

**BID SPECIFICATION
MODULAR SYSTEMS FURNITURE
EXHIBIT 11.22.1**

1. SCOPE

This specification defines the technical and environmental requirements pertaining to the Modular systems Furniture (MSF). MSF will be used in various State and government agencies' offices throughout the State of California.

2. APPLICABLE SPECIFICATIONS / STANDARDS / CODES

The following standards, laws and regulations of the issue in effect on the date of the Request for Proposal (RFP) form a part of this specification to the extent specified herein.

- 2.1 California Health and Safety Code §108920 - Limits presence of "penta BDE" or "octaBDE"
- 2.2 Air Toxics Hot Spots Information and Assessment Act – AB 2588, Connelly, as amended by SB1731, Calderon.
- 2.3 California Code of Regulations (CCR), Title 17 §93120.2 – Air Toxic Control Measure to Reduce Formaldehyde Emission from Composite Wood Products.
- 2.4 Appliance Efficiency Regulations, CCR, Title 20, Sections 1601through 1608.
- 2.5 California Public Contract Code (PCC), Division 2, Part 2, Chapter 6, Sections 12400-12404 - Environmentally Preferable Purchasing (EPP).
- 2.6 American National Standards Institute / Business and Institution Furniture Manufacturer's Association (ANSI/BIFMA) Standards M7.1 Standard Test Method for Determining VOC Emissions From Office Furniture Systems, Components and Seating **(2011 or later)**.
- 2.7 ANSI/BIFMA X7.1 Standard for Formaldehyde and TVOC Emissions of Low-emitting Office Furniture and Seating **(2011 or later)**.
- 2.8 ANSI/BIFMA e3 Furniture Sustainability Standard **(2012 or later)**.
- 2.9 Illuminating Engineering Society (IES) LM-79, Approved Method for the Electrical and Photometric Testing of Solid-State Lighting Devices.
- 2.10 ANSI/BIFMA X5.6, Panel Systems Tests **(2010 or later)**.
- 2.11 ANSI/BIFMA X5.9, Storage Units – Tests **(2004 or later)**.
- 2.12 ASTM C423, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method **(2002 or later)**.
- 2.13 (Deleted)

- 2.14 (Deleted)
- 2.15 ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials *(2011 or later)*.
- 2.16 UL 723, Standard for Test for Surface Burning Characteristics of Building Materials *(2008 or later)*.
- 2.17 NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials *(2006 or later)*.
- 2.18 *(Deleted)*
- 2.19 UL 1286, Standard for Office Furnishings *(2008 or later)*.
- 2.20 *(Deleted)*
- 2.21 *(Deleted)*
- 2.22 NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films *(2010 or later)*.
- 2.23 California Health and safety Code, Article 10.02. Lighting Toxics Reduction, section 25210.9-25210.12
- 2.24 California Department of Public Health / Environmental Health Laboratory Branch (CDPH/EHLB) Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.1 (CDPH/EHLB Standard Method V1.1)

3. APPLICABLE EXECUTIVE ORDERS AND MANAGEMENT MEMOS

- 3.1 Governor's Executive Order B-18-12
- 3.2 Green Building Action Plan - For Implementation of Executive Order B-18-12
- 3.3 Management Memo (MM) 14-07 Standard Operating Procedures For Energy Management In State Buildings
- 3.4 MM 14-05 Indoor Environmental Quality: New, Renovated, and Existing Buildings

4. TECHNICAL REQUIREMENTS

4.1 Computer Aided Design and Design Work Requirements:

4.1.1 CAD Specific Software Requirements (Mandatory)

The contractor shall provide the State with software program(s) to design and specify all contract items. The software packages shall provide graphic symbols of all contract items and have the ability to extract the

graphic attributes to develop product specifications. The graphical software shall integrate with Computer Aided Drawing & Design (CAD) software. The standard CAD program is *AutoCAD Architecture 2013 or newer version*. The contractor's supplied software programs shall give the State the ability to develop electronic plans and specifications. The specifications and/or product lists shall be in Standard Interchange Format (SIF). The contractor shall provide specifications to include part lists, model numbers, quantities, and price.

In addition, the following requirements shall be met:

1. The Contractor is responsible to coordinate the installation and setup of software required under this section with State information technology employees.
2. The Contractor shall be responsible to provide their own information technology personnel to coordinate installation of the software and/or hardware required and confirms the software's appropriate operation on the State's PC's and network computers. It will be the contractor's responsibility to ensure that the system will operate in the structure defined in this section.
3. The system shall be approved by the State after the contractor demonstrates that all components are satisfactorily installed and are in working order. The contractor shall provide initial training of State staff and shall provide ongoing training as it relates to software or hardware changes enhancements.

4.1.2 Software Licensing Requirements (Mandatory)

The contractor shall provide concurrent licensing software that can be installed on a network server. The concurrent license software shall have a licensing manager with the flexibility of issuing up to thirty (30) simultaneous licenses on a first come first serve basis to a group of one-hundred and fifty (150) users. The one-hundred and fifty (150) user workstations shall not require a manual transfer of any hardware device or software to access the concurrent licensing software program. The one-hundred and fifty (150) client users shall have the ability to request access to the CAD Specific Software from their desktop PC through the concurrent license software as specified above. The State will receive site licenses provided by the contractor for every software application, purchased and installed by the contractor and required to fulfill the requirements of this contract within thirty (30) days after award.

4.1.3 Graphical Software Program Requirements (Mandatory)

1. The Contractor's graphical software program shall interface with AutoCAD Architecture 2013 or newer version. It shall allow easy placement of symbols. The software shall have a loadable menu structure that integrates with the AutoCAD Architecture's standard menu. Symbol placement is pull-down menus, part numbers, or by searching catalogs through dialog boxes.
2. The contractor's graphical software shall contain symbol libraries in

2D and 3D views. All symbols furnished under this contract shall be in this graphical form.

3. Each graphical symbol shall include descriptive text defining the component's size and model number. The symbols shall be built to provide separation of its components and text within different AutoCAD Architecture layers. The AutoCAD Architecture-compatible symbol libraries shall use the standard layer commands available in AutoCAD Architecture by dispersing the different product types on different isolated layers.
4. The contractor's graphical software program shall contain scripts that allows the user to isolate the drawings into panel, component, and panel/electrical plans.
5. The contractor's graphic software shall give the State the ability to create panel and component plans, create assembly drawings, and provide three-dimensional drawings from the basic symbols. It shall also extract the symbol attributes to create accurate quantity takeoffs.
6. The contractor must provide subscription services in the name of the State of California, Department of General Services, Real Estate Services Division (RESD). RESD shall be registered as the customer with the software manufacturer for the duration of the contract.
7. The contractor must provide technical telephone support for the software provided under this contract. The support services shall be available a minimum of eight hours a day, five days a week (8:00 AM to 5:00 PM, Monday through Friday).
8. The contractor must provide all upgrades and revisions to the entire contractor supplied software described above, including documentation and on-site assembly to RESD as each revision/update becomes available.

4.1.4 Initial Training Requirements (Mandatory)

1. Contractor shall provide initial procedural and system furniture (all product lines offered on contract) specific training for all RESD planning staff and the State (departments) with purchasing authority (at RESD). This initial training will assist in the development of the contractor/RESD/departments relationship as it relates to information exchange. This will also provide a minimum proficiency in layout and design of the furniture system(s).
2. This initial training shall be provided within forty-five (45) days of contract award. Training shall be at a minimum, at least four (4) two-hour sessions, on-site at RESD's office in West Sacramento, California.
The State anticipates between fifty to sixty (50-60) staffing for each training session.
3. This initial training shall include basic and advanced applications of contractor-supplied software, product information and product specific design criteria, data cabling, electrical circuiting configurations, and

review of documentation for order entry through the assembly of delivered goods.

4.1.5 On-going Training Requirements (Mandatory)

1. Contractor shall provide on-going training which shall take place annually or sooner if needed by the State. It shall include, but not limited to, Power-Point presentation(s) or equivalent, with hard copies of information supplied to each attendee. The State anticipates between five to ten (5-10) staffing for each training session.
2. Sessions may be broken into smaller groups, if appropriate.
3. Contractor shall provide additional training to include, but not limited to:
 - a. Design and assembly procedures relating to voice/data cabling access and available electrical capabilities.
 - b. Documentation process and forms (standardized system for communicating with planners).
 - c. Order and revision process from State order entry through assembly completion.
 - d. Product updates to RESD staff by Contractor/Manufacturer staff.

4.1.6 Drawings and Specifications (Mandatory)

Drawings and specifications are based on space plans provided by RESD. The contractor shall utilize AutoCAD Architecture 2013 or newer version. In addition, the contractor shall produce three-dimensional drawings of workstations, which are compatible with AutoCAD Architecture 2013 or newer version to develop assembly plans and order lists (See 4.1.1 CAD Specific Software Requirements).

