

SECTION 122413 - ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Manually operated roller shades with single and double rollers.
 - 2. Motor-operated roller shades with single and double rollers.

- B. Related Requirements:

- 1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking and grounds for mounting roller shades and accessories.
 - 2. Section 079200 "Joint Sealants" for sealing the perimeters of installation accessories for light-blocking shades with a sealant.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, features, finishes, and operating instructions for roller shades.

- B. Shop Drawings: Show fabrication and installation details for roller shades, including shadeband materials, their orientation to rollers, and their seam and batten locations.

- 1. Motor-Operated Shades: Include details of installation and diagrams for power, signal, and control wiring.

- C. Samples for Initial Selection: For each type and color of shadeband material.

- 1. Include Samples of accessories involving color selection.

- D. Samples for Verification: For each type of roller shade.

- 1. Shadeband Material: Not less than 10 inches (250 mm) square. Mark interior face of material if applicable.

- E. Product Schedule: For roller shades. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For each type of shadeband material.
- C. Product Test Reports: For each type of shadeband material, for tests performed by manufacturer and witnessed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For roller shades to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Roller Shades: Full-size units equal to 5 percent of quantity installed for each size, color, and shadeband material indicated, but no fewer than two units.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roller shades in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install roller shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from

Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 MANUALLY OPERATED SHADES WITH SINGLE ROLLERS

- A. Manufacturers: Subject to compliance with requirements, Provide MechoShade Systems, Inc., Mecho/5 Manual Shade System or equivalent product from available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Castec; a division of Fabritec, LLC.
 2. Levolor.
 3. MechoShade Systems, Inc.
- B. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.
1. Bead Chains: Stainless steel.
 - a. Loop Length: Full length of roller shade.
 - b. Limit Stops: Provide upper and lower ball stops.
 - c. Chain-Retainer Type: Clip, jamb mount.
 2. Spring Lift-Assist Mechanisms: Manufacturer's standard for balancing roller shade weight and for lifting heavy roller shades.
 - a. Provide for shadebands that weigh more than 10 lb (4.5 kg) or for shades as recommended by manufacturer, whichever criterion is more stringent.
- C. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.
1. Roller Drive-End Location: As indicated on Drawings.
 2. Direction of Shadeband Roll: Regular, from back (exterior face) of roller.
 3. Shadeband-to-Roller Attachment: Removable spline fitting into integral channel in tube.
- D. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.
- E. Shadebands:
1. Shadeband Material: Light-filtering fabric.
 2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.

- a. Type: Enclosed in sealed pocket of shadeband material
- b. Color and Finish: As selected by Architect from manufacturer's full range.

F. Installation Accessories:

- 1. Endcap Covers: To cover exposed endcaps.
- 2. Roller Shade Pocket: Rectangular, extruded-aluminum enclosure with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
- 3. Installation Accessories Color and Finish: As selected from manufacturers full range.

2.3 MANUALLY OPERATED SHADES WITH DOUBLE ROLLERS

A. Manufacturers: Subject to compliance with requirements, Provide MechoShade Systems, Inc., Mecho/5 Manual Shade System or equivalent product from available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- 1. Castec; a division of Fabritec, LLC.
- 2. Levolor.
- 3. MechoShade Systems, Inc.

B. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.

- 1. Bead Chains: Stainless steel.
 - a. Loop Length: Full length of roller shade.
 - b. Limit Stops: Provide upper and lower ball stops.
 - c. Chain-Retainer Type: Clip, jamb mount.
- 2. Spring Lift-Assist Mechanisms: Manufacturer's standard for balancing roller shade weight and for lifting heavy roller shades.
 - a. Provide for shadebands that weigh more than 10 lb (4.5 kg) or for shades as recommended by manufacturer, whichever criterion is more stringent.

C. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.

- 1. Double-Roller Mounting Configuration: Offset, outside roller over and inside roller under.
- 2. Inside Roller:
 - a. Drive-End Location: As indicated on Drawings].
 - b. Direction of Shadeband Roll: Regular, from back (exterior face) of roller.
- 3. Shadeband-to-Roller Attachment: Removable spline fitting into integral channel in tube.

D. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller mounting configuration, roller assemblies, operating mechanisms, installation accessories, and installation locations and conditions indicated.

E. Inside Shadebands:

1. Shadeband Material: Light-filtering fabric.
2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a. Type: Enclosed in sealed pocket of shadeband material.
 - b. Color and Finish: As selected by Architect from manufacturer's full range.

