

Attachment A
SECTION 10 5626 - MOBILE STORAGE SHELVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Proposal Form reflecting base proposal and all required alternatives. (Attachment)
- B. General and Supplemental Conditions (Attachment).

1.2 SUMMARY

A. Section Includes:

- 1. Mechanically assisted, carriage mounted high-density mobile storage units, support rails, fabrication, and installation. The drawing represents the capacity requirements. If the capacity cannot be achieved as noted on the drawing, vendor is responsible for bringing this to the attention of the owner as part of the proposal document.
- 2. Aisle Widths: Minimum high-density shelving aisle width shall be no less than 48" between carriages.
- 3. Stationary storage racks, storage shelving, and storage furnishings.

B. Related Work, Not Furnished:

- 1. Structural floor system capable of supporting live and dead loads required by prevailing building codes, including rolling loads of storage units to be installed.
- 2. Finish floor covering materials and installation on concrete with recessed rail installation.
- 3. Concrete back pour to fill recess rails/bring concrete floor up to edge of all rails.

C. Related Sections:

- 1. Section 03300 – Concrete Work
- 2. Sections in Division 9 – Finishes, relating to finish floor and base materials.

1.3 REFERENCES

A. American National Standards Institute (ANSI) Standards:

- 1. Applicable standards for fasteners used for assembly.

B. American Society for Testing and Materials (ASTM) Standards:

- 1. Applicable standards for steel materials used for fabrication.

C. American Institute Of Steel Construction (AISC) Standards:

- 1. Applicable standards for steel materials used for fabrication.

1.4 PERFORMANCE

REQUIREMENTS A. Design

Requirements:

- 1. Limit overall height in all areas to 103 inches nominally.
- 2. Overall lengths:
 - a. Ethnography System: West side to 27'-2"; East side to 25'-2".
 - b. Archeology System: to 21'-2".

c. NAGPRA System: to 13'-2".

1.5 ACTION SUBMITTALS

- A. Product Data: Submit manufacturer's product literature and installation instructions for each type of shelving, track and installation accessory required. Include data substantiating that products to be furnished fully complies with requirements of the specification documents.
- B. Shop Drawings: Show fabrication, assembly, and installation details including descriptions of procedures and diagrams. Show complete extent of installation layout including clearances, spacings, and relation to adjacent construction in plan, elevation, and sections. Indicate clear exit and access aisle widths; access to concealed components; assemblies, connections, attachments, reinforcement, and anchorage; and deck details, edge conditions, and extent of finish flooring within area where units are to be installed.
 - 1. Show installation details at non-standard conditions. Furnish floor layouts, technical and installation manuals for every unit shipment with necessary dimensions for rail layout and system configuration at the project site. Include installed weight, load criteria, furnished specialties, and accessories.
 - 2. Provide layout, dimensions, and identification of each unit corresponding to sequence of installation and erection procedures. Specifically include the following:
 - a. Location, position and configuration of tracks on all floors.
 - b. Plan layouts of positions of carriages, including all required clearances.
 - c. Details of shelving, indicating method and configuration of installation in carriages.
 - 3. Provide location and details of anchorage devices to be embedded in or fastened to other construction.
 - 4. Provide installation schedule and complete erection procedures to ensure proper installation.
- C. Samples: Provide example of each color and texture on actual substrate for each component to remain exposed after installation.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who is a manufacturer's authorized representative for the specified products for installing carriages and anchoring shelving units to carriages.
 - 1. Minimum Qualifications: 2-year experience installing systems of comparable size and complexity to specified project requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Follow manufacturer's instructions and recommendations for delivery, storage, and handling requirements.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions before fabrication. Indicate verified measurements on Shop Drawings. Coordinate fabrication and delivery to ensure no delay in progress of the Work.

1.9 SEQUENCING AND SCHEDULING

- A. Sequencing: Coordinate storage shelving system installation with other work to minimize possibility of damage and soiling during remainder of construction period.