4.1.7 Work Order Request Form Requirements (Mandatory)

RESD will provide contractor, via e-mail, Work Order Request Form, and scaled plans (typically 1/8"=1'-0") depicting the building shell, workstation panel layouts, panel widths and heights, and "typical" workstation layouts.

Each typical workstation type shall be indicated, i.e. if three (3) workstation types are included in the plan, then details of the basic three (3) workstation types will be provided. If special areas, team spaces, or one-of-a-kind workstations are required, details of these items will be provided by RESD, depicting panel and component locations, panel heights and widths, electrical and telephone locations. RESD will not provide details of "flip/flop" or "reversed" (mirror-image) layouts. RESD drawings shall also include requirements for hardwiring the panel system to the building, telephone, and electrical locations.

If all necessary information is not included on submitted paperwork, the contractor shall follow up to make sure all information is gathered. If there is any part of the design of the typical workstation, space plan, or any details

therein that are intentionally left non-directed or a specific request is made for the contractor to work on those details, this will be considered non-directed work and Design Charges will apply.

4.1.8 Check Plot Drawings Requirements (Mandatory)

The contractor must return "Check Plot Drawings" (two hard copy sets) and product specifications to RESD with fifteen (15) business days after receipt of Work Order Request Form and drawings for less than one hundred (100) workstations. Contractor shall have five (5) additional business days for each additional hundred (100) workstations. Check Plot Drawings are drawings based on space plans provided by RESD, generated by the contractor utilizing contractor-supplied software. Check Plot Drawings must include a 2-D drawing of all furniture submitted with the Work Order Request Form and a 3-D drawings of the typical workstations and/or workstation clusters. RESD is responsible for obtaining an authorized signature from the client agency/department. RESD will return one (1) set of Check Plot Drawings to the contractor stamped "Approved". Approved Check Plot Drawings indicate authorization for the contractor to proceed with the final assembly drawings.

4.1.9 Field Verification for Building Accuracy Requirements (Mandatory)

The contractor shall be responsible for "field verification for building accuracy" of all assembly of furniture systems when requested by the State or department, for any new assembly, for building shell accuracy. The contractor must verify all building conditions, which may impact the furniture system's layout and any assembly requirements prior to order placement. The contractor shall be responsible for complete and accurate assembly drawings based on field dimensions and conditions. The contractor shall, prior to beginning furniture specifications, immediately notify the party that submitted the project, of any deviations or inconsistencies with the building shell, including any unusual assembly requirements for the project.

The fee for the field verification service shall be based on an hourly rate bid in Exhibit 11.28, for the life of the contract.

There will be no charges for lodging, bridge tolls, etc. Only actual hours at the job site and any travel time that occurs after the first hour of travel is exceeded will be chargeable under the rates bid in Exhibit 11.28.

4.1.10 Minor Changes to Check Plot Drawings Requirements (Mandatory)

Minor changes by the State to the issuance of Final Assembly Drawings shall be accomplished in a timely manner. Minor changes are defined as not more than two (2) component changes in an individual workstation, for a total of ten (10) workstation changes on a one hundred (100) workstation project. Minor changes to Check Plot Drawings do not constitute "re-work" as defined 4.1.11. Minor changes may be "bubbled" and indicated directly on the Check Plot Drawings and does not constitute re-work, see paragraph 4.1.11 Re-work By Contractor, below.

4.1.11 Re-work By Contractor Requirements (Mandatory)

If it is necessary to make directed revisions to the plans more extensively than

minor changes prior to the “approved” Check Plot Drawings/plans that have been submitted to the contractor; this constitutes “re-work”. (Other than as described in Section 4.1.10) For re-work, the contractor is entitled to charge for revisions based on upon the hourly rate bid in Exhibit 11.28 for the life of the contract and, the amount charged shall be limited to twenty dollars (\$20.00) multiplied by the number of workstations requiring revisions, for the life of the contract. Upon request, the contractor shall be entitled to written authorization from RESD or ordering department for this revision of work.

The contractor shall provide copies of all project records/accounts indicating hours charged for design work. This fee will be added to the purchase order after to the product discount being applied (cash terms for prompt payment, if offered, shall still apply).

4.1.12 Purchase Order Cancellation Fee Requirements (Mandatory)

Projects for which design services/plans have been completed and returned to RESD for issuance of a purchase order that does not result in an actual purchase order – and/or as a result of a purchase order / project cancellation – within ninety (90) days after receipt by RESD, the design services for those plans shall be subject to a fee, the amount charged for this cancellation fee shall be limited to twenty-five dollars (\$25.00) per workstation/work area for these services, for the life of the contract. The ordering department shall issue a purchase order to cover the cancellation fee. Electronic copies of all drawings associated with a cancelled project shall be provided to RESD and the ordering department, upon presentation of purchase order for design services.

4.1.13 Final Assembly Drawings Requirements (Mandatory)

After receipt of the State approved check plot drawings and specifications, the contractor shall complete and return final assembly drawings and product specifications with seven (7) business days. The RESD or ordering department may request up to ten (10) colored drawings on projects greater than one hundred and fifty (150) workstations, and six (6) sets of drawings on projects less than one hundred and fifty (150) workstations.

4.1.14 Outsourcing of Design Work Requirements (Mandatory)

The contractor may outsource the design work at any time; however, no increase in timeframes will be given. At no additional cost to the State, contractor shall coordinate with RESD staff at Sacramento location and shall also meet with RESD staff when requested by the State.

4.1.15 Certification of Plans Requirements (Mandatory)

The contractor shall certify that all RESD space plans are reviewed for correct product application and stability. The contractor shall, prior to completing furniture layout plans, immediately notify the RESD and/or the government entity’s point of contact that submitted the project, of any deviations or inconsistencies with product capabilities, including any unusual assembly requirements of the project.

4.1.16 Parts Specification List Requirements (Mandatory)

The contractor is responsible for accurately specifying all necessary parts, including but not limited to electrical components, connectors, fillers, and trim pieces and including them in the product specification list. If corrective action is required, the contractor shall pay for the parts and for the quick shipment (if an emergency, shipment will be completed within forty-eight (48) hours) of these parts.

When buildings cannot be occupied as a direct result of the need for corrective action, the contractor shall be held responsible for the associated additional costs incurred by the State. Additional costs may include (but not limited to) double rents, construction delay penalties, or other related associated costs, etc.

4.1.17 Design Work Requirements (Mandatory)

The definition of Design Work is work that is given to the contractor as Non-Directed Work. The contractor shall provide any of the following services at a rate bid in Exhibit 11.28 for the life of the contract; scaled plans (typically 1/8" to 1'-0") depicting the building shell, workstation panel layouts, panel widths and heights, and "typical" workstations layouts. If three (3) workstation types are included in the plan, then details of the basic three (3) workstation types will be provided. If special areas, team spaces, or one-of-a-kind workstations are required, the contractor will provide details of these items. The contractor will not provide details of "flip/flop" or "reversed" (mirror-image) layouts. The contractor drawings shall also include requirements for hardwiring the panel systems to the building, telephone and electrical locations.

4.2 Introduction to Technical Specifications (Mandatory)

Bidders shall furnish, for each modular systems furniture (MSF) series proposed, supporting documents including but not limited to published literature, production specifications, sales brochures, independent **or manufacturer's** lab test results, etc., to demonstrate that the proposed MSF meet all of the bid specifications. Statements made by the bidder that are not supported by published literature or test results as applicable will not constitute satisfactory proof and will not be accepted as such. Bidders may propose solutions that incorporate components from more than one line of furniture; the bidder's response must be clearly cross-referenced to the specification to which it applies.

Parts used from other product lines shall be compatible and shall also meet specification requirements of this RFP. State reserves the right to accept or reject the proposal.

Covered under this RFP are MSF components and accessories which include: panels, work surfaces, adjustable work surfaces, free-standing components and accessories, workstation shelving, overhead storage, mountable tack-boards, pedestals, paper management systems and task lighting.

Bidders shall complete Exhibit 11.22.5 – Supporting Documents / Literature Locator to indicate the page numbers of the bid where the supporting information can be found for each specification requirement. Instruction for completing this document is stated on top of the Exhibit 11.22.5. **Completed Exhibit 11.22.5 shall be submitted with the bid.**

Additionally, bidders shall complete Exhibit 11.22.8 and Exhibit 11.22.9 and submit with the bid.

