

GENERAL

1. THE FOLLOWING APPLY TO ALL SUBSEQUENT SECTIONS AND WORK ON THE PROJECT.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES AND REGULATIONS WHEN CARRYING OUT THE WORK OF THE PROJECT. IF A CODES, REGULATIONS, AND/OR DRAWINGS CONFLICT THE MOST STRINGENT SHALL TAKE PRECEDENCE.
3. CONTRACTOR SHALL THOROUGHLY STUDY THE DRAWINGS AND SHALL VISIT THE SITE TO ACQUAINT THEMSELVES WITH ALL EXISTING CONDITIONS AFFECTING THE INSTALLATION OF WORK IN ACCORDANCE WITH THE DESIGN INTENT OF THESE DOCUMENTS. ANY CONFLICTS SHOULD BE BROUGHT TO THE ARCHITECTS ATTENTION FOR CLARIFICATION PRIOR TO SUBMITTING A BID OR SIGNING A CONTRACT TO PERFORM THE WORK.
4. SUBMIT ALTERNATES OR PROPOSED SUBSTITUTION WITH A FULL DESCRIPTION OF THE PROPOSED CHANGE AND THE AFFECT ON ADJACENT AND/OR RELATED WORK. PROVIDE DETAILED DESCRIPTION OF SUBSTITUTIONS TO FACILITATE APPROVAL.
5. COORDINATE SCHEDULING, SUBMITTALS, AND WORK OF THE VARIOUS TRADES TO ASSURE EFFICIENT AND ORDERLY SEQUENCE OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS, WITH PROVISIONS FOR ACCOMMODATING ITEMS INSTALLED LATER.
6. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING. LARGE SCALE DRAWINGS OR DETAILS SHALL GOVERN OVER SMALLER SCALED DRAWINGS.
7. ANY DEVIATION FROM THE PLANS AND SPECIFICATIONS MUST BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. ANY CHANGES OR VARIANCES FROM APPROVED PLANS MUST BE SUBMITTED TO LOCAL CODE ENFORCEMENT FOR REVIEW AND APPROVAL, PRIOR TO ANY WORK COMMENCING.
8. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE PREMISES CLEAN DURING CONSTRUCTION. TRASH WILL NOT BE ALLOWED TO ACCUMULATE ON THE SITE DURING CONSTRUCTION. SAFE WORKING CONDITIONS SHALL BE MAINTAINED AT ALL TIMES, WHEN ANY PART OF THE STRUCTURE IS OPEN TO THE EXTERIOR, PROTECT INTERIOR FROM WIND, RAIN AND VANDALISM.
9. COORDINATE COMPLETION AND CLEAN UP OF WORK OF SEPARATE TRADES.
10. VERIFY THAT SITE CONDITIONS AND SUBSTRATE SURFACES ARE ACCEPTABLE FOR SUBSEQUENT WORK. BEGINNING NEW WORK MEANS ACCEPTANCE OF EXISTING CONDITIONS.
11. VERIFY THAT EXISTING OR INSTALLED SUBSTRATE IS CAPABLE OF STRUCTURAL ATTACHMENT OF NEW WORK BEING APPLIED OR ATTACHED.
12. SHOP DRAWINGS: SUBMITTED FOR REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS.
13. MARK EACH SHOP DRAWING TO IDENTIFY APPLICABLE PRODUCTS, MODELS, OPTIONS, AND OTHER DATA. SUPPLEMENT MANUFACTURERS' STANDARD DATA TO PROVIDE INFORMATION SPECIFIC TO THIS PROJECT.
14. SUBMIT SAMPLES TO ILLUSTRATE FUNCTIONAL AND AESTHETIC CHARACTERISTICS OF THE PRODUCT, WITH INTEGRAL PARTS AND ATTACHMENT DEVICES. COORDINATE SAMPLE SUBMITTALS FOR INTERFACING WORK. COLORS TO BE SELECTED FROM MANUFACTURER'S FULL RANGE OF STANDARD COLORS AND FINISHES UNLESS NOTED OTHERWISE.
15. SUBMIT TEST REPORTS FOR INFORMATION FOR THE LIMITED PURPOSE OF ASSESSING CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS.
16. SUBMIT AND FOLLOW MANUFACTURER'S PRINTED INSTRUCTIONS FOR DELIVERY, STORAGE, ASSEMBLY, INSTALLATION, START-UP (IF APPLICABLE), ADJUSTING, AND FINISHING.
17. MONITOR QUALITY CONTROL OVER SUPPLIERS, MANUFACTURERS, PRODUCTS, SERVICES, SITE CONDITIONS, AND WORKMANSHIP, TO PRODUCE WORK OF SPECIFIED QUALITY.
18. COMPLY WITH SPECIFIED STANDARDS AS MINIMUM QUALITY FOR THE WORK EXCEPT WHERE MORE STRINGENT TOLERANCES, CODES, OR SPECIFIED REQUIREMENTS INDICATE HIGHER STANDARDS OR MORE PRECISE WORKMANSHIP.
19. FOR PRODUCTS OR WORKMANSHIP SPECIFIED BY ASSOCIATION, TRADE, OR OTHER CONSENSUS STANDARDS, COMPLY WITH REQUIREMENTS OF THE STANDARD, EXCEPT WHEN MORE RIGID REQUIREMENTS ARE SPECIFIED OR ARE REQUIRED BY APPLICABLE CODES.
20. ALL HANDICAP REQUIREMENTS (INCLUDING DOOR HARDWARE) FOR THIS PROJECT SHALL COMPLY WITH THE STATE HANDICAP CODE. THE ADA REQUIREMENTS ARE FEDERAL AND CANNOT BE ENFORCED LOCALLY. THIS PROJECT MAY BE SUBJECT TO THE ARCHITECTURAL STANDARDS OF THE AMERICANS WITH DISABILITIES ACT OF 1990. INSURANCE OF A BUILDING PERMIT DOES NOT CERTIFY COMPLIANCE WITH THE FEDERAL GUIDELINES.
21. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL DELIVER TO THE OWNER A COMPLETE SET OF AS-BUILT DRAWINGS SHOWING LOCATIONS OF WORK INSTALLED, INCLUDING CHANGES TO ALL UNDERGROUND UTILITIES, CERTIFICATES, AFFIDAVITS, OPERATION INSTRUCTIONS, MANUFACTURER'S INSTRUCTIONS ON ALL EQUIPMENT, AND DEMONSTRATE THAT ALL IS IN PROPER WORKING ORDER.

