

## Architect's Supplemental Instructions

**Architect's Project No:**  
04561.01

**Architect's ASI No:** 056 rev1

**Project:**  
Webster University  
Interdisciplinary Science  
Building

**Date Issued:** 03/17/2017

**Contract Date:**

**Reason Code:** 06 Owner's Scope

**Discipline Code:** 07 7 General Construction  
(Architectural)

St. Louis  
Baltimore  
Boston  
Buffalo  
Calgary  
Chicago  
Houston  
Los Angeles  
Mumbai  
New York  
Phoenix  
San Francisco  
Shanghai  
Toronto  
Vancouver  
Victoria  
Washington DC

**Owner:**  
Webster University

**Architect:**  
Cannon Design  
1100 Clark Avenue  
St. Louis, MO 63102

**Contractor:**  
Paric Construction

**Contract For:** General construction

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Architect within fourteen (14) business days of the date of issuance of these instructions. If you feel a change in Contract Sum or Contract Time is warranted, please submit an itemized quotation for the changes for approval within fourteen (14) business days of the date of issuance of these instructions prior to proceeding on the Work. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change.

### Attachments:

**Sheets:**  
A0702.A, A0703.A, A704.A

**Specification:**  
Section 122413

**Shadecloth Selection Diagram**

1100 Clark Avenue  
St. Louis, Missouri  
63102  
T: 314.241.6250  
F: 314.241.2570  
www.cannondesign.com

**Reason Codes:**  
#1. Jurisdictional Agency  
#2. Constructor Driven  
#3. Document Inconsistency  
#4. Fast Track Driven  
#5. A/E Scope  
#6. Owners Scope  
#7. Unforeseeable Conditions  
#8. Other

**Discipline Codes**  
#1. Demo-demolition  
#2. Div1-Division 1 items on the spec book  
(this item is not used)  
#3. Electrical  
#4. Elevator  
#5. Equipment (Changes in equipment,  
Owner Purchased)  
#6. Fire Protection

**Discipline Codes**  
#7. General Construction (Architectural)  
#8. General Conditions (Div. 1)  
#9. HVAC  
#10. Other  
#11. Plumbing  
#12. Site Work/Landscaping  
#13. Structural

## Architect's Supplemental Instructions

Page 2

### **Description:**

Modification to Shade scope of work to include additional room darkening capability at laboratories - as requested by Webster University.

In addition, Shadecloth selection diagram is included. (revised in ASI-056 rev1)

**Please submit an itemized proposal for changes in contract Sum and Contract Time for proposed modifications to the Contract Documents described herein:**

**Issued by Architect:** Lynn Grossman & Kelvin Patel, CannonDesign;

**Accepted by Contractor:**

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|             |                   |                                                                                                                                           |
|-------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| APC-1       | 2' x 2'           | ARMSTRONG OPTIMA REGULAR 1" THICK IN 9" GRID                                                                                              |
| APC-2       | 2' x 4'           | ARMSTRONG ULTIMA REGULAR IN 9" SILHOUETTE XL 1/8" GRID                                                                                    |
| APC-3       | 2' x 2'           | ARMSTRONG ULTIMA HEALTH ZONE REGULAR                                                                                                      |
| APC-3B      | 2' x 2'           | ARMSTRONG ULTIMA HEALTH ZONE REGULAR 9"16" GRID                                                                                           |
| APC-4       | NOT USED          |                                                                                                                                           |
| APC-5       | 2' x 2'           | ARMSTRONG FINE FISURED IN 15"16" GRID                                                                                                     |
| APC-6       | 098310            | ACOUSTICAL PLASTER: BASWAPHON (40 MM) OVER 1 1/2" INSULATION OVER GYP BOARD                                                               |
| APC-7       | 2' x 4'           | ARMSTRONG ULTIMA REGULAR IN 9"16" SILHOUETTE XL 1/8" GYP 6" PANEL INSERTS A SHOWN                                                         |
| APC-8       | 2' x 4'           | ARMSTRONG OPTIMA REGULAR 1" THICK, NRC .00 IN 9"16" SILHOUETTE XL 1/8" GRID                                                               |
| MATCH APC-7 | EXCEPT            | REF. 095130 SPECIAL ACOUSTIC TREATMENT: APPY'S SPECIAL ACOUSTIC MATERIAL TO TOP SIDE OF PANELS AND PROVIDE ISOLATORS FOR CEILING HANGERS. |
| WDC-1       | 09 5426           | WOOD GRILLE CEILING W/ 3/4" x 2 1/4" MEMBERS - 6 PER FOOT - NINEWOOD GRILL                                                                |
| WDC-2       | 1400 W            | 1" THICK ARMSTRONG OPTIMA REGULAR 1" THICK GRID SUPPORT ABOVE                                                                             |
| WDC-2       | 06 4216           | FLUSH WOOD PANEL SOFFIT - MATCH WVP-1                                                                                                     |
| WDC-3       | 06 4216           | OPAQUE WOOD PANEL TOP TO MATCH WOOD ACoust WALL PANEL                                                                                     |
| GWB-1       | PAINTED GYP BOARD |                                                                                                                                           |
| GWB-2       | GYP BOARD         | COATING TO MATCH ADJACENT ADJ. PLASTER                                                                                                    |