- B. Scheduling: Plan installation to commence after finishing operations, including painting, have been completed.
- C. Built-In Items: Provide components which must be built in at a time which causes no delays to general progress of the Work.
- D. Pre-installation Conference: Schedule and conduct conference on project site to review methods and procedures for installing mobile storage units including, but not limited to, the following:
 - 1. Review project conditions and levelness of flooring and other preparatory work performed under other contracts.
 - 2. Review and verify structural loading limitations.
 - 3. Recommended attendees include:
 - a. Owner's Representative.
 - b. Prime Contractor or representative.
 - c. Manufacturer's representative.
 - d. Subcontractors or installers whose work may affect, or be affected by, the work of this section.

1.10 WARRANTY

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.

Warrant the entire movable compact shelving installation against defects in materials and workmanship for a period of one year from date of acceptance by the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products by the following: Spacesaver Corporation by Southwest Solutions Group 7718 N Robinson, Suite A21 OKC OK 73116. Telephone: 1-800-803-1083, "Activtrak" system with integrated museum-grade custom storage components by Delta Designs Ltd. or comparable alternate products approved by Owner and Architect.
- B. The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any bidder.
- C. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Owner/Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

- D. If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals in any other manner.
- E. No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

2.2 BASIC MATERIALS

- A. General: Provide materials and quality of workmanship which meet or exceed established industry standards for products specified. Material thicknesses/gauges must meet specification as listed, no exceptions.

2.3 MANUFACTURED

COMPONENTS A. Rails:

1. Rail shall be solid one piece 4140 steel bar 4.00" wide x 3/8" high with black zinc finish. Rail shall disperse the wheel point loads to structural slab. Rail shall have two permanently mounted floor anchors maximum 15" on center. Rail shall be installed flush to top of concrete slab, and laid in a manor such that rail joints are staggered across all adjacent rail runs. Rail and carriage design allows concrete slab to be unlevelled at the following maximum variation of 3/16" over any 2' rail run and 1/4" maximum variation over any 10' rail run. Two piece welded or bolted rails are unacceptable.

B. Carriages:

1. Carriage System Design and Features: The carriage system consists of a formed structural steel frame with machined and balanced wheels riding on unlevelled steel rails recessed in concrete to the floor. Rails shall be type manufacturer's standard to ensure smooth operation and self-centering of mobile storage units during travel without end play or binding. Rail types, quantities and spacing shall be per the specification. All bearings used in the drive mechanism shall be permanently shielded and lubricated.
 - a. Assembled fully welded and bolted structural steel carriage base will have a minimum capacity of 1,266lbs per linear foot.
 - b. Each wheel assembly must be equipped with two flat wheels, minimum 5" diameter steel wheels. Wheels are equipped with two permanently lubricated and shielded radial ball bearings. Wheel capacity 3,500 lbs each. Wheels have solid steel axles of 1" in diameter. Wheels shall be dual flange, all wheel guided. Spherical or convex wheels are unacceptable.
 - c. All carriage sections between wheel assemblies have integral cross bracing to maintain accepted tolerances for function of systems.
 - d. Side profiles shall provide and maintain wheel assembly alignment and squareness. These profiles shall be pre-drilled at the factory but are bolted, and assembled on the job site as integral carriage members. Rivet manufacturing or assembly is unacceptable.
 - e. Structural steel side profiles shall be minimum 5.084" high, 10 gauge.
 - f. Finish shall be museum grade powder coat paint.
 - g. Provide movable carriages utilizing fabricated welded and/or bolted steel construction. Any galvanized structural components and/or riveted carriages are unacceptable.

C. Drive / Guide System:

1. Drive System: The system shall be designed with a positive type mechanically-assisted drive which minimizes end play, ensures there is no play in the drive handle, and that carriages will stop without drifting.
 - a. System shall include a chain sprocket drive system for each movable carriage to ensure that carriages move uniformly along the total length of travel, even with unbalanced loads. All system components shall be selected to ensure a smooth, even movement along the entire carriage length. Drive system gearing shall be designed to permit 1 lb. of force applied to the drive handle to move a minimum of 4,000 lbs. of load.
 - b. A tensioning device shall be provided on each chain drive with provision for adjusting tension without removing stanchion covers.
 - c. All bearings used in the drive mechanism shall be permanently shielded and lubricated.
2. Design: Provide drive system which prevents carriage whipping, binding and excessive wheel/rail wear under normal operation.
 - a. If line shafts are used, all wheels on one side of carriage shall drive.
 - b. If synchronized drives are used, a minimum of one wheel assembly driving both sides of carriage at center location required. Drive shaft shall exhibit no play or looseness over the entire length of that assembly.
3. Shafts: Solid steel tube. Hollow steel tube shafts are unacceptable.
4. Shaft Connections: Secured couplings.
5. Bearing Surfaces: Provide rotating load bearing members with ball or roller bearings. Provide shafts with pillow block or flanged self-aligning type bearings.