SPECIAL GENERAL CONDITIONS

1. INSURANCE: THE CONTRACTOR & SUB-CONTRACTORS MUST CARRY \$1,000,000 MINIMUM COVERAGE OF WORKMAN'S COMPENSATION & GENERAL LIABILITY INSURANCE.
2. WORKMANSHIP & CODES: ALL WORK SHALL CONFORM TO BEST INDUSTRY STANDARDS, AND ALL MATERIALS SHALL BE NEW, FIRST QUALITY AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. ALL STANDARDS PROVIDED AND WORK PERFORMED MUST CONFORM AND / OR BE ADJUSTED TO CONFORM TO ANY AND ALL APPLICABLE CODES.
3. PERMITS & FEES: THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND FEES NECESSARY FOR COMPLETE CONSTRUCTION.

SECTION 017419 - CONSTR. WASTE MANAGEMENT & DISPOSAL

- 1.1 SUMMARY
 - A. SALVAGING NON-HAZARDOUS CONSTRUCTION WASTE.
 - B. RECYCLING NON-HAZARDOUS CONSTRUCTION WASTE.
 - C. DISPOSING OF NON-HAZARDOUS CONSTRUCTION WASTE.
- 1.2 WASTE MANAGEMENT PLAN
 - A. TYPES AND QUANTITIES OF SITE-CLEARING AND CONSTRUCTION WASTE.
 - B. TYPE OF WASTE AND WHETHER IT WILL BE SALVAGED, RECYCLED, OR DISPOSED OF IN LANDFILL OR INCINERATOR.
 - C. NET ADDITIONAL COST OR NET SAVINGS RESULTING FROM WASTE MANAGEMENT PLAN.
- 1.3 PLAN IMPLEMENTATION
 - A. ENGAGE A WASTE MANAGEMENT COORDINATOR.
 - B. TRAIN WORKERS, SUBCONTRACTORS, AND SUPPLIERS ON PROPER WASTE MANAGEMENT PROCEDURES.
 - C. RECYCLING INCENTIVES: REVENUES AND OTHER INCENTIVES FOR RECYCLING WILL BE SHARED EQUALLY TO OWNER AND CONTRACTOR.

SECTION 033000 - CAST-IN-PLACE CONCRETE

- 1.1 QUALITY ASSURANCE
 - A. QUALITY STANDARD: ACI 301.
 - B. MOCKUPS: DEMONSTRATE TYPICAL JOINTS, SURFACE FINISH, TEXTURE, TOLERANCES, FLOOR TREATMENTS, AND STANDARD OF WORKMANSHIP.
- 1.2 PRODUCTS
 - A. FORM FINISHING MATERIALS.
 - B. STEEL REINFORCEMENT:
 1. REINFORCING BARS: DEFORMED.
 2. WELDED WIRE REINFORCEMENT: PLAIN.
 - C. CONCRETE MATERIALS:
 1. PORTLAND CEMENT: ASTM C 150, REFER TO STRUCTURAL DESIGN SPECIFICATIONS FOR INFORMATION, GRAY, SUPPLEMENT WITH FLY ASH.
 2. BLENDED HYDRATING MATERIALS: ASTM C 595, REFER TO STRUCTURAL DESIGN SPECIFICATIONS FOR INFORMATION.
 3. SILICA FUME.
 4. AGGREGATE: NORMAL WEIGHT.
 5. WATER.
 - D. MIXING: READY MIXED.
 - 1.3 CONCRETE MIXTURES
 - A. COMPRESSIVE STRENGTH (28 DAYS):
 1. FOOTINGS: REFER TO STRUCTURAL DESIGN SPECIFICATIONS FOR INFORMATION.
 2. FOUNDATION WALLS: REFER TO STRUCTURAL DESIGN SPECIFICATIONS FOR INFORMATION.
 3. SLABS-ON-GRADE: REFER TO STRUCTURAL DESIGN SPECIFICATIONS FOR INFORMATION.
- 1.4 INSTALLATION
 - A. FORMED FINISHES: SMOOTH.
 - B. FLOOR AND SLAB FINISHES:
 1. TROWEL: SURFACES EXPOSED TO VIEW OR TO BE COVERED WITH RESILIENT FLOORING, CARPET OR CERAMIC/PORCELAIN TILE.
 2. BROOM: EXTERIOR CONCRETE PLATFORMS, STEPS, AND RAMPS.
 3. DRY-SHAKE FLOOR HARDENER: ALL INTERIOR SLAB AREAS, LAPIDOLITH OR SUBSTITUTION APPROVED BY OWNER.
 - 1.5 FIELD QUALITY CONTROL
 - A. TESTING: BY CONTRACTOR/CM AGENCY.
 - B. SPECIAL INSPECTIONS: BY CONTRACTOR/CM SPECIAL INSPECTOR.

SECTION 051600 - SHEATHING

- 1.1 QUALITY ASSURANCE
 - A. FOREST CERTIFICATION BY A FOREST STEWARDSHIP COUNCIL-ACCREDITED CERTIFICATION BODY FOR THE FOLLOWING:
 1. PLYWOOD.
- 1.2 MATERIALS
 - A. WOOD PRODUCTS, GENERAL:
 1. THE FOLLOWING PRODUCTS FSC-CERTIFIED:
 - A. PLYWOOD.
 - B. FIRE-RETARDANT-TREATED PLYWOOD:
 1. EXTERIOR TYPE FOR EXTERIOR LOCATIONS AND WHERE INDICATED.
 2. APPLICATION: TREAT ALL PLYWOOD.
 - C. WALL SHEATHING:
 1. PLYWOOD: EXTERIOR, STRUCTURAL I, 5/8 INCH (15.9 MM) THICK TYPICAL UNLESS NOTED OTHERWISE.
 2. GYPSUM SHEATHING: 5/8 INCH (15.9 MM) THICK.
 - D. FASTENERS: HOT-DIP GALVANIZED STEEL WHERE EXPOSED TO WEATHER, IN GROUND CONTACT, IN CONTACT WITH TREATED WOOD, OR IN AREA OF HIGH RELATIVE HUMIDITY.
 - E. MISCELLANEOUS MATERIALS:
 1. SHEATHING TAPE.
 2. ADHESIVES: LOW VOC.
- 1.3 INSTALLATION
 - A. WOOD STRUCTURAL PANEL:
 1. SHEATHING:
 - A. SCREW TO FRAME.

SECTION 054000 - COLD-FORMED METAL FRAMING

- 1.1 SUMMARY
 - A. EXTERIOR AND INTERIOR NON-LOAD-BEARING WALL FRAMING.
 - B. PERFORMANCE REQUIREMENTS
 - C. STRUCTURAL PERFORMANCE:
 1. DEAD LOADS: AS DETERMINED BY SITE LOCATIONS.
 2. LIVE LOADS: AS DETERMINED BY SITE LOCATIONS.
 3. ROOF LOADS: AS DETERMINED BY SITE LOCATIONS.
 4. SNOW LOADS: AS DETERMINED BY SITE LOCATIONS.
 5. WIND LOADS: AS DETERMINED BY SITE LOCATIONS.
 6. SEISMIC LOADS: AS DETERMINED BY SITE LOCATIONS.
 7. DEFLECTION LIMITS: 1/240 MINIMUM, AS DETERMINED BY SITE LOCATIONS.
 - D. ENGINEERING DESIGN OF COLD-FORMED METAL FRAMING BY CONTRACTOR.
- 1.2 QUALITY ASSURANCE
 - A. DESIGN STANDARD: AISI'S "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND ITS "STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS."
- 1.4 MATERIALS
 - A. STEEL SHEET: ASTM A 1003/A 1003M, STRUCTURAL GRADE, METALLIC COATED.
 - B. NON-LOAD-BEARING WALL FRAMING: STANDARD C-SHAPED, PUNCHED STEEL STUDS AND U-SHAPED, UNPUNCHED TRACK.
 1. MINIMUM STEEL THICKNESS: 0.0200 INCH (0.508 MM) - 20 GAUGE.
 2. VERTICAL DEFLECTION CLIPS, SINGLE DEFLECTION TRACK.
 - C. FRAMING ACCESSORIES: SUPPLEMENTARY FRAMING, BRACING, BRIDGING, AND SOLID BLOCKING, WEB STIFFENERS, STUD KICKERS AND GIRTS.
 - D. INSULATION FOR INACCESSIBLE VOIDS.
- 1.5 INSTALLATION
 1. FASTEN FRAMING BY WELDING OR SCREW FASTENING.
 - A. EXTERIOR AND INTERIOR NON-LOAD-BEARING WALL STUD SPACING: 16 INCHES (406 MM).
 - 1.6 FIELD QUALITY CONTROL
 - A. TESTING: BY CONTRACTOR/CONSTRUCTION MANAGER ENGAGED INDEPENDENT AGENCY.

SECTION 061000 - ROUGH CARPENTRY

- 1.1 MATERIALS
 - A. WOOD PRODUCTS, GENERAL:
 1. ROUGH CARPENTRY MATERIALS FSC-CERTIFIED.
 - A. DIMENSION LUMBER FRAMING.
 - B. MISCELLANEOUS LUMBER.
 2. MAXIMUM MOISTURE CONTENT OF LUMBER: 15 PERCENT FOR 2-INCH NOMINAL (38-MM ACTUAL) THICKNESS OR LESS.
- B. FIRE-RETARDANT-TREATED MATERIALS
 1. EXTERIOR TYPE BLOCKING FOR EXTERIOR ROOF LOCATIONS AND WHERE INDICATED.
 2. APPLICATION: ITEMS INDICATED AND AS FOLLOWS:
 - A. CONCEALED BLOCKING.
 - B. PLYWOOD BACKING PANELS.

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

- 1.1 SUMMARY
 - A. CABINETS.
- 1.2 QUALITY ASSURANCE
 - A. QUALITY STANDARD: AIA QUALITY CERTIFICATION PROGRAM, INCLUDING INSTALLATION.
- 1.3 MATERIALS
 - A. CABINET HARDWARE:
 1. HINGES: BUTT, SEMI-CONCEALED.
 2. PULLS: CENTER BAR.
 3. EXPOSED HARDWARE FINISHES: OIL RUBBED BRONZE.
 - B. CABINETS:
 1. GRADE: CUSTOM.
 2. AIA TYPE OF CABINET CONSTRUCTION: FLUSH OVERLAY.
 3. VIC DOOR AND DRAWER FRONT STYLE: FLUSH OVERLAY.
 4. CABINET INTERIOR: PLASTIC LAMINATE.
 - C. SOLID SURFACE COUNTERTOPS:
 1. EDGE TREATMENT: SELF-EDGED OR AS INDICATED.

SECTION 07210 - THERMAL INSULATION

- 1.1 MATERIALS
 - A. INSULATION:
 1. EXTRUDED-POLYSTYRENE BOARD: TYPE IV, 25 PSI (173) KPA)
 2. MOLDED-POLYSTYRENE BOARD: TYPE VIII, 20 PSI (138 KPA), EXCLUDING EIFS SYSTEM.
 3. FOIL-FACED, POLYISOCYANURATE BOARD: TYPE I, CLASS 1.
 4. UN-FACED GLASS-FIBER BLANKET: TYPE I.
 5. KRAFT-FACED, GLASS-FIBER BLANKET: TYPE II, CLASS C; CATEGORY 1.
 6. FOIL-FACED, GLASS-FIBER BLANKET: TYPE III, CLASS B; CATEGORY 1.
 7. UN-FACED MINERAL-WOOL BLANKET: TYPE I.
 8. CLOSED-CELL SPRAY POLYURETHANE FOAM: TYPE II, MINIMUM DENSITY OF 1.5 LB/CU. FT. (24 KG/CU. M).
 - B. VAPOR RETARDERS: POLYETHYLENE OR REINFORCED POLYETHYLENE.
 - C. AUXILIARY INSULATING MATERIALS:
 1. INSULATION FASTENERS.

SECTION 07920 - JOINT SEALANTS

- 1.1 PRE-CONSTRUCTION TESTING
 - A. PRE-CONSTRUCTION COMPATIBILITY AND ADHESION TESTING.
 - B. PRE-CONSTRUCTION FIELD-ADHESION TESTING.
- 1.2 WARRANTY
 - A. INSTALLER WARRANTY: TWO YEARS.
- 1.3 MATERIALS
 - A. VOC CONTENT OF INTERIOR SEALANTS:
 1. ARCHITECTURAL SEALANTS: 250 G/L.
 2. SEALANT PRIMER FOR NONPOROUS SUBSTRATES: 250 G/L.
 3. SEALANT PRIMER FOR POROUS SUBSTRATES: 775 G/L.
 - B. STAIN TEST: ASTM C 1248.
- 1.4 JOINT SEALANTS
 - A. MILDEW-RESISTANT, NEUTRAL-CURING, SILICONE JOINT SEALANT:
 1. TYPE: SINGLE COMPONENT.
 2. GRADE: NON-SAG.
 3. CLASS: 100/50.
 4. USES RELATED TO EXPOSURE: NON-TRAFFIC.
 - B. URETHANE JOINT SEALANT:
 1. TYPE: MULTI-COMPONENT.
 2. GRADE: POURABLE.
 3. CLASS: 100/50.
 4. USES RELATED TO EXPOSURE: TRAFFIC.
 - C. IMMERSIBLE POLYSULFIDE JOINT SEALANT:
 1. TYPE: MULTI-COMPONENT.
 2. GRADE: POURABLE.
 3. CLASS: 25.
 4. USES RELATED TO EXPOSURE: IMMERSIBLE.
 - D. LATEX JOINT SEALANT: ACRYLIC LATEX OR SILICONIZED ACRYLIC LATEX.
 - E. SOLVENT-RELEASE-CURING JOINT SEALANT: BUTYL RUBBER.
 - F. PREFORMED JOINT SEALANT: PREFORMED SILICONE.
 - G. ACOSTICAL JOINT SEALANT: NON-SAG, PAINTABLE, NON-STAINING LATEX.
 - H. JOINT-SEALANT BACKING: BOND-BREAKER TAPE.
- 1.5 FIELD QUALITY CONTROL
 - A. FIELD-ADHESION TESTING.
 - 1.6 PRODUCT: GE SILICONE (50 YEAR) OR APPROVED EQUAL.

SECTION 08110 - DOORS AND FRAMES

- 1.1 SUMMARY
 - A. STANDARD HOLLOW METAL INSULATED DOORS AND FRAMES.
 - B. QUALITY ASSURANCE
 - C. STANDARD HOLLOW METAL QUALITY STANDARD: ANSISDI A250.8 (OR LOCAL CODE).
- 1.2 PRODUCTS
 - A. STANDARD HOLLOW METAL INSULATED DOORS:
 1. DESIGN: FLUSH PANEL OR AS INDICATED.
 2. THERMAL-RATED DOORS: EXTERIOR, THERMAL RESISTANCE U-0.34
 - B. EXTERIOR DOORS:
 1. NON-FERROUS SHEET FACES, 16 GAUGE.
 2. LEVEL 1 AND PHYSICAL PERFORMANCE LEVEL A (HEAVY DUTY).
 - C. STANDARD HOLLOW METAL FRAMES:
 1. EXTERIOR FRAMES: GALVANIZED STEEL; FULL PROFILE WELDED.
 2. FRAMES FOR STEEL DOORS: 14 