© Cannon Design 2015



- GWB-1 PAINTED GYP. BOARD  
GWB-2 GYP. BOARD W/ COATING TO MATCH ADJACENT ACOUST. PLASTER

© Cannon Design 2015

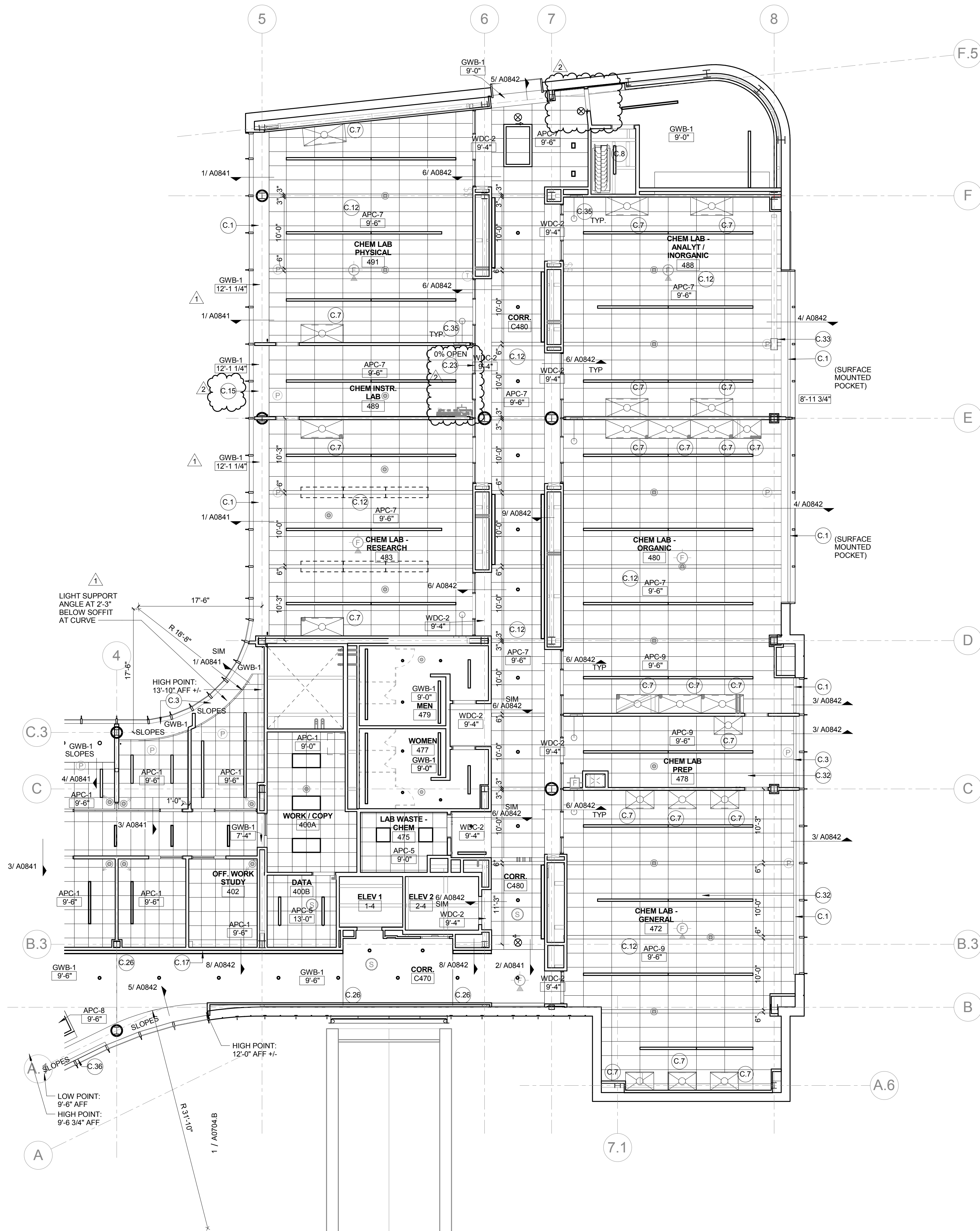
#### KEYED NOTE LEGEND - REFLECTED CEILING PLAN