D. Movement Controls:

1. Triple arm operating wheels with rotating hand knobs shall be provided on the accessible (drive) ends of shelf units, centered on the stanchion, located approximately 40 inches from the base of each unit to permit units to be moved to create a single aisle opening. Turning the handle transmits power through chain drive to drive wheels on each carriage.

E. Safety Features:

1. Color-coded visual indicators shall provide verification that carriages are in a locked or unlocked mode.
2. A single safety lock button, mounted on each operating wheel hub, will permit moving a carriage in either direction to create a new access aisle when pulled out (unlocked), or locking the carriage when pushed in.

2.4 FABRICATION

- A. General: Coordinate fabrication and delivery to ensure no delay in progress of the Work.
- B. Wheels: Provide precision machined and balanced units with permanently shielded and lubricated bearings.
- C. Shelving, Supports and Accessories: See individual descriptions in "Shelving" paragraphs.

2.5 FOUR POST

SHELVING A. Design:

1. Wedge-lock type consisting of uprights, shelves, and shelf supports, designed to be assembled without fasteners or clips. Shelves shall not have any holes on exposed surfaces. Front and back flanges shall be flush with outside faces of posts. Design shall permit individual shelf adjustment and/or removal anywhere along the entire height of

uprights.

B. Materials and Workmanship:

1. Fabricate units from Class 1, cold-rolled steel sheet with all bends sharp and true and no exposed "knife" edges.
 - a. All units shall be free of burrs, sharp edges and projecting hardware with smooth, non-abrasive surfaces and edges.
 - b. After fabrication, shelving shall exhibit no dents, "oil canning", buckling or other surface irregularities.

C. Uprights:

1. Formed from steel sheet to a hollow "tee" shape for intermediate supports and formed angles for end supports. Uprights shall have keyhole slots on inner wall only. Provide with sheet steel panels full height and depth of end uprights. Provide intermediate "tee" uprights between adjacent units

D. Shelves:

1. Form from sheet steel with flanges on all sides and return hem on front and back flanges. Ends shall be formed to clear inside of upright offset panels. Shelves shall be independently adjustable. Provide all shelves with slots for file dividers.

E. Canopy Tops:

1. Same construction as shelf units.

F. Shelf Supports:

1. Form from heavy 11 gauge steel sheet with four solid steel shoulder rivets, two per ear, that interlock with inner wall of uprights.

G. Nominal Shelf Dimensions:

1. Standard Width: 36 inches and 48 inches sections used to meet project requirements and as indicated in drawings.
2. Standard Height: 97.25 inches
3. Shelf Edge Vertical Profile: 3/4 inch maximum.
4. Vertical Adjustment Increment: 1-1/2 inches.
5. Width Of Intermediate Uprights: 2 inches.
6. Clearance Between Uprights: Nominal shelf section width minus 2 inches.
7. Levelness of Completed Shelf Units: Maximum 1/8 inch between bottom shelf and canopy top, measured along the edge of any upright in any direction.
8. Shelving Unit Types:
 - a. S1
Depth: 18 inches nominal
Shelf openings: 7
 - b. S2
Depth: 18 inches nominal
Shelf openings: 6
 - c. S3
Depth: 24 inches nominal
Shelf openings: 4

H. Load Carrying Capabilities:

1. Provide shelf units capable of supporting 40 pounds per lineal foot with maximum deflection of L/140. Shelves shall exhibit no permanent deflection under fully loaded conditions.

2.6 FABRICATION

- A. General: Coordinate fabrication and delivery to ensure no delay in progress of the Work.

2.7 FINISHES

- A. Colors: Selected from manufacturer's standard available colors as selected by owner.
- B. Paint Finish: Provide factory applied electrostatic powder coat paint. Meet or exceed specifications of the American Library Association.

