This specification section uses numbered level paragraph styles, which were not included in versions of Word prior to Word 97. In the interests of clarity, all paragraph styles are formatted flush left.

Specification editor’s choice items are shown in [square brackets]. (Optional) paragraphs denote items available at additional cost.

Use TAB to go DOWN one paragraph number level; SHIFT+TAB to go one paragraph number level UP.

SECTION 105113 – welded/riveted METAL Lockers (warbag locker IN Multi-Tier CONFIGURATIONS

1. GENERAL
	1. RELATED DOCUMENTS
		1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
	2. SUMMARY
		1. This Section includes the following:

Warbag Lockers in Multi-tier Configuration

* + 1. Related Work, Not Furnished:
			1. Finish floor covering material and installation.
		2. Related Sections:

[Sections in Division 9 – Finishes, relating to finish floor and base materials]

* + 1. Allowances:
		2. Alternates:
	1. REFERENCES
		1. American National Standards Institute (ANSI) Standards:

Applicable standards for fasteners used for assembly.

* + 1. American Society for Testing and Materials (ASTM) Standards:

Applicable standards for steel sheet materials used for fabrication

Applicable standards for the testing of electro-statically applied Powder Coat Paint

* + 1. American Institute Of Steel Construction (AISC) Standards:

Applicable standards for steel materials used for fabrication.

* 1. DESCRIPTION
		1. General: Welded/Riveted Metal Lockers
		2. Finishes:

Fabricated Metal Components and Assemblies: All components to be painted with an exterior electro-statically applied Powder Coat paint that can meet or exceed test requirements set out by ASTM standard D3451-06 Standard Guide for Testing Coating Powders and Powder Coatings.

Sizes can be described in paragraph below or in a SCHEDULE attached as the last page of the section.

* + 1. Sizes:

War Bag Lockers: nominal height of 78 inches or [1981] millimeters, nominal widths of [18] [24] inches or [457.2] [609.6] millimeters, and nominal depths of [24] [30] inches or [609.6] [762] millimeters respectively.

* 1. PERFORMANCE REQUIREMENTS
		1. Design Requirements:

Limit overall width not to exceed specified nominal width; locker width designed for zero growth.

* 1. SUBMITTALS
		1. Product Data: Submit manufacturer's product literature and installation instructions for each type of welded/riveted metal locker required. Include data substantiating that products to be furnished comply with requirements of the contract documents.
		2. Shop Drawings: Show fabrication, assembly, and installation details, including descriptions of procedures and diagrams. Show complete locker installation layout, including quantities, locations and types of accessory units required. Include notations and descriptions of all installation items and components.

Show installation details at non-standard conditions, if any.

Provide layout, dimensions, and identification of each unit, corresponding to sequence of installation procedures.

Provide installation schedule and procedures to ensure proper installation.

* + 1. Samples: Provide minimum [3] inches or [76] millimeters square example of each color and texture on actual substrate for each component to remain exposed after installation.
		2. Selection Samples: For initial selection of colors and textures, submit manufacturer's color charts, consisting of actual product pieces, showing full range of colors and textures available.
		3. Warranty: Submit draft copy of proposed warranty for review by the [Architect] [Architect/Engineer] [Engineer] [Designer].
		4. Maintenance Data: Provide written documentation of the manufacturer’s statement, claiming the maintenance free nature of the product.
		5. Reference List: Provide a list of recently installed welded/riveted metal lockers to be visited by owner, architect, and contractor. Intent of list is to aid in verifying the suitability of manufacturer's products and comparison with materials and product specified in this section. Include contact name, address, and phone numbers.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Engage an experienced manufacturer who is ISO 9001:2008 certified for the design, production, installation and service of welded metal lockers. Furnish certification attesting ISO 9001:2008 quality system registration.
		2. Installer Qualifications: Engage an experienced installer who is the manufacturer's authorized representative for the specified products for installing welded/riveted metal lockers.

Minimum Qualifications: 1-year experience installing welded/riveted metal lockers of comparable size and complexity to specified project requirements.

* 1. DELIVERY, STORAGE AND HANDLING
		1. Follow manufacturer’s instructions and recommendations for delivery, storage and handling requirements.
	2. PROJECT CONDITIONS
		1. Field Measurements: Verify quantities of welded/riveted metal locker units before fabrication. Indicate verified measurements on shop drawings. Coordinate fabrication and delivery to ensure no delay in progress of the work.
		2. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating welded/riveted metal lockers units without field measurements. Coordinate construction to ensure actual dimensions correspond to established dimensions.