4.2.1 Scope Technical Specifications (Mandatory)

This specification establishes the minimum technical requirements for State of California for MSF (tile & frame). All MSF shall be complete with re-locatable components of systems furniture, including but not limited to (see table on next page):

• Standard panels	• Panel connectors
• Corner posts	• Work surfaces
• Vertical storage cabinets	• File/storage units
• Pedestals	• Task lights
• Work surface support brackets	• Wiring channels
• Power feeds	• Electronic support components
• Top caps,	• Base covers
• Miscellaneous connectors	

Intended for long- term use in offices occupied by the State, all MSF shall be designed for ease of field assembly, disassembly and re-configuration, which shall be accomplished with a minimum number of tools and special hardware. All MSF shall also be designed to easily facilitate lifting for carpet installation. Any applicable ANSI/BIFMA standards, though not specifically cited, shall apply.

General Testing Requirements:

1. All Bidders shall submit signed "Statement of Compliance" (Exhibit 11.22.2) stating that the offered Modular Systems Furniture (MSF) was tested according to all tests listed in table "A" (see next page), and MSF is compliant to all the requirements of this document.
2. State reserves the right to require proof of actual tests. Testing must be verifiable. All test reports shall be submitted within five (5) working days of a request from the State.
3. Manufacturer of MSF shall be certified to ISO 9001-latest edition. Copy of ISO 9001 certificate shall be submitted with the bid.

Note: If manufacturer of MSF is not certified to ISO 9001-latest edition of 2015 by bid submission date, State will accept the ISO 9001:2008 certification with the bid, provided it is valid at the time of bid submission. In addition, Bidder shall provide a letter with the bid submission signed by the manufacturer's quality control manager or equivalent officer certifying that manufacturer of MSF is in the process of acquiring the new ISO 9001:2015 certification. Manufacturer of MSF shall provide a copy of valid ISO 9001:2015 certification to the State no later than October 1, 2018.

4. Unless otherwise specified testing shall be conducted by an independent testing laboratory, or testing may be performed by the manufacturer at their laboratory.

Note: Please see Section 5 of this specification (Environmental Specifications) for Environmental testing, certification, and submission requirements.

5. Unless otherwise specified test report(s) shall be submitted within five (5) working days of the request from the State.
6. The State may accept the test data for a system that is same in construction and materials. If a bidder is submitting test data for a system that is same in construction and materials to the offered product line, the bidder must demonstrate and certify that the offered system shall meet or exceed the requirements of that test.

TABLE "A"

No.	Test Standards (see Notes below)
1.	ANSI/BIFMA X5.6, <i>2010 or later</i>
2.	ANSI/BIFMA X5.9, <i>2004 or later</i>
3	ANSI/BIFMA M7.1 – 2011 or later
4	ASTM C423, <i>2002 or later</i>
5	ASTM E84 (<i>2011 or later</i>) / UL 723 (<i>2008 or later</i>) / NFPA 255 (<i>2006 or later</i>)
6	UL 1286, <i>2008 or later</i>
7	NFPA-701, <i>2010 or later</i>
8	CDPH/EHLB Standard Method V1.1-2010 or later

Notes:

- In case of product refresh or product substitution, the substituted product shall be certified to the latest version of the standard in effect at the time of the substitution.
Bidder shall provide test reports and test data within five (5) working days of the request from the State.

4.3 MSF General Minimum Requirements

4.3.1 MSF and Components Requirements (Mandatory)

The offered MSF and all its components shall meet or exceed applicable test and performance standards prescribed in ANSI/BIFMA applicable standard. Details, finishes, colors and materials shall be consistent throughout. All items of systems furniture purchased under this specification must display good quality workmanship, and must be free from sharp edges or burrs and any other defects which compromise their use, operation, or are harmful to persons or materials in contact with them.

4.3.2 Panel System (Mandatory)

The offered MSF shall be a tile and frame panel system with removable tiles that comes in an assortment of heights and widths, which are applied to a rigid metal frame. .

4.3.3 Metal Components Requirements (Mandatory)

All metal components shall be fabricated from top quality metal raw materials. Surfaces shall be free from pits, scale and other defects. All welds shall be ground smooth and all seams shall be flush.

4.3.4 Mounting Hardware Requirements (Mandatory)

All mounting hardware shall be concealed from view and feature safety locking devices or be manufactured in such a manner to prevent accidental dislodging. Exposed fasteners (i.e., screw heads, bolts and hinges) are not permitted. All connectors and fasteners shall be capable of being installed and dismantled without damage to panels or adjacent surfaces. All panel joints shall be designed to provide a continuous connection between panels, serving as an effective barrier against transmission of light and sound.

4.3.5 Fabric General Requirements (Mandatory)

Bidders must offer a minimum of three (3) grade level/price group fabrics, with "Grade A" or "Grade 1" being the lowest price group and "Grade C" or "Grade 3" being the highest price group. Each group shall be available in multiple patterns and in multiple colors including light colored fabrics. All offered fabric shall meet the following minimum requirements:

- 1) Flame Resistance, NFPA 701: Pass. 2) Colorfastness to Light, AATCC16: Class 4 minimum at 40 hours. 3) Breaking strength, ASTM D 5034: 35lbs., minimum in warp & weft.
- 2) Fabric shall be free from defects affecting service or appearance, such as:
 - Weaving irregularities (filling bars, moiré effect, etc.)
 - Dyeing or finishing irregularities (streaking, spotting, etc.), and
 - Other fabric flaws such as knots, burrs, slubs, etc.

Material shall be suited for its intended application allowing no bleed-through of adhesive, no excessive freedom for bowing/skewing when applied according to manufacturer's instructions.

Bidders shall provide a fabric list with proprietary and non-proprietary fabric. All fabrics shall have Class A fire rating. Samples of fabric are not required at this time. All bidders shall clearly identify the proprietary and non-proprietary fabric.

4.3.6 Touch latches / U-shaped Pulls Requirements (Mandatory)

Unless otherwise specified, touch latches and/ or U-shaped pulls shall be available for all the storage components.

4.3.7 Standard Components Requirements (Mandatory)

With the exception of section 4.16.3 all components shall be standard products as shown in the most recent published price list.

4.3.8 Product Quality Assurance Requirements (Mandatory)

Products must be delivered free of all imperfections, defects, and hazards (see note below), which might affect appearance, normal life, serviceability, or user safety. Products delivered that do not meet this expectation shall be removed and replaced within fifteen (15) working days.

Note: Hazardous condition shall be removed immediately to prevent injury to the user or staff.

4.3.9 Workstation Assembly and Disassembly Requirements (Mandatory)

Workstations shall permit easy assembly and disassembly. Back-to-back workstations shall be able to be assembled in such a manner that components may be completely removed from one side without disturbing the workstation on the other side.

4.4 Panels Minimum Requirements

4.4.1 Panel Assembly (Mandatory)

Each panel shall be an independent assembly that is capable of being connected with another independent panel.

Note: Panel assemblies include interior and exterior tiles as well as stacking frames and all associated hardware.

4.4.2 Panel Stability (Mandatory)

All panels shall stand erect and rest firmly on their bases to assure safety, good appearances, and provide for a stationary work position.

4.4.3 Panel Resistance to Impact and Loads (Mandatory)

Each panel shall be constructed in a manner to prevent warping, twisting, sagging and deflection, without necessitating a counter balanced load. All panel systems must meet or exceed ANSI/BIFMA X5.6 requirements for mechanical strength and stability at the time of the Bid Proposal.

4.4.4 Panel and Accessories (Mandatory)

All panels shall include all of the necessary accessories (such as side rails, connector hinges, leveling glides, top cap, base raceways cover, cover-brackets, clamps, and braces, etc.) and all panels shall be shipped with all

these necessary accessories for the assembly and layout in accordance with the manufacturer's recommendations.

All panels shall include all standard trim for all exposed panels ends, panel junctions, corners or changes in height must be included.

4.4.5 Powered Panel (Mandatory)

Powered panels shall include a pre-wired electrical distribution system, flexible power connector, and raceway cover.

4.4.6 Panel Structural Soundness (Mandatory)

Panels must be structurally sound without the use of panel support legs or panel support components.

4.4.7 Panel Light and Acoustical Seal (Mandatory)

Adjacent panels must create a connection that is structurally sound and provides a continuous light and acoustical seal for the entire height of the panel.

4.4.8 Panel Assembly on Finished Flooring (Mandatory)

Panels shall be capable of being assembled over finished flooring without penetration or demarcation or the use of floor fasteners so as to allow for reconfiguration without any floor patching.

4.4.9 Connection Capability of Panel System (Mandatory)

Panels must be capable of connection in a variety of configurations, including connection of different height and connection of two (2), three (3), and four (4) panels from a single point.

4.4.10 Capability of Assembly and Disassembly (Mandatory)

Each panel shall be capable of being connected and disconnected from other panels in a vertical position. A panel connected between two other panels shall be capable of being removed without disassembly of the entire panel run.

4.5 Tile and Frame Panel System Requirements

4.5.1 Tile and Frame Panel Systems General Requirements (Mandatory)

The tile and frame panel system shall have removable tiles that come in an assortment of heights and widths, which are applied to a rigid metal frame. Each structural frame shall accept stacking frames. All tiles or frames must have a type of enclosures that protects and prevents the tile material from dislodging.