2.8 SERIES 700 GLASS DOOR CABINETS (PLAN KEYNOTE 07)

A. CABINET SIZE

1. 48" wide x 84" high x 30" deep (Height includes base)

B. CASE CONSTRUCTION

1. Metal will be no less than .047" (18ga.) for sides, tops, bottoms and backs, and .060" (16ga.) for load bearing posts, and door frame members. The door frames will be fusion welded for rigidity. Top will be umbrella style and watertight.
2. Cases will have a recessed toe space at least 2-1/2" high with provision for leveling the back corners of the case from the front without penetrating the airtight envelope.
3. Cases can have fittings to allow installation of center partitions so that "half width" accessories can be installed.

C. GLASS DOORS & GASKET SYSTEM

1. The doors will be a minimum of 1.25" thick with front panels and channels of no less than .047" (18ga.) steel. Locking Handles will be fully recessed and will close the doors firmly against a peripheral gasket and an astragal gasket at the joint between the doors. The gasket will be Silicone. The gasket will be mechanically attached. Hinges must be continuous from the top to the bottom of the door and will allow the door to open a full 180 degrees to lie flat against adjacent cases, and will allow proper operation of drawers when open 90 degrees.
2. Each door to contain 1 continuous panel of 1/4" thick laminated safety glass.

D. FILTER VENTS

1. Filter vents will be installed on the inside face of each door to allow fresh air to circulate within the case. These vents will be screened with mesh with openings smaller than 5 mils. Vents will be adaptable for filtering air thru activated charcoal as well as for complete closure.

E. LOCKS

1. All cabinets will be provided with locks that lock the cabinet securely. All will be keyed the same.

F. SHELVES

1. Shelves will be fabricated of no less than .047" (18ga.) formed down 3/4" in front and up or 3/4" in back depending on load. They shall support a uniformly distributed load of 100 to

200 lbs. with a deflection of 1/4" or less. Each shelf will be supported with two case-mounted brackets. The brackets will be adjustable vertically in one inch increments without the use of special tools.

G. MATERIALS

1. All materials have been examined for "non-reactivity" and their use shall be subject to approval in this regard. "Non-reactivity" as used herein means that the material is chemically stable and does not off-gas or physically degrade to produce any of the following: ureaformaldehyde, free sulfate radicals, sulfides, free sulfur, chlorides, acetates, chlorine, formaldehyde, oxides of nitrogen, oxides of sulfur, ammonia, organic acids, disodium phosphate, di-butyl-phalate, acid-hardened phenol formaldehyde resins, peroxides, volatile organic compounds, or plasticizers lacking long-term stability.

H. FINISH

1. All corners will be rounded and all exposed edges will be deburred.
2. The metal finish will be powder coated steel. Color per owner selection.

I. GUARANTEE

1. Any and all defects in design, materials or workmanship that may occur within five years of the date of completion shall be remedied by the manufacturer at no expense to the owner.

2.9 CANTILEVER ROLLED TEXTILE RACK (PLAN

KEYNOTE 14) A. FRAME SIZE

1. 48" wide x 96" high x 48" deep

B. FRAME UNIT

1. Vertical Posts and Bottom Legs to be no less than 2" x 2" x 14 ga. Square Tubing. Horizontal supports to be no less than 1" x 1" x 15 ga. square tubing. Tubing to be MIG welded into solid unit.
2. Top to be .047" (18 ga.) steel welded to tubing frame.
3. Bottom Legs to have holes to allow attachment to mobile compactor system or floor Holes to be capped with polyethylene snap in plug after the frame unit is installed. Horizontal supports to be spaced on 6" centers vertically.
4. Canopy Top to be provided.

C. CANTILEVER TEXTILE SUPPORT

1. Metal to be no less than .060" (16 ga.) and MIG welded.
2. Cantilever Textile Support to be designed to be moved horizontally on Frame Unit Horizontal Supports. Cantilever Textile Support to be secured in place via a Zinc Plated, Spade Head Shoulder Thumb Screw 1/4"-20 x 3/4" long.
3. Cantilever Textile Support designed to accept Conduit Brackets on 1" centers in the front to back dimension.

