragraph below. Coordinate with products selected.

* + - * 1. Knocked-Down Construction: Fabricate metal lockers by preassembling at plant prior to shipping, using manufacturer's nuts, bolts, screws, or rivets.
        2. Welded Construction: Factory preassemble metal lockers by welding all joints, seams, and connections; with no bolts, nuts, screws, or rivets used in assembly of main locker groups. Factory weld main locker groups into one-piece structures. Grind exposed welds smooth and flush.
        3. Accessible Lockers: Fabricate as follows:

Locate bottom shelf no lower than 15 inches above the floor.

Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches above the floor.

* + - * 1. Continuous Zee Base: Fabricated in lengths as long as practical to enclose base and base ends; finished to match lockers.
        2. Continuous Sloping Tops: Fabricated in lengths as long as practical, without visible fasteners at splice locations; finished to match lockers.

Retain Subparagraph below where two runs of metal lockers meet at right angles.

Sloping-top corner fillers, mitered.

* + - * 1. Individual Sloping Tops: Fabricated in width to fit one locker frame in lieu of flat locker tops; with integral back; finished to match lockers. Provide wedge-shaped divider panels between lockers.
        2. Recess Trim: Fabricated with minimum 2-1/2-inch face width and in lengths as long as practical; finished to match lockers.
        3. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.
        4. Boxed End Panels: Fabricated with 1-inch- wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

Provide one-piece panels for double-row (back-to-back) locker ends.

* + - * 1. Finished End Panels: Fabricated to conceal unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

Provide one-piece panels for double-row (back-to-back) locker ends.

* + - * 1. Center Dividers: Full-depth, vertical partitions between bottom and shelf; finished to match lockers.
      1. ACCESSORIES
         1. Fasteners: Zinc- or nickel-plated steel, slotless-type, exposed bolt heads; with self-locking nuts or lock washers for nuts on moving parts.
         2. Anchors: Material, type, and size required for secure anchorage to each substrate.

Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls, and elsewhere as indicated, for corrosion resistance.

Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine walls and floors or support bases, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
          2. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
          3. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. INSTALLATION
          1. Install lockers level, plumb, and true; shim as required, using concealed shims.

Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.

Anchor single rows of metal lockers to walls near top and bottom of lockers.

Anchor back-to-back metal lockers to floor.

Retain "Knocked-Down Lockers" or "Welded Lockers" Paragraph below. Coordinate with products retained.

* + - * 1. Knocked-Down Lockers: Assemble with manufacturer's standard fasteners, with no exposed fasteners on door faces or face frames.
        2. Welded Lockers: Connect groups together with manufacturer's standard fasteners, with no exposed fasteners on face frames.
        3. Equipment:

Attach hooks with at least two fasteners.

Attach door locks on doors using security-type fasteners.

Identification Plates: Identify metal lockers with identification indicated on Drawings.

Attach plates to each locker door, near top, centered, with at least two aluminum rivets.

Attach plates to upper shelf of each open-front metal locker, centered, with a least two aluminum rivets.

* + - * 1. Trim: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.

Attach recess trim to recessed metal lockers with concealed clips.

Attach filler panels with concealed fasteners. Locate filler panels where indicated on Drawings.

Attach sloping-top units to metal lockers, with closures at exposed ends.

Retain one of two Subparagraphs below; delete both if not required.

Attach boxed end panels using concealed fasteners to conceal exposed ends of nonrecessed metal lockers.

Attach finished end panels using fasteners only at perimeter to conceal exposed ends of nonrecessed metal lockers.

* + - * 1. Fixed Benches: Provide no fewer than two pedestals for each bench, uniformly spaced not more than 72 inches apart. Securely fasten tops of pedestals to undersides of bench tops, and anchor bases to floor.
        2. Movable Benches: Place benches in locations indicated on Drawings.
      1. ADJUSTING
         1. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding. Verify that integral locking devices operate properly.
      2. PROTECTION
         1. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.
         2. 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 locker manufacturer.

END OF SECTION 105113