- C.1 122413 TYPE 1 SHADES: MOTORIZED ROLLER SHADES IN CONTINUOUS RECESSED POCKET (SFC)
- C.2 122413 TYPE 2 SHADES: MOTORIZED DOUBLE ROLLER SHADES: SURFACE MOUNTED W/ CUSTOM COLOR FASCIA
- C.3 122413 TYPE 3 SHADES: MANUAL SHADES IN RECESSED POCKET
- C.4 122413 TYPE 4 SHADES: MULLION MOUNTED SHADE IN CONTINUOUS POCKET
- C.5 CEILING MOUNTING SUSPENSION FOR LCD SCREEN- PROVIDE STEEL SUPPORT ABOVE CEILING
- C.6 EXHAUST HOOD LOCATION - REFER TO FOOD SERVICE DRAWINGS
- C.7 FUME HOOD LOCATION - HOOD ENCLOSURE EXTENDS 6" ABOVE CEILING
- C.8 EXPOSED STRUCTURE
- C.9 083333 SIDE COILING DOOR TRACK
- C.10 ACOUSTICAL PANEL CEILING ABOVE WOOD GRILLE CEILING. 1" THICK ARMSTRONG OPTIMA PANELS FIT TO GRID FOR WOOD GRILLE CEILING
- C.11 ACOUSTICAL ISOLATION CEILING: 2 LAYERS 1/2" GYP BOARD CEILING ON SUSPENDED METAL FRAMING SUSPENSION SYSTEM TO BE ACOUSTICALLY ISOLATED FROM STRUCTURE BY SPRING/NEOPRENE ISOLATION HANGER - KINETIC NOISE CONTROL MODEL MUTA HANGERS. PROVIDE CONTINUOUS LAYERS OF 3/2" FIBERGLASS ACOUSTIC BATTES. REFER TO DETAIL 16 SHEET A0842
- C.12 6" PANEL WHERE SHOWN @ 10'-6" O.C. MATCH CEILING TYPE
- C.13 RECESSED DRAPEY TRACK AND CURTAINS - OFCI - PROVIDE BLOCKING
- C.15 122413 TYPE 5 MOTORIZED DOUBLE ROLLER SHADE IN RECESSED POCKET.
- C.16 WOOD CEILING AT BOTTOM OF STAIRS - REFER TO STAIR 1 DRAWINGS AND DETAILS SHEET A0501
- C.17 CONTINUOUS COVE TYPE LIGHTING FIXTURE TAPED INTO GYP BOARD CEILING. REFER TO ELECTRICAL LIGHTING DRAWINGS AND TO DETAIL AT WALL SHEET A0842
- C.18 CEILING IN COLD ROOM BY COLD ROOM MFG
- C.19 G57500 MET ALUM. BEAM ENCLOSURE
- C.20 UNISTRUT MOUNTED TO CEILING W/ STEEL ANGLE HANGERS AND KICKERS ABOVE FOR SUPPORT
- C.21 STAINLESS STEEL STEAM CAPTURE HOOD ABOVE AUTOCLAVE
- C.22 REFER TO DETAIL 6/A0452
- C.23 122413 TYPE 6 SHADES: MANUAL SHADES IN RECESSED POCKET AT INTERIOR GLAZING. POCKET CONTINUOUS ACROSS OPENING
- C.24 INSULATED SOFFIT - SIMILAR TO WA-14 ON SHEET A0406
- C.25 CEILING MOUNTED SURGICAL LIGHT - SEE EQUIPMENT LIST (OFCI) - PROVIDE STRUCTURAL STEEL SUPPORT TO DECK - 4 - 2X2X 1/4" STEEL ANGLE HANGER WITH 4 - ANGLE KICKERS 2 X 2 X 1/4". AND MOUNTING PLATE PER MANUFACTURER. SEE DETAIL 01/A0914.
- C.26 CONTROL JOINT LOCATION
- C.27 ABOVE CEILING WHERE INDICATED WITH DASHED LINE: PROVIDE 2 HOUR RATED HORIZONTAL GYP BOARD ENCLOSURE AROUND DUCTS SERVING FLOOR GRILLES ON LEVEL ABOVE. REFER TO DETAIL SHEET A1002
- C.28 ABOVE CEILING WHERE INDICATED WITH DASHED LINE: PROVIDE 2 HOUR RATED HORIZONTAL GYP BOARD ENCLOSURE AROUND STANDPIPE RUN. REFER TO DETAIL SHEET A1002
- C.29 PROVIDE 2 HOUR RATED HORIZONTAL GYP BOARD ENCLOSURE AT BOTTOM OF SHAFT. REFER TO DETAIL SHEET A1002
- C.30 122413 TYPE 7 SHADES: MOTORIZED DOUBLE ROLLER SHADES: SURFACE MOUNTED W/ CUSTOM COLOR FASCIA
- C.31 122413 TYPE 8 MOTORIZED DOUBLE ROLLER SHADE IN RECESSED POCKET.
- C.32 SPECIAL ACOUSTICAL SEPARATION CEILING: APPLY KINETICS NOISE CONTROL QUIET TILE CAC-51 TO TOP SIDE OF ACOUSTICAL PANELS. ISOLATE CEILING TILE FROM STRUCTURE ABOVE WITH KNC AF HANGERS. LEAVE 3/4" GAP ALL SIDES
- C.33 REVEAL TRIM AROUND DIAGONAL BRACE PENETRATION THROUGH CEILING
- C.34 LABORATORY OVERHEAD SERVICE CARRIER - REFER TO ENLARGED FLOOR PLANS
- C.35 EMERGENCY SAFETY SHOWER - PIPING TO HEAD ABOVE CEILING
- C.36 122413 TYPE 3 SHADES: MANUAL SHADES - STEPPED WITH SLOPE IN CONT. SLOPED DRAINING
- C.37 122413 TYPE 9 SHADES: DOUBLE MANUAL SHADES IN RECESSED POCKET