F. Outside Shadebands:

1. Shadeband Material: Light-blocking fabric.
2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a. Type: Enclosed in sealed pocket of shadeband material.
 - b. Color and Finish: As selected by Architect from manufacturer's full range.

G. Installation Accessories:

1. Endcap Covers: To cover exposed endcaps.
2. Roller Shade Pocket: Rectangular, extruded-aluminum enclosure with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
3. Installation Accessories Color and Finish: As selected from manufacturer's full range.

2.4 MOTOR-OPERATED, SINGLE-ROLLER SHADES

A. Manufacturers: Subject to compliance with requirements, Provide MechoShade Systems, Inc., WhisperShade IQ2 System or equivalent product from available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Castec; a division of Fabritec, LLC.
2. Levolor.
3. MechoShade Systems, Inc.

B. Motorized Operating System: Provide factory-assembled, shade-operator system of size and capacity and with features, characteristics, and accessories suitable for conditions indicated, complete with electric motor and factory-prewired motor controls, power disconnect switch, enclosures protecting controls and operating parts, and accessories required for reliable operation without malfunction. Include wiring from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with building electrical system.

1. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Electric Motor: Manufacturer's standard tubular, enclosed in roller.
 - a. Electrical Characteristics: 110-V ac
3. Remote Control: Electric controls with NEMA ICS 6, Type 1 enclosure for recessed or flush mounting. Provide the following for remote-control activation of shades:

- a. Group Control Station: Maintained-contact, three-position, rocker-style, wall-switch-operated control station with open, close, and center off functions for single-switch group control.
 4. Crank-Operator Override: Crank and gearbox operate shades in event of power outage or motor failure.
 5. Limit Switches: Adjustable switches interlocked with motor controls and set to stop shades automatically at fully raised and fully lowered positions.
 6. Operating Features:
 - a. Group switching with integrated switch control; single faceplate for multiple switch cutouts.
 - b. Capable of interface with audiovisual control system.
 - c. Override switch.
 - C. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.
 1. Roller Drive-End Location: As indicated on Drawings for closest proximity to electrical connection
 2. Direction of Shadeband Roll: Regular, from back (exterior face) of roller.
 3. Shadeband-to-Roller Attachment: Removable spline fitting into integral channel in tube.
 - D. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.
 - E. Shadebands:
 1. Shadeband Material: Light-filtering fabric.
 2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a. Type: Enclosed in sealed pocket of shadeband material.
 - b. Color and Finish: As selected by Architect from manufacturer's full range.
 - F. Installation Accessories:
 1. Endcap Covers: To cover exposed endcaps.
 2. Roller Shade Pocket: Rectangular, extruded-aluminum enclosure with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
 3. Installation Accessories Color and Finish: As selected from manufacturer's full range.
- 2.5 MOTOR-OPERATED, DOUBLE-ROLLER SHADES
- A. Manufacturers: Subject to compliance with requirements, Provide MechoShade Systems, Inc., WhisperShade IQ2 System or equivalent product from available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Castec; a division of Fabritec, LLC.

2. Levolor.
 3. MechoShade Systems, Inc.
- B. Motorized Operating Systems: Provide factory-assembled, shade-operator systems of size and capacity and with features, characteristics, and accessories suitable for conditions indicated, complete with electric motor and factory-prewired motor controls, power disconnect switch, enclosures protecting controls and operating parts, and accessories required for reliable operation without malfunction. Include wiring from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with building electrical system.
1. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Electric Motor: Manufacturer's standard tubular, enclosed in rollers.
 - a. Electrical Characteristics: 110-V ac.
 3. Remote Control: Electric controls with NEMA ICS 6, Type 1 enclosure for recessed or flush mounting. Provide the following for remote-control activation of shades:
 - a. Group Control Station: Maintained-contact, three-position, rocker-style, wall-switch-operated control station with open, close, and center off functions for single-switch group control.
 - b. Color: As selected by Architect from manufacturer's full range.
 4. Crank-Operator Override: Crank and gearbox operate shades in event of power outage or motor failure.
 5. Limit Switches: Adjustable switches, interlocked with motor controls and set to stop shade movement automatically at fully raised and fully lowered positions.
 6. Operating Features:
 - a. Group switching with integrated switch control; single faceplate for multiple switch cutouts.
 - b. Capable of interface with audiovisual control system.
 - c. Override switch.
- C. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shades for service.
1. Double-Roller Mounting Configuration: Offset, outside shade over and inside shade under.
 2. Inside Roller:
 - a. Drive-End Location: As indicated on Drawings for closest proximity to electrical connection
 - b. Direction of Shadeband Roll: Regular, from back (exterior face) of roller.
 3. Outside Roller:
 - a. Drive-End Location: As indicated on Drawings for closest proximity to electrical connection
 - b. Direction of Shadeband Roll: Regular, from back (exterior face) of roller.