D. ROLLED CONDUIT TUBE INSERT WITH BRACKETS (Tube less than 120")Rolled Conduit 1.

1. Tube Insert to be no less than 1-1/2" EMT Conduit. Rolled Conduit Tube Insert to be 8" to 12" longer than the acid free cardboard tube it is to enter
2. Rolled Conduit Tube Insert to be supported by two brackets adjustable on 1" centers front to back on the Cantilever Textile Support.
3. Tube lengths to be coordinated and verified with owner and are estimated as follows:

<u>Textile Length</u>	<u>Number of Textile Rolls</u>
100"	20
80"	40
66"	150
48"	40

E. MATERIALS

1. All materials have been examined for "non-reactivity" and their use shall be subject to approval in this regard. "Non-reactivity" as used herein means that the material is chemically stable and does not off-gas or physically degrade to produce any of the following: ureaformaldehyde, free sulfate radicals, sulfides, free sulfur, chlorides, acetates, chlorine, formaldehyde, oxides of nitrogen, oxides of sulfur, ammonia, organic acids, disodium phosphate, di-butyl-phalate, acid-hardened phenol formaldehyde resins, peroxides, volatile organic compounds, or plasticizers lacking long-term stability.

F. FINISH

1. All corners will be rounded and all exposed edges will be deburred.
2. The metal finish will be powder coated steel. Color per owner selection.

G. GUARANTEE

1. Any and all defects in design, materials or workmanship that may occur within five years of the date of completion shall be remedied by the manufacturer at no expense to the owner.

2.10 CANTILEVER SADDLE RACK (PLAN KEYNOTE 06)

A. FRAME SIZE

1. 9'-0" high x 2'-6" deep; overall length 25'-0"
2. Rack to store no fewer than 30 saddles; saddle sizes to be coordinated and verified with owner.

B. FRAME UNIT

1. Vertical Posts and Bottom Legs to be no less than 2" x 2" x 14 ga. Square Tubing. Horizontal supports to be no less than 1" x 1" x 15 ga. square tubing. Tubing to be MIG welded into solid unit.
2. Top to be .047" (18 ga.) steel welded to tubing frame.
3. Bottom Legs to have holes to allow attachment to mobile compactor system or floor. Holes to be capped with polyethylene snap in plug after the frame unit is installed. Horizontal supports to be spaced on 6" centers vertically.
4. Canopy Top to be provided.

C. CANTILEVER SADDLE ARM

1. Metal to be no less than .060" (16 ga.) and MIG welded.
2. Cantilever Saddle Support to be designed to be moved horizontally on Frame Unit Horizontal Supports. Cantilever Saddle Support to be secured in place via a Zinc Plated, Spade Head Shoulder Thumb Screw 1/4"-20 x 3/4" long.
3. Cantilever saddle support to be welded tubular form and will provide support of saddle structure in width and length.

D. MATERIALS

1. All materials have been examined for "non-reactivity" and their use shall be subject to

approval in this regard. "Non-reactivity" as used herein means that the material is chemically stable and does not off-gas or physically degrade to produce any of the following: ureaformaldehyde, free sulfate radicals, sulfides, free sulfur, chlorides, acetates, chlorine, formaldehyde, oxides of nitrogen, oxides of sulfur, ammonia, organic acids, disodium phosphate, di-butyl-phalate, acid-hardened phenol formaldehyde resins, peroxides, volatile organic compounds, or plasticizers lacking long-term stability.

E. FINISH

1. All corners will be rounded and all exposed edges will be deburred.
2. The metal finish will be powder coated steel. Color per owner selection.

F. GUARANTEE

1. Any and all defects in design, materials or workmanship that may occur within five years of the date of completion shall be remedied by the manufacturer at no expense to the owner.