#### CEILING LEGEND

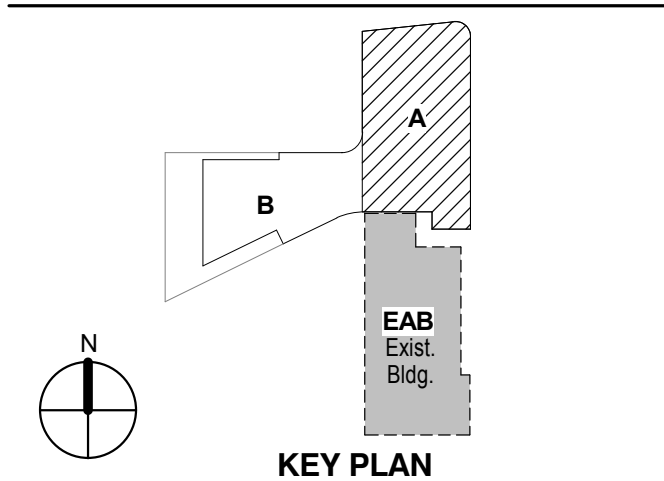
- APC-1 2' x 2' - ARMSTRONG OPTIMA REGULAR 1" THICK IN 9/16" GRID
- APC-2 2' x 4' - ARMSTRONG ULTIMA REGULAR IN 9/16" SILHOUETTE XL 1/8" GRID
- APC-3A 2' x 2' - ARMSTRONG ULTIMA HEALTH ZONE IN 9/16" GRID
- APC-3B 2' x 2' - ARMSTRONG ULTIMA HEALTH ZONE REGULAR IN 9/16" GRID
- APC-4 NOT USED
- APC-5 2' x 2' - ARMSTRONG FINE FISSURED IN 15/16" GRID
- APC-6 085110 ACOUSTICAL PLASTER: BASWAPHON (40 MM) OVER 1 1/2" INSULATION OVER GYP. BOARD
- APC-7 2' x 4' - ARMSTRONG ULTIMA REGULAR IN 9/16" SILHOUETTE XL GRID W/ 6" PANEL INSERTS AS SHOWN
- APC-8 2' x 6' ARMSTRONG OPTIMA REGULAR - 1" THICK, NRC - .90. IN 9/16" SILHOUETTE XL 1/8" GRID MATCH APC-7 - EXCEPT REF. 085113: SPECIAL ACOUSTIC TREATMENT. APPLY SPECIAL ACOUSTIC MATERIAL TO TOP SIDE OF PANELS AND PROVIDE ISOLATORS FOR CEILING HANGERS:

- WDC-1 09 5428 WOOD GRILLE CEILING W/ 3/4" x 2 1/4" MEMBERS - 6 PER FOOT - NINEWOOD GRILL 1400 W/ 1" THICK ARMSTRONG OPTIMA PANELS FIT TO GRID SUPPORT ABOVE
- WDC-2 06 4216 FLUSH WOOD PANEL SOFFIT - MATCH WVP-1
- WDC-3 06 4216 OPAQUE WOOD PANEL TO MATCH WOOD ACOUST WALL PANEL.
- GWB-1 PAINTED GYP. BOARD
- GWB-2 GYP. BOARD W/ COATING TO MATCH ADJACENT ACOUST. PLASTER



1 LEVEL 04 REFLECTED CEILING PLAN - AREA A  
1/8" = 1'-0"

|   |                               |             |
|---|-------------------------------|-------------|
| 2 | ASI-056                       | 17 MAR 2017 |
| 1 | ADDENDUM 3-2                  | 15 APR 2016 |
| - | ISSUED FOR CONSTRUCTION (BP3) | 15 MAR 2016 |



Drawing Title:

#### LEVEL 04 REFLECTED CEILING PLAN AREA A

Project No.: 04561.01 Checked by:

A0704.A

## SECTION 122413 - ROLLER WINDOW SHADES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Manually operated roller shades with single rollers.
2. Motor-operated roller shades with single rollers.
3. Refer to schedule at the end of this section for types and locations.

#### 1.2 ACTION SUBMITTALS

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

1. Include styles, material descriptions, construction details, 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.

##### C. Samples for Verification: For each type of roller shade.

1. Shadeband Material: Not less than 10 inches square. Mark inside face of material if applicable.

##### D. Roller-Shade Schedule: Use same designations indicated on Drawings.

#### 1.3 CLOSEOUT SUBMITTALS

##### A. Maintenance Data: For roller shades to include in maintenance manuals.

#### 1.4 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.

#### 1.5 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.

#### 1.6 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. Basis-of-Design Product **Manual Shades**: Subject to compliance with requirements, provide Mechoshade or comparable product by one of the following:
1. Draper Inc.
  2. Hunter Douglas Contract.
  3. Lutron.
- ~~B. Source Limitations: Obtain roller shades from single source from single manufacturer.~~
- C. **Basis-of-Design Product Motorized Shades**: Subject to compliance with requirements, provide Lutron Sivoia QS window shades.

## 2.2 MANUALLY OPERATED SHADES WITH SINGLE ROLLERS

- A. 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: Chain tensioner, sill mounted.
  2. Spring Lift-Assist Mechanisms: Manufacturer's standard for balancing roller-shade weight and lifting heavy roller shades.
    - a. Provide for shadebands that weigh more than 10 lb or for shades as recommended by manufacturer, whichever criteria are more stringent.
- B. 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: Right side of inside face of shade or as indicated on the schedule.
  2. Direction of Shadeband Roll: Regular, from back of roller.
  3. Shadeband-to-Roller Attachment: Manufacturer's standard method .
- C. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.
- D. 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.
- E. Installation Accessories:
1. Recessed Shade Pocket: Rectangular, extruded-aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
    - a. Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open.
    - b. Provide pocket with lip at lower edge to support acoustical ceiling panel or taping into gypsum board.

2. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller endcaps without exposed fasteners.
  - a. Shape: L-shaped.
  - b. Height: Manufacturer's standard height required to conceal roller and shadeband when shade is fully open, but not less than 3 inches.
3. Endcap Covers: To cover exposed endcaps.
4. Installation Accessories Color and Finish: As selected from manufacturer's full range.

## 2.3 MOTOR-OPERATED, SINGLE-ROLLER SHADES

- A. 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: ~~Single phase, 120V, 60-Hz low voltage for connection to NFPA 70, Class 2 power source.~~
  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. ~~Keyed Control Station: Keyed, maintained contact, three position, switch-operated control station with open, close, and off functions. Provide two keys per station.~~

~~Color: As selected by Architect from manufacturer's full range.~~

**3. Wired Keypads:**  
**Lutron Architrave QS Keypads.**

  - a. **Power: Class 2 (low voltage)**
  - b. **Communications: Utilize RS485 wiring for low-voltage communications link.**
  - c. **Mounting: Wallbox; Lutron Architrave Wallbox, provide wall plates with concealed mounting hardware.**
  - d. **Design keypads to allow field-customization of button color, configuration, and engraving using field-changeable replacement kits.**
  - e. **Contact Closure Interface: Provide two contact closure inputs on back of unit which provide independent functions from front buttons; accepts both momentary and maintained contact closures.**
  - f. **Terminal block inputs to be over-voltage and miswire-protected against wire reversals and shorts.**
  - g. **Finish: Custom colors to be selected by Architect.**- 4. Limit Switches: Adjustable switches interlocked with motor controls and set to stop shades automatically at fully raised and fully lowered positions.
- 5. 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.

- A. 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: Manufacturer's standard.
  - 2. Direction of Shadeband Roll: Regular, from back of roller.
  - 3. Shadeband-to-Roller Attachment: Manufacturer's standard method .
- B. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.
- C. Shadebands:
  - 1. Shadeband Material: As indicated in the finish legend.
  - 2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
    - a. Type: Enclosed in sealed pocket of shadeband material.
    - b. Color and Finish: As indicated in the finish legend.
- D. Installation Accessories:
  - 1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller endcaps without exposed fasteners.
    - a. Shape: L-shaped.
    - b. Height: Manufacturer's standard height required to conceal roller and shadeband assembly when shade is fully open, but not less than 4 inches.
  - 2. Recessed Shade Pocket: Rectangular, extruded-aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
    - a. Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open.
    - b. Provide pocket with lip at lower edge to support acoustical ceiling panel or taping into gypsum board.

## 2.4 MOTOR-OPERATED, DOUBLE-ROLLER SHADES

- A. 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: Single phase, 120V, 60 Hz low voltage for connection to NFPA 70, Class 2 power source.**
  - 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: Momentary contact, three-position, rocker style, wall-switch-operated control station with open, close, and center off functions for single-switch group control.~~

3. **Wired Keypads: Lutron Architrave QS Keypads.**
  - b. **Power: Class 2 (low voltage)**
  - b. **Communications: Utilize RS485 wiring for low-voltage communications link.**
  - c. **Mounting: Wallbox; Lutron Architrave Wallbox, provide wall plates with concealed mounting hardware.**
  - d. **Design keypads to allow field-customization of button color, configuration, and engraving using field-changeable replacement kits.**
  - e. **Contact Closure Interface: Provide two contact closure inputs on back of unit which provide independent functions from front buttons; accepts both momentary and maintained contact closures.**
  - f. **Terminal block inputs to be over-voltage and miswire-protected against wire reversals and shorts.**
  - g. **Finish: Custom colors to be selected by Architect.**
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.
- B. 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: Side by side or vertical as indicated on shade schedule.
  2. Inside Roller:
    - a. Drive-End Location: Right side of inside face of shade.
    - b. Direction of Shadeband Roll: Regular, from back of roller.
  3. Outside Roller:
    - a. Drive-End Location: Right side of inside face of shade.
    - b. Direction of Shadeband Roll: Regular, from back of roller.
  4. Shadeband-to-Roller Attachment: Manufacturer's standard method.
- C. 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.
- D. Roller-Coupling Assemblies: Coordinated with operating mechanism and designed to join up to three inline rollers into a multiband shade that is operated by one roller drive-end assembly.
- E. Inside Shadebands:
  1. Shadeband Material: as indicated.
  2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
    - a. Type: Enclosed in sealed pocket of shadeband material.
- F. Outside Shadebands:
  1. Shadeband Material: as indicated.
  2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
    - a. Type: Enclosed in sealed pocket of shadeband material.