Sequencing and Scheduling paragraph can be omitted unless project conditions dictate that and incremental installation sequence is warranted or necessary.

* 1. [SEQUENCING AND SCHEDULING]
		1. Sequence welded/riveted metal lockers [with other work] to minimize possibility of damage and soiling, during remainder of construction period.
		2. Schedule installation of specified welded/riveted metal lockers after finishing operations, including painting, have been completed.
		3. Provide components, which must be built in at a time, which causes no delays in the general progress of the work.
		4. Pre-installation Conference: Schedule and conduct conference on project site to review methods and procedures for installing welded/riveted metal lockers including, but not limited to, the following:

Recommended attendees include:

* + - 1. Owner's Representative.
			2. Prime Contractor or representative.
			3. The [Architect] [Architect/Engineer] [Engineer/Architect] [Engineer] [Designer].
			4. Manufacturer's representative.
			5. Subcontractors or installers whose work may affect, or be affected by, the work of this section.
	1. Warranty
		1. Provide a written warranty, executed by Contractor, Installer, and Manufacturer, agreeing to repair or replace units, which fail in materials or workmanship within the established warranty period. This warranty shall be in addition to, and not a limitation of, other rights the Owner may have under General Condition’s provisions of the Contract Documents.
		2. Limited Lifetime Warranty: Subject to the terms in the written warranty, warrant the original purchaser exclusively that the locker frames manufactured by it will be free from defects in materials and workmanship for the lifetime of the locker.
	2. [MAINTENANCE]
		1. [Provide manufacturer’s extended maintenance agreement for [\_\_\_\_] [years] [months], commencing on the day the standard maintenance warranty ends.]

A separate maintenance agreement paragraph may not be required since accessory items have few parts requiring long-term or continuing maintenance.

1. PRODUCTS
	1. MANUFACTURERS
		1. General: Warbag Lockers in Multi-Tier configurations; based upon welded metal/riveted lockers manufactured by **Spacesaver Intermountain, 249 South 400 East, Salt Lake City, UT 84111 801-363-5882**.
	2. BASIC MATERIALS
		1. General: Provide materials and quality of workmanship, which meets or exceeds established industry standards for products specified. Use furniture grade sheet metal, solid hardwood benches and fasteners for component fabrication unless indicated otherwise. Material thicknesses/gauges are manufacturer’s option unless indicated otherwise.
	3. Locker TYPES
		1. [Warbag Lockers. Provide Warbag lockers in Multi-Tier configurations by Spacesaver Corporation. Provide 2, 3, or 4-tier lockers ]
	4. MANUFACTURED COMPONENTS
		1. Materials:
			1. The welded/riveted frame must consist of top, bottom, back, and sides constructed of a minimum of 18-gauge or [1.214] millimeters sheet steel. All parts made from ASTM 1008/1010 commercial quality, cold-rolled carbon sheet steel.
			2. All frame components shall be joined using stainless steel rivets.
			3. Horizontal front flanges will be a minimum of [2] inches or [50.8] millimeters. Vertical front flanges will be a minimum of [1] inch or [25.4] millimeters. Horizontal and vertical flanges will overlap and be secured with a minimum two (2) resistance welds per corner.
			4. Hinges: All stainless steel, heavy duty, continuous, piano hinge 1.5-inch open, .062-inch thick, 1/8-inch pin, ½-inch knuckle: manufactured to full height of door. Riveted to door and attached to doorframe with factory-installed stainless steel rivets that are concealed and tamper resistant when door is open.
			5. Fasteners: Zinc-plated or nickel plated steel: this includes hex bolt heads, self-locking nuts or lock washers for nuts on moving parts. Stainless steel rivets used to secure mating sheets.
			6. Finish: The surface of the steel shall be cleaned thoroughly in a multi-stage phosphatizing and metal preparation process to inhibit corrosion and increase the durability of the applied finish. A 1.5-2.5 mil powder paint finish coat shall be electro-statically applied and baked on at over 400 degrees. All lockers stall be painted the same color inside and out. (Exterior powder coat paint available for external installations.)
			7. Number plates: Manufacturer’s standard etched, embossed or engraved, plastic number plates with numerals at least ½-inch high. Number lockers in sequence. Numbering system shall be a three number system. At job site, attach plates to each locker door, near top with at least two aluminum rivets.
		2. Design:
			1. Ventilation: All standard main doors shall have one or two sets of louvers, formed out/down. Louvers to provide maximum ventilation and a clean flush appearance.
			2. All locker sizes and types to be specified by architect.
				1. Width:

Warbag Lockers in Multi-Tier configuration: [18] and [24] inches or [457.2] and [609.6] millimeters

* + - * 1. Height:

Warbag Locker in Multi-Tier configuration: [78] inches or [1981] millimeters

* + - * 1. Depth:

Warbag Lockers in Multi-Tier configuration: [24] [30] inches or [609.6] [762] millimeters

* + 1. Construction:
			1. General Construction: Built by the unit method, each locker tier shall have 2, 3, or 4 individual doors and one frame structure. All lockers are fabricated to be square, rigid and without warp. All metal faces are flat and free of distortions. All exposed metal edges are deburred and safe to touch. There is no exposed assembly hardware on the front of the locker door or front of frame. All locking and latching mechanisms shall be recessed ensuring no protruding lock accessories on the locker fronts.
			2. Body: Formed sides, bottom and door frames shall be manufactured from 18 gauge steel sheet. Formed backs, tops and interior partitions shall be manufactured from 18 gauge steel sheet. Complete structure is fabricated to form tight joints between components. Front corners are spot welded solid to add increased rigidity. Holes provided on each side of locker to facilitate ganging lockers tiers together.
			3. Base: 4-inch individual bases shall be fabricated from 16 gauge steel sheet.
			4. Doors: All door components shall be manufactured from 18 gauge steel sheet. Doors are formed from one-piece steel sheet into a box pan shape on all sides. All doors have stiffeners.
			5. Recessed Handle: Provide the Spacesaver DSM Liftlatch System with 2-point engagement. Handle shall be recessed into the door and operate by finger lift control. Lift mechanism includes a stainless steel wear handle. The pocket shall be of sufficient depth to prevent most combination padlocks from protruding beyond the face of the door. The lifting and latching parts shall be of 14 and 18 gauge form steel. Liftlatch System will accommodate a customer supplied, heavy-duty padlock with a 5/16 inch diameter shackle.
			6. [Optional] Integrated Sloped Top: Shall be fabricated from 20 gauge steel sheet. Sloped top will add 6” to the overall locker height.
	1. FABRICATION
		1. General: Coordinate fabrication and delivery to ensure no delay in progress of the work.
	2. FINISHES
		1. Colors: [Selected from manufacturer’s standard available colors.] [Provide in custom colors as selected by [Architect] [Architect/Engineer] [Engineer.]
		2. Paint Finish: Textured (Standard) – Provide factory applied electrostatic powder coat paint. Meet or exceed specifications of the American Society for Testing and Materials (ASTM) Standards:
1. EXECUTION
	1. EXAMINATION
		1. Examine Lockers scheduled to receive accessories [with Installer present] for compliance with requirements for installation tolerances and other conditions affecting performance of specified accessory items.
		2. Proceed with accessory installation only after unsatisfactory conditions have been corrected.
	2. INSTALLATION
		1. General: Follow manufacturer’s written instructions for installation of each type of accessory item specified.
	3. FIELD QUALITY CONTROL
		1. Verify accessory unit alignment and plumb after installation. Correct if required, following manufacturer’s instructions.
		2. Remove components that are chipped, scratched, or otherwise damaged and which do not match adjoining work. Replace with new matching units, installed as specified and in manner to eliminate evidence of replacement.
	4. ADJUSTING
		1. Adjust all accessories to provide smoothly operating, visually acceptable installation.
	5. CLEANING
		1. Immediately upon completion of installation, clean components and surfaces. Remove surplus materials, rubbish and debris, resulting from installation, upon completion of work and leave areas of installation in neat, clean condition.
	6. DEMONSTRATION/TRAINING
		1. Schedule and conduct demonstration of installed accessory items and features with Owner's personnel.
		2. Schedule and conduct maintenance training with Owner's maintenance personnel. Training session should include lecture and demonstration of all maintenance and repair procedures that end-user personnel would normally perform.
	7. PROTECTION
		1. Protect system against damage during remainder of construction period. Advise owner of additional protection needed to ensure that system will be without damage or deterioration at time of substantial completion.

You could use pre-printed schedules and simply add them as last page. Add paragraph 3.8 SCHEDULES and add subparagraph: “A. Equipment Schedules, See next page.” or similar wording.

END OF SECTION