4. Shadeband-to-Roller Attachment: Removable spline fitting into integral channel in tube.
- D. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller mounting configuration, roller assemblies, operating mechanisms, installation accessories, and installation locations and conditions indicated.
- E. Inside Shadebands:
 1. Shadeband Material: Light-filtering fabric.
 2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a. Type: Enclosed in sealed pocket of shadeband material.
 - b. Color and Finish: As selected by Architect from manufacturer's full range.
- F. Outside Shadebands:
 1. Shadeband Material: Light-blocking fabric.
 2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a. Type: Enclosed in sealed pocket of shadeband material.
 - b. Color and Finish: As selected by Architect from manufacturer's full range.
- G. Installation Accessories:
 1. Endcap Covers: To cover exposed endcaps.
 2. Roller Shade Pocket: Rectangular, extruded-aluminum enclosure with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
 3. Installation Accessories Color and Finish: As selected from manufacturer's full range.

2.6 SHADEBAND MATERIALS

- A. Shadeband Material Flame-Resistance Rating: Comply with NFPA 701. Testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- B. Light-Filtering Fabric: Woven fabric, stain and fade resistant.
 1. Basis-of-Design: MechoShade Systems 1500 Series or equivalent product from available manufacturers offering products may be incorporated into the Work
 2. Type: Extruded vinyl/polyester yarn.
 3. Weave: Basketweave.
 4. Thickness: Single thickness non-raveling 0.030-inch (0.762 mm) thick vinyl fabric, woven from 0.018-inch (0.457 mm) diameter extruded vinyl yarn
 5. Roll Width: 96 inches (2438 mm).
 6. Orientation on Shadeband: As indicated on Drawings.
 7. Openness Factor: 3 percent.
 8. Color: As selected by Architect from manufacturer's full range.
- C. Light-Filtering Fabric: Woven fabric, stain and fade resistant.
 1. Basis-of-Design: MechoShade Systems 1500 Series or equivalent product from available manufacturers offering products may be incorporated into the Work
 2. Type: Extruded vinyl/polyester yarn.

3. Weave: Twill
4. Thickness: Single fabric thickness 0.025 inches (0.635 mm) thick vinyl fabric, woven from 0.010-inch (0.254 mm) diameter vinyl/polyester yarn
5. Roll Width: 96 inches (2438 mm).
6. Orientation on Shadeband: As indicated on Drawings.
7. Openness Factor: 3 percent.
8. Color: As selected by Architect from manufacturer's full range.

D. Light-Blocking Fabric: Opaque fabric, stain and fade resistant.

1. Basis-of-Design: MechoShade Systems 0700 Series or equivalent product from available manufacturers offering products may be incorporated into the Work.
2. Type: Washable and colorfast laminated and embossed vinyl coated fabric
3. Thickness: 0.012 inches thick (0.30 mm).
4. Weight: 0.81 lbs. per square yard, with a minimum of 62 threads per square inch.
5. Roll Width: 72 inches (1829 mm).
6. Orientation on Shadeband: As indicated on Drawings.
7. Features: Washable.
8. Color: As selected by Architect from manufacturer's full range.

E. Light-Blocking Fabric: Opaque fabric, stain and fade resistant.

1. Basis-of-Design: MechoShade Systems 0100/0200 Series or equivalent product from available manufacturers offering products may be incorporated into the Work.
2. Type: Room darkening (PVC free) Shadecloth with opaque acrylic backing.
3. Thickness: 0.008 inches thick (.19 mm)
4. Weight: 0.94 lbs. per square yard.
5. Roll Width: 100 inches (2540 mm).
6. Orientation on Shadeband: As indicated on Drawings.
7. Color: As selected by Architect from manufacturer's full range.