**G. Installation Accessories:**

1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller endcaps without exposed fasteners.
  - a. Shape: L-shaped.
2. Exposed Headbox: Rectangular, extruded-aluminum enclosure including front fascia, top and back covers, endcaps, and removable bottom closure.
3. Endcap Covers: To cover exposed endcaps.
4. Recessed Shade Pocket: Rectangular, extruded-aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
  - a. Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open, but not less than 5 inches.
5. Closure Panel and Wall Clip: Removable aluminum panel designed for installation at bottom of site-constructed ceiling recesses or pockets and for snap-in attachment to wall clip without fasteners.
  - a. Closure-Panel Width: As indicated on Drawings.

**2.5 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. Source: Roller-shade manufacturer.
  2. Color: As indicated on Drawings.

**2.6 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:
  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. Vertical Shades: Where width-to-length ratio of shadeband is equal to or greater than 1:4, provide battens and seams at uniform spacings along shadeband length to ensure shadeband tracking and alignment through its full range of movement without distortion of the material.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, 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.

### 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.

## SCHEDULE

Shade type 1: Levels 02-04 - motorized shades at perimeter windows in laboratories.

Locations:

Shade type: Motorized Shades - Basis of Design ~~Mecho Systems Electro Shade~~ **Lutron Sivoia QS.**

Shade Cloth: ~~EuroVeil 6450 Series Basketweave~~ - 3% open

Mounting – Top mounting, in continuous recessed pocket. ~~Pocket: 4133 w/ 2" closure.~~  
**Provide recessed pocket with 2 inch closure.**

Operation: all shades operate together in each room **with wall mounted controller..**

Shade type 2: Level 01 – double motorized shades at perimeter window in lecture hall and conference room.

Locations: Lecture Hall 160 and Conference Room 140

Shade type: Motorized Shades - Basis of Design ~~Mecho Systems Electro Shade #1 Double Shade. #13 Lutron Sivoia QS.~~

Shade Cloth: Top Roll, Outside Roll: ~~EuroVeil 6450 Series Basketweave~~ (3% open); Bottom Roll, Inside Roll: **Match Mecho Systems** Equinox Blackout 0100 Series (0% open)

Mounting – Top mounting

Operation: Outside shade and inside shade must be capable of operating independently.

Stagger shades so that the inside shade covers gaps at the outside shade. Align gaps at outside shade with mullions. In lecture hall shades to be operable from two locations.

~~**Alternate Bid for Shade Type 2: Provide Alternate Bid for Lutron Low voltage shades for these rooms.**~~

Shade type 3: Level 02-04 single manual shades at perimeter windows in offices and prep rooms.

Locations: where noted on ceiling plans

Shade type: Manual Shades - Basis of Design Mecho Systems Manual Shade – Mecho/5 Bracket

Shade Cloth: EuroVeil 6450 Series – 3% open

Mounting – Top mounting, in continuous recessed pocket. Pocket: 4133 w/ 2" closure.

Configuration: Align shade gaps with mullions. No battens. One shade per glass area between mullions. Provide lift assist mechanism if required by size of shade, on side opposite of door opening.

Shade type 4: Level 03 single manual shades at perimeter windows in offices with sloped perimeter ceiling: mounted in pocket.

Locations: where noted on ceiling plans

Shade type: Manual Shades - Basis of Design Mecho Systems Manual Shade – Mecho/5 Bracket

Shade Cloth: EuroVeil 6450 Series – 3% open

Mounting – Top mounting, in continuous “freestanding” pocket supported by painted 4” x 4” x 1/4” steel angle spanning across room. Pocket: 4133 w/ 2” closure.

Configuration: Align shade gaps with mullions. No battens. One shade per glass area between mullions. Provide lift assist mechanism if required by size of shade.

Shade type 5: Level 02– double motorized shades at perimeter window in classrooms – mounted in recessed pocket

Locations: ~~Lecture Hall 160 and Conference Room 140 Classrooms 231 & 233 and Open Lab 235.~~

Shade type: Motorized Shades - Basis of Design ~~Mecho Systems Electro /3 Double Shade- #20 Lutron Sivoia QS double shade~~ with fascia. Shades are set side by side in a parallel configuration.

Shade Cloth: Top Roll, Outside Roll: ~~EuroVeil 6450 Series Basket weave~~ (3% open); Bottom Roll, Inside Roll: ~~Equinox Blackout 0100 Series~~ 0% open ~~to match MechoShade Equinox.~~

Mounting – Top mounting

Operation: Outside shade and inside shade must be capable of operating independently.

Stagger shades so that the inside shade covers gaps at the outside shade. Align gaps at outside shade with mullions.

~~Alternate Bid for Shade Type 5: Provide Alternate Bid for Lutron Low voltage shades for these rooms.~~

Shade type 6: Levels 02 and 03 **and 04** manual shade at interior glazing in laboratories

Location: Laboratories where noted.

Shade type: Manual Shades - Basis of Design Mecho Systems Manual Shade – Mecho/5

Bracket Shade Cloth: EuroVeil 5300 Series (5% open). **Where noted on Drawings, provide, provide 0% open shades - Equinox Series 0100 (0% open).**

Mounting – Top mounting, in continuous recessed pocket. Provide 3” Pocket closure.

Operation: Locate chain operators on side opposite of door opening.

Shade type 7: Level 02 and Level 04 double motorized shades at projected windows in laboratories.