4.5.2 Tile and Frame Panel Heights (Mandatory)

The panels and tiles must be available in a variety of heights. Shortest available frame height shall be ranging from twenty-eight (28) to thirty-two (32) inches. Total frame height shall be available to at least seventy nine (79) inches using combination of base frame and stacking frames.

4.5.3 Tile and Frame Panel Systems Widths (mandatory)

Panels and tiles must be available in a variety of widths, between the ranges from nominal twenty-four (24) inches to nominal sixty (60) inches.

4.5.4 Tile and Frame Panel Systems Thickness (Mandatory)

Finished tile and frame panels thickness shall be a minimum of two (2) inches and a maximum of four (4) inches.

4.5.5 Tile and Frame Panel Finish Options (Mandatory)

The choices must include tack-able acoustical fabric, technology, glazed tempered glass and marker-board, with no less than six total finish options.

4.6 Panel System Requirements

4.6.1 Trim, Tops, and End Caps (Mandatory)

Each panel assembly shall include removable plastic, nylon, or painted steel or aluminum (or other durable material, standard to the industry) trim or end caps at both the top and exposed ends. Width of trim or end-cap shall be equal to panel width. Corners and edges shall be eased, radius, or ninety (90) degree and free from sharp edges.

4.6.2 Metal Trim, End Caps, and Exposed hardware Finish (Mandatory)

The finish for metal trim, end-caps, and exposed hardware shall be either factory applied baked- on enamel or powder coat and must be mar, fade, and chip resistant.

4.6.3 Suspended Components Support Channels (Mandatory)

Each panel shall have vertical support channels along each side of the panel for mounting work surfaces, storage units and other suspended components. These support channels are to be an integral part of the assembled panel and run the full height of both sides of the panel. The support channels shall allow suspended components and work surfaces to be attached along the full length of the channels at 1" space intervals. Support channels must provide flush and level alignment of adjacent components.

4.6.4 Panel Leveling Glides (Mandatory)

Each panel shall be equipped with a minimum of two (2) leveling glides, with at least one at each end to provide uniform height for adjacent panels on uneven floors. The glides shall be manufactured of steel and shall allow vertical adjustment of 1" minimum. Connections to the floor shall not be permitted. Stabilizing feet are not permitted.

4.6.5 Panel Connections (Mandatory)

All panels systems shall provide for "panel to panel" connection. Connectors shall be concealed within finished panel structure. Connections shall allow continuation of lay-in or pull through electrical and communications wiring between panels. Connectors shall be reusable to allow for reconfiguration. Connecting posts are allowed only at a ninety (90) degree, two-way, three-way, and four-way connections. All panel connectors "panel to panel" and

panel connectors adjacent to a wall or column shall be continuous seals serving as an effective barrier against the transmission of light or sound. All panel connections adjacent to a wall or column shall be “free standing”, permanent connection to a wall, column, flooring, or the realty, will not be acceptable or permitted under the terms of this contract. Panels shall have the capability of assembly and disassembly in a vertical position and must be non-progressive. All panels shall be capable of being retrofitted or re-configured in the field.

4.6.6 Panel System Flammability Requirements (Mandatory)

1. All panels shall have a maximum smoke development rating of 450 and a maximum flame spread rating of 25 (Class A) when tested as specified herein.
2. Face fabrics shall comply with National Fire Protection Association (NFPA) Standard No. 701 or shall have a maximum smoke development rating of 450 and a maximum flame spread rating of 25 (Class A).
3. During the term of the contract if the modular systems furniture’s “construction” or the product’s “material(s)” are changed, new fire tests shall be required. The test report must state the modular systems furniture(s) series and/or the revised product’s material(s) that has been tested.
4. The test shall be conducted on the entire assembled panel (the complete core, adhesive, decorative fabric, frame, and joining components).
5. Testing must be conducted on **minimum of one** fabric, and interior construction.
6. Additional fabrics may be offered for inclusion under the contract without additional ASTM E-84 testing provided the additional fabrics were tested and compliant to NFPA-701.
7. Alternatively, testing may be conducted in accordance with Underwriter Laboratories (UL) Standard No. 723 or NFPA Standard No. 255.
8. Offered product shall comply with Health and Safety Code 1089 that limits the presence of “pentaBDE” or “octaBDE” to not more than one-tenth (1/10) of 1 percent.

4.6.7 Panel Acoustics Requirements (Mandatory)

1. The acoustical test for sound absorption and for the Noise Reduction Coefficient (NRC) or Speech Frequency Sound Absorption Average shall be tested per ASTM C-423.
2. The test shall be conducted on the entire assembled panel.
3. Both sides of the panel shall be tested.
4. The test must be conducted on each different construction offered as

an acoustical panel.

5. (Deleted)
6. All panels designated “acoustical” over sixty (60) inches shall meet the acoustical requirements; Minimum noise reduction coefficient (NRC) of 0.5.

4.7 Work-Surfaces Minimum Requirements

4.7.1 Work-Surfaces General Requirements (Mandatory)

All work-surfaces must permit easy access to cable management and electrical access at panel base and/or the beltline level of panel. Cable access cut outs or equivalent shall be provided in each work surface.

4.7.2 Work-Surface Brackets and Components (Mandatory)

All work-surfaces shall come pre-drilled from the factory with holes to accommodate support brackets and components. All brackets and components shall be attached to underside of work-surface utilizing the factory predrilled holes.

4.7.3 Work-Surfaces Mounting (Mandatory)

All work-surfaces shall be mounted in a manner that ensures firm and rigid support. Work-surface shall be capable of being mounted to the suspended component support channels of the panels. The mounting device(s) shall prevent the work-surface from being accidentally dislodged.

4.7.4 Work-Surface Brackets (Mandatory)

Brackets shall be non-obstructive and not interfere with leg room.

4.7.5 Work-Surfaces Sizes (Mandatory)

Work-surfaces shall be available in a variety of widths and depths to allow for a wide range of configurations and shapes.

4.7.6 Rectangular Work Surface Width (Mandatory)

Rectangular work-surfaces shall be available in widths to match panel widths.

4.7.7 Rectangular Work Surface Depth (Mandatory)

Rectangular work-surfaces must be available in depths of 24±1 inches and 30±1 inches.

4.7.8 Corner Work Surfaces (Mandatory)

Corner work-surfaces shall be available in a variety of lengths and widths to allow for a wide range of configurations. At a minimum all corner work-surfaces shall be available in widths to match panel widths.

4.7.9 Corner Work-Surface Depth (Mandatory)

Corner work-surfaces must be available in depths of 24 ±1 inches and 30±1 inches.

4.7.10 Work-Surface End Supports (Mandatory)

Supplemental end supports shall be used only under work-surfaces when the workstation configuration does not permit full support by the panels. Both panel-supported and free-standing work surfaces must be included in standard product line, allowing for integration of both types within a workstation.

4.7.11 Work-Surface Edge Option (Mandatory)

All panel systems work-surface edge options shall include flat and smooth edge trim, such as edge-band or a T-molding trim. Bidder's response shall include all of standard edge options, referenced above.

4.7.12 Work-Surfaces Panel Mounted (Mandatory)

All panel mounted work-surfaces must be height adjustable to allow for a wide range of applications. The systems must allow work-surfaces to be mounted in approximately 1" increments from 23" from the floor to full height of the panel. Bidder shall provide minimum height to maximum height measures in their proposal.

4.7.13 Work Surfaces Material (Mandatory)

Work-surfaces shall be a minimum of 1" thick. The work surfaces shall have a finished top surface of high-pressure plastic laminate and shall a protective backing sheet on the bottom side. The work-surfaces shall not be affected by ordinary household solvents and shall be capable of being cleaned with ordinary household cleaning solutions. If metal support brackets are visible, they shall match the color and finish of the trim or shall be in black color.

4.7.14 Work Surface Support Post Legs (Mandatory)

Provide height adjustable post legs with options including casters and glides. Legs shall be adjustable from 26"±1" to 32"±1" heights. Legs shall be attached to underside of work-surface in factory pre-drilled holes.

4.7.15 Height Adjustable Bases (Mandatory)

Electric height adjustable table shall be available in width and depth that are compatible with the typical work station. The table shall be adjustable from the height of 28" or less to 43" or more. The table shall have a minimum travel speed of 1.0 in/sec. At a minimum, the table shall be equipped with a standard key pad with up/down control functions. "Programmable Memory Key Pad" shall be available as standard equipment or as an optional add-on item. The table shall be rated to support a minimum static load of 300 lbs. excluding the weight of the work surface. Work surface and base finishes shall be compatible with all available MSF product finishes.

4.8 Drawers and Pedestals Minimum Requirements

4.8.1 File Drawers and Pedestals (Mandatory)

Floor supported and mobile pedestals must have a finished top. All file drawers shall have a minimum extension of 90% ball bearing suspension. All drawers shall be equipped with safety catches to prevent accidental removal. Pedestals shall have field changeable, front mounted locks and bumpers at

closure. File drawers shall accept both letter and legal size file folders. Drawer fronts shall have an integral pull. Pedestals must include a pencil tray and file compressor at no extra charge.

4.8.2 Pedestal Drawer Fronts (Mandatory)

Pedestal drawer fronts may be either mitered steel with radius steel edges or other material with rounded edges. Drawer fronts shall have an integral pull. Touch latches and/or U-shaped pull latches shall also be available.

4.8.3 Pedestal Types (Mandatory)

Pedestal shall be available in three types:

- Suspended
- Floor supported
- Mobile

4.8.4 Pedestal Construction (Mandatory)

With the exception of drawer fronts, pedestals shall be of steel construction.

4.8.5 Pedestal Height and Depth (Mandatory)

Pedestal depth must match work surface depth (+ 0" / -2"). Pedestal height must fit under a 29" high work surface.

4.8.6 Pedestal Drawers (Mandatory)

Pedestals shall be available with nominal drawer front dimension of 6" high box and 12" high file drawers. Maximum pedestal size shall have two (2) 12" high drawers.

4.8.7 Metal Frame (Mandatory)

Metal frame assembly and exposed metal surfaces (including inside drawers) shall have either a factory applied baked-on enamel or powder coat finish that is mar, fade, and chip resistant.

4.8.8 Drawer Locking Option (Mandatory)

All drawers shall have locking option with a "keyed alike" configuration option to match all other storage components in the workstation with two (2) keys provided per workstation.

4.9 Shelf and Overhead Cabinets Requirements

4.9.1 Overhead Shelf and Flipper Cabinet (Mandatory)

Overhead shelf and flipper cabinet shall have full back or backstop edge. Flipper cabinet shall have locking mechanism for security purposes and be equipped with retractable door into or onto top of cabinet. Flipper cabinets shall have field changeable lock and bumpers at closure. Door shall utilize a ball bearing, rack and pinion; counter balance or scissors equalizer system. Door shall have an anti-racking design, which is easily operable from the seated position.

4.9.2 Overhead Shelf / Flipper Cabinet Mounting (Mandatory)

Overhead shelf and flipper cabinet shall be able to be mounted to standard panels and lock into place mechanically to prevent accidental dislodging.

4.9.3 Overhead Flipper Cabinet Hardware (Mandatory)

User shall be able to open the overhead flipper cabinet door with one hand.

4.9.4 Overhead Shelf and Flipper Cabinet Width Size (Mandatory)

Overhead shelf and flipper cabinet shall match panel widths.

4.9.5 Overhead Flipper Cabinet Clearances (Mandatory)

Overhead flipper cabinet shall have at least an interior clearance of 12" (measured at center of the cabinet) when the retractable door is open (fully retracted).

4.9.6 Overhead Flipper Cabinet Finish (Mandatory)

All exposed and semi-exposed surfaces shall be finished with either factory applied baked-on enamel or powder finish.

Doors must be available in one or more of the following finishes:

- Factory applied baked on enamel or powder coat finish. Color shall match pedestal and trim colors and must be mar, fade, and chip resistant.
- High-pressure plastic laminate designed for durability, resistance to stains and resistance to heat from ordinary sources. Color shall match work surface color.
- ABS polymer designed for durability, resistance to marring and stains. Color shall match work surface colors.
- Fabric color/pattern shall match that of panels.

4.9.7 Shelf and Overhead Cabinet (Mandatory)

Shelf and overhead cabinets shall have mechanical safety devices to prevent accidental disengagement from the wall panels; and shall remain securely fastened to the wall panels when locked into position.

4.9.8 Deleted**4.9.9 Locks (Mandatory)**

Lock on overhead cabinets shall be flush, recessed or protrude no more than 1/4".

1. Lock on overhead cabinets shall be flush, recessed or protrude no more than 1/4".
2. Bidder shall indicate where information on shelf and overhead cabinet construction and finishes is located in their bid response.
3. Bidder shall indicate where information on standard measurements for shelves and overhead cabinets are located in their bid response.

4.10 Lateral File and Storage Units Minimum Requirements**4.10.1 General Minimum (Mandatory)**

The manufacturer shall offer lateral files and storage units compatible in height with standard panels. Storage units must have a finished top. Lateral file drawers shall be equipped with a full extension ball bearing suspension. All lateral file drawers shall be equipped with safety latches to prevent accidental removal. Storage units must have field changeable, front mounted locks and bumpers at closure. Lateral file drawers shall be easily gang-locked, and shall accept both letter and legal size filing system. Lateral file drawers shall be available with side-to-side or front-to-back options and shall be easily adjusted in the field to accommodate filing size changes. Lateral file drawers shall have integral pull.

4.10.2 Lateral File Drawer Front (Mandatory)

Lateral file drawer fronts shall be available in the manufacturer's full range of paint finishes.

4.10.3 Lateral File and Storage Unit Dimensions (Mandatory)

Lateral file and storage units' widths and depths shall be offered in a complete range of compatible sizes with the panel system, and shall be compatible with the panel standard nominal heights.

4.10.4 Lateral File Metal Frame Finish (Mandatory)

Lateral file metal frame assembly and exposed metal finish shall have a factory applied baked-on enamel or powder coat finish that is mar, fade, and chip resistant. Colors shall be from the manufacturer's full range of paint finishes.

4.11 Accessories Minimum Requirements (Mandatory)

4.11.1 Paper Management Accessories (Mandatory)

Paper management units, consisting of, but not limited to, 24" to 48" rail with in/out trays, vertical paper sorters, shelves and bins shall be available. Paper management unit shall be easily added and moved without tools.

4.11.2 Keyboard Tray With Mouse Pad (Mandatory)

All manufacturers' systems shall provide a fully articulating keyboard tray with mouse pad support. Keyboard tray must raise, lower, pull forward, recess, and tilt. Keyboard tray sizes shall be compatible with all standard ergonomic keyboards types.

4.12 Locks and Keying Minimum Requirements

4.12.1 Pedestal Drawers and Overhead cabinets (Mandatory)

Drawers, overhead cabinets, and pedestal drawer units shall be capable of having keyed locks.

4.12.2 Locks and Keying Requirements (Mandatory)

Locks shall be field interchangeable. Two (2) matching keys shall be provided for each lock; three (3) master keys and one (1) core-removal key/device shall be provided to the using department or local agency. All lock equipment must be clearly labeled/tagged as to the workstation, key number and location. A key schedule shall be submitted to the using department or

local agency prior to the assembly of the lock cylinders.

4.12.3 Removable Lock Cylinders Requirements (Mandatory)

Removable lock cylinders shall be field interchangeable and provided with a minimum of one hundred (100) different key options. Keys and lock cylinders shall be factory numbered for ease of replacement. A minimum of one (1) master key shall be provided for each assembly as well as tools for removal of the cylinders.

4.13 Electrical System Requirements

4.13.1 Electrical System/Components Requirements (Mandatory)

All electrical systems shall be in full compliance with UL Standard 1286.

4.13.2 Power Supply System (Mandatory)

The power supply system shall provide a minimum of three (3) 20 ampere (minimum 8-wire), three (3) circuit capability with two (2) 20 ampere, 120 volt general circuits and one (1) 20 ampere, 120 volt, isolated ground circuit or two (2) 20 ampere, 120 volt, isolated ground circuits and one (1) 20 ampere, 120 volt general circuit. A maximum of four (4) workstations shall be connected to any power distribution eight-wire circuit.

4.13.3 Power System (Mandatory)

The power system shall be modular and be able to provide power selectively only at needed locations, and be rearranged without altering or disassembling the panel system. The power system shall have access to any circuit via triplex, duplex, or simplex receptacles. The minimum eight-wire electrical system shall allow circuits to share a common ground or change to sharing and isolated ground in the field with only change of electrical harness or receptacle. Electrical components shall be non-handed for ease of assembly and reconfiguration.

4.13.4 Receptacles (Mandatory)

Each powered panel, 30" wide or wider, shall be capable of having a minimum of four (4), 15 ampere grounded electrical plug-in locations per side. Receptacles shall be commercial grade and identified easily by line/circuit identification numbers, letters or color-codes. Appropriate receptacles shall be indicated with an orange alpha symbol and triangle on the face to identify the isolated ground. Receptacles shall be field interchangeable anywhere along the wiring harness. All panels must be capable of wire management and pass through power harness.

4.13.5 Base-Feed Modules (Mandatory)

Base-feed modules shall supply power to the base panels by plugging into either side or the end of the raceway through connection ports or doors.

4.13.6 Top Feed Modules (Mandatory)

Top-feed modules shall supply power to the panel base through an adjustable height raceway which carries power from hard-wired connection at junction

box in ceiling or wall to plug into base raceway.

4.13.7 Internal Panel to Panel Power Connections (Mandatory)

Internal panel-to-panel power connections shall be straight or flexible plug-in and plug-out grounded connections and shall provide multiple circuit type configurations (i.e. 1+2, 2+1, 1+3, 2+2, 3+1, etc.).

4.13.8 Commercial Grade Receptacles (Mandatory)

Receptacles shall be commercial grade and easily identified by line or circuit identification number, letters, or color-codes. Appropriate receptacles shall be indicated with an orange color alpha symbol and triangle on the face to identify the isolated ground. Receptacles shall be field interchangeable anywhere along the wiring harness. All panels must be capable of wire management and pass through power harness.

4.13.9 In-Feed Modules (Mandatory)

In-feed modules shall supply power to the base panels by a conduit built into a panel, or a conduit which attaches to a panel connection post, and shall provide removable covers for routing the communication cables.

4.13.10 Wire Management Capacity Modules (Mandatory)

Actual wire management capacity shall allow for wire twist and right angle corner radius loss.

4.14 Power Communication Distribution Requirements

4.14.1 Raceways (Mandatory)

All powered standard panels shall have a horizontal raceway capable of distributing a minimum of three (3) 20-ampere electrical power circuits (with the capability to expand to maximum available by the manufacturer, and eight to twelve (8-12) 25 pair communications and data cables. Tile and Frame system's standard powered panels shall be capable of delivering the aforementioned to the base as well as to the belt-line of the panel.

4.14.2 Raceways General Requirements (Mandatory)

All raceways shall be an integral part of the panel and not a modification to the panel.

4.14.3 Raceway Cable Capability (Mandatory)

All raceways both horizontal and vertical shall permit the installation of cables. All raceways must provide capability of handling "Category 6" cabling.

4.14.4 Raceway Data and Communication Cabling (Mandatory)

In addition to power distribution system the raceway shall also be capable of containing both data and communication cabling without interference from the raceway electrical system.

4.14.5 Non-Powered Raceway (Mandatory)

All non-powered raceways shall be capable of easy field conversion to powered raceways without requiring the workstation to be disassembled.

4.14.6 Base Cutouts (Mandatory)

Base cutout(s) with knockout or removable cover shall be provided on each panel assembly to receive back-to-back electrical outlets as required. The top edge of the cutout shall be located no more than 18" from the finished floor. Panels 30" wide or wider, shall have a minimum of two (2) base cutouts, per panel, per side, for electrical or cable access. Panels 24" to 30" shall have one (1) base cutout per panel, per side. Easy access to the electrical harness and telecommunication cables shall be provided without special tools. Lowest part of the panel frame shall be covered with manufacturer's standard metal or plastic trim. Standard trim shall not become dislodged by accidental knock from shoe or vacuum.

4.15 Communications and Data Minimum Requirements**4.15.1 Communication Modules (Mandatory)**

All standard panels shall be able to accommodate industry standard communication modules with knockouts for communication modules on each side of panel.

4.15.2 Cable Jacks (Mandatory)

Panel bases shall be capable of accommodating cable jacks in a way in which they appear to be an integral part of the base.

4.16 Additional Mandatory Technical Requirements**4.16.1 Adjustable Column Support Legs Requirements (Mandatory)**

Adjustable column support legs shall be provided under peninsula type work-surfaces. Adjustable column support shall offer height adjustment in $\frac{1}{2}$ to 1 inch increment to allow the work-surface to be positioned between 27 inches to 31 inches above the finished floor.

4.16.2 List of Product Accessories Requirements (Mandatory)

Bidder must include a detailed list of all accessories available for the proposed systems. Accessories must include, but not be limited to:

- Tool bars
- Paper management
- Coat Hooks
- Markerboard (i.e. whiteboard)
- Tackboard
- Storage Tower:

Provide 50" to 65" H Wardrobe Tower Storage 24"±1" W x 24"±1" D. Provide a variety of configurations including box drawer, file drawers and wardrobe door with hanger.

4.16.3 Custom Ordered Panels (Mandatory)

Bidder shall be able to accommodate requests for "custom" panels and work-surfaces. Custom requirements may include changes to standard widths,

heights, and height adjustments to panels and work- surfaces. The awarded bidder will charge for the next larger panel or work-surface by size; then add the surcharge bid on Exhibit 11.28.

4.16.4 Panel System Features (Mandatory)

Panels shall be available and/or include the following system features:

- Frosted glass or equivalent for applications that require privacy without blocking light.
- Open frame

5. ENVIRONMENTAL SPECIFICATIONS

5.1. SCOPE

This section establishes the requirements and specifications for implementation of Environmentally Preferable Purchasing (EPP) as mandated by the California Public Contract Code (PCC), Division 2, Part 2, Chapter 6, Sections 12400-12404, and required by Executive Order B-18-12. The law requires, “the procurement or acquisition of goods and services that have a lesser or reduced effect on human health and the environment when compared with competing goods and services that serve the same purpose.” Comparison requires the evaluation of the associated impacts from the product’s raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, disposal, energy efficiency, product performance, durability, safety, the needs of the purchaser, and cost. As part of this solicitation bidders and offered products must be in compliance with the mandatory specifications and may receive preference when meeting non-mandatory environmental requirements.

5.2. CERTIFICATIONS

5.2.1. BIFMA level® Certification

5.2.2. GREENGUARD Gold Certification

5.2.3. SCS Indoor Advantage™ Gold

5.2.4. *(Deleted)*

5.3. Indoor Air Quality (IAQ) Specifications (Mandatory)

This section and its subsections specify the Indoor Air Quality (IAQ) requirements for the MSF. These requirements are collectively referred as the IAQ Specifications hereafter.

The MSF, including all of its components, shall:

- a. meet the volatile organic compounds (VOCs) emissions and formaldehyde emissions requirements as specified in the ANSI/BIFMA X7.1 - 2011 standard and the CDPH/EHLB Standard Method V1.1 - 2010, with the “open plan” office workstation parameters as defined by the ANSI/BIFMA M7.1 - 2011 standard and the CDPH/EHLB Standard Method V1.1 - 2010.

- b. be certified, throughout the life of the contract, to at least one of the acceptable third-party certifications specified in Sections 5.3.1 through 5.3.3, Certifications not listed in these sections are unacceptable for demonstrating compliance with the IAQ specifications. The bidder is responsible for providing proof of certification and the bidder must meet all requirements listed in the Proof of Certification Requirements section of the respective certification. If the proposed MSF is certified to multiple acceptable third-party certifications, the bidder is required to meet the Proof of Certification requirements for only one certification to demonstrate compliance with the IAQ specifications. If the proposed MSF product line includes components that may be common among multiple product lines, these common components shall be certified with the same certification as the proposed MSF product line.

The VOC emissions limits referenced in the acceptable certifications are based on the Chronic Reference Exposure Level (CREL) list established by the California Office of Environmental Health Hazard Assessment (OEHHA). Products certified to these certifications may be used to qualify for points in the US Green Building Council's LEED® Green Building Rating Systems.

5.3.1. ANSI/BIFMA e3 / level® Credit 7.6

The MSF may be certified to the BIFMA level® e3-2012 or the BIFMA level® e3-2014 furniture sustainability standard. In order to meet the IAQ specifications, BIFMA level® certified MSF shall have received all possible points in Credit 7.6 for “low emitting furniture” as specified in sections 7.6.1, 7.6.2 and 7.6.3 of the BIFMA level® e3-2012 or the BIFMA level® e3-2014 furniture sustainability standard, modeled as “open plan office” workstation as specified by the standards. BIFMA level® certification shall not be used to demonstrate compliance with the IAQ specifications if the offered product is certified without receiving all points specified in level® credit 7.6, modeled as “open plan office” workstation.

Business & institutional furniture manufacturers association’s (BIFMA) level® certification is a multi-attribute, sustainability standard and third-party certification program for the furniture industry. The certification criteria include energy usage, greenhouse gas (GHG) reporting, material selection, human and ecosystem health impacts, and social actions. The level® certification program uses a scoring system to assess a product or a line of products based on its performance and its associated impacts. Credit 7.6 – low emitting furniture of the level® certification specifies the requirements for furniture emissions. Details of the certification program can be found on the level® website at www.levelcertified.org.

Proof of Certification Requirements:

- a. The bidder shall submit a copy of the BIFMA level® certification with the bid. The certification shall be valid on the bid due date and shall not expire within 30 days after the bid due date.
- b. The bidder shall submit a copy of BIFMA level® Scorecard with the bid. The Scorecard shall indicate all points scored in Credit 7.6.

- c. The MSF product line shall be listed on the level® Certified Products database on the bid due date. The database can be found at: <http://levelcertified.org/products2>
- d. The certification shall include the complete MSF. If more than one certificate is needed to demonstrate the certification of all MSF components, the bidder shall submit all necessary certificates.
- e. The bidder shall submit official documents from either BIFMA or the certifier, indicating that the MSF received points for Credit 7.6.1, 7.6.2 and 7.6.3 based on the “open plan office” workstation parameters.

5.3.2. GREENGUARD Gold Certification

The MSF may be GREENGUARD Gold certified in order to meet the IAQ specifications.

Underwriters Laboratories (UL) is the provider of GREENGUARD Gold certification for furniture products. Details of the certification program can be found on the UL website at:

http://greenguard.org/en/CertificationPrograms/CertificationPrograms_childrenSchools.aspx

Proof of Certification Requirements:

- a. The bidder shall submit a copy of GREENGUARD Gold Certification with the bid. The certification shall be valid on the bid due date and shall not expire within 30 days after the bid due date.
- b. The MSF product line shall be listed on the online UL certified products database on the due date. The online data base can be found at: <http://productguide.ulenvironment.com/SearchResults.aspx?category=21&SubCategoryID=97>
- c. The certification shall include the complete MSF. If more than one certificate is needed to demonstrate the certification of all MSF components, the bidder shall submit all necessary certificates.

5.3.3. SCS Indoor Advantage™ Gold

The MSF may be SCS Indoor Advantage™ Gold - Furniture certified in order to meet the IAQ specifications.

SCS Global Services is the provider of Indoor Advantage™ Gold Certification for furniture products. Details of the certification can be found on the SCS Global Services websites at:

www.scsglobalservices.com/indoor-air-quality-certification

Proof of Certification Requirements:

- a. The bidder shall submit a copy of the SCS Indoor Advantage™ Gold certification with the bid. The certification shall indicate, at a minimum, that

the MSF meets the ANSI/BIFMA X7.1 - 2011 standard and the BIFMA e3 Credit 7.6.1, 7.6.2, and 7.6.3 for the “open plan office” workstation. The certification may also indicate that the MSF meets the CDPH/EHLB Standard Method V1.1 - 2010 for the “open plan office” workstation. The certification shall be current and valid on the bid due date and shall not expire within 30 days after the bid due date.

- b. The MSF product line shall be listed on the online SCS Global Services Certified Green Products Guide database on the bid due date. The database can be found at:

www.scsglobalservices.com/indoor-air-quality-certification

- c. The certification shall include the complete MSF. If more than one certificate is needed to demonstrate the certification of all MSF components, the bidder shall submit all necessary certificates.

5.4. Product Refresh / Substitution (Mandatory)

In case of product refresh or product substitution, the substitute product shall be certified with the same third-party certification(s) **and the same, or better, certification level** as the original product. The substitute product shall be certified to the latest version of the certification or standard in effect at the time of the substitution.

5.5. Chlorofluorocarbon / Hydro chlorofluorocarbon Restriction (Mandatory)

The MSF shall not contain plastic foam that is manufactured or formulated using chlorofluorocarbon (CFCs) or hydro chlorofluorocarbon (HCFCs). Bidder shall submit Exhibit 11.22.2 Statement of Compliance with the bid proposal.

5.6. BIFMA level® Certification (Non-Mandatory Scored)

As an option, the MSF may be certified to the BIFMA level® e3-2012 or the BIFMA level® e3-2014e furniture sustainability standard. According to the BIFMA level® certification program, a product or a product line may be certified with a designation of “level 1”, “level 2” and “level 3” depending on the total credits the product receives. If the proposed MSF includes components that may be common among multiple product lines, these common components shall be certified with the same or higher “level” designation as the proposed MSF. A bidder offering BIFMA level® certified MSF will be awarded points in accordance with section 9 – Evaluation and Selection of the solicitation documents.

In order to be eligible for points, the bidder shall meet the following Proof of Certification Requirements:

- a. The bidder shall submit a copy of the BIFMA level® certification with the bid. The certification shall be valid on the bid due date and shall not expire within 30 days after the bid due date.
- b. The bidder shall submit a copy of BIFMA level® Scorecard with the bid.

- c. The MSF product line shall be listed on the level® Certified Products database on the bid due date. The database can be found at: <http://levelcertified.org/products2>
- d. The certification shall include the complete MSF. If more than one certificate is needed to demonstrate the certification of all MSF components, the bidder shall submit all necessary certificates.

The MSF shall meet the mandatory IAQ Specifications regardless of the BIFMA level® certification status and designation.

5.7. Task Light Specifications (Mandatory)

This section and its subsections specify the mandatory task light requirements for the MSF. These requirements are collectively referred as the Task Light Specifications hereafter. Only task lights meeting the Task Light Specifications shall be offered.

5.7.1. Definitions

- a. "Articulated Luminaire" means a portable luminaire with an adjustable arm that allows the lamp to be positioned in all directions.
- b. "GU-24" means the designation of a lamp holder and socket configuration, based on a coding system by the International Energy Consortium.
- c. "GU-24 adaptor" means a one-piece device, pig-tail, wiring harness, or other such socket/base attachment that connects to a GU-24 socket on one end and provides a different type of socket or connection on the other end.
- d. "Lamp" means an electrical appliance that includes a glass envelope and produces optical radiation for the purpose of visual illumination, designated to be installed into a luminaire by means of an integral lamp holder.
- e. "Lamp Efficacy (LE)" means the measured lumen output of a lamp in lumens divided by the measured lamp electrical power in watts expressed in units of lumens per watt (LPW).
- f. "LED lamp, non-integrated" means an assembly comprised of an LED array (module) or LED packages (components) and an ANSI standards base. The device is intended to connect to the LED driver of an LED luminaire through an ANSI standard lamp-holder (socket). The device cannot be connected directly to the branch circuit.
- g. "LED lamp, integrated" means an integrated assembly comprised of LED packages (components) or LED arrays (modules), LED driver, ANSI standard base and other optical, thermal, mechanical and electrical components. The device is intended to connect directly to the branch circuit through a corresponding ANSI standard lamp holder (socket).
- h. "LED luminaire" means a complete lighting unit consisting of LED-based Light emitting elements and a matched driver together with parts to distribute light, to position and protect the light emitting element, and to connect the

unit to a branch circuit. The LED-based lighting emitting elements may take the form of LED packages (components), LED array modules), or LED lamps. The LED luminaire is intended to connect directly to a branch circuit.

- i. “Luminaire efficacy” for LEDs means the luminous efficacy of the LED luminaire, or of the LED light engine with integral heat sink, when tested in accordance with IES LM-79-08. The test methods for LED luminaires using LED lamps and light engines are California Joint Appendix JA8 - 2008, “Testing of Light Emitting Diode Light Sources,” or IES LM-79-08, “Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products,” at manufacturer's option.
- j. “Lumens per watt” (LPW) means “average lamp efficacy (LPW)” as defined in Section 1602(k) of the California Appliance Efficiency Regulations.
- k. “Luminaire” means a complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the power supply.
- l. “Screw base” means an Edison screw base identified in the American National Standard for Electric Lamp Bases, ANSI IEC C81.61- 2003.
- m. “Task light” means an under cabinet luminaire or an articulated luminaire designed for illuminating a specific work surface.

5.7.2. Task Lights Documentation (Mandatory)

For each offered task light, Bidder shall submit legible, complete, accurate, and verifiable support documentation with the bid proposal. Submitted support documentation must include sufficient information to demonstrate compliance with each requirement in the Task Light Specifications. Statements made by the bidder that are not supported by support documents do not constitute satisfactory proof and the bidder shall be considered non-responsive to this requirement.

Bidder shall submit, at a minimum, the following support documents with the bid proposal:

- a. A completed Task Lights Work Sheet (Exhibit 11.22.3) containing information for all offered task lights
- b. A copy of the lighting manufacturer's technical information sheet for each unique model number of offered task light
- c. A copy of relevant pages from the MSF manufacturer's lighting products catalog or technical information sheets

Bidder shall submit additional documentation to demonstrate compliance with the Task Light Specifications if all necessary information is not contained in documents listed in section 5.7.2.a, 5.7.2.b, and 5.7.2.c. Additional

documentation may include but not limited to independent testing lab reports, documents posted on public websites, or lighting products sale sheets.

5.7.3. General Specifications (Mandatory)

5.7.3.1. California Appliance Efficiency Regulations

Each task light shall comply with all applicable requirements of California Code of Regulations (CCR), Title 20, Section 1601 through 1608, as known as the California Appliance Efficiency Regulations. In accordance with these regulations, certain types of lamps, under-cabinet luminaires and portable luminaires must meet specific efficacy standards and must be certified to the California Energy Commission (CEC) by the manufacturer before they can be sold or offered for sale in California.