2.11 DRAWERS FOR 4-POST SHELVING (PLAN KEYNOTE 15)

A. DRAWER / SHELVING UNIT TYPES

1. D1
Depth: 24 inches nominal
Height: 97.25 inches
Width: 36", 48", or 60" as indicated on drawings
Drawers: 14 (lower portion of unit)
Shelf openings: 2 (upper portion of unit)

B. DRAWER SIZES

1. For shelf unit size: 36" wide x 24" deep – 4-1/4" high
2. For shelf unit size: 48" wide x 24" deep – 4-1/4" high
3. For shelf unit size: 60" wide x 24" deep – 4-1/4" high

C. DRAWER CONSTRUCTION

1. Drawers will be fabricated of no less than .036" (20ga.) steel. Drawer sides will be formed so as to enclose the bearing surfaces of the drawer and the unit-mounted drawer slides. The drawer support system will provide for smooth, vibration-free opening and closing of the drawer.
2. The drawer front will be a formed channel with two chrome handles and label holder. Each drawer will be supported with two unit-mounted slides. The unit-mounted slides will be adjustable vertically in 1-1/2" increments without the use of special tools.
3. Drawers to glide via ball bearing extension suspensions, 22" extension.
4. Drawers will fit in all shelf units of like type with a minimum 1/4" space between them.
5. Drawer to include thumb latch to prevent drawer drift due to being mobile.

D. MATERIALS

1. All materials have been examined for "non-reactivity" and their use shall be subject to approval in this regard. "Non-reactivity" as used herein means that the material is chemically stable and does not off-gas or physically degrade to produce any of the following: ureaformaldehyde, free sulfate radicals, sulfides, free sulfur, chlorides, acetates, chlorine, formaldehyde, oxides of nitrogen, oxides of sulfur, ammonia, organic acids, disodium phosphate, di butyl phalate, acid-hardened phenol formaldehyde resins, peroxides, volatile organic compounds, or plasticizers lacking long-term stability.

E. FINISH

1. All corners will be rounded and all exposed edges will be deburred.
2. The metal finish will be powder coated steel. Color per owner selection.

F. GUARANTEE

1. Any and all defects in design, materials or workmanship that may occur within five years of the date of completion shall be remedied by the manufacturer at no expense to the owner.

2.12 WALL-MOUNTED ART STORAGE RACKS (PLAN KEYNOTE 08)

A. RACK SIZE

1. 48" wide x 96" high

B. CONSTRUCTION

1. Metal mesh screen and support framing allowing for flexible placement of storage hooks.

C. FINISH

1. Museum-grade powder coat finish. Color per owner selection.

2.13 HIDE STORAGE CABINETS (PLAN KEYNOTES 09 & 10)

A. CABINET SIZE

1. 84" wide x 84" high x 48" deep
2. 96" wide x 84" high x 84" deep

B. CASE CONSTRUCTION

1. Metal will be no less than .047" (18ga.) for sides, tops, bottoms and backs, and .060" (16ga.) for load bearing posts, and door frame members. The door frames will be fusion welded for rigidity. Top will be umbrella style and watertight.

C. DOORS & GASKET SYSTEM

1. Doors will be a minimum of 1.25" thick with front and back panels of no less than .047" (18ga.) steel. Locking Handles will be fully recessed and will close the doors firmly against a peripheral gasket and an astragal gasket at the joint between the doors. The gasket will be Silicone. The gasket will be mechanically attached. Hinges must be continuous from the top to the bottom of the door.
2. Doors to be bi-fold style.

D. LOCKS

1. All cabinets will be provided with locks that lock the cabinet securely. All will be keyed the same.

E. TEXTILE TRAYS

1. Frame to be no less than .063" 5052 aluminum. Reinforcing 6063-T52 aluminum rectangular .125" thick tubes to be incorporated into tray structure to enhance rigidity and prevent deflection.
2. Frame members mechanically attached.
3. Twin wall 6mm honeycomb PC sheet to be inserted into tray frame to provide smooth top surface. Honeycomb to be used for rigidity and prevent deflection.

4. Tray glides to be spaced 2" vertically.

F. MATERIALS

1. All materials must have been examined for "non-reactivity" and their use shall be subject to approval in this regard. "Non-reactivity" as used herein means that the material is chemically stable and does not off-gas or physically degrade to produce any of the following: ureaformaldehyde, free sulfate radicals, sulfides, free sulfur, chlorides, acetates, chlorine, formaldehyde, oxides of nitrogen, oxides of sulfur, ammonia, organic acids, disodium phosphate, di butyl phalate, acid-hardened phenol formaldehyde resins, peroxides, volatile organic compounds, or plasticizers lacking long-term stability.

G. FINISH

1. All corners will be rounded and all exposed edges will be deburred.
2. The metal finish will be powder coated steel. Color per owner selection.

H. GUARANTEE

1. Any and all defects in design, materials or workmanship that may occur within five years of the date of completion shall be remedied by the manufacturer at no expense to owner.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine floor surfaces with Installer present for compliance with requirements for installation tolerances and other conditions affecting performance of mobile storage units.
- B. Verify that building structural system is adequate for installing mobile storage units at locations indicated on approved shop drawings.
- C. Verify that intended installation locations of mobile storage units will not interfere with or block established required exit paths or similar means of egress once units are installed.
- D. Prepare written report, endorsed by Installer, listing conditions detrimental to proper performance of mobile storage units, once installed.
- E. Proceed with installation only after unsatisfactory conditions have been corrected. Installation of tracks will constitute acceptance of condition of existing floor as sufficient for proper installation of mobile storage system.

3.2 INSTALLATION

A. Coordination:

1. Mobile storage installer to coordinate installation of mobile and stationary storage systems with Owner and contractors performing work under other contracts.

B. Rails:

1. Install rail. Topping concrete shall be poured by others between and around floor rails following rail installation to bring concrete flush to top of rail. Coordinate with contractors performing work under other contracts to ensure protection of rails during topping concrete installation.

C. Mobile storage systems:

1. Mobile storage installer to inspect and approve of concrete finish floor prior to installing mobile storage systems and notify Architect and contractors performing work under other contracts of any deficiencies that require correction. Installation of mobile storage systems will constitute acceptance of condition of concrete finish floor as sufficient for proper installation of mobile storage systems.
2. Permanently attach shelving units to carriages. Stabilize shelving units to comply with mobile storage unit manufacturer's written requirements. Reinforce shelving units to withstand the stress of movement where required and specified.
3. Install mobile storage systems, shelving, and accessories after finishing operations, including painting, have been completed. Install system to comply with final layout drawings, in strict compliance with manufacturer's printed instructions. Position units level and plumb, at proper location relative to adjoining units and related work.

D. Existing stationary textile storage (plan keynotes 17 & 18):

1. Install owner-furnished existing wall-mounted textile storage racks. Securely anchor textile storage racks to locations indicated on plan drawing. Position storage racks level and plumb, at proper location relative to adjoining units and related work. Coordinate with contractors performing work under other contracts installation of any blocking required for secure attachment and installation of finishes such as wall base.

E. Stationary storage items:

1. Install stationary saddle storage racks (plan keynote 06). Securely anchor stationary saddle racks to locations indicated on plan drawing in strict compliance with manufacturer's instructions. Position storage racks level and plumb, at proper location relative to adjoining units and related work. Coordinate with contractors performing work under other contracts installation of any blocking required for secure attachment, installation of finishes such as wall base, and any other associated construction requiring coordination.
2. Install stationary wall-mounted art storage racks (plan keynote 08). Verify with owner desired final position and securely anchor art storage racks to walls as indicated on plan drawing and in strict compliance with manufacturer's instructions. Position storage racks level and plumb, at proper location relative to adjoining units and related work. Coordinate with contractors performing work under other contracts installation of any blocking required for secure attachment, installation of finishes such as wall base, and any other associated construction requiring coordination.
3. Install glass door storage cabinets (plan keynote 07), hide storage cabinets (plan keynotes 09 & 10), and stationary storage shelving (plan keynotes 13 & 16) in rooms and general locations indicated on plan drawing. Verify with owner desired final position and installation method.

3.3 FIELD QUALITY CONTROL

- A. Verify shelving/racking unit alignment and plumb after installation. Correct if required following manufacturer's instructions.
- B. Remove components which 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.

3.4 ADJUSTING

- A. Adjust components and accessories to provide smoothly operating, visually acceptable installation.

3.5 CLEANING

- A. Immediately upon completion of installation, clear 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.

3.6 DEMONSTRATION/TRAINING

- A. Schedule and conduct demonstration of installed equipment and features with Owner's personnel.
- B. 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.

3.7 PROTECTION

- A. Protect system against damage during remainder of construction period. Advise Owner of additional protection needed to ensure that systems will be without damage or deterioration at time of substantial completion.

END OF SECTION 10 5626