Locations: as noted on drawings

Shade type: Motorized Shades - Basis of Design ~~Mecho Systems Electro /3 Double Shade- #20 Lutron Sivoia QS double shade~~ with fascia. Shades are set side by side in a parallel configuration.

Shade Cloth: Outside Roll: ~~EuroVeil 6450 Series Basketweave~~ (3% open); Inside Roll: ~~Equinox Blackout 0100 Series~~ 0% open ~~to match MechoShade Equinox.~~

Mounting – Top mounting with continuous fascis.

Operation: Outside shade and inside shade must be capable of operating independently.

Stagger shades so that the inside shade covers gaps at the outside shade. Align gaps at outside shade with mullions.

Shade type 8: Level 02 double motorized shades at SCIN Classroom in recessed pocket.

Locations: Room 276 SCIN Classromm

Shade type: Motorized Shades - Basis of Design Basis of Design Mecho Systems Electro Shade #1 Double Shade. #13

Shade Cloth: Top Roll, Outside Roll: ~~EuroVeil 6450 Series Basketweave~~ (3% open); Inside Roll: ~~Equinox Blackout 0100 Series~~ 0% open ~~to match MechoShade Equinox~~

Mounting: Top mounting with continuous recessed pocket..

Operation: Outside shade and inside shade must be capable of operating independently.  
Stagger shades so that the inside shade covers gaps at the outside shade. Align gaps at outside shade with mullions.

~~**Alternate Bid for Shade Type 8: Provide Alternate Bid for Lutron Low voltage shades for these rooms.**~~

**Shade type 9: Level 02-04 double manual shades at perimeter windows in labs.**

***Locations: Where noted on ceiling plans.***

***Shade Type: Manual Shades – Basis of Design Mecho Systems Manual Shade – Mecho/5 double shade bracket #15.***

***Shade Cloth: Outside roll Euroveil 6462 Light Charcoal (3% open); Inside roll Equinox Blackout 0100 (0% open).***

***Mounting: Top mounting in continuous recessed pocket. Pocket: 6113 w/3 inch closure***

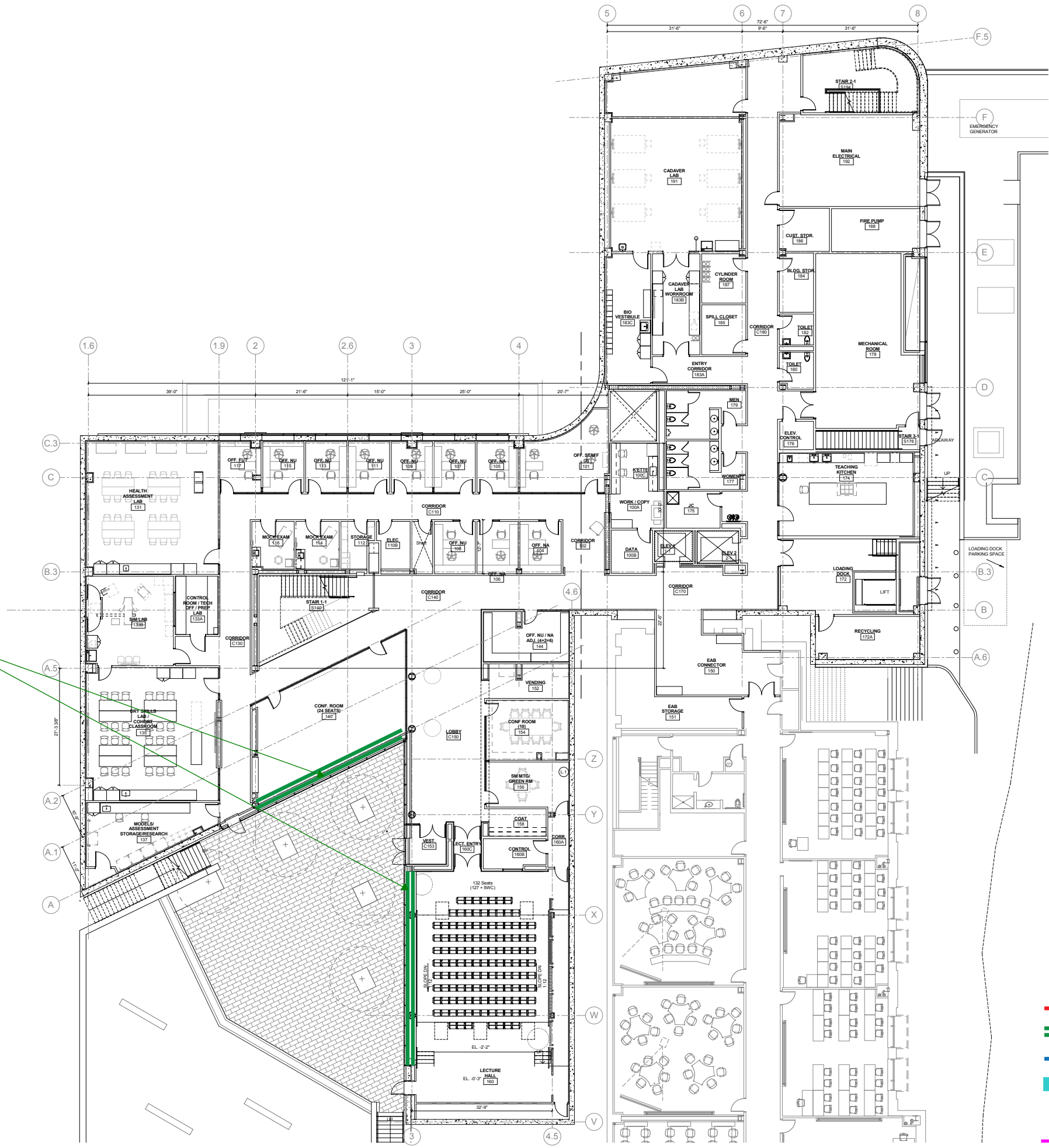
***Configuration: Align shade gaps with mullions. No battens.***

END OF SECTION 122413

# **Interior Shading Strategies**

L01 | L02 | L03 | L04

All locations with Green line:  
Motorized Double Shades:  
Exterior Shade: Lutron Sheer Lite 3% open  
SHL-212-3 - Charcoal/Grey  
WSF-SL-3-C-G  
  
Interior Shade:  
Lutron Value Premiere 0% open  
BP-V41-0 - Canyon  
WSF-BLV-0-CY  
Color side faces room



- Motorized Roller Shades - Single
- Motorized Roller Shades - Double
- Manual Shades
- Manual Roller Shades - Double

- Interior Manual Roller Shades - 5% open
- Interior Manual Roller Shades - 0% open

All locations with Green line:  
Motorized Double Shades:  
Exterior Shade: Lutron Sheer Lite 3% open  
SHL-212-3 - Charcoal/Grey  
WSF-SL-3-C-G

Interior Shade:  
Lutron Value Premiere 0% open  
BP-V41-0 - Canyon  
WSF-BLV-0-CY  
Color side faces room

All locations with Blue-green line:  
Manual Double Shades:  
Exterior Shade:  
EuroTwill Reversible Broken Weave 6450 Series (3% open)  
6462 - Light Charcoal  
(dark to exterior light to interior)

Interior Shade:  
Mecho Equinox 0100 0% open  
Color: 0105 Silver\*\* ( \*\* verify)

Locations with Blue line:  
EuroTwill Reversible Broken Weave  
6450 Series (3% open)  
6462 - Light Charcoal  
(dark to exterior light to interior)

Interior shade locations with Purple line:  
Mecho Shade Equinox 0100 Series (0% open)  
0118 Winter \*\* (to be verified)

Interior shade locations with Pink line:  
Mecho Shade EuroVeil Basket Weave  
5300 Series (5% open)  
5301 - White  
(matches frames)

All locations with Green line:  
Motorized Double Shades:  
Exterior Shade: Lutron E Screen 3% open  
S3001-E-3 - Charcoal/Grey  
WSF-S3001-E-3

Interior Shade: 0% open (blackout)  
color TBD. (samples not provided yet)

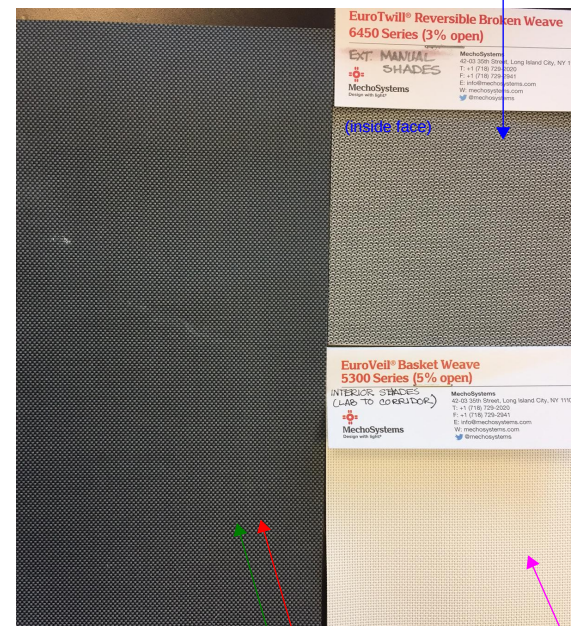
Locations with Blue line:  
EuroTwill Reversible Broken Weave  
6450 Series (3% open)  
6462 - Light Charcoal  
(dark to exterior light to interior)

All locations with Green line:  
Motorized Double Shades:  
Exterior Shade: Lutron Sheer Lite 3% open  
SHL-212-3 - Charcoal/Grey  
WSF-SL-3-C-G

Interior Shade:  
Lutron Value Premiere 0% open  
BP-V41-0 - Canyon  
WSF-BLV-0-CY  
Color side faces room

(outside face)  
MANUAL SHADES  
- EXTERIOR

(inside face)



MOTORIZED SHADES -  
EXTERIOR (DOUBLE  
AND SINGLE)

MANUAL SHADES  
- INTERIOR

Motorized Roller Shades - Single

Motorized Roller Shades - Double

Manual Shades

Manual Roller Shades - Double

Interior Manual Roller Shades - 5% open

Interior Manual Roller Shades - 0% open

shades clouded in red will  
be issued with upcoming  
ASI

L02