5.7.3.2. Luminaire Types

Each task light shall be *either* a fluorescent luminaire or a Light Emitting Diode (LED) luminaire.

5.7.3.3. Minimum Luminaire Models

Proposed task lights shall include a minimum of one model for each of the following:

- fluorescent or LED under-cabinet luminaire
- fluorescent or LED articulated luminaire.

5.7.3.4. Optional LED Task Lights

Bidders may offer LED task lights as an option in addition to, or in lieu of the fluorescent task lights.

5.7.3.5. Task Lights Restrictions

Each task light shall not be equipped with incandescent lamps or screw base sockets, and shall not contain a GU-24 adapter or other adapters that convert a screw base socket to any other kind of socket or connectors.

5.7.3.6. Task Lights Standards

Task lighting shall be listed in accordance with UL-153, 962, 1598, or 2108 as applicable.

5.7.3.7. Luminaires

Each luminaire shall be a complete lighting unit consisting of a lamp, or a light emitting element, together with the parts designed to power

and distribute the light, and to connect to the power source via a standard power socket.

5.7.3.8. Electrical Circuit Requirement

Each task light shall be rated to operate on a 110-120VAC, 50-60Hz circuit.

5.7.3.9. Lens, Baffle and Reflector

Each task light shall have a built-in prismatic lens, baffle, reflector system, or other method configured to minimize glare and shield the lamp or light emitting element from the view of a seated user.

5.7.3.10. Power Switch

Each task light shall have a built-in power switch to allow the user to independently turn on and off the light.

5.7.3.11. Electrical Cord-set

The line-voltage electrical cord for each task light shall be a 6-foot minimum length, factory installed, electrical cord-set. The cord-set shall be UL listed and California Electric Code compliant. The cord-set shall include a factory installed plug.

5.7.3.12. Appearance

Each task light shall be aesthetically compatible with the MSF. Task lights shall not adversely affect the performance of any workstation component.

5.7.3.13. General Mounting

Each task light shall have structurally sound mounting devices which prevent accidental displacement, and shall allow easy removal and replacement when necessary to permit cleaning and replacement of the lamp or lighting element.

5.7.3.14. Defects and Hazards

All task lights must be delivered free of all imperfections, defects, and hazards, which might affect appearance, normal life, serviceability, or user safety. Task lights delivered that do not meet this requirement shall be immediately removed and replaced within ten (10) business days.

5.7.4. Under Cabinet Task Lights (Mandatory)

5.7.4.1. Under Cabinet Task Light Size

Each under cabinet task light shall be approximately the same length as the overhead storage units, or shall have an adjustable mounting

system that allows the task light to be located anywhere along the length of the overhead storage units.

5.7.4.2. Mounting

Each under cabinet task light shall be capable of mounting beneath overhead shelves and overhead storage units.

5.7.4.3. Mounting Orientation

Each under cabinet task light shall be capable of being mounted in orientations that allows the electrical cord can be placed along the left or right side of the luminaire.

5.7.5. Articulated Task Lights

5.7.5.1. Table Base (Mandatory)

Each articulated task light shall be equipped with a fully adjustable arm mounted to a freestanding weighted table base appropriate for the selected MSF.

5.7.5.2. Optional Mounting (Non-Mandatory)

Each articulated task light may also be capable of being mounted to support components, beneath overhead shelves, under cabinets, or table clamps.

5.7.5.3. Adjustable Arm (Mandatory)

The adjustable arm shall support the weight of the lamp and housing and shall remain in position without the tightening of knobs, thumb screws, clamps, or other types of fasteners.

5.7.5.4. Position Adjustment (Mandatory)

The adjustable arm shall allow the lamp or lighting element to be positioned to point in all directions and to be moved vertically and horizontally.

5.7.6. Fluorescent Task Lights (Mandatory)

Requirements in this section and all of its subsections are only applicable to fluorescent task lights. If offered, each fluorescent task light shall meet the requirements in this section and its subsections.

5.7.6.1. Fluorescent Luminaire

Each fluorescent luminaire shall be equipped with the number of linear fluorescent lamp(s) or compact fluorescent lamp(s) that the luminaire is designed to operate.

5.7.6.2. Fluorescent Lamp Restrictions

Each task light shall not be equipped with proprietary fluorescent lamp types, including electrical operating systems, lamp sockets, adaptors, or bases. Fluorescent task lights shall have ANSI recognized lamp sockets for which replacement lamps are readily available from a minimum of three (3) manufacturers.

5.7.6.3. California Health and Safety Code

Each fluorescent lamp shall be in compliance with the California Health and Safety Code, Article 10.02, Lighting Toxics Reduction, Sections 25210.9-25210.12.

5.7.6.4. Fluorescent Lamp

Each fluorescent lamp shall:

- have a minimum rated lamp life of 15,000 hours.
- have a maximum lamp diameter of 1 inch (T8 or smaller)
- have a minimum Color Rendering Index (CRI) of 80
- have a Color Correlated Temperature (CCT) between 2700K and 4100K

5.8. Optional Task Light Specifications (Non-Mandatory Scored)

Task lights specifications in this section and its subsections are optional. An offered task light meeting these optional specifications shall also meet the mandatory Task Light Specifications (Section 5.7 and its subsections). A bidder offering task lights that meet the optional specifications in this section and subsections will be awarded points in accordance with Section 9 – Evaluation and Selection of the solicitation documents.

5.8.1. LED Task Lights (Non-Mandatory Scored)

An LED task light may be offered as an option in addition to, or in lieu of, the fluorescent task light. *Each* offered LED task light shall meet the requirements in this section and its subsections. Each LED task light shall also meet the Task Light Specifications except for requirements specific to fluorescent task lights.

5.8.1.1. LED Luminaire Types

LED task lights may include one or both of the following:

- under cabinet LED luminaire
- articulated LED luminaire

5.8.1.2. California Appliance Efficiency Regulations

Each LED luminaire must be in compliance with CCR, Title 20, Sections 1601-1608, the California Appliance Efficiency Regulations.

5.8.1.3. LED Luminaires Requirements

Each LED luminaire must meet requirements in Table 1 – Minimum Requirements for Portable LED Luminaires.

Table 1 – Minimum Requirements for Portable LED Luminaires

Luminaire Type	LED
*Minimum Light Output	200 lumens
*Minimum LED Luminaire Efficacy	29 lumens per Watt
Color Correlated Temperature (CCT)	Between 2700K and 5000K
Minimum Color Rendering Index (CRI)	80
Lumen Maintenance (70% of initial light output)	L70 , 50,000 hours minimum
(Deleted)	(Deleted)

* The proposed task lights shall be tested in accordance with IES LM-79-2008 by a laboratory listed in the U.S. Department (DOE) LED Lighting Facts® Approved Testing Laboratories List under LM-79 sections 9, 10, and 12. DOE's approved laboratories list can be found at: www.lightingfacts.com/approvedlabs

5.8.2. *(Deleted)*

5.8.2.1. *(Deleted)*

5.8.2.2. *(Deleted)*

5.8.2.3. *(Deleted)*

5.8.3. Occupancy Sensor (Non-Mandatory Scored)

An offered task light may be equipped with an occupancy sensor (OS). A task light equipped with an occupancy sensor shall meet all of the following requirements:

5.8.3.1. Occupancy Sensor

The OS shall be an occupancy sensing device that is an integrated part of the luminaire or a modular unit specifically designed to be used with the luminaire.

5.8.3.2. Sensor Type Restriction

The luminaire shall not be equipped with or offered with a retrofit OS. A retrofit OS is an independent universal device that switches the power source on and off based on occupancy and it is not specifically designed to be used with the luminaire.

5.8.3.3. Sensor Capability

The luminaire shall be capable of sensing occupancy within a typical workstation.

5.8.3.4. Auto On/Off Function

The luminaire shall automatically turn on when occupancy is detected within the workstation. The luminaire shall automatically turn off no sooner than five (5) minutes after occupancy is not detected within the workstation.

5.9. Greenhouse Gas Reporting Questionnaire (Mandatory)

As part of the State's sustainability effort to reduce greenhouse gas (GHG) emissions, the State is collecting GHG emissions reporting participation information from its supply chain. The bidder or the MSF manufacturer may participate in a GHG reporting program where companies annually inventory and report their GHG emissions to a governmental or non-governmental organization. Bidders shall complete Exhibit 11.22.4 – Greenhouse Gas Reporting Questionnaire to indicate whether or not the bidder or the MSF manufacturer participates in a GHG reporting program. Bidders shall provide information regarding the GHG reporting program as stated in the Questionnaire if the bidder or the MSF manufacturer is a GHG reporting program participant. Bidders are only required to complete and submit Exhibit 11.22.4 with the bid. This specification does not require the bidder or the MSF manufacturer to participate in a GHG reporting program.