2.7 ROLLER SHADE FABRICATION

- A. Product Safety Standard: Fabricate roller shades to comply with WCMA A 100.1, including requirements for flexible, chain-loop devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):
 1. Outside of Jamb Installation: Width and length as indicated, with terminations between shades of end-to-end installations at centerlines of mullion or other defined vertical separations between openings.
- C. Shadeband Fabrication: Fabricate shadebands without battens or seams to extent possible, except as follows:
 1. Railroaded Materials: Railroad material where material roll width is less than the required width of shadeband and where indicated. Provide battens and seams as required by railroaded material to produce shadebands with full roll-width panel(s) plus, if required, one partial roll-width panel located at top of shadeband.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, locations of connections to building electrical system, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ROLLER SHADE INSTALLATION

- A. Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions.
 - 1. Opaque Shadebands: Located so shadeband is not closer than 2 inches (51 mm) to interior face of glass. Allow clearances for window operation hardware.
- B. Electrical Connections: Connect motor-operated roller shades to building electrical system.
- C. Roller Shade Locations: As indicated on Drawings.
- D. Single-Source Responsibility for Motorized Interior Roller Shades: To control the responsibility for performance of motorized roller shade systems, assign the design, engineering, and installation of motorized roller shade systems, motors, controls, and low voltage electrical control wiring specified in this Section to a single manufacturer and their authorized installer/dealer. The Architect will not produce a set of electrical drawings for the installation of control wiring for the motors, or motor controllers of the motorized roller shades. Power wiring (line voltage), shall be provided by the roller window shade installer/dealer, in accordance with the requirements provided by the manufacturer. Coordinate the following with the roller shade installer/dealer:
 - 1. General Contractor shall provide power as indicated on the electrical drawings.
 - 2. General Contractor shall coordinate with requirements of roller shade installer/dealer, before inaccessible areas are constructed.
 - 3. Roller window shade installer/dealer shall run line voltage (of sufficient quantity, in sufficient capacity as required) terminating in junction boxes in locations designated by roller shade dealer.
 - 4. Roller window shade installer/dealer shall provide and run all line voltage (from the terminating points) to the motor controllers, wire all roller shade motors to the motor controllers, and provide and run low voltage control wiring from motor controllers to switch/ control locations designated by the Architect. All above-ceiling and concealed wiring shall be plenum-rated, or installed in conduit, as required by the electrical code having jurisdiction
 - 5. General Contractor shall provide conduit with pull wire in all areas, which might not be accessible to roller shade contractor due to building design, equipment location or schedule

3.3 ADJUSTING

- A. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

- A. Clean roller shade surfaces, after installation, according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer that ensure that roller shades are without damage or deterioration at time of Substantial Completion.
- C. Replace damaged roller shades that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain motor-operated roller shades.

3.6 ROLLER WINDOW SHADE SCHEDULE

ROOM NUMBER	ROOM NAME	SHADING TYPE	FABRIC TYPE	NOTES
0226	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0227	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0228	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0229	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0307	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0308	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0311	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0312	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0313	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0314	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621

0315	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0316	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0318	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0320	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0322	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
0323	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1221	CLERKS SERVICE COUNTER	SINGLE MANUAL	WS-1	5 SERVICE COUNTERS; REFER TO FINISH LIST ON SHEET A-621
1104	PROCESSING	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1301	CONFERENCE ROOM	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1302	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1300	OPEN WORK AREA	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1320	INTERVIEW ROOM	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1300	OPEN WORK AREA	SINGLE MANUAL	WS-2	CORRIDOR; REFER TO FINISH LIST ON SHEET A-621
1352	CONFERENCE ROOM	DUAL MANUAL	WS-1 & 2	REFER TO FINISH LIST ON SHEET A-621
1350	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1349	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1348	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1347	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1346	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1345	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621

1344	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1343	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1342	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1341	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1339	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1338	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1337	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1336	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1334	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1333	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1332	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1331	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1330	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1209	BREAK ROOM	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1210	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1211	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1212	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1213	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
1214	OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2100A	GALLERIA	SINGLE MOTORIZED	WS-2	INCLUDING THE TWO W3B WINDOWS ON EITHER SIDE OF GALLERIA; REFER TO FINISH LIST ON SHEET A-621

2100B	PUBLIC WAITING	SINGLE MOTORIZED	WS-2	INCLUDING THE TWO W3B WINDOWS ON THE RIGHT SIDE OF PUBLIC WAITING; REFER TO FINISH LIST ON SHEET A- 621
2126	MEDIATOR ROOM	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2125	PUBLIC DEFENDER WORK ROOM	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2447	SHERIFF BREAK ROOM	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2222	STAFF TOILET	SINGLE MANUAL	WS-1	REFER TO FINISH LIST ON SHEET A-621
2219	JUDICIAL CONFERENCE ROOM	DUAL MOTORIZED	WS-1 & 2	REFER TO FINISH LIST ON SHEET A-621
2215	JUDGES OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2214	JUDGES OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2213	JUDGES OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2212	JUDGES OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2211	JUDGES OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621
2204	LIEUTENANT OFFICE	SINGLE MANUAL	WS-2	REFER TO FINISH LIST ON SHEET A-621

END OF SECTION 122413