ADDENDUM NO. 2 - TO
SPECIFICATIONS AND CONTRACT DOCUMENTS
LEWISBURG ELEMENTARY SCHOOL
AND
LEWISBURG PRIMARY SCHOOL
CLASSROOM EXPANSION
DESOTO COUNTY, MISSISSIPPI
FOR
DESOTO COUNTY SCHOOLS

JANUARY 18, 2017

This addendum forms a part of the Contract Documents and modifies the original specifications and drawings, dated 12-6-16 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

This Addendum consists of 2 pages and 35 attachments.

SPECIFICATIONS

Item No. 1: ADDENDUM NO. 1 – ITEM NO. 28: Delete in its entirety.

Item No. 2: SPECIFICATIONS, SECTION 10 1400 – SIGNAGE: Remove and destroy this section and insert the attached revised Section 10 1400 – SIGNAGE, consisting of 5 pages and marked “Revised 1-18-17” in lower left corner.

Item No. 3: SPECIFICATIONS, SECTION 26 5000 – LIGHTING: Remove and destroy this section and insert the attached revised Section 265000 – LIGHTING CONTROLS, consisting of 15 pages and marked “Revised 1-18-17” in lower left corner.

Item No. 4: SPECIFICATIONS, SECTION 27 2200 – INTERACTIVE BOARD AND PROJECTOR SYSTEM: Delete this section in its entirety.

DRAWINGS

LEWISBURG ELEMENTARY SCHOOL

Item No. 5: DRAWINGS, SHEET A2.1 – ENLARGED FLOOR PLAN: Remove and destroy and insert the attached revised Sheet A2.1 - ENLARGED FLOOR PLAN dated 1-18-17.

Item No. 6: DRAWINGS, SHEET S3.02 – FOUNDATION DETAILS: Remove and destroy this section and insert the attached revised Sheet S3.02 – FOUNDATION DETAILS dated 1-18-17.

Item No. 7: DRAWINGS, SHEET M4.1 – SCHEDULES – MECHANICAL: Remove and destroy this sheet and insert the attached revised Sheet M4.1 – SCHEDULES – MECHANICAL dated 1-18-17.

Item No. 8: DRAWINGS, SHEET E0.1 - LEGEND & LIGHTING FIXTURE SCHEDULE – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E0.1 – LEGEND & LIGHTING FIXTURE SCHEDULE – ELECTRICAL dated 1-18-17.

Item No. 9: DRAWINGS, SHEET E0.2 – FLOOR PLAN - LIGHTING – ELECTRICAL: Insert attached new Sheet E0.2 – FLOOR PLAN – LIGHTING –ELECTRICAL dated 1-18-17.

Item No.10: DRAWINGS, SHEET E2.1 - PARTIAL FLOOR PLAN – AREA B LIGHTING – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E2.1 – PARTIAL FLOOR PLAN – AREA B LIGHTING – ELECTRICAL dated 1-18-17.

Item No.11: DRAWINGS, SHEET E3.1 - FLOOR PLAN – POWER, COMMUNICATIONS, AND FIRE ALARM – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E3.1 – FLOOR PLAN – POWER, COMMUNICATIONS, AND FIRE ALARM – ELECTRICAL dated 1-18-17.

LEWISBURG PRIMARY SCHOOL

Item No.12: DRAWINGS, SHEET AD1.1 – DEMOLITION FLOOR PLAN: "General Demolition Notes" at Note Number 1, add the following to end of note: "where noted on Sheet A2.1".

Item No.13: DRAWINGS, SHEET A2.1 – ENLARGED FLOOR PLAN: Remove and destroy and insert the attached revised Sheet A2.1 - ENLARGED FLOOR PLAN dated 1-18-17.

Item No.14: DRAWINGS, SHEET A4.1 – ROOF PLAN: Remove and destroy this sheet and insert the attached revised Sheet A3.1 – REFLECTED CEILING PLAN dated 1-18-17.

Item No.15: DRAWINGS, SHEET S3.02 – FOUNDATION DETAILS: Remove and destroy this section and insert the attached revised Sheet S3.02 – FOUNDATION DETAILS dated 1-18-17.

Item No.16: DRAWINGS, SHEET M4.1 – SCHEDULES – MECHANICAL: Remove and destroy this sheet and insert the attached revised Sheet M4.1 – SCHEDULES – MECHANICAL dated 1-18-17.

Item No.17: DRAWINGS, SHEET E0.1 - LEGEND & LIGHTING FIXTURE SCHEDULE – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E0.1 – LEGEND & LIGHTING FIXTURE SCHEDULE – ELECTRICAL dated 1-18-17.

Item No.18: DRAWINGS, SHEET E0.2 – FLOOR PLAN - LIGHTING – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E0.2 – FLOOR PLAN - LIGHTING – ELECTRICAL dated 1-18-17.

Item No.19: DRAWINGS, SHEET E2.1 - PARTIAL FLOOR PLAN – AREA B LIGHTING – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E2.1 – PARTIAL FLOOR PLAN – AREA B LIGHTING – ELECTRICAL dated 1-18-17.

Item No.20: DRAWINGS, SHEET E3.1 - PARTIAL FLOOR PLAN – AREA B POWER & FIRE ALARM – ELECTRICAL: Remove and destroy this sheet and insert the attached revised Sheet E2.1 – PARTIAL FLOOR PLAN – AREA B LIGHTING – ELECTRICAL dated 1-18-17.

ALLEN & HOSHALL, PLLC
ENGINEERS ARCHITECTS
1661 INTERNATIONAL DRIVE
SUITE 100
MEMPHIS, TENNESSEE
38120

JOB NO. 62556-62557

SECTION 10 1400

SIGNAGE

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. Panel signs.

B. Related Sections include the following:
   1. Division 01 Section "Temporary Facilities and Controls" for temporary Project identification signs and for temporary information and directional signs.
   2. Division 22 Section "Identification for Plumbing Piping and Equipment" for labels, tags, and nameplates for plumbing systems and equipment.
   3. Division 23 Section "Identification for HVAC Piping and Equipment" for labels, tags, and nameplates for HVAC systems and equipment.
   4. Division 26 Sections for electrical service and connections for illuminated signs.
   5. Division 26 Section "Identification for Electrical Systems" for labels, tags, and nameplates for electrical equipment.
   6. Division 26 Section "Interior Lighting" for illuminated Exit signs.

1.3 DEFINITIONS

A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show fabrication and installation details for signs.
   1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
   2. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.

C. Samples for Initial Selection: Manufacturer's color charts consisting of actual units or sections of units showing the full range of colors available for the following:
   1. Aluminum.
   2. Acrylic sheet.
   3. Die-cut vinyl characters and graphic symbols. Include representative samples of available typestyles and graphic symbols.

D. Samples for Verification: For each of the following products and for the full range of color, texture, and sign material indicated, of sizes indicated:
   1. Acrylic Sheet: 8 by 10 inches for each color required.
   2. Accessories: Manufacturer's full-size unit.

E. Sign Schedule: Use same designations indicated on Drawings.

F. Qualification Data: For Installer and fabricator.

G. Maintenance Data: For signs to include in maintenance manuals.

H. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in- service performance.

C. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

D. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines.

1.6 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of signs in exterior locations to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Verify recess openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 COORDINATION

A. Coordinate placement of anchorage devices with templates for installing signs.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Deterioration of metal and polymer finishes beyond normal weathering.
      b. Deterioration of embedded graphic image colors and sign lamination.
   2. Warranty Period: Five years from date of Final Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

B. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils with pressure- sensitive adhesive backing, suitable for exterior applications.

2.2 PANEL SIGNS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. ACE Sign Systems, Inc.
   2. Advance Corporation; Braille-Tac Division.
   3. Allen Industries Architectural Signage
   4. Allenite Signs; Allen Marking Products, Inc.
   5. APCO Graphics, Inc.
   6. ASI-Modulex, Inc.
   7. Best Sign Systems Inc.
   8. Bunting Graphics, Inc.
   9. Fossil Industries, Inc.
   10. Gemini Incorporated.
   11. Grimco, Inc.
   12. Innerface Sign Systems, Inc..
   13. InPro Corporation.
   14. Matthews International Corporation; Bronze Division.
   15. Mills Manufacturing Company.
   16. Mohawk Sign Systems.
   17. Nelson-Harkins Industries.
   18. Seton Identification Products.
   19. Signature Signs, Incorporated.
   20. Supersine Company (The)

B. Interior Panel Signs: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner, complying with the following requirements:
   1. Acrylic Sheet: 0.060 inch thick.
   2. Laminated Sheet: High-pressure engraved stock with contrasting color face laminated to acrylic core as selected by Architect from manufacturer's full range.
   3. Laminated, Sandblasted Polymer: Raised graphics with Braille 1/32 inch above surface with contrasting colors as selected by Architect from manufacturer's full range and laminated to acrylic back.
   4. Edge Condition: Square cut.
   5. Corner Condition: Square.
   6. Mounting: Unframed.
      a. Wall mounted with two-face tape.
      b. Manufacturer's standard anchors for substrates encountered.
   7. Color: As selected by Architect from manufacturer's full range.
   8. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch above surface with contrasting colors.

C. Changeable Message Inserts: Fabricate signs to allow insertion of changeable messages in the form of transparent covers with paper inserts printed by Owner.
   1. Furnish insert material and software for creating text and symbols for PC-Windows computers for Owner production of paper inserts.
   2. Furnish insert material cut-to-size for changeable message insert.

D. Tactile and Braille Sign: Manufacturer's standard process for producing text and symbols complying with ADA-ABA Accessibility Guidelines and with ICC/ANSI A117.1. Text shall be accompanied by Grade 2 Braille. Produce precisely formed characters with square-cut edges free from burrs and cut marks; Braille dots with domed or rounded shape.
   1. Panel Material: Clear acrylic sheet with opaque color coating, subsurface applied.
   2. Raised-Copy Thickness: Not less than 1/32 inch.

E. Engraved Copy: Machine engrave letters, numbers, symbols, and other graphic devices into panel sign on face indicated to produce precisely formed copy, incised to uniform depth.
   1. Engraved Plastic Laminate: Engrave through exposed face ply of plastic-laminate sheet to expose contrasting core ply.
   2. Engraved Metal: Fill engraved copy with enamel.
   3. Engraved Opaque Acrylic Sheet: Fill engraved copy with enamel.
   4. Face-Engraved Clear Acrylic Sheet: Fill engraved copy with enamel. Apply opaque background color coating to back face of acrylic sheet.

F. Colored Coatings for Acrylic Sheet: For copy and background and frame colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are UV and water resistant for five years for application intended.
   1. Color: As selected by Architect from manufacturer's full range.

2.3 ACCESSORIES

A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.4 FABRICATION

A. General: Provide manufacturer's standard signs of configurations indicated.
   1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
   2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
   3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
   4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.5 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ACRYLIC SHEET FINISHES

A. Colored Coatings for Acrylic Sheet: For copy and background colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers

for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

B. Verify that items, including anchor inserts, are sized and located to accommodate signs.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
   1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
   2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable.
   3. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches of sign without encountering protruding objects or standing within swing of door.

B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
   1. Two-Face Tape: Mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.
   2. Shim Plate Mounting: Provide 1/8-inch- thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other mounting methods are not practicable. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach panel signs to plate using method specified above.
   3. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

3.4 SCHEDULE (See drawings for sign type location, sign number, and sign name)

A. Type 1 - 9”x6” Provide a total of 3 lines of graphics plus Braille.

B. Type 2 - “9”x9” with male and female symbol plus 2 lines of graphics and Braille. Provide International Symbol of Accessibility as required.

C. Type 3 - 9”x9” Provide a total of 3 lines of graphics, Braille plus 2 message inserts.

END OF SECTION

SECTION 26 5000

LIGHTING CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Single space wireless lighting control systems and associated components:
   1. Wireless occupancy/vacancy sensors.
   2. Wireless control stations.
   3. LED Drivers.
   4. Power interfaces.

B. Wireless hub(s) for centralized control, monitoring, and system integration.

1.2 RELATED REQUIREMENTS

A. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

B. Section 26 2726 - Wiring Devices - Lutron: (Basis of Design)
   1. Finish requirements for wall controls specified in this section.
   2. Accessory receptacles and wallplates, to match lighting controls specified in this section.

C. Section 26 5113 - Luminaires, Ballasts, and Drivers - Lutron. (Basis of Design)

1.3 REFERENCE STANDARDS

A. ANSI C82.11 - American National Standard for Lamp Ballasts - High Frequency Fluorescent Lamp Ballasts - Supplements; 2011.

B. ANSI/ESD S20.20 - Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices); 2014.

C. ASTM D4674 - Standard Practice for Accelerated Testing for Color Stability of Plastics Exposed to Indoor Office Environments; 2002a (Reapproved 2010).

D. CAL TITLE 24 P6 – California Code of Regulations, Title 24, Part 6 (California Energy Code); 2013.

E. CSA C22.2 No. 223 – Power Supplies with Extra-low-voltage Class 2 Outputs; 2015.

F. IEC 60929 - AC and/or DC-Supplied Electronic Control Gear for Tubular Fluorescent Lamps - Performance Requirements; 2015.

G. IEC 61000-4-2 - Electromagnetic Compatibility (EMC) - Part 4-2: Testing and Measurement Techniques - Electrostatic Discharge Immunity Test; 2008.

H. IEC 61347-2-3 - Lamp Control Gear - Part 2-3: Particular Requirements for A.C. and/or D.C. Supplied Electronic Control Gear for Fluorescent Lamps; 2011.

I. IEEE 1789 - Recommended Practice for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers; 2015.

J. IEEE C62.41.2 - Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits; 2002 (Cor 1, 2012).

K. ISO 9001 - Quality Management Systems-Requirements; 2008.

L. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.

M. NECA 130 - Standard for Installing and Maintaining Wiring Devices; National Electrical Contractors Association; 2010.

N. NEMA 410 - Performance Testing for Lighting Controls and Switching Devices with Electronic Drivers and Discharge Ballasts; National Electrical Manufacturers Association; 2011.

O. NEMA WD 1 - General Color Requirements for Wiring Devices; National Electrical Manufacturers Association; 1999 (R 2010).

P. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

Q. UL 20 - General-Use Snap Switches; Current Edition, Including All Revisions.

R. UL 508 - Industrial Control Equipment; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

S. UL 924 - Emergency Lighting and Power Equipment; Current Edition, Including All Revisions.

T. UL 935 - Fluorescent-Lamp Ballasts; Current Edition, Including All Revisions.

U. UL 1310 – Class 2 Power Units; Current Edition, Including All Revisions.

V. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

W. UL 1598C - Light-Emitting Diode (LED) Retrofit Luminaire Conversion Kits; Current Edition, Including All Revisions.

X. UL 2043 - Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces; Current Edition, Including All Revisions.

Y. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the placement of sensors and wall controls with millwork, furniture, equipment, etc. installed under other sections or by others.
   2. Coordinate the placement of wall controls with actual installed door swings equipment, or other potential obstructions to light level measurement installed under other sections or by others.
   3. Coordinate the work to provide luminaires and lamps compatible with the lighting controls to be installed.
   4. Notify Engineer of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.

B. Pre-Wire Meeting; Lutron LSC-PREWIRE: Include as part of the base bid additional costs for Lighting Control Manufacturer to conduct on-site meeting prior to commencing work. Manufacturer to review with installer:
   1. Low voltage wiring requirements.
   2. Separation of power and low voltage/data wiring.
   3. Wire labeling.
   4. Wireless hub locations and installation.
   5. Where Lighting Control Manufacturer Sensor Layout and Tuning service is specified in Part 2 under "LIGHTING CONTROLS - GENERAL REQUIREMENTS", sensor locations to be reviewed in accordance with layout provided by Lighting Control Manufacturer. Lighting Control Manufacturer may direct Contractor regarding sensor relocation should conditions require a deviation from locations indicated.
   6. Control locations.
   7. Computer jack locations.
   8. Load circuit wiring.
   9. Network wiring requirements.
   10. Connections to other equipment.
   11. Installer responsibilities.

C. Sequencing:
   1. Do not install sensors and wall controls until final surface finishes and painting are complete.

1.5 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Design Documents: Where Lighting Control Manufacturer Sensor Layout and Tuning service is specified in Part 2 under "LIGHTING CONTROLS - GENERAL REQUIREMENTS", Lighting Control Manufacturer to provide plans indicating occupancy/vacancy sensor locations.

C. Product Data: Include ratings, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.
   1. Occupancy/Vacancy Sensors: Include detailed basic motion detection coverage range diagrams.
   2. Wall Dimmers: Include derating information for ganged multiple devices.

D. Samples:
   1. Wall Controls:
      a. Show available color and finish selections.

E. Manufacturer's Installation Instructions: Include application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

F. Project Record Documents: Record actual installed locations and settings for lighting control system components.

G. Operation and Maintenance Data: Include detailed information on lighting control system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.

H. Warranty: Submit sample of manufacturer's Warranty or Enhanced Warranty as specified in Part 1 under “WARRANTY”. Submit documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications:
   1. Company with not less than ten years of experience manufacturing lighting control products using wireless communication between devices.
   2. Registered to ISO 9001, including in-house engineering for product design activities.
   3. Provides factory direct technical support hotline available 24 hours per day, 7 days per week.
   4. Qualified to supply specified products and to honor claims against product presented in accordance with warranty.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in a clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.8 FIELD CONDITIONS

A. Maintain field conditions within manufacturer's required service conditions during and after installation.
   1. Basis of Design System Requirements - Lutron, Unless Otherwise Indicated:
      a. Ambient Temperature:
         (1) Lighting Control System Components, Except Fluorescent Electronic Dimming Ballasts: Between 32 and 104 degrees F (0 and 40 degrees C).
         (2) Fluorescent Electronic Dimming Ballasts: Between 50 and 140 degrees F (10 and 60 degrees C).
      b. Relative Humidity: Less than 90 percent, non-condensing.
      c. Protect lighting controls from dust.

1.9 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Manufacturer's Standard Warranty, Without Manufacturer Full-Scope Start-Up:
   Manufacturer Lighting Control System Components, Except Wireless Sensors, Ballasts/Drivers and Ballast Modules: One year 100 percent parts coverage, no manufacturer labor coverage.
   1. Wireless Sensors: Five years 100 percent parts coverage, no manufacturer labor coverage.
   2. Ballasts/Drivers and Ballast Modules: Three years 100 percent parts coverage, no manufacturer labor coverage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design Manufacturer: Lutron Electronics Company, Inc; Vive; www.lutron.com.

B. Other Acceptable Manufacturers:
   1. Watt Stopper.

2. Crestron.
3. Approved equal.
4. Products by listed manufacturers are subject to compliance with specified requirements.

C. Substitutions:
1. All proposed substitutions (clearly delineated as such) must be submitted in writing for approval by Architect.

D. Source Limitations: Furnish products produced by a single manufacturer and obtained from a single supplier.

2.2 LIGHTING CONTROLS - GENERAL REQUIREMENTS

A. Sensor Layout and Tuning: Include as part of the base bid additional costs for Lighting Control Manufacturer's Sensor Layout and Tuning service; Lutron LSC-SENS-LT:
1. Lighting Control Manufacturer to take full responsibility for wired or wireless occupancy/vacancy and daylight sensor layout and performance for sensors provided by Lighting Control Manufacturer.
2. Lighting Control Manufacturer to analyze the reflected ceiling plans, via supplied electronic AutoCAD format, and design a detailed sensor layout that provides adequate occupancy sensor coverage and ensures occupancy and daylight sensor performance per agreed upon sequence of operations. Contractor to utilize the layouts for sensor placement.
3. During startup, Lighting Control Manufacturer to direct Contractor regarding sensor relocation, as required, should conditions require a deviation from locations specified in the drawings.
4. Lighting Control Manufacturer to provide up to two additional post-startup on-site service visits, within one calendar year from Date of Substantial Completion to fine-tune sensor calibration per the agreed upon sequence of operations.

B. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) as suitable for the purpose indicated.

C. Unless specifically indicated to be excluded, provide all required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, programming, etc. as necessary for a complete operating system that provides the control intent indicated.

D. Design lighting control equipment for 10 year operational life while operating continually at any temperature in an ambient temperature range of 32 degrees F (0 degrees C) to 104 degrees F (40 degrees C) and 90 percent non-condensing relative humidity.

E. Electrostatic Discharge Tolerance: Design and test equipment to withstand electrostatic discharges without impairment when tested according to IEC 61000-4-2.

F. Power Failure Recovery: When power is interrupted for periods up to 10 years and subsequently restored, lights to automatically return to same levels (dimmed setting, full on, or full off) as prior to power interruption.

G. Wireless Devices:
1. Wireless device family includes area or fixture level sensors, area or fixture level load controls for dimming or switching, and load controls that can be mounted in a wallbox, on a junction box, or at the fixture.
2. Wireless devices including sensors, load controls, and wireless remotes or wall stations, can be set up using simple button press programming without needing any other equipment (e.g. central hub, processor, computer, or other smart device).
3. Wireless hub adds the ability to set up the system using any smart device with a web browser (e.g. smartphone, tablet, PC, or laptop).

4. System does not require a factory technician to set up or program the system.
5. Capable of diagnosing system communications.
6. Capable of having addresses automatically assigned to them.
7. Receives signals from other wireless devices and provides feedback to user.
8. Capable of determining which devices have been addressed.
9. RF Range: 60 feet (18 m) line-of-sight or 30 feet (9 m) through typical construction materials between RF transmitting devices and compatible RF receiving devices.
10. Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) Limits: Comply with FCC requirements of CFR, Title 47, Part 15, for Class B application.

H. Wireless Network:
1. RF Frequency: 434 MHz; operate in FCC governed frequency spectrum for periodic operation; continuous transmission spectrum is not permitted.
a. Wireless sensors, wireless wall stations and wireless load control devices do not operate in the noisy 2.4 GHz frequency band where high potential for RF interference exists.
b. Wireless devices operate in an uncongested frequency band providing reliable operation.
c. Fixed network architecture ensures all associated lights and load controls respond in a simultaneous and coordinated fashion from a button press, sensor signal, or command from the wireless hub (i.e. no popcorning).
2. Distributed Architecture: Local room devices communicate directly with each other. If the wireless hub is removed or damaged, local control, sensing, and operation continues to function without interruption.
3. Local room devices communicate directly with each other (and not through a central hub or processor) to ensure:
a. Reliability of system performance.
b. Fast response time to events in the space (e.g. button presses or sensor signals).
c. Independent operation in the event of the wireless hub being removed or damaged.

I. Device Finishes:
1. Wall Controls: Match finishes for Wiring Devices in Section 26 2726, unless otherwise indicated.

2.3 WIRELESS SENSORS

A. General Requirements:
1. Operational life of 10 years without the need to replace batteries when installed per manufacturer's instructions.
2. Communicates directly to compatible RF receiving devices through use of a radio frequency communications link.
3. Does not require external power packs, power wiring, or communication wiring.
4. Capable of being placed in test mode to verify correct operation from the face of the unit.

B. Wireless Occupancy/Vacancy Sensors:
1. General Requirements:
a. Provides a clearly visible method of indication to verify that motion is being detected during testing and that the unit is communicating to compatible RF receiving devices.
b. Utilize multiple segmented lens, with internal grooves to eliminate dust and residue build-up.
c. Sensing Mechanism: Passive infrared coupled with technology for sensing fine motions; Lutron XCT Technology. Signal processing technology detects

fine-motion passive infrared (PIR) signals without the need to change the sensor's sensitivity threshold.

d. Provide optional, readily accessible, user-adjustable controls for timeout, automatic/manual-on, and sensitivity.

e. Turns off lighting after reasonable and adjustable time delay once the last person to occupy the space vacates a room or area. Provide adjustable timeout settings of 1, 5, 15, and 30 minutes.

f. Capable of turning dimmer's lighting load on to an optional locked preset level selectable by the user. Locked preset range to be selectable on the dimmer from 1 percent to 100 percent.

g. Color: White.

h. Provide all necessary mounting hardware and instructions for both temporary and permanent mounting.

i. Provide temporary mounting means for drop ceilings to allow user to check proper performance and relocate as needed before permanently mounting sensor. Temporary mounting method to be design for easy, damage-free removal.

j. Sensor lens to illuminate during test mode when motion is detected to allow installer to place sensor in ideal location and to verify coverage prior to permanent mounting.

k. Ceiling-Mounted Sensors:

(1) Provide surface mounting bracket compatible with drywall, plaster, wood, concrete, and compressed fiber ceilings.

(2) Provide recessed mounting bracket compatible with drywall and compressed fiber ceilings.

l. Wall-Mounted Sensors: Provide wall or corner mounting brackets compatible with drywall and plaster walls.

2. Wireless Combination Occupancy/Vacancy Sensors:

a. Ceiling-Mounted Sensors: Programmable to operate as an occupancy sensor (automatic-on and automatic-off), an occupancy sensor with low light feature (automatic-on when less than one footcandle of ambient light available and automatic-off), or a vacancy sensor (manual-on and automatic-off).

b. Wall-Mounted Sensors: Programmable to operate as an occupancy sensor (automatic-on and automatic-off), or a vacancy sensor (manual-on and automatic-off).

c. Product(s):

(1) Ceiling-Mounted Occupancy/Vacancy Sensor; Coverage from 324 square feet (30.2 sq m) to 676 square feet (62.4 sq m) depending on ceiling height from 8 to 12 feet (2.4 to 3.7 m); 360 degree field of view.

(2) Wall-Mounted Occupancy/Vacancy Sensor; Minor motion coverage of 1500 square feet (139.4 sq m) and major motion coverage of 3000 square feet (278.7 sq m) with mounting height of 6 to 8 feet (1.8 to 2.4 m); 180 degree field of view.

(3) Corner-Mounted Occupancy/Vacancy Sensor; Minor motion coverage of 1225 square feet (113.8 sq m) and major motion coverage of 2500 square feet (232.3 sq m) with mounting height of 6 to 8 feet (1.8 to 2.4 m); 90 degree field of view.

2.4 LOAD CONTROL MODULES

A. Provide wireless load control modules as indicated or as required to control the loads as indicated.

B. Junction Box-Mounted Modules:

1. Plenum rated.

2. Dimming Modules:

a. Product(s):
   (1) 8 A dimming module with 0-10V control
b. Communicates via radio frequency with up to ten compatible occupancy/vacancy sensors, ten wireless control stations, and one daylight sensor
c. Single low voltage dimming module with Class 1 or Class 2 isolated 0-10V output signal conforming to IEC 60929 Annex E.2; source or sink automatically configures.
d. Selectable minimum light level.
e. Configurable high- and low-end trim.
f. Relay: Rated for 0-10 V ballasts, LED drivers, or fixtures that conform with NEMA 410.

2.5 WIRELESS CONTROL STATIONS

A. Communicates directly to compatible RF receiving devices through use of a radio frequency communications link.

B. Does not require external power packs, power or communication wiring.

C. Allows for easy reprogramming without replacing unit.

D. Button Programming:
   1. Single action.
   2. Toggle action.

E. Includes LED to indicate button press or programming mode status.

F. Mounting:
   1. Capable of being mounted with a table stand or directly to a wall under a faceplate.
   2. Faceplates: Provide concealed mounting hardware.

G. Power: Battery-operated with minimum ten-year battery life (3-year battery life for night light models).

H. Finish: As specified for wall controls in "Device Finishes" under LIGHTING CONTROL DEVICES - GENERAL REQUIREMENTS article above.

2.6 LED DRIVERS

A. General Requirements:
   1. Operate for at least 50,000 hours at maximum case temperature and 90 percent non-condensing relative humidity.
   2. Provide thermal fold-back protection by automatically reducing power output (dimming) to protect LED driver and LED light engine/fixture from damage due to over-temperature conditions that approach or exceed the LED driver's maximum operating temperature at calibration point.
   3. Provide integral recording of operating hours and maximum operating temperature to aid in troubleshooting and warranty claims.
   4. Designed and tested to withstand electrostatic discharges without impairment when tested according to IEC 61000-4-2.
   5. Manufactured in a facility that employs ESD reduction practices in compliance with ANSI/ESD S20.20.
   6. UL 8750 recognized or listed as applicable.
   7. UL Type TL rated where possible to allow for easier fixture evaluation and listing of different driver series.
   8. UL 1598C listed for field replacement as applicable.

9. Designed and tested to withstand Category A surges of 4,000 V according to IEEE C62.41.2 without impairment of performance.
10. Class A sound rating; Inaudible in a 27 dBA ambient.
11. Demonstrate no visible change in light output with a variation of plus or minus 10 percent change in line-voltage input.
12. LED drivers of the same family/series to track evenly across multiple fixtures at all light levels.
13. Offer programmable output currents in 10 mA increments within designed driver operating ranges for custom fixture length and lumen output configurations, while meeting a low-end dimming range of 100 to 1 percent or 100 to 5 percent as applicable.
14. Meet NEMA 410 inrush requirements for mitigating inrush currents with solid state lighting sources.
15. Employ integral fault protection up to 277 V to prevent LED driver damage or failure in the event of incorrect application of line-voltage to communication link inputs.
16. LED driver may be remote located up to 100 feet (30 m) from LED light engine depending on power outputs required and wire gauge utilized by installer.

B. 3-Wire Control:
   1. Provide integral fault protection to prevent driver failure in the event of a mis-wire.
   2. Operate from input voltage of 120 V through 277 V at 50/60 Hz.

C. Digital Control (when used with compatible Lutron lighting control systems):
   1. Employ power failure memory; LED driver to automatically return to the previous state/light level upon restoration of utility power.
   2. Operate from input voltage of 120 V through 277 V at 50/60 Hz.
   3. Automatically go to 100 percent light output upon loss of control link voltage and lock out system commands until digital control link voltage is restored. Manufacturer to offer UL 924 compliance achievable through use of external Lutron Model LUT-ELI-3PSH interface upon request.
   4. When normal power is lost, drivers fed with emergency power go to emergency mode.
   5. Replacement of single driver during maintenance does not require reprogramming.
   6. Digital low-voltage control wiring capable of being wired as either Class 1 or Class 2.

D. Product(s):
   1. 3-Wire and Digital Control, One Percent Dimming; Lutron Hi-lume 1% (L3D-Series):
      a. Dimming Range: 100 to one percent relative light output.
      b. Complies with FCC requirements of CFR, Title 47, Part 15, for commercial applications at 120 V or 277 V.
      c. Total Harmonic Distortion (THD): Less than 20 percent at full output for loads greater than 25 W typical (higher for select models); complies with ANSI C82.11.
      d. Constant Current Drivers:
         (1) Support for downlights and pendant fixtures from 200 mA to 2.1 A to ensure a compatible driver exists.
            (a) Support LED arrays up to 53 W.
            (b) Pulse Width Modulation (PWM) or Constant Current Reduction (CCR) dimming methods available.
         (2) Support for troffers, linear pendants, and linear recessed fixtures from 200 mA to 2.1 A to ensure a compatible driver exists.
            (a) Support LED arrays up to 40 W.
            (b) Pulse Width Modulation (PWM) or Constant Current Reduction (CCR) dimming methods available.
         (3) Support for cove and under-cabinet fixtures from 200 mA to 2.1 A to ensure a compatible driver exists.
            (a) Support LED arrays up to 40 W.

(b) Pulse Width Modulation (PWM) or Constant Current Reduction (CCR) dimming methods available.
(c) UL listed.

e. Constant Voltage Drivers:
(1) Support for downlights and pendant fixtures from 10 V to 60 V (in 0.5 V steps) to ensure a compatible driver exists.
(a) Support LED arrays up to 40 W.
(b) Pulse Width Modulation (PWM) dimming method.
(2) Support for troffers, linear pendants, and linear recessed fixtures from 10 V to 60 V (in 0.5 V steps) to ensure a compatible driver exists.
(a) Support LED arrays up to 40 W.
(b) Pulse Width Modulation (PWM) dimming method.
(3) Support for cove and under-cabinet fixtures from 10 V to 60 V (in 0.5 V steps) to ensure a compatible driver exists.
(a) Support LED arrays up to 40 W.
(b) Pulse Width Modulation (PWM) dimming method.
(c) UL listed.

2. Digital Control, Five Percent Dimming; Lutron 5-Series (LDE5-Series):
a. Dimming Range: 100 to five percent measured output current.
b. Typically dissipates 0.2 W standby power at 120 V and 0.3 W standby power at 277 V.
c. Complies with FCC requirements of CFR, Title 47, Part 15, for commercial applications at 120-277 V.
d. Constant Current Reduction (CCR) dimming method.
e. Total Harmonic Distortion (THD): Less than 21 percent at full load; complies with ANSI C82.11.
f. Constant Current Drivers:
(1) Lutron K-Case Form Factor: Support for downlights and pendant fixtures in select currents from 350 mA to 1.4 A to ensure a compatible driver exists.
(a) Support LED arrays up to 35 W.
(2) Lutron M-Case Form Factor: Support for troffers, linear pendants, and linear recessed fixtures from 150 mA to 2.1 A to ensure a compatible driver exists.
(a) Support LED arrays up to 75 W.
(b) Meets solid state requirements for power factor, transient protection, standby power consumption, start time, and operating frequency in ENERGY STAR for Luminaires Version 2.0.
(c) Models available to meet the DesignLights Consortium (DLC) power line quality requirements.

3. Digital Control, One Percent Dimming with Soft-On and Fade-to-Black Low End Performance; Lutron Hi-lume 1% Soft-on Fade-to-Black (LDE1-Series):
a. Dimming Range: 100 to one percent measured output current.
b. Features smooth fade-to-on and fade-to-black (Lutron Soft-On, Fade-to-Black™) low end dimming performance for an incandescent-like dimming experience.
c. Typically dissipates 0.2 W standby power at 120 V and 0.3 W standby power at 277 V.
d. Complies with FCC requirements of CFR, Title 47, Part 15, for commercial applications at 120-277 V.
e. Employs true Constant Current Reduction (CCR) dimming method from 100 to five percent light level and Pulse Width Modulation (PWM) dimming method from five percent to off.
f. Pulse Width Modulation (PWM) frequency of 240 Hz.

g. Total Harmonic Distortion (THD): Less than 20 percent at full output for drivers greater than 25 W; complies with ANSI C82.11.
h. UL Class 2 output.
i. Driver outputs to be short circuit protected, open circuit protected, and overload protected.
j. Constant Current Drivers:
(1) Lutron K-Case Form Factor: Support for fixtures from 220 mA to 1.4 A over multiple operating ranges.
(a) Support LED arrays up to 40 W.
(b) Meets solid state requirements for power factor, transient protection, standby power consumption, start time, and operating frequency in ENERGY STAR for Luminaires Version 2.0.
(2) Lutron M-Case Form Factor: Support for fixtures from 150 mA to 2.1 A over multiple operating ranges.
(a) Support LED arrays up to 75 W.
(b) Meets solid state requirements for power factor, transient protection, standby power consumption, start time, and operating frequency in ENERGY STAR for Luminaires Version 2.0.
(c) Models available to meet the DesignLights Consortium (DLC) power line quality requirements.

2.7 WIRELESS HUBS

A. Product(s):
1. Wireless hub with BACnet; Lutron Vive Premium Hub.
a. Surface-mount wireless hub; Model HJS-2-SM.

B. Integrated multicolor LED provides feedback on what mode the hub is in for simple identification and diagnosis.

C. Integrated processor and web server allows hub to set up and operate the system without any external connections to outside processors, servers, or the internet.

D. Utilizes Ethernet connection for:
1. Networking up to 64 hubs together to create a larger system.
2. Integration with Building Management System (BMS) via native BACnet; does not require interface (Lutron Vive Premium wireless hub with BACnet only).
3. Remote connectivity capabilities, including maintaining system date/time and receiving periodic firmware updates (requires internet connection).

E. A single hub or network of hubs can operate on either a dedicated lighting control only network or can be integrated with an existing building network as a VLAN.

F. Communicates directly to compatible Lutron Vive RF devices through use Lutron Clear Connect radio frequency communications link; does not require communication wiring; RF range of 71 feet (23 m) through walls to cover an area of 15836 square feet (1471 sq m) (device and hub must be on the same floor).

G. Communicates directly to mobile device (smartphone or tablet) or computer using built-in Wi-Fi, 2.4 GHz 802.11b/g; wireless range of 71 feet (23 m) through walls (device and hub must be on the same floor).
1. Does not require external Wi-Fi router for connecting to the hub.

H. Allows for system setup, control, and monitoring from mobile device or computer using Vive Vue web-based software:

1. Supports up to 700 total paired devices including compatible wireless sensors, wireless control stations, and wireless load devices.
2. Allows for timeclock scheduling of events, both time of day and astronomic (sunrise and sunset).
    a. Timeclock is integrated into the unit and does not require a constant internet connection.
    b. Retains time and programming information after a power loss.
3. Allows for control, monitoring, and adjustment from anywhere in the world (Lutron Vive wireless hub internet connection required).
4. Uses RF signal strength detection to find nearby devices for quick association and programming without having to climb ladders.
    a. Association and setup does not require a factory technician to perform.
5. System using Lutron Vive wireless hub(s) can operate with or without connection to the internet.
6. Supports energy reporting.
    a. Reports measured energy data for PowPak fixture control modules at accuracy of plus/minus 2 percent or 0.5 W (whichever is higher).
    b. Reports calculated energy data for PowPak junction box mounted modules at accuracy of 10 percent.
7. Supports automatic demand response for load shedding via:
    a. Local contact closure without need for separate interface.
    b. BACnet (Lutron Vive Premium wireless hub with BACnet only).
8. Wireless hub can be firmware upgraded to provide new software features and system updates.
    a. Firmware update can be done either locally using a wired Ethernet connection or Wi-Fi connection, or remotely if the wireless hub is connected to the internet.

I. Lutron Vive Vue Web-Based Application:
1. Accessibility and Platform Support:
    a. Web-based; runs on most HTML5 compatible browsers (including Safari and Chrome).
    b. Supports multiple platforms and devices; runs from a tablet, desktop, laptop, or smartphone.
    c. User interface supports multi-touch gestures such as pinch to zoom, drag to pan, etc.
    d. Utilizes HTTPS (industry-standard certificate-based encryption and authentication for security).
    e. Multi-level Password Protected Access: Individual password protection on both the integrated Wi-Fi network and web-based software.
    f. WPA2 security for Wi-Fi communication with wireless hub.
2. System Navigation and Status Reporting:
    a. Area Tree View: Easy navigation by area name to view status and make programing adjustments through the software.
    b. Area and device names can be changed in real time.

J. BACnet Integration (Lutron Vive Premium wireless hub with BACnet only):
1. Provide ability to communicate by means of native BACnet IP communication (does not require interface) to lighting control system from a user-supplied 10BASE-T or 100BASE-T Ethernet network.
2. Requires only one network connection per hub.
3. BACnet Integrator Capabilities:
    a. The BACnet integrator can command:
        (1) Area light output.
        (2) Area load shed level.
        (3) Area load shed enable/disable.
        (4) Enable/Disable:

(a) Area occupancy sensors.
(b) Area daylighting.
(5) Daylighting level.
(6) Area occupied and unoccupied level
(7) Occupancy sensor timeouts (for fixture sensors).

b. The BACnet integrator can monitor:
(1) Area on/off status.
(2) Area occupancy status.
(3) Area load shed status.
(4) Area instantaneous energy usage and maximum potential power usage.
(5) Enable/Disable:
(a) Area occupancy sensors.
(b) Daylighting.
(c) Timeclocks.
(6) Daylighting level.
(7) Light levels from photo sensors.
(8) Area occupied and unoccupied level.
(9) Occupancy sensor timeouts.

K. Contact Closure Interface: Provide two contact closure inputs; accepts both momentary and maintained contact closures that can be used for automatic demand response.

L. Rated for use in air-handling spaces as defined in UL 2043.

M. Meets CAL TITLE 24 P6 requirements.

N. Provide Ethernet switch(es) as required for inter-hub network wiring per manufacturer's instructions; do not exceed manufacturer's required maximum wiring segment lengths.
1. Product(s):
a. Lutron Model ETH-SWITCH-16; 16 port.
b. Lutron Model ETH-SWITCH-24; 24 port.
c. Lutron Model ETH-SWITCH-24-1M; 24 port, 1 multi-mode fiber.
d. Lutron Model ETH-SWITCH-24-2M; 24 port, 2 multi-mode fiber.
e. Lutron Model ETH-SWITCH-24-1S; 24 port, 1 single-mode fiber.
f. Lutron Model ETH-SWITCH-24-2S; 24 port, 2 single-mode fiber.

2.8 SOURCE QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Factory Testing; Lutron Standard Factory Testing:
1. Perform full-function factory testing on all completed assemblies. Statistical sampling is not acceptable.
2. Perform full-function factory testing on 100 percent of all ballasts and LED drivers.
3. Perform factory burn-in of 100 percent of all ballasts at 104 degrees F (40 degrees C).

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as shown on the drawings.

B. Verify that ratings and configurations of system components are consistent with the indicated requirements.

C. Verify that mounting surfaces are ready to receive system components.

3.2 Verify that conditions are satisfactory for installation prior to starting work. PREPARATION

A. System and Network Integration Consultation; Lutron LSC-INT-VISIT: Include as an alternate to the base bid additional costs for Lighting Control Manufacturer to conduct meeting with facility representative and other related equipment manufacturers to discuss equipment and integration procedures.
   1. Coordinate scheduling of visit with Lighting Control Manufacturer. Manufacturer recommends that this visit be scheduled early in construction phase, after system purchase but prior to system installation.

3.3 INSTALLATION

A. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130.

B. Install products in accordance with manufacturer's instructions.

C. Sensor Locations:
   1. Where Lighting Control Manufacturer Sensor Layout and Tuning service is specified in Part 2 under "LIGHTING CONTROLS - GENERAL REQUIREMENTS", locate sensors in accordance with layout provided by Lighting Control Manufacturer. Lighting Control Manufacturer may direct Contractor regarding sensor relocation should conditions require a deviation from locations indicated. Where Lighting Control Manufacturer Sensor Layout and Tuning service is not specified, locate sensors in accordance with Drawings.
   2. Sensor locations indicated are diagrammatic. Within the design intent, reasonably minor adjustments to locations may be made in order to optimize coverage and avoid conflicts or problems affecting coverage, in accordance with manufacturer's recommendations.

D. Ensure that daylight sensor placement minimizes sensor view of electric light sources. Locate ceiling-mounted and luminaire-mounted daylight sensors to avoid direct view of luminaires.

E. Lamp Burn-In: Operate lamps at full output for prescribed period per manufacturer's recommendations prior to use with any dimming controls. Replace lamps that fail prematurely due to improper lamp burn-in.

F. Lamp Lead Lengths: Do not exceed 3 feet (0.9 m) for T4 4-pin compact and T5 BIAX lamps and 7 feet (2.1 m) for T5, T5-HO, T8 U-bend, and T8 linear fluorescent lamps.

G. LED Light Engine/Array Lead Length: Do not exceed 100 feet (31 m).

H. Identify system components in accordance with Section 26 0553.

3.4 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Manufacturer's Full-Scope Start-Up Service is not required.

C. Manufacturer’s Programming Service: .
   1. Product(s):
      a. On-site programming, 4-hour block; Lutron LSC-OS-PROG4-SP.

D. Correct defective work, adjust for proper operation, and retest until entire system complies with contract documents.

3.5 ADJUSTING

A. On-Site Scene and Level Tuning; Lutron LSC-AF-VISIT: Include as an alternate to the base bid; additional costs for Lighting Control Manufacturer to visit site to conduct meeting with Owner's representative; to make required lighting adjustments to the system for conformance with original design intent.

B. Sensor Fine-Tuning: Where Lighting Control Manufacturer Sensor Layout and Tuning service is specified in Part 2 under "LIGHTING CONTROLS - GENERAL REQUIREMENTS", Lighting Control Manufacturer to provide up to two additional post-startup on-site service visits for fine-tuning of sensor calibration. Where Lighting Control Manufacturer Sensor Layout and Tuning service is not specified, Contractor to provide fine-tuning of sensor calibration.

3.6 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.7 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

B. See Section 01 7900 - Demonstration and Training, for additional requirements.

C. Demonstration:
   1. Demonstrate proper operation of lighting control devices to Engineer; or Owner’s Representative, and correct deficiencies or make adjustments as directed.

D. Training:
   1. Include services of manufacturer's certified service representative to perform on-site training of Owner's personnel on operation, adjustment, and maintenance of lighting control system as part of on-site system start-up services.

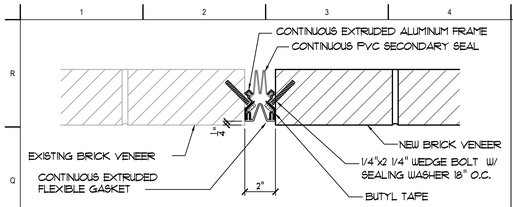
3.8 MAINTENANCE

A. See Section 01 7000 – Execution and Closeout Requirements, for additional requirements relating to maintenance service.

3.9 PROTECTION

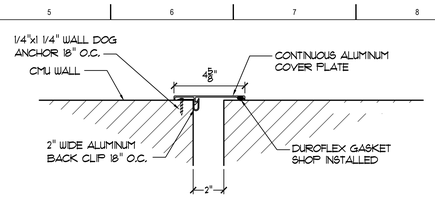
A. Protect installed products from subsequent construction operations.

END OF SECTION



NOTE:
EXPANSION JOINT TO BE CS GROUP SF200 OR EQUAL AND INCLUDES ALL PARTS AND PIECES FOR A COMPLETE WEATHER TIGHT INSTALLATION

P1	EXTERIOR EXPANSION JOINT DETAIL
	3" = 1'-0"



NOTE:
EXPANSION JOINT TO BE CS GROUP ASM200 OR EQUAL AND INCLUDES ALL PARTS AND PIECES FOR A COMPLETE INSTALLATION

P5	INTERIOR EXPANSION JOINT DETAIL
	3" = 1'-0"

FLOOR PLAN NOTES

1. EXPANSION JOINT, SEE DETAIL P1/A2.1
2. NEW 16'-0" x 4'-0" WHITE BOARD AND PROJECTOR, COORDINATE EXACT LOCATION W/ ARCHITECT & OWNER
3. NEW 16' MAP RAIL, MOUNTED AT 7'-4" A.F.F.
4. NEW 12' MAP RAIL, MOUNTED AT 7'-4" A.F.F.
5. NEW 4' x 8' TACK BOARD, COORDINATE EXACT LOCATION W/ ARCHITECT & OWNER
6. NEW FIRE EXTINGUISHER AND CABINET
7. EXPANSION JONT, SEE DETAIL P5/A2.1
8. SIGN TYPE I - SEE SPEC. SECTION 101400, MATCH COPY OF SIMILAR EXISTING SIGNAGE AND COORDINATE ROOM NAME AND NUMBER WITH EXISTING SYSTEM

PROJECT NORTH

A1	ENLARGED FLOOR PLAN
	1/8" = 1'-0"

Allen&Hoshall
engineers-architects-surveyors

Allen & Hoshall, P.L.L.C.
Michel Lebel, Architect
Allen & Hoshall
1661 International Drive Memphis, TN 38120
901 820 0820 fax 901 683 1001

CLASSROOM ADDITION TO
LEWISBURG ELEMENTARY SCHOOL

1717 Craft Road
Olive Branch, MS 38654

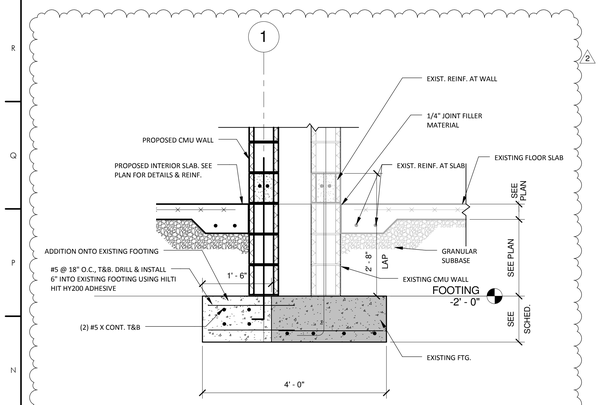
Desoto County School District
5 East South Street, Hernando, Mississippi 38632

No.	Revision	Date
1	ADD. #1- ADDED SIGNAGE NOTES	01.18.17

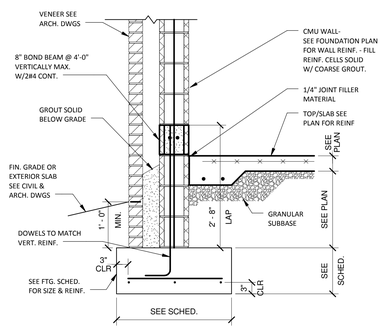
ENLARGED FLOOR PLAN

JOB NO: 62556
DATE: 12.06.16
DRAWN: NS
CHECKED: MHL
CAD FILE:

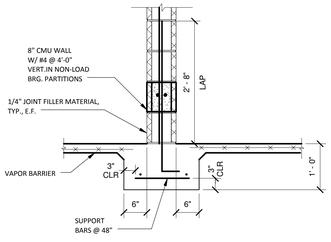
LEWISBURG ELEMENTARY
A2.1



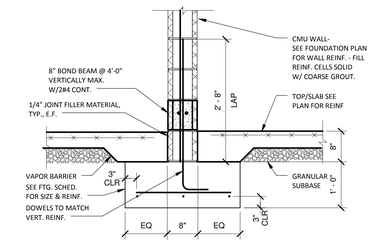
1 SECTION @ FOOTING ADDITION
3/4" = 1'-0"



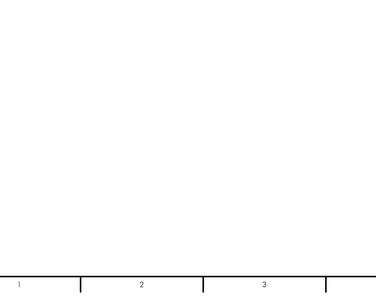
2 EXTERIOR WALL FOOTING
3/4" = 1'-0"



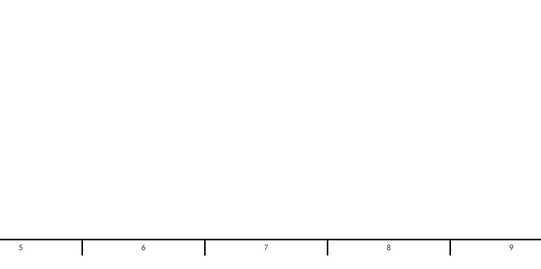
3 THICKENED SLAB AT NON-LOAD BEARING WALL
3/4" = 1'-0"



4 SECTION AT INTERIOR LOAD BEARING WALL
3/4" = 1'-0"



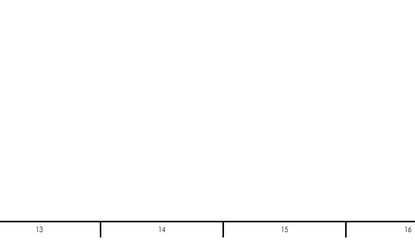
5 SECTION AT DOOR OPENING
3/4" = 1'-0"



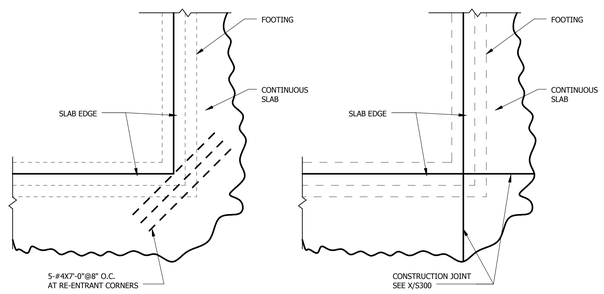
6 TYPICAL WALL FOOTING INTERSECTION REINFORCING PLAN
3/4" = 1'-0"

NOTES:
1. MAXIMUM SPACING OF CONTROL JOINTS SHALL BE 15'-0"O.C. (U.N.O.).
2. LOCATE CONTROL JOINTS AS SPECIFIED ON ARCHITECTURAL DRAWINGS (WHEN APPLICABLE).
3. PROVIDE 10 MIL VAPOR BARRIER BELOW SLAB (U.N.O.)

7 SLAB-ON-GRADE DETAILS
3/4" = 1'-0"



8 TYPICAL FOOTING STEP DETAIL
3/4" = 1'-0"



9 FLOOR SLAB PLACEMENT
3/4" = 1'-0"

FOOTING SCHEDULE

Type	WIDTH	THICKNESS	LONGITUDINAL REINF.	TRANSVERSE REINF.
W30	2' - 6"	1' - 0"	(4) #4 x Cont.	#5 @ 40" O.C.

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CLASSROOM ADDITION TO LEWISBURG ELEMENTARY SCHOOL

DESOTO COUNTY SCHOOL BOARD

DESOTO COUNTY, MISSISSIPPI

No.	Revision	Date
2	ADD. #2 - DETAIL REVISION	01/18/17
1	ADD. #1 - DETAIL REVISION	01/12/17

FOUNDATION DETAILS

JOB NO: 62556
DATE: 12.06.16
DRAWN: TBH
CHECKED:
CAD FILE:

LEWISBURG ELEMENTARY

S3.02

1:38:26 12/7/2016 8:04 AM

AIR DISTRIBUTION DEVICE SCHEDULE

MARK	NECK SIZE	FACE SIZE	MAX. N.C. RATING	MAXIMUM S.P. DROP, IN.	REMARKS
1	8"ø	24x24	30	0.1	1
2	10"ø	24x24	30	0.1	1
3	22x22	24x24	30	0.1	2

1 SUPPLY AIR DEVICE TO BE LOUVERED FACE TYPE EQUAL TO TITUS TMS

2 RETURN/EXHAUST AIR DEVICE TO BE EGG CRATE TYPE EQUAL TO TITUS 45F SERIES

PACKAGED ROOFTOP UNIT SCHEDULE

MARK	SUPPLY AIR CFM	OSA CFM	SEER	EXT. S.P.W.G	VOLTS/ PHASE	MCA/ MOCP	REFR. TYPE	DX COOLING COIL				GAS HEATING SECTION			REMARKS
								ENT. AIR TEMP.		SENSIBLE	TOTAL	ENT. AIR	LVG. AIR	MAX.OUTPUT	
								db°F	wb°F	MBTU/HR	BTU/HR	TEMP °F	TEMP °F	MBTU/HR	
RTU-A11	1100	140	16	0.5	460/3	10.4/15	410A	79.6	66.5	24.56	36.17	49	90	60	1 2 3
RTU-A12	1100	140	16	0.5	460/3	10.4/15	410A	79.9	66.7	24.98	36.74	49	90	60	1 2 3
RTU-A13	1100	140	16	0.5	460/3	10.4/15	410A	79.9	66.5	24.85	36.88	49	90	60	1 2 3
RTU-A14	1350	165	16	0.5	460/3	15.3/20	410A	80.0	66.4	28.46	42.93	49	90	76.8	1 2 3

1

1 RTU TO BE PER SPEC 23 82 00 WITH 2 STAGE COOLING, 2 STAGE HEATING, STAINLESS STEEL HEAT EXCHANGER, DISCONNECT, HINGE FILTER DOOR, MOTORIZED OA DAMPER, SEISMIC ROOF CURB, OVER FLOW CONDENSATE DRAIN SWITCH, UNIT MOUNTED FIELD POWERED GFI, AND COND COIL HAIL GUARD.

2 VARIABLE SPEED SUPPLY FAN

3 PROVIDE PLASMA IONIZER AT ROOFTOP UNIT. GLOBAL PLASMA SOLUTIONS iCLEAN, PLASMA AIR 663 OR APPROVED EQUAL SHALL INCLUDE 3RD PARTY TESTING TO UL OR ETL SHOWING OZONE BELOW 10ppb. PROVIDE WITH 24V CONNECTION TO RTU AND INTERLOCK WITH FAN. INSTALL PLASMA IONIZER AT MANUFACTURER PREFERRED LOCATION. COORDINATE WITH ELEC CONTRACTOR.

1

SEQUENCE OF OPERATIONS

BUILDING AUTOMATION SYSTEM INTERFACE:

THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP / PRE-COOL, OCCUPIED / UNOCCUPIED AND HEAT / COOL MODES. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.

OCCUPIED MODE:

DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE DX COOLING AND GAS HEAT SHALL STAGE TO MAINTAIN THE OCCUPIED SPACE TEMPERATURE SETPOINT.

UNOCCUPIED MODE:

WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE GAS HEAT SHALL BE DISABLED.

WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE DX COOLING SHALL BE DISABLED.

OPTIMAL START:

THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

MORNING WARM-UP MODE:

DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE HEATING AND SUPPLY FAN. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:

DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OPTIMAL STOP:

THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

OCCUPIED BYPASS:

THE BAS SHALL MONITOR THE STATUS OF THE "ON" AND "CANCEL" BUTTONS OF THE SPACE TEMPERATURE SENSOR. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

COOLING MODE:

THE UNIT CONTROLLER SHALL USE SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT, THE UNIT CONTROLLER SHALL STAGE THE DX COOLING AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. THE FIRST COMPRESSOR SHALL ENERGIZE AFTER ITS MINIMUM 3-MINUTE OFF TIME HAS EXPIRED. IF ADDITIONAL COOLING CAPACITY IS REQUIRED THE SECOND STAGE OF COOLING SHALL BE ENABLED. ONCE THE SPACE TEMPERATURE FALLS BELOW THE SETPOINT THE COMPRESSORS SHALL BE DEACTIVATED.

HEATING MODE:

THE UNIT CONTROLLER SHALL USE THE SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR HEAT. WHEN THE SPACE TEMPERATURE DROPS BELOW THE SETPOINT, THE UNIT CONTROLLER SHALL ENABLE GAS HEATING STAGES TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. ONCE THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT THE GAS HEATING STAGES SHALL BE DISABLED.

SUPPLY FAN:

THE SUPPLY FAN SHALL BE ENABLED WHILE IN THE OCCUPIED MODE AND CYCLED ON DURING THE UNOCCUPIED MODE. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FAN. IF THE SWITCH DOES NOT OPEN WITHIN 40 SECONDS AFTER A REQUEST FOR FAN OPERATION A FAN FAILURE ALARM SHALL BE ANNUNCIATED AT THE BAS, THE UNIT SHALL STOP, REQUIRING A MANUAL RESET.

FILTER STATUS:

A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES FOR 2 MINUTES AFTER A REQUEST FOR FAN OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

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Olive Branch, MS 38654

Desoto County School District
5 East South Street, Hernando, Mississippi 38632

No.	Revision	Date
1	ADDENDUM NO. 2	1.18.17

SCHEDULES - MECHANICAL

JOB NO: 62556
DATE: 12.06.16
DRAWN: CDL
CHECKED: RLT
CAD FILE:

RONALD L. THOMPSON
REGISTERED PROFESSIONAL ENGINEER
12/6/16
11596
STATE OF MISSISSIPPI

LEWISBURG ELEMENTARY

M4.1

RECESSED LIGHTING FIXTURE - REFER TO LIGHTING FIXTURE SCHEDULE.

RECESSED LIGHTING FIXTURE - PROVIDE 1300 LUMEN BATTERY BACK-UP EMERGENCY BALLAST. RUN ADDITIONAL UNSWITCHED HOT CONDUCTOR TO EACH FIXTURE LOCATION.

RECESSED LIGHTING FIXTURE

WALL MTD. EMERGENCY LIGHTING FIXTURE

SURFACE, PENDANT OR BRACKET MTD. LIGHTING FIXTURE

EXIT FIXTURE - FACE & DIRECTIONAL ARROWS AS INDICATED, TYPE "E", UOI.

A — DENOTES FIXTURE TYPE "A" - SEE FIXTURE SCHEDULE

SWD — WALL MTD. WIRELESS WALL SWITCH WITH DIMMING. TIME-OUT SHALL BE SET TO 5 MINUTES FOR ALL AREAS, UOI. LUTRON PJ2-3BRL-GXX-L01 OR APPROVED EQUIVALENT- MTD. 48" AFF, UOI. PROVIDE FACEPLATE AND MOUNTING KIT AS REQUIRED.

CS — CEILING MOUNTED WIRELESS OCCUPANCY/VACANCY SENSOR. DELAY TIME SHALL BE SET TO 5 MINUTES FOR ALL AREAS, UOI. LUTRON LRF2-OCR2B-P-WH OR APPROVED EQUIVALENT. PROVIDE RECESSED CEILING BRACKET LUTRON #L-CRMK-WH.

2

DUPLEX RECEPTACLE, MTD. 18" AFF, UOI

DOUBLE DUPLEX RECEPTACLE, MTD. 18" AFF, UOI

GROUND FAULT INTERRUPTER RECEPTACLE, MTD. 44" AFF, UOI

120/208V 3PH, 4W PANELBOARD

277/480V 3PH, 4W PANELBOARD

TRANSFORMER

WIRE IN CONDUIT RUN OVERHEAD - CONCEALED IN OR ABOVE CEILING IN WALL OR EXPOSED ON STRUCTURE

WIRE IN CONDUIT RUN CONCEALED BELOW FLOOR, IN WALL OR BELOW GRADE

INDICATES GROUNDING CONDUCTOR

FUSED DISCONNECT SWITCH IN WP ENCLOSURE - SIZE AS INDICATED

OUTLET FOR DATA CABLE MTD. 18" AFF, UOI, - RUN 1" EMPTY CONDUIT UP TO NEAREST ACCESSIBLE CEILING SPACE - PROVIDE BLANK COVERPLATE

D-X — INDICATES NUMBER OF DATA DROPS - BY DIVISION 27 - SEE SPECS

TV DEVICE AND ADJACENT RECEPTACLE MTD. 98" AFF, SEE ARCH. ELEVATIONS FOR EXACT LOCATION. RUN 1" EMPTY CONDUIT UP TO NEAREST ACCESSIBLE CEILING SPACE - PROVIDE BLANK COVERPLATE

TBB — TELEPHONE BACKBOARD - 0.75" AC PLYWOOD, 8' TALL. INSTALL PER OWNER'S STANDARDS.

NOTE INDICATION

UOI — UNLESS OTHERWISE INDICATED

GFCI — GROUND FAULT CIRCUIT INTERRUPTER

EX — EXISTING

WP — WEATHERPROOF

F — FIRE ALARM SYSTEM - MANUAL PULL STATION, MTD. 48" AFF, UOI.

FIRE ALARM SYSTEM - COMBINATION AUDIBLE & VISUAL INDICATOR

FIRE ALARM SYSTEM - VISUAL SIGNAL DEVICE

FIRE ALARM SYSTEM - SMOKE DETECTOR MTD. IN DUCT

FACP — FIRE ALARM SYSTEM - CONTROL PANEL

INDICATES DEVICE TO BE REMOVED

S — INTERCOM/PAGING CEILING MOUNTED SPEAKER

FIRE STOPPING COMMUNICATIONS PENETRATION. EZ PATH BY STI FIRE STOP - NO SUBSTITUTE. 22 INDICATES EZD22, 33 INDICATES EZDP33FWS, & 44 INDICATES EZD44. LOCATIONS WITH (3) 44'S REQUIRE A EZP544W WALL KIT. FURNISHED AND INSTALLED BY DIVISION 26. PENETRATION SHALL BE ABOVE FINISHED CEILING, AS APPLICABLE.

RECESSED CONNECTION BLOCK FOR POWER, COAXIAL, USB AND HDMI CABLES (DATACOMM ELECTRONICS MODEL # 45-0010-WH OR APPROVED EQUAL). SHALL HAVE (1) DUPLEX PLATE, (1) COAXIAL PLATE, AND (1) DATA PLATE. FLUSH MOUNT IN CEILING, AGAINST WALL, CENTERED ABOVE WALL MOUNTED PROJECTOR. USB AND HDMI CABLING SHALL BE PER SMART TV MANUFACTURER'S REQUIREMENTS. ROUTE FROM TEACHER'S DESK LOCATION TO SMART TV LOCATION AS INDICATED ON PLANS.

J — J-HOOK ARRAY

WAP — ARUBA WIRELESS ACCESS POINT (MODEL # AP-305) AND ARUBA MOUNTING KIT (MODEL # AP-220-MNT-C2) WITH .75"C TO CEILING SPACE FOR WIRELESS ACCESS POINT - PROVIDE 2 DATA DROPS FROM NEAREST DATA CLOSET.

1

S — FIRE ALARM SYSTEM - CEILING MTD. SMOKE DETECTOR

PB — INTERCOM PUSH BUTTON - MTD. 48" AFF. SEE SPECIFICATIONS

DH — MAGNETIC DOOR HOLDER

HUB — WIRELESS LIGHTING CONTROLS HUB - MTD. RECESSED IN CEILING. PROVIDE 120V, DEDICATED CIRCUIT TO HUB. LUTRON VIVE HJS-2-FM OR APPROVED EQUAL.

PP — LIGHTING CONTROLS SYSTEM 0-10V POWER PACK - MTD. TO JUNCTION BOX ABOVE CEILING. LUTRON POWPAK RMJ-8T-DV-B OR APPROVED EQUAL.

2

A1	LEGEND - ELECTRICAL
	NO SCALE

FIXTURE MOUNTING
R-RECESSED
S-SURFACE
U-UNIVERSAL
W-WALL

FIXTURE TYPE
F-FLUORESCENT
LED-LIGHT EMITTING DIODE

LENS
A-ACRYLIC
P-POLYCARBONATE
G-GLASS

FINISH
WH-WHITE
CB-CARBON BRONZE

TYPE NO.	MANUF'R	CATALOG NO.	FIX. MTG.	FIX. TYPE	LENS	FIN.	LAMP NO.	LAMP WATTS	VOLTS	COMMENTS
A	METALUX	24SR-LD1-48-C-UNV-L840-HCD-1	R	LED	A	WH	-	49	UNV	LED VOLUMETRIC TROFFER - PROVIDE WITH 1% DIMMING DRIVER (2)
AE	METALUX	24SR-LD1-48-C-UNV-EL14-L840-HCD-1	R	LED	A	WH	-	49	UNV	LED VOLUMETRIC TROFFER - PROVIDE WITH 1% DIMMING DRIVER AND 1400 LUMEN EMERGENCY OPTION, UOI
D	PORTFOLIO	LD6B-15-D010-EU6B-1020-80-40-6LB-W-1-H	R	LED	G	WH	-	25	UNV	LED DOWNLIGHT WITH WET-LOCATION LENS
DE	LITHONIA	AFN-DB-EXT-FWD	W	LED	G	DB	-	11	UNV	LED ARCHITECTURAL EMERGENCY LIGHT
E	SURE-LITES	EUX7-G (2)	U	LED	P	WH	-	4.6	UNV	LED, EDGE-LIT, EXIT SIGN - MTD. ABOVE DOOR HEADER AS REQUIRED
J	LUMARK	XTOR6B-MS/DIM-L20	W	LED	A	CB	-	58 (2)	UNV	LED WALL PACK WITH INTEGRAL PHOTOCELL AND DIMMING DRIVER - SEE NOTE 4

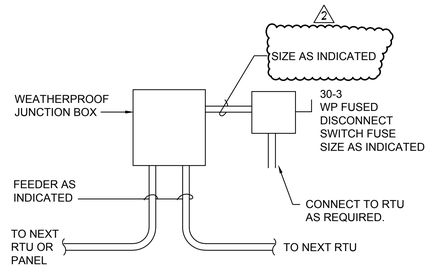
GENERAL LIGHTING NOTES:

1. ALL DRIVERS (2) SHALL BE ELECTRONIC WITH ≤ 20% THD.
2. ALL "EQUAL" ALTERNATE FIXTURES ARE SUBJECT TO APPROVAL BY ARCHITECT/ENGINEER, 10 DAYS PRIOR TO BID.
3. ALL EXIT FIXTURES SHALL BE WALL, CENTER MOUNTED ABOVE DOOR HEADER, UOI.
4. FIXTURE MOUNTING SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS.

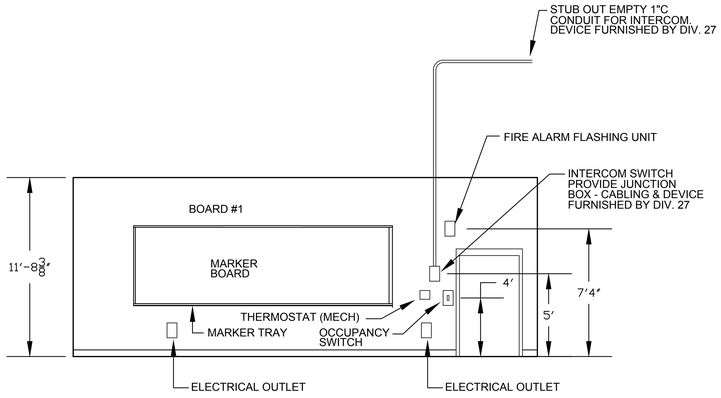
L8	LIGHTING FIXTURE SCHEDULE - ELECTRICAL
	NO SCALE

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES AND CIRCUITRY AS REQUIRED FOR OPERATION OF ALL OCCUPANCY SENSORS. CONTRACTOR SHALL PROVIDED OCCUPANCY SENSORS RATED FOR EXHAUST FANS AS REQUIRED.
2. CONTRACTOR SHALL PROVIDE PROJECTORS, DATA, AND INTERCOM SYSTEMS INCLUDING WIRING AS DESCRIBED IN THE SPECIFICATIONS.
3. CONTRACTOR SHALL TIE ALL FIRE ALARM DEVICES INTO EXISTING FIRE ALARM SYSTEM IN EXISTING SCHOOL. CONTRACTOR SHALL PROVIDE (1) NEW LOOP CARD AND (2) NEW POWER SUPPLIES TO ALLOW INTEGRATION OF NEW FIRE ALARM DEVICES.



G12	RTU FEEDER TAP DETAIL - ELECTRICAL
	NO SCALE



A11	CLASSROOM WALL SCHEMATIC - ELECTRICAL
	NO SCALE

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CLASSROOM ADDITION TO
LEWISBURG ELEMENTARY SCHOOL

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Olive Branch, MS 38654

Desoto County School District
5 East South Street, Hernando, Mississippi 38632

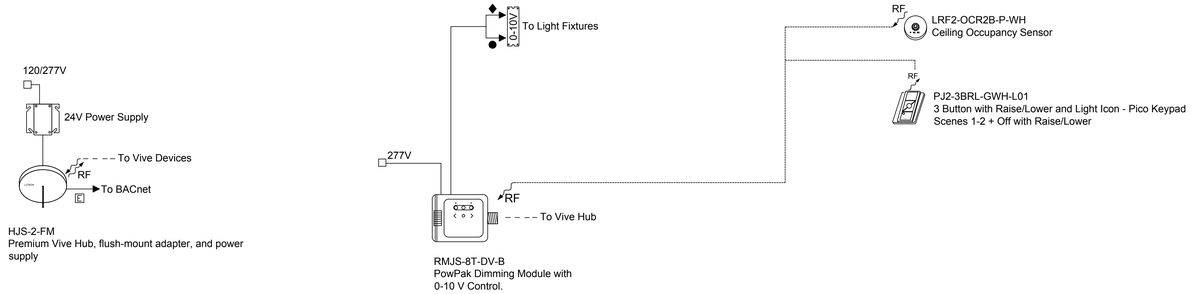
No.	Revision	Date
2	ADDENDUM NO. 2	1.18.17
1	ADDENDUM NO. 1	1.12.17

LEGEND, LIGHTING FIXTURE SCHEDULE, AND DETAILS - ELECTRICAL

JOB NO: 62556
DATE: 12.06.16
DRAWN: JAB
CHECKED: MSC
CAD FILE: E0.1

MICHAEL S. COLLINS
REGISTERED PROFESSIONAL ENGINEER
14493
STATE OF MISSISSIPPI
1.16

LEWISBURG ELEMENTARY
E0.1



***NOTE: THIS ONE-LINE DIAGRAM REPRESENTS TYPICAL WIRING EXAMPLES, AND IS REPRESENTATIVE OF THE OVERALL LIGHTING CONTROLS SYSTEM. FULL SHOP DRAWINGS WITH A DETAILED ONE-LINE WILL BE PROVIDED DURING THE SUBMITTAL PHASE PRIOR TO INSTALLATION.**

LIGHTING CONTROL SERVICES

QTY	SERVICE TITLE (MODEL NUMBER)	SERVICE DESCRIPTION
		PRE-STARTUP SERVICES
1	ONSITE PRE-WIRE VISIT (LSC-PREWIRE)	AN ONSITE VISIT WITH THE ELECTRICAL CONTRACTOR TO DISCUSS LOGISTICAL CONSTRUCTION CONSIDERATIONS INCLUDING THE WIRING AND MOUNTING OF SYSTEM DEVICES, THE CONSTRUCTION SCHEDULE, AND LUTRON DOCUMENTATION. QUANTITY DICTATES THE NUMBER OF VISITS PURCHASED.
		STARTUP SUPPORT SERVICES
1	ONSITE PERFORMANCE-VERIFICATION WALKTHROUGH (LSC-WALK)	AN ONSITE WALKTHROUGH WITH FACILITY REPRESENTATIVES OR PROJECT COMMISSIONING AGENTS TO DEMONSTRATE THAT THE SYSTEM FUNCTIONALITY MEETS THE DESIGN INTENT. THIS MAY INCLUDE ANY OF THE FOLLOWING ONSITE ACTIVITIES – CONSULTATION/TRAINING DEMOS, FUNCTIONAL TESTING ASSISTANCE, OR INVENTORY OF LUTRON EQUIPMENT.
		MAINTENANCE & SUPPORT SERVICES
1	**COMMERCIAL SYSTEMS 2-YEAR LIMITED WARRANTY (LSC-B2)**	**A 2-YEAR SYSTEM WARRANTY PROVIDING 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A FIRST-AVAILABLE RESPONSE TIME.**

A1 | LIGHTING CONTROLS SINGLE-LINE - ELECTRICAL

NO SCALE

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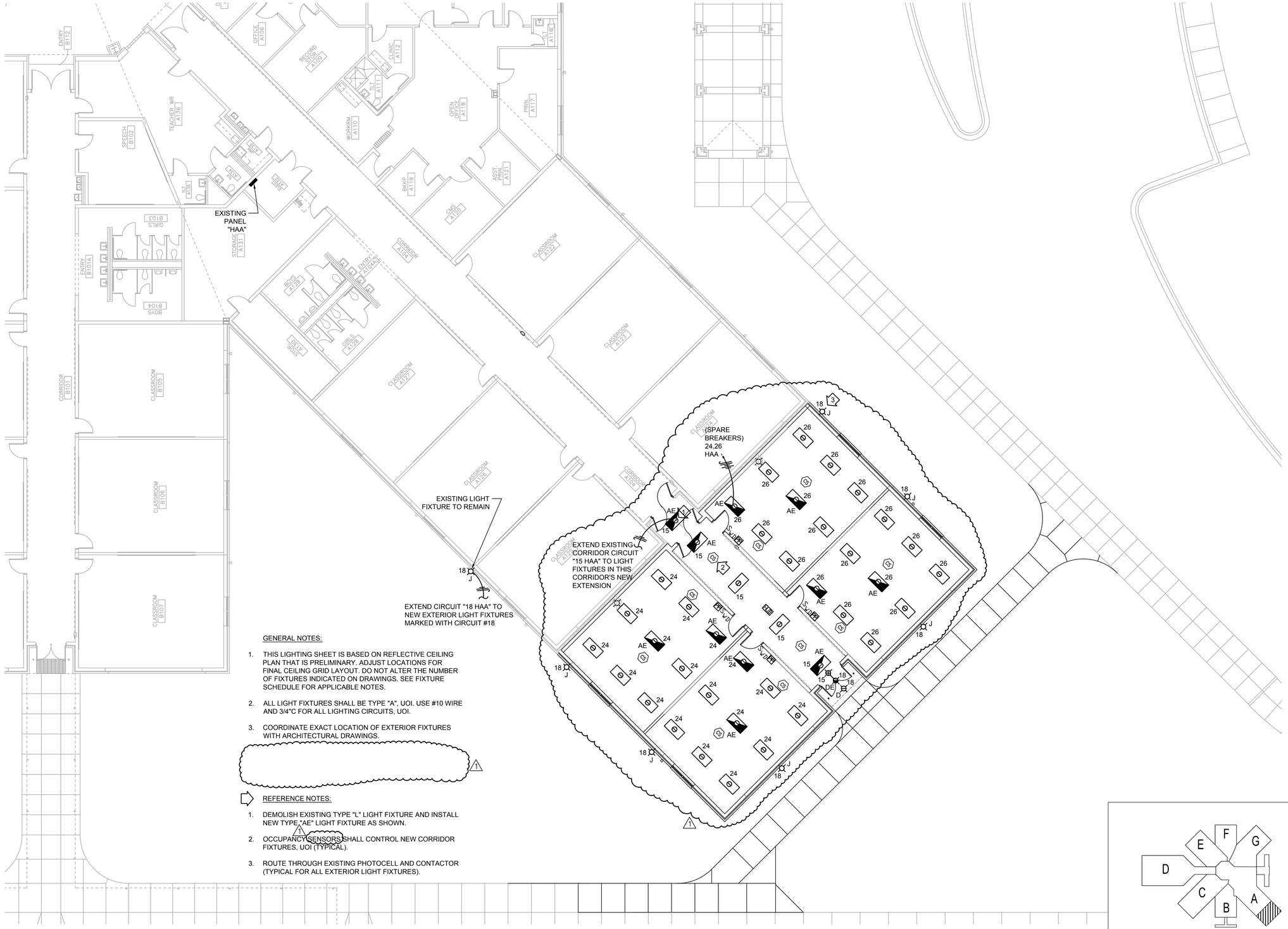
No.	Revision	Date
1	ADDENDUM NO. 2	1.18.17

LIGHTING CONTROLS SINGLE-LINE - ELECTRICAL

JOB NO: 62556
DATE: 12.06.16
DRAWN: JAB
CHECKED: MSC
CAD FILE: E0.2

LEWISBURG ELEMENTARY

E0.2



GENERAL NOTES:

1. THIS LIGHTING SHEET IS BASED ON REFLECTIVE CEILING PLAN THAT IS PREILIMINARY. ADJUST LOCATIONS FOR FINAL CEILING GRID LAYOUT. DO NOT ALTER THE NUMBER OF FIXTURES INDICATED ON DRAWINGS. SEE FIXTURE SCHEDULE FOR APPLICABLE NOTES.
2. ALL LIGHT FIXTURES SHALL BE TYPE "A", UOI. USE #10 WIRE AND 3/4"C FOR ALL LIGHTING CIRCUITS, UOI.
3. COORDINATE EXACT LOCATION OF EXTERIOR FIXTURES WITH ARCHITECTURAL DRAWINGS.

1

REFERENCE NOTES:

1. DEMOLISH EXISTING TYPE "L" LIGHT FIXTURE AND INSTALL NEW TYPE "AE" LIGHT FIXTURE AS SHOWN.
2. OCCUPANCY SENSORS SHALL CONTROL NEW CORRIDOR FIXTURES, UOI (TYPICAL).
3. ROUTE THROUGH EXISTING PHOTOCELL AND CONTACTOR (TYPICAL FOR ALL EXTERIOR LIGHT FIXTURES).

A1	FLOOR PLAN - LIGHTING - ELECTRICAL	A16	KEYPLAN
	1/8" = 1'-0"		NO SCALE

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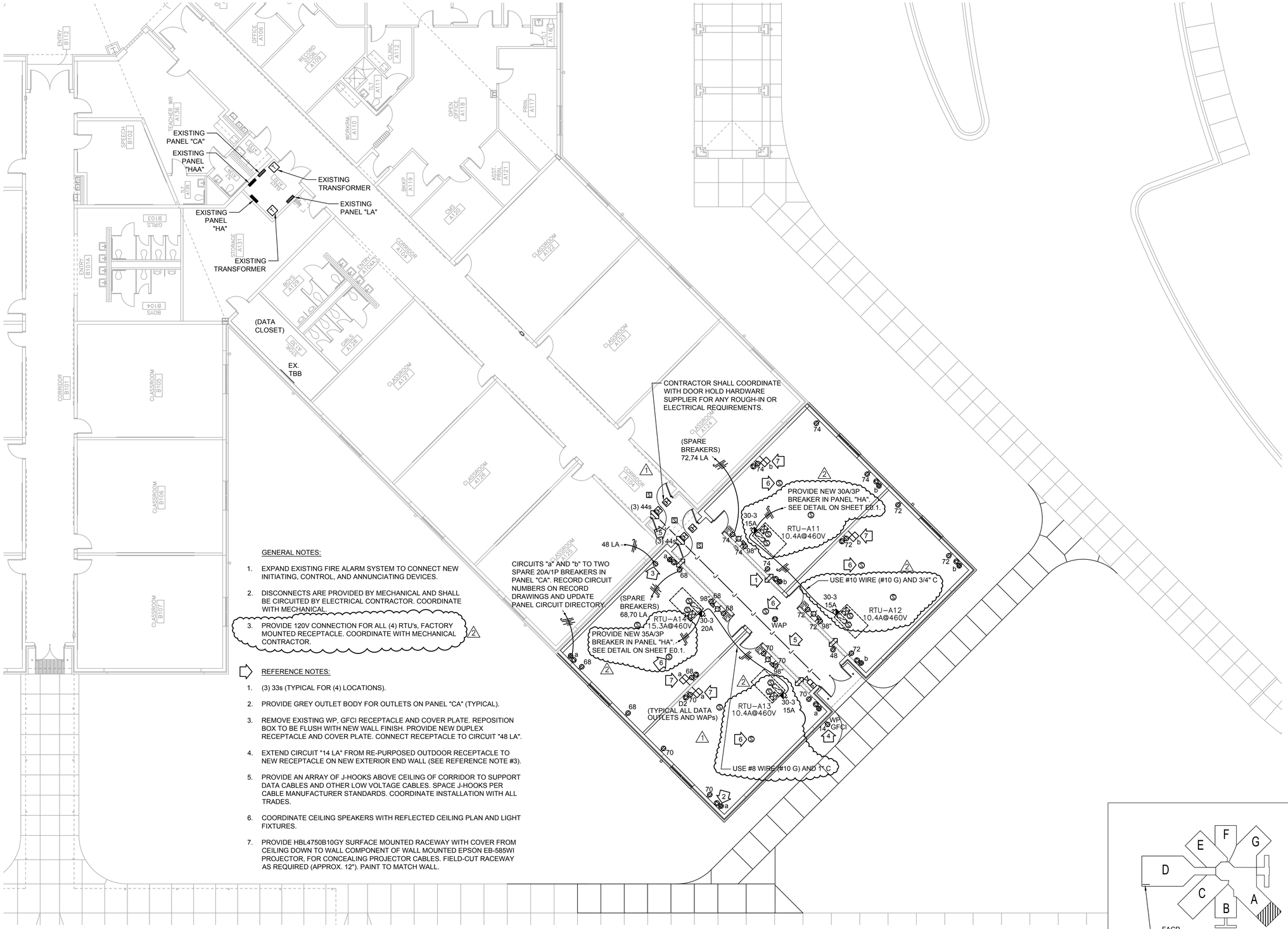
No.	Revision	Date
1	ADDENDUM NO. 2	1.18.17

FLOOR PLAN - LIGHTING - ELECTRICAL

JOB NO: 62556
DATE: 12.06.16
DRAWN: JAB
CHECKED: MSC
CAD FILE: E2.1

MICHAEL S. COTHAN
REGISTERED PROFESSIONAL
ENGINEER
14493
STATE OF MISSISSIPPI
12.06.16

LEWISBURG ELEMENTARY
E2.1



GENERAL NOTES:

1. EXPAND EXISTING FIRE ALARM SYSTEM TO CONNECT NEW INITIATING, CONTROL, AND ANNUNCIATING DEVICES.
2. DISCONNECTS ARE PROVIDED BY MECHANICAL AND SHALL BE CIRCUITED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL.
3. PROVIDE 120V CONNECTION FOR ALL (4) RTU's, FACTORY MOUNTED RECEPTACLE. COORDINATE WITH MECHANICAL CONTRACTOR. (2)

REFERENCE NOTES:

1. (3) 33s (TYPICAL FOR (4) LOCATIONS).
2. PROVIDE GREY OUTLET BODY FOR OUTLETS ON PANEL "CA" (TYPICAL).
3. REMOVE EXISTING WP, GFCI RECEPTACLE AND COVER PLATE. REPOSITION BOX TO BE FLUSH WITH NEW WALL FINISH. PROVIDE NEW DUPLEX RECEPTACLE AND COVER PLATE. CONNECT RECEPTACLE TO CIRCUIT "48 LA".
4. EXTEND CIRCUIT "14 LA" FROM RE-PURPOSED OUTDOOR RECEPTACLE TO NEW RECEPTACLE ON NEW EXTERIOR END WALL (SEE REFERENCE NOTE #3).
5. PROVIDE AN ARRAY OF J-HOOKS ABOVE CEILING OF CORRIDOR TO SUPPORT DATA CABLES AND OTHER LOW VOLTAGE CABLES. SPACE J-HOOKS PER CABLE MANUFACTURER STANDARDS. COORDINATE INSTALLATION WITH ALL TRADES.
6. COORDINATE CEILING SPEAKERS WITH REFLECTED CEILING PLAN AND LIGHT FIXTURES.
7. PROVIDE HBL4750B10GY SURFACE MOUNTED RACEWAY WITH COVER FROM CEILING DOWN TO WALL COMPONENT OF WALL MOUNTED EPSON EB-585WI PROJECTOR, FOR CONCEALING PROJECTOR CABLES. FIELD-CUT RACEWAY AS REQUIRED (APPROX. 12"). PAINT TO MATCH WALL.

A1 FLOOR PLAN - POWER, COMMUNICATIONS, AND FIRE ALARM - ELECTRICAL

1/8" = 1'-0"

A16 KEYPLAN

NO SCALE

Allen&Hoshall
engineers-architects-surveyors

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CLASSROOM ADDITION TO LEWISBURG ELEMENTARY SCHOOL

1717 Craft Road
Olive Branch, MS 38654

Desoto County School District
5 East South Street, Hernando, Mississippi 38632

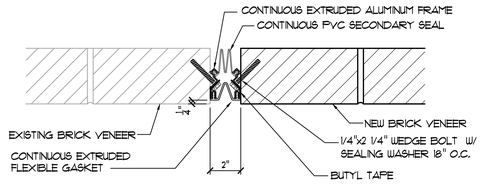
No.	Revision	Date
2	ADDENDUM NO. 2	1.18.17
1	ADDENDUM NO. 1	1.12.17

FLOOR PLAN - POWER, COMMUNICATIONS, AND FIRE ALARM - ELECTRICAL

JOB NO: 62556
DATE: 12.06.16
DRAWN: JAB
CHECKED: MSC
CAD FILE: E3.1

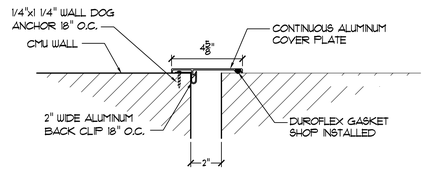
MICHAEL S. COLLINS REGISTERED PROFESSIONAL ENGINEER 14493 STATE OF MISSISSIPPI 12.16

LEWISBURG ELEMENTARY
E3.1



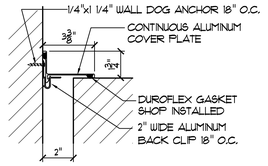
NOTE:
EXPANSION JOINT TO BE CS GROUP SF200 OR EQUAL AND INCLUDES ALL PARTS AND PIECES FOR A COMPLETE WEATHER TIGHT INSTALLATION

P1 EXTERIOR EXPANSION JOINT DETAIL
3" = 1'-0"



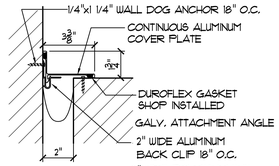
NOTE:
EXPANSION JOINT TO BE CS GROUP ASM200 OR EQUAL AND INCLUDES ALL PARTS AND PIECES FOR A COMPLETE INSTALLATION

P5 INTERIOR EXPANSION JOINT DETAIL
3" = 1'-0"



NOTE:
EXPANSION JOINT TO BE CS GROUP ASM200B OR EQUAL AND INCLUDES ALL PARTS AND PIECES FOR A COMPLETE INSTALLATION

P9 INTERIOR EXP. JT. DETAIL
3" = 1'-0"



NOTE:
EXPANSION JOINT TO BE CS GROUP ASMC200X OR EQUAL AND INCLUDES ALL PARTS AND PIECES FOR A COMPLETE INSTALLATION

P12 EXTERIOR EXP. JT. DETAIL
3" = 1'-0"

FLOOR PLAN NOTES

1. EXPANSION JOINT, SEE DETAIL P1/A2.1
2. NEW 16'-0" x 4'-0" WHITE BOARD AND PROJECTOR, COORDINATE EXACT LOCATION W/ ARCHITECT & OWNER
3. NEW 24" MAP RAIL, MOUNTED AT 7'-4" A.F.F.
4. NEW 4' x 8' TACK BOARD, COORDINATE EXACT LOCATION W/ ARCHITECT & OWNER
5. NEW FIRE EXTINGUISHER AND CABINET
6. NEW 1/2" HI-IMPACT DRYWALL LAMINATED TO EXISTING CMU WALL FROM FLOOR TO 6" ABOVE CEILING WHERE BRICK VENEER HAS BEEN REMOVED, FINISH AND PAINT.
7. NEW 4" CMU VENEER TO 9'-4" A.F.F. TO REPLACE BRICK VENEER REMOVED IN DEMO
8. EXPANSION JOINT, SEE DETAIL P5/A2.1
9. EXPANSION JOINT, SEE DETAIL P9/A2.1
10. EXPANSION JOINT, SEE DETAIL P12/A2.1
11. SIGN TYPE 1 - SEE SPEC. SECTION 101400, MATCH COPY OF SIMILAR EXISTING SIGNAGE AND COORDINATE ROOM NAME AND NUMBER WITH EXISTING SYSTEM
12. SIGN TYPE 2 - SEE SPEC. SECTION 101400. SIGN COPY: "TOILET", PLUS OTHER REQUIREMENTS LISTED IN SPECIFICATION
13. SIGN TYPE 3 - SEE SPEC. SECTION 101400, MATCH COPY OF SIMILAR EXISTING SIGNAGE AND COORDINATE ROOM NAME AND NUMBER WITH EXISTING SYSTEM

KINDERGARTEN B123 · KINDERGARTEN B122 · KINDERGARTEN B126 · KINDERGARTEN B129 · KINDERGARTEN B110 · KINDERGARTEN B109 · KINDERGARTEN B113 · KINDERGARTEN B106 · KINDERGARTEN B117 · CORRIDOR B119 · CORRIDOR B112 · CORRIDOR A101 · CORRIDOR A107 · CORRIDOR A108 · STOR B125 · STOR B121 · STOR B126 · STOR B130 · TLT B124 · TLT B127 · TLT B111 · TLT B120 · TLT B131 · EST B118 · JAN B105 · ELEC B116 · ST B108 · ST H113 · CAN WASH H127 · FOYER H126 · DRY ST H122 · OFFICE H125 · TOILET H124 · COOLER / FREEZER H121 · LAUNDRY H123 · JAN H119 · KITCHEN H120 · MECH / SPRINKLER H116 · DISHWASHING H118 · CLASSROOM C108 · CLASSROOM C107 · CORRIDOR C101 · ELEC C106 · WORK ROOM C103 · BOOK ST C102 · DATA A150 · F TLT A150 · BRICK VENEER · 2" EXP. JT. · PROJECT NORTH

A1 ENLARGED FLOOR PLAN
1/8" = 1'-0"

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CLASSROOM ADDITION TO
LEWISBURG PRIMARY SCHOOL

1707 Craft Road
Olive Branch, MS 38654

Desoto County School District
5 East South Street, Hernando, Mississippi 38632

No.	Revision	Date
2	ADD. #2 - ADD SIGNAGE NOTES	01.18.17
1	ADD. #1 - REVISED TOILET ROOM	01.12.17

ENLARGED FLOOR PLAN

JOB NO: 62557
DATE: 12.06.16
DRAWN: NS
CHECKED: MHL
CAD FILE:

REGISTERED ARCHITECT MICHEL H. LEBEL 23256 STATE OF MISSISSIPPI
12.7.16

LEWISBURG PRIMARY
A2.1

A1 PARTIAL ROOF PLAN

1/8" = 1'-0"

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engineers-architects-surveyors

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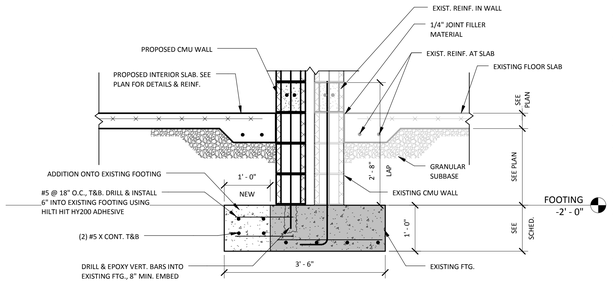
No.	Revision	Date
1	ADD. #2 - ADDED NOTES	01.18.17

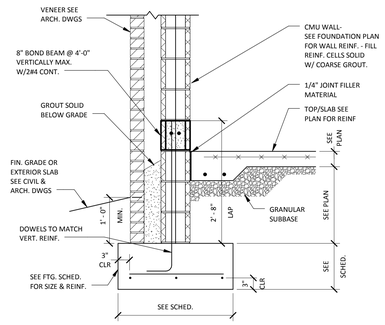
ROOF PLAN

JOB NO: 62557
DATE: 12.06.16
DRAWN: NS
CHECKED: MHL
CAD FILE:

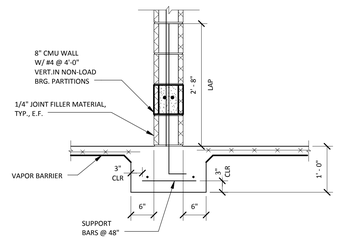
LEWISBURG PRIMARY
A4.1



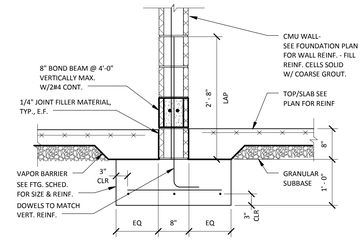
1 SECTION @ FOOTING ADDITION
3/4" = 1'-0"



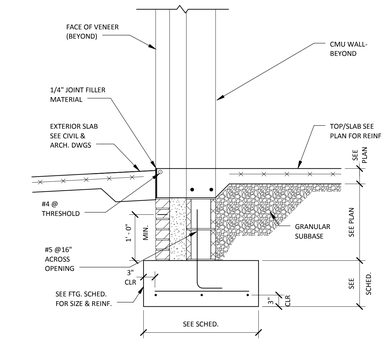
2 EXTERIOR WALL FOOTING
3/4" = 1'-0"



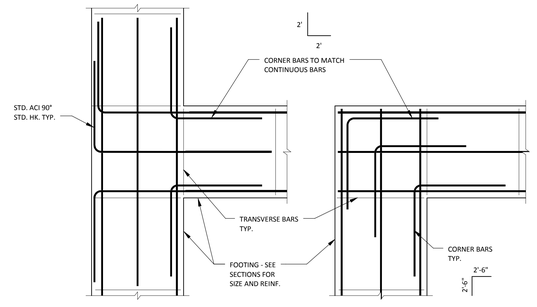
3 THICKENED SLAB AT NON LOAD BEARING CMU WALLS
3/4" = 1'-0"



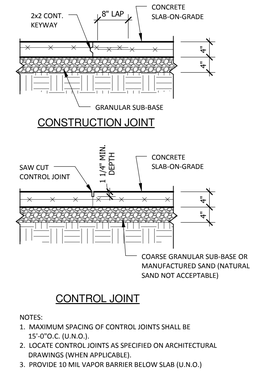
4 SECTION AT INTERIOR LOAD BEARING WALL
3/4" = 1'-0"



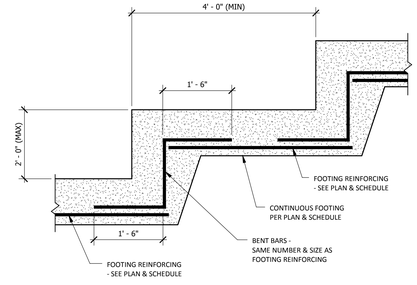
5 SECTION AT DOOR OPENING
3/4" = 1'-0"



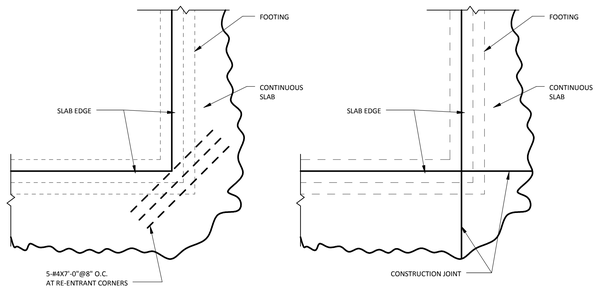
6 TYPICAL WALL FOOTING INTERSECTION REINFORCING PLAN
3/4" = 1'-0"



7 SLAB-ON-GRADE DETAILS
3/4" = 1'-0"

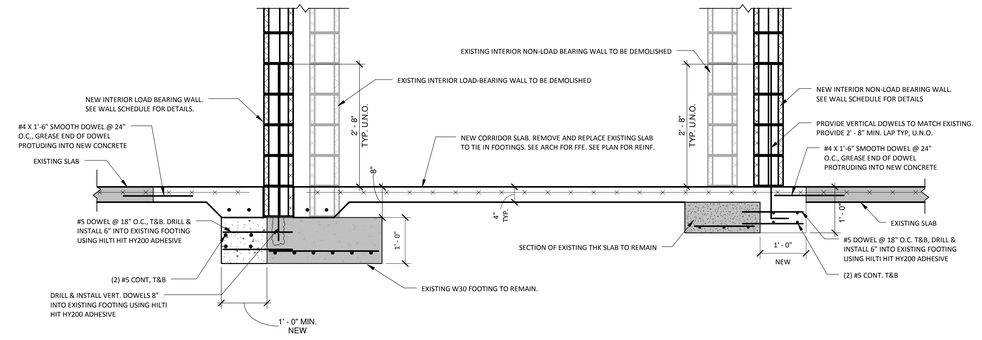


8 TYPICAL FOOTING STEP DETAIL
3/4" = 1'-0"



9 FLOOR SLAB PLACEMENT
3/4" = 1'-0"

FOOTING SCHEDULE				
Type	WIDTH	THICKNESS	LONGITUDINAL REINF.	TRANSVERSE REINF.
W30	2' - 6"	1' - 0"	(4) #4 x Cont.	#5 @ 40" o.c.



10 FOUNDATION SECTION AT NEW CORRIDOR
3/4" = 1'-0"

Allen&Hoshall
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CLASSROOM ADDITION TO LEWISBURG PRIMARY SCHOOL

DESOTO COUNTY SCHOOL BOARD

DESOTO COUNTY, MISSISSIPPI

No.	Revision	Date
2	ADD #2 - DETAIL REVISION	01/18/17
1	ADD #1 - DETAIL REVISION	01/12/17

FOUNDATION DETAILS

JOB NO: 62557
DATE: 12.06.16
DRAWN: TBH
CHECKED:
CAD FILE:

MICHAEL EDWARD SHERRARD REGISTERED PROFESSIONAL ENGINEER 13590 STATE OF MISSISSIPPI

LEWISBURG PRIMARY

S3.02

1/26/2017 9:02:17 AM

FAN SCHEDULE

MARK	SERVICE	CFM	MAX SONE RATING	EST. S.P.W.G.	MOTOR H.P.	VOLTS/ PHASE	FAN WHEEL			DISCHARGE	TYPE	REMARKS
							MAX. RPM	DRIVE	DIA. IN.			
EF-B9	RESTROOM	75	10	0.10	1/30	277/1	1550	DIRECT	–	ROOF	ROOF	1 3
EF-B10	RESTROOM	75	10	0.10	1/30	277/1	1550	DIRECT	–	ROOF	ROOF	1 3
EF-B11	RESTROOM	75	10	0.10	1/30	277/1	1550	DIRECT	–	ROOF	ROOF	1 3
EF-B12	RESTROOM	75	10	0.10	1/30	277/1	1550	DIRECT	–	ROOF	ROOF	1 3
EF-B8	RESTROOM	75	–	–	–	–	–	–	–	ROOF	ROOF	2 3

1 PROVIDE INTEGRAL DISCONNECT, BIRDSCREEN, AND BACKDRAFT DAMPER.

2 RELOCATE EXISTING EXHAUST FAN FOR RELOCATED RESTROOM

3 INTERLOCK W/ LIGHT SWITCH

AIR DISTRIBUTION DEVICE SCHEDULE

MARK	NECK SIZE	FACE SIZE	MAX. N.C. RATING	MAXIMUM S.P. DROP, IN.	REMARKS
1	6"ø	12x12	30	0.1	1
2	8"ø	24x24	30	0.1	1
3	22x22	24x24	30	0.1	2
4	6"ø	24x24	30	0.1	1

1 SUPPLY AIR DEVICE TO BE LOUVERED FACE TYPE EQUAL TO TITUS TMS

2 RETURN/EXHAUST AIR DEVICE TO BE EGG CRATE TYPE EQUAL TO TITUS 45F SERIES

PACKAGED ROOFTOP UNIT SCHEDULE

MARK	SUPPLY AIR CFM	OSA CFM	SEER	EXT. S.P.W.G	VOLTS/ PHASE	MCA/ MOCP	REFR. TYPE	DX COOLING COIL				GAS HEATING SECTION			REMARKS
								ENT. AIR TEMP.		SENSIBLE MBTU/HR	TOTAL BTU/HR	ENT. AIR TEMP °F	LVG. AIR TEMP °F	MAX OUTPUT MBTU/HR	
								db°F	wb°F						
RTU-B7	1375	200	16	0.5	460/3	15.3/20	R410a	80.6	66.7	30.25	46.33	49	90	76.8	1 2 3
RTU-B8	1375	200	16	0.5	460/3	15.3/20	R410a	80.4	66.6	30.46	46.62	49	90	76.8	1 2 3
RTU-B9	1375	200	16	0.5	460/3	15.3/20	R410a	80.5	66.6	30.16	46.84	49	90	76.8	1 2 3
RTU-B10	1375	200	16	0.5	460/3	15.3/20	R410a	80.1	66.5	29.67	44.82	49	90	76.8	1 2 3

2

1 RTU TO BE PER SPEC 23 82 00 WITH 2 STAGE COOLING, 2 STAGE HEATING, STAINLESS STEEL HEAT EXCHANGER, DISCONNECT, HINGE FILTER DOOR, MOTORIZED OA DAMPER, SEISMIC ROOF CURB, OVER FLOW CONDENSATE DRAIN SWITCH, UNIT MOUNTED FIELD POWERED GFI, AND COND COIL HAIL GUARD.

2 VAV SUPPLY FAN

3 PROVIDE PLASMA IONIZER AT ROOFTOP UNIT. GLOBAL PLASMA SOLUTIONS iCLEAN, PLASMA AIR 663 OR APPROVED EQUAL SHALL INCLUDE 3RD PARTY TESTING TO UL OR ETL SHOWING OZONE BELOW 10ppb. PROVIDE WITH 24V CONNECTION TO RTU AND INTERLOCK WITH FAN. INSTALL PLASMA IONIZER AT MANUFACTURER PREFERRED LOCATION. COORDINATE WITH ELEC CONTRACTOR.

2

SEQUENCE OF OPERATIONS

BUILDING AUTOMATION SYSTEM INTERFACE:

THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP / PRE-COOL, OCCUPIED / UNOCCUPIED AND HEAT / COOL MODES. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.

OCCUPIED MODE:

DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE DX COOLING AND GAS HEAT SHALL STAGE TO MAINTAIN THE OCCUPIED SPACE TEMPERATURE SETPOINT.

UNOCCUPIED MODE:

WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE GAS HEAT SHALL BE DISABLED.

WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE DX COOLING SHALL BE DISABLED.

OPTIMAL START:

THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

MORNING WARM-UP MODE:

DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE HEATING AND SUPPLY FAN. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:

DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OPTIMAL STOP:

THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

OCCUPIED BYPASS:

THE BAS SHALL MONITOR THE STATUS OF THE "ON" AND "CANCEL" BUTTONS OF THE SPACE TEMPERATURE SENSOR. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

COOLING MODE:

THE UNIT CONTROLLER SHALL USE SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT, THE UNIT CONTROLLER SHALL STAGE THE DX COOLING AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. THE FIRST COMPRESSOR SHALL ENERGIZE AFTER ITS MINIMUM 3-MINUTE OFF TIME HAS EXPIRED. IF ADDITIONAL COOLING CAPACITY IS REQUIRED THE SECOND STAGE OF COOLING SHALL BE ENABLED. ONCE THE SPACE TEMPERATURE FALLS BELOW THE SETPOINT THE COMPRESSORS SHALL BE DEACTIVATED.

HEATING MODE:

THE UNIT CONTROLLER SHALL USE THE SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR HEAT. WHEN THE SPACE TEMPERATURE DROPS BELOW THE SETPOINT, THE UNIT CONTROLLER SHALL ENABLE GAS HEATING STAGES TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. ONCE THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT THE GAS HEATING STAGES SHALL BE DISABLED.

SUPPLY FAN:

THE SUPPLY FAN SHALL BE ENABLED WHILE IN THE OCCUPIED MODE AND CYCLED ON DURING THE UNOCCUPIED MODE. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FAN. IF THE SWITCH DOES NOT OPEN WITHIN 40 SECONDS AFTER A REQUEST FOR FAN OPERATION A FAN FAILURE ALARM SHALL BE ANNUNCIATED AT THE BAS, THE UNIT SHALL STOP, REQUIRING A MANUAL RESET.

FILTER STATUS:

A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES FOR 2 MINUTES AFTER A REQUEST FOR FAN OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

Allen&Hoshall
engineers-architects-surveyors

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Michel Lebel, Architect
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Desoto County School District

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No.	Revision	Date
2	ADDENDUM NO. 2	1.18.17
1	ADDENDUM NO. 1	1.12.17

SCHEDULES - MECHANICAL

JOB NO: 62557
DATE: 12.06.16
DRAWN: CDL
CHECKED: RLT
CAD FILE:

RONALD L. TRAPP REGISTERED PROFESSIONAL ENGINEER 12/6/16 11596 STATE OF MISSISSIPPI

LEWISBURG PRIMARY

M4.1

RECESSED LIGHTING FIXTURE

SURFACE, PENDANT OR BRACKET MTD. LIGHTING FIXTURE

RECESSED LIGHTING FIXTURE WITH 1400 LUMEN EMERGENCY BALLAST. PROVIDE AN ADDITIONAL UNSWITCHED "HOT" CONDUCTOR TO FIXTURE.

RECESSED LIGHTING FIXTURE

WALL MTD. EMERGENCY LIGHTING FIXTURE

SURFACE, PENDANT OR BRACKET MTD. LIGHTING FIXT.

EXIT FIXTURE - FACE & DIRECTIONAL ARROWS AS INDICATED, TYPE "E", UOI

A — DENOTES FIXTURE TYPE A - SEE FIXTURE SCHEDULE

S — SPST SWITCH - CENTER MTD. 48" AFF, UOI

S_{WD} — WALL MTD. WIRELESS WALL SWITCH WITH DIMMING. TIME-OUT SHALL BE SET TO 5 MINUTES FOR ALL AREAS, UOI. LUTRON PJ2-3BRL-GXX-L01 OR APPROVED EQUIVALENT- MTD. 48" AFF, UOI. PROVIDE FACEPLATE AND MOUNTING KIT AS REQUIRED.

$S_{\square}$ — SPST MULTI-TECHNOLOGY OCCUPANCY SWITCH WITH MANUAL SWITCH - CENTER MTD. 48" AFF, UOI. LUTRON MS-OPS6M2-DV OR APPROVED EQUIVALENT. DELAY TIME = 10 MINUTES IN OFFICES, CLASSROOMS AND CORRIDORS. 30 MINUTES FOR BATHROOMS/LOCKER AREAS.

WS — WALL-MOUNTED WIRELESS OCCUPANCY/VACANCY SENSOR. DELAY TIME SHALL BE SET TO 5 MINUTES FOR ALL AREAS, UOI. LUTRON OR APPROVED EQUIVALENT.

CS — CEILING MOUNTED WIRELESS OCCUPANCY/VACANCY SENSOR. DELAY TIME SHALL BE SET TO 5 MINUTES FOR ALL AREAS, UOI. LUTRON LRF2-OCR2B-P-WH OR APPROVED EQUIVALENT. PROVIDE RECESSED CEILING BRACKET LUTRON #L-CRMK-WH.

CRS — CORNER MOUNTED WIRELESS OCCUPANCY/VACANCY SENSOR. DELAY TIME SHALL BE SET TO 5 MINUTES FOR ALL AREAS, UOI. LUTRON OR APPROVED EQUIVALENT.

NOTE INDICATION

DUPLEX RECEPTACLE, CENTER MTD. 18" AFF, UOI

GROUND FAULT INTERRUPTER RECEPTACLE, CENTER MTD. 44" AFF, UOI

DOUBLE DUPLEX RECEPTACLE, CENTER MTD. 18" AFF, UOI

RECEPTACLE FOR TV EQUIPMENT, CENTER MTD. 96" AFF, UOI

CKT — CIRCUIT

UOI — UNLESS OTHERWISE INDICATED

GFCI — GROUND FAULT CIRCUIT INTERRUPT

WP — WEATHERPROOF

AC — ABOVE COUNTER - CENTER MTD. 4" ABOVE BACKSPLASH - COORDINATE WITH ARCH.

120/208V 3PH, 4W PANELBOARD - EXISTING

277/480V 3PH, 4W PANELBOARD - EXISTING

TRANSFORMER

5 — MOTOR CONNECTION - NO. INDICATES HORSEPOWER

FUSED DISCONNECT SWITCH IN WP ENCLOSURE - SIZE AS INDICATED

TV DEVICE CENTER MTD. 96" AFF. UOI. SEE ARCH. ELEVATIONS FOR EXACT LOCATION RUN 1" CONDUIT UP TO NEAREST ACCESSIBLE CEILING SPACE - PROVIDE BLANK COVERPLATE AS NECESSARY. CABLING & TERMINATIONS PER SPECS.

C — OUTLET FOR INTERCOM CABLE CENTER MTD. 60" AFF, UOI. - RUN 1" EMPTY CONDUIT UP TO NEAREST ACCESSIBLE CEILING SPACE. DEVICE, CABLING, & TERMINATIONS PER SPECS.

OUTDOOR INTERCOM PAGING HORN - BY DIV. 27 - SEE SPECIFICATIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE 2-GANG BOX WITH 1-GANG REDUCER RING AT 12' AFG. STUB 3/4"C ABOVE NEAREST ACCESSIBLE CEILING SPACE.

S — INTERCOM SPEAKER - BY DIVISION 27 - SEE SPECS

ICB-X — INTERCOM PUNCH BLOCK - EXISTING

SECURITY CAMERA - ELECTRICAL CONTRACTOR SHALL PROVIDE EMPTY BOX AND CONDUIT. ROUTE 3/4"C UP TO NEAREST ACCESSIBLE CEILING SPACE. PROVIDE SEPARATE BOX AND CONDUIT WITH 120V CIRCUIT AS INDICATED. COORDINATE MOUNTING HEIGHT WITH OWNER. INDOOR CAMERAS SHALL BE AXIS MODEL # 5502-781 (WITH 0511-001 RING). OUTDOOR CAMERAS SHALL BE AXIS MODEL # 0637-001. CAMERA & DATA CABLING BY DIVISION 27.

CABLE TRAY - MTD. WITH SEISMIC RESTRAINTS PER CONTRACTOR. PROVIDE SEISMIC EVALUATION & STRUCTURAL SUPPORT. SEE SPECIFICATIONS.

DATA/PHONE OUTLET MOUNTED 18" AFF. - PROVIDE 1 1/4"C TO NEAREST ACCESSIBLE CEILING SPACE. RANDL, INC 5 SQUARE 2 1/4" BOX (CAT. T-55017 & D-51G034) OR APPROVED EQUIVALENT. CABLING & TERMINATIONS PER SPECS

D-X — INDICATES NUMBER OF DATA DROPS - BY DIVISION 27 - SEE SPECS

C — SINGLE-FACE WIRELESS CLOCK - 2-GANG BOX FOR MOUNTING BY DIV 26. SEE SPECIFICATIONS

C C — DOUBLE-FACE WIRELESS CLOCK - 2-GANG BOX FOR MOUNTING BY DIV 26. SEE SPECIFICATIONS

WIRE IN CONDUIT RUN OVERHEAD - CONCEALED IN OR ABOVE CEILING IN WALL OR EXPOSED ON STRUCTURE

WIRE IN CONDUIT RUN CONCEALED BELOW FLOOR, IN WALL OR BELOW GRADE

INDICATES GROUNDING CONDUCTOR

HUB — WIRELESS LIGHTING CONTROLS HUB - MTD. RECESSED IN CEILING. PROVIDE 120V, DEDICATED CIRCUIT TO HUB. LUTRON VIVE HJS-2-FM OR APPROVED EQUAL.

PP — LIGHTING CONTROLS SYSTEM 0-10V POWER PACK - MTD. TO JUNCTION BOX ABOVE CEILING. LUTRON POWPAK RMJ-8T-DV-B OR APPROVED EQUAL.

RECESSED CONNECTION BLOCK FOR POWER, COAXIAL, USB AND HDMI CABLES (DATACOMM ELECTRONICS MODEL # 45-0010-WH OR APPROVED EQUAL). SHALL HAVE (1) DUPLEX PLATE, (1) COAXIAL PLATE, AND (1) DATA PLATE. FLUSH MOUNT IN CEILING, AGAINST WALL, CENTERED ABOVE WALL MOUNTED PROJECTOR. USB AND HDMI CABLING SHALL BE PER SMART TV MANUFACTURER'S REQUIREMENTS. ROUTE FROM TEACHER'S DESK LOCATION TO SMART TV LOCATION AS INDICATED ON PLANS.

FIRE STOPPING COMMUNICATIONS PENETRATION. EZ PATH BY STI FIRE STOP - NO SUBSTITUTE. 22 INDICATES EZD22, 33 INDICATES EZDP33FWS, & 44 INDICATES EZD44. LOCATIONS WITH (3) 44'S REQUIRE A EZP544W WALL KIT. FURNISHED AND INSTALLED BY DIVISION 26. PENETRATION SHALL BE ABOVE FINISHED CEILING, AS APPLICABLE.

WAP — ARUBA WIRELESS ACCESS POINT (MODEL # AP-305) AND ARUBA MOUNTING KIT (MODEL # AP-220-MNT-C2) WITH .75"C TO CEILING SPACE FOR WIRELESS ACCESS POINT - PROVIDE 2 DATA DROPS FROM NEAREST DATA CLOSET.

F — FIRE ALARM SYSTEM - MANUAL STATION, MTD. 48" AFF, UOI

FIRE ALARM SYSTEM - COMBINATION AUDIBLE & VISUAL INDICATOR

FACP — FIRE ALARM SYSTEM - CONTROL PANEL

FIRE ALARM SYSTEM - VISUAL SIGNAL DEVICE

FIRE ALARM SYSTEM - NONDISPOSABLE SMOKE DETECTOR IN DUCT

S — FIRE ALARM SYSTEM - CEILING MTD. SMOKE DETECTOR

DH — DOOR HOLDER

1 LEGEND
NO SCALE

FIXTURE MOUNTING
R-RECESSED
S-SURFACE
U-UNIVERSAL
W-WALL

FIXTURE TYPE
F-FLUORESCENT
LED-LIGHT EMITTING DIODE

LENS
A-ACRYLIC
P-POLYCARBONATE
G-GLASS

FINISH
WH-WHITE
CB-CARBON BRONZE
DB-DARK BRONZE

TYPE NO.	MANUF'R	CATALOG NO.	FIX. MTG.	FIX. TYPE	LENS	FIN.	LAMP NO.	LAMP WATTS	VOLTS	COMMENTS
A	METALUX	24SR-LD1-48-C-UNV-L840-HCD-1	R	LED	A	WH	-	49	UNV	LED VOLUMETRIC TROFFER - PROVIDE WITH 1% DIMMING DRIVER
AE	METALUX	24SR-LD1-48-C-UNV-EL14-L840-HCD-1	R	LED	A	WH	-	49	UNV	LED VOLUMETRIC TROFFER - PROVIDE WITH 1% DIMMING DRIVER AND 1400 LUMEN EMERGENCY OPTION, UOI
C	METALUX	APLBA-232	S	F	-	WH	2	32	UNV	INDUSTRIAL STRIP
D	PORTFOLIO	LD6B-15-D010-EU6B-1020-80-40-6LB-W-1-H	R	LED	G	WH	-	25	UNV	LED DOWNLIGHT WITH WET-LOCATION LENS
DE	LITHONIA	AFN-DB-EXT-FWD	W	LED	G	DB	-	11	UNV	LED ARCHITECTURAL EMERGENCY LIGHT
E	SURE-LITES	EUX7-G	U	LED	P	WH	-	4.6	UNV	LED, EDGE-LIT, EXIT SIGN - MTD. ABOVE DOOR HEADER AS REQUIRED
J	LUMARK	XTOR6B-MS/DIM-L20	W	LED	A	CB	-	58	UNV	LED WALL PACK WITH INTEGRAL PHOTOCELL AND DIMMING DRIVER - SEE NOTE 4

GENERAL LIGHTING NOTES:

1. ALL DRIVERS SHALL BE ELECTRONIC WITH ≤ 20% THD.
2. ALL "EQUAL" ALTERNATE FIXTURES ARE SUBJECT TO APPROVAL BY ARCHITECT/ENGINEER, 10 DAYS PRIOR TO BID.
3. ALL EXIT FIXTURES SHALL BE WALL, CENTER MOUNTED ABOVE DOOR HEADER, UOI.
4. FIXTURE MOUNTING SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS.

2 FIXTURE SCHEDULE
NO SCALE

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES AND CIRCUITRY AS REQUIRED FOR OPERATION OF ALL OCCUPANCY SENSORS. CONTRACTOR SHALL PROVIDED OCCUPANCY SENSORS RATED FOR EXHAUST FANS AS REQUIRED.
2. CONTRACTOR SHALL PROVIDE PROJECTORS, DATA, AND INTERCOM SYSTEMS INCLUDING WIRING AS DESCRIBED IN THE SPECIFICATIONS.
3. CONTRACTOR SHALL TIE ALL FIRE ALARM DEVICES INTO EXISTING FIRE ALARM SYSTEM IN EXISTING SCHOOL. CONTRACTOR SHALL PROVIDE (1) NEW LOOP CARD AND (2) NEW POWER SUPPLIES TO ALLOW INTEGRATION OF NEW FIRE ALARM DEVICES.

3 GENERAL NOTES
NO SCALE

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CLASSROOM ADDITION TO
LEWISBURG PRIMARY SCHOOL

1707 Craft Road
Olive Branch, MS 38654

Desoto County School District
5 East South Street, Hernando, Mississippi 38632

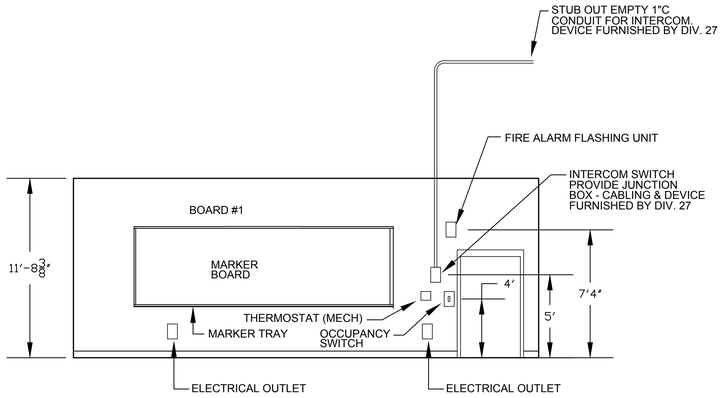
No.	Revision	Date
2	ADDENDUM NO. 2	1.18.17
1	ADDENDUM NO. 1	1.12.17

LEGEND & LIGHTING FIXTURE SCHEDULE - ELECTRICAL

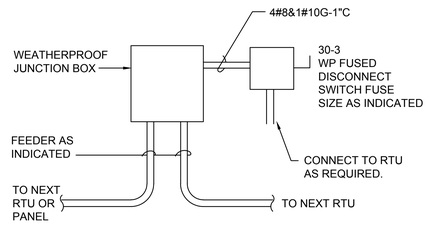
JOB NO: 62557
DATE: 12.06.16
DRAWN: HW
CHECKED: MSC
CAD FILE: E0-1

MICHEL S. COLLINS LEBEL
REGISTERED PROFESSIONAL ENGINEER
14493
STATE OF MISSISSIPPI
12.16

LEWISBURG PRIMARY
E0.1



1 CLASSROOM WALL SCHEMATIC
NO SCALE



2 RTU FEEDER TAP DETAIL
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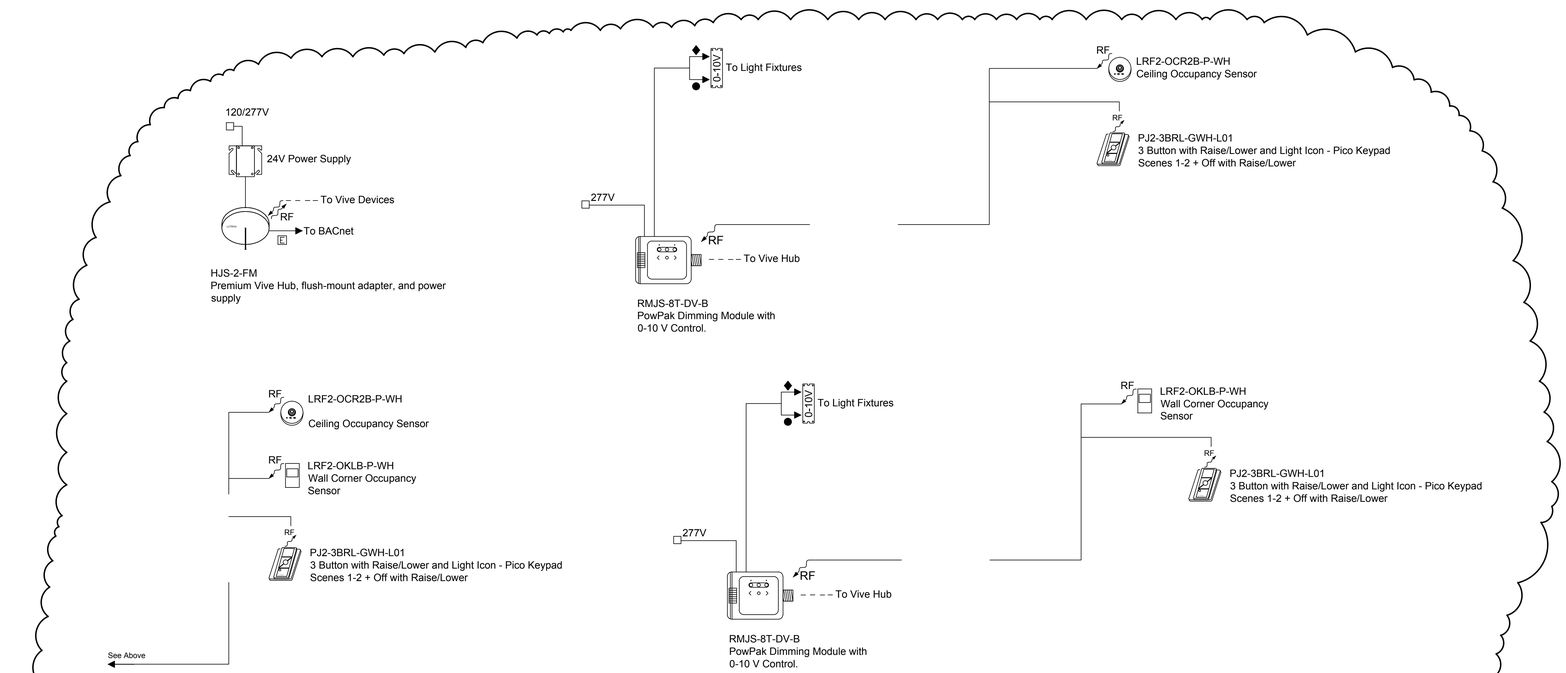

1

***NOTE: THIS ONE-LINE DIAGRAM REPRESENTS TYPICAL WIRING EXAMPLES, AND IS REPRESENTATIVE OF THE OVERALL LIGHTING CONTROLS SYSTEM. FULL SHOP DRAWINGS WITH A DETAILED ONE-LINE WILL BE PROVIDED DURING THE SUBMITTAL PHASE PRIOR TO INSTALLATION.**

LIGHTING CONTROL SERVICES

QTY	SERVICE TITLE (MODEL NUMBER)	SERVICE DESCRIPTION
		PRE-STARTUP SERVICES
1	ONSITE PRE-WIRE VISIT (LSC-PREWIRE)	AN ONSITE VISIT WITH THE ELECTRICAL CONTRACTOR TO DISCUSS LOGISTICAL CONSTRUCTION CONSIDERATIONS INCLUDING THE WIRING AND MOUNTING OF SYSTEM DEVICES, THE CONSTRUCTION SCHEDULE, AND LUTRON DOCUMENTATION. QUANTITY DICTATES THE NUMBER OF VISITS PURCHASED.
		STARTUP SUPPORT SERVICES
1	ONSITE PERFORMANCE-VERIFICATION WALKTHROUGH (LSC-WALK)	AN ONSITE WALKTHROUGH WITH FACILITY REPRESENTATIVES OR PROJECT COMMISSIONING AGENTS TO DEMONSTRATE THAT THE SYSTEM FUNCTIONALITY MEETS THE DESIGN INTENT. THIS MAY INCLUDE ANY OF THE FOLLOWING ONSITE ACTIVITIES – CONSULTATION/TRAINING DEMOS, FUNCTIONAL TESTING ASSISTANCE, OR INVENTORY OF LUTRON EQUIPMENT.
		MAINTENANCE & SUPPORT SERVICES
1	**COMMERCIAL SYSTEMS 2-YEAR LIMITED WARRANTY (LSC-B2)**	**A 2-YEAR SYSTEM WARRANTY PROVIDING 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A FIRST-AVAILABLE RESPONSE TIME.**

3 LIGHTING CONTROLS SINGLE-LINE - ELECTRICAL
NO SCALE

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DETAILS - ELECTRICAL

JOB NO: 62557
DATE: 12.06.16
DRAWN: HW
CHECKED: MSC
CAD FILE: E0-1

MICHAEL S. COLLINS
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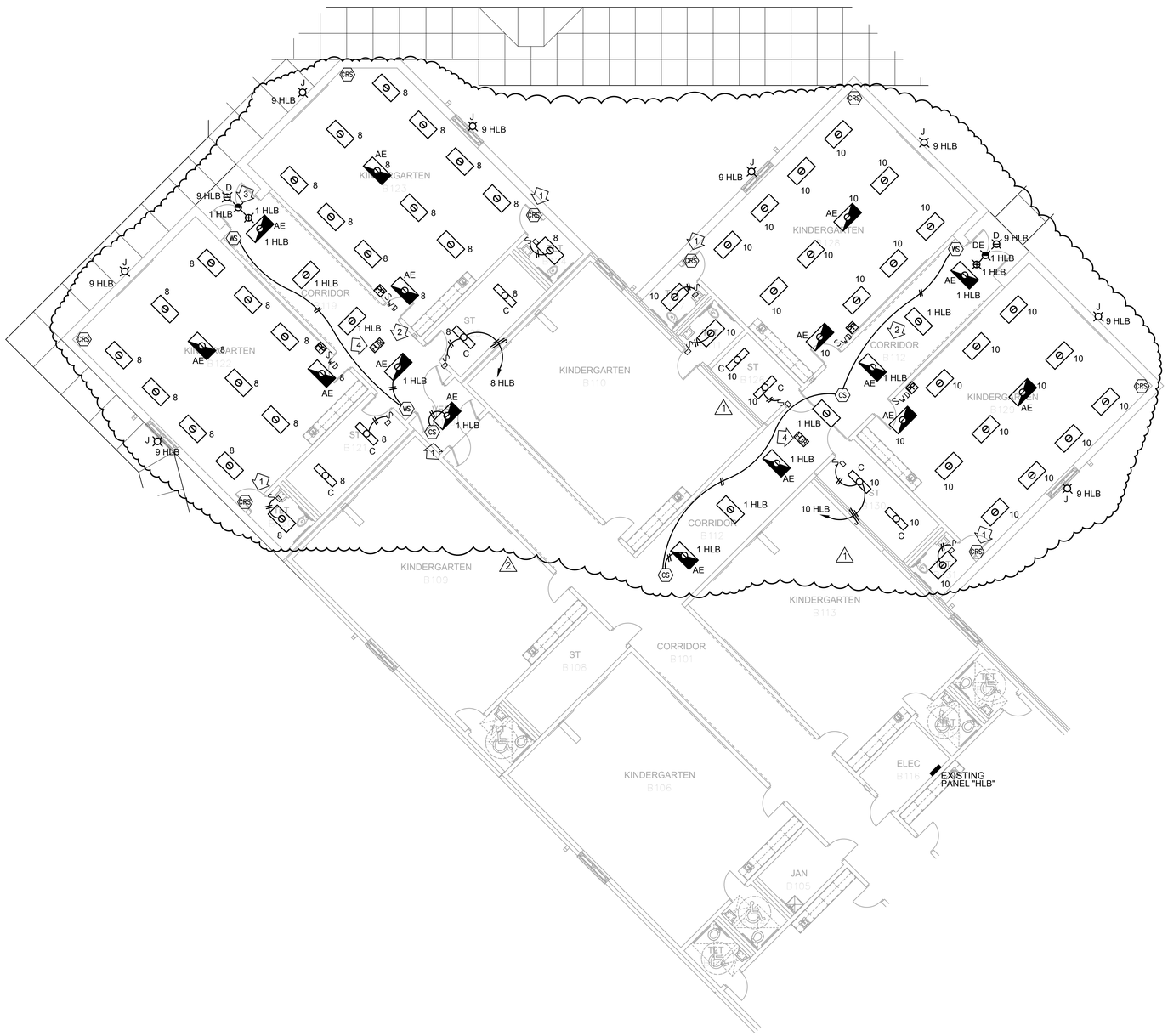
STATE OF MISSISSIPPI
1.18.17

LEWISBURG PRIMARY
E0.2

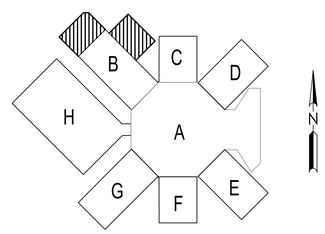


GENERAL NOTES: (SHEET E2.1)

1. ALL LIGHTING LAYOUTS ARE BASED ON REFLECTED CEILING PLAN. DO NOT ALTER THE NUMBER OF FIXTURES INDICATED ON DRAWINGS. SEE FIXTURE SCHEDULE FOR APPLICABLE NOTES.
2. ALL FIXTURES ARE TYPE "A", UOI.
3. LIGHT FIXTURES SHALL BE CENTERED IN CORRIDOR. COORDINATE WITH ARCHITECTURAL PLANS.
4. COORDINATE EXACT LOCATION OF EXTERIOR FIXTURES WITH ARCHITECTURAL DRAWINGS.
6. CONTRACTOR SHALL RUN #10 WIRE IN 3/4"C TO ALL EXTERIOR FIXTURES, MINIMUM.

REFERENCE NOTES: (SHEET E2.1)

1. CORNER AND WALL MOUNTED OCCUPANCY SENSOR SHALL BE MTD. CLEAR OF DOOR SWING. COORDINATE WITH ARCHITECTURAL PLANS. (TYP.) VERIFY CORRECT MOUNTING HEIGHT PRIOR TO INSTALLATION.
2. OCCUPANCY SENSORS SHALL CONTROL CORRIDOR FIXTURES, UOI. (TYP.)
3. NEW LOCATION FOR EMERGENCY LIGHT FIXTURE REMOVED DURING DEMOLITION.
4. LUTRON HUBS SHALL BE NETWORKED TOGETHER PER MANUFACTURER'S RECOMMENDATIONS.



A1	PARTIAL FLOOR PLAN - AREA B - LIGHTING - ELECTRICAL
	1/8"=1'-0"
A16	KEYPLAN
	NOT TO SCALE

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PARTIAL FLOOR PLAN - AREA B LIGHTING - ELECTRICAL

JOB NO:	62557
DATE:	12.06.16
DRAWN:	HW
CHECKED:	MSC
CAD FILE:	E2-1

MICHEL S. COLLINS
REGISTERED PROFESSIONAL ENGINEER
14493
STATE OF MISSISSIPPI
12.06.16

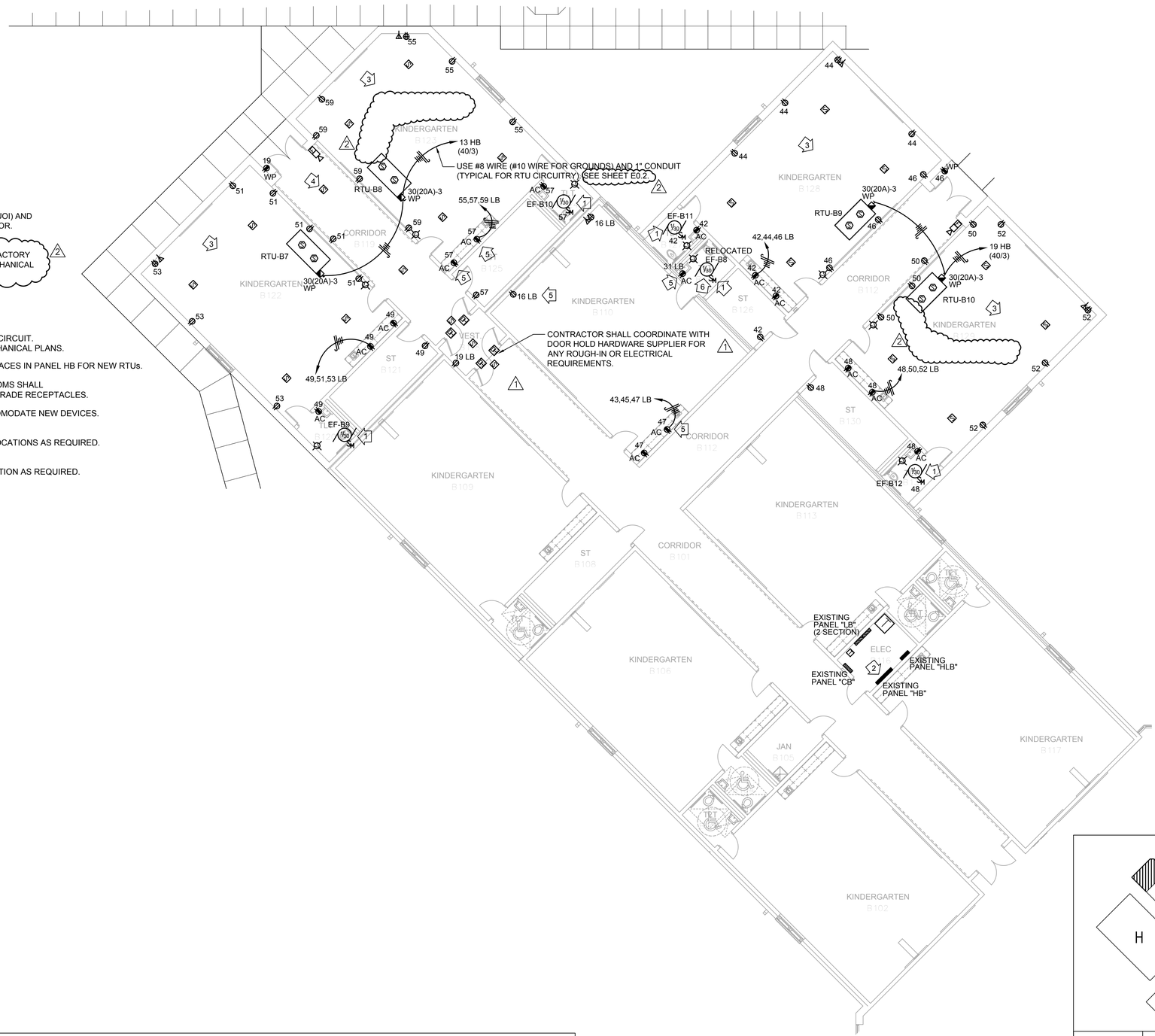
LEWISBURG PRIMARY
E2.1

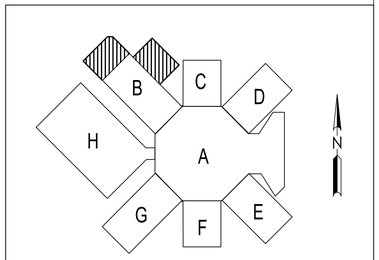
GENERAL NOTES:

1. DISCONNECTS ARE PROVIDED BY MECHANICAL (UOI) AND SHALL BE CIRCUITED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL
2. PROVIDE 120V CONNECTION FOR ALL (4) RTU's, FACTORY MOUNTED RECEPTACLE. COORDINATE WITH MECHANICAL CONTRACTOR.

REFERENCE NOTES: (SHEET E3.1)

1. INTERLOCK FAN WITH LIGHT SWITCH AND LIGHT CIRCUIT. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL PLANS.
2. PROVIDE TWO 3P-40A BREAKERS IN EXISTING SPACES IN PANEL HB FOR NEW RTUs.
3. ALL RECEPTACLES IN KINDERGARTEN CLASSROOMS SHALL BE EQUAL TO HUBBELL #HBL8300SGA - SAFETY GRADE RECEPTACLES.
4. EXPAND EXISTING FIRE ALARM SYSTEM TO ACCOMODATE NEW DEVICES. (TYPICAL).
5. EXTEND EXISTING CIRCUITRY TO NEW DEVICE LOCATIONS AS REQUIRED. (TYPICAL).
6. EXTEND EXISTING CIRCUITRY TO NEW FAN LOCATION AS REQUIRED. PROVIDE NEW FAN DISCONNECT.





A1	PARTIAL FLOOR PLAN - AREA B POWER & FIRE ALARM - ELECTRICAL
	1/8"=1'-0"

A16	KEYPLAN
	NOT TO SCALE

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PARTIAL FLOOR PLAN -
AREA B POWER & FIRE ALARM -
ELECTRICAL

JOB NO: 62557
DATE: 12.06.16
DRAWN: HW
CHECKED: MSC
CAD FILE: E3-1

MICHAEL S. COLLINS REGISTERED PROFESSIONAL ENGINEER 14493 STATE OF MISSISSIPPI 12.16

LEWISBURG PRIMARY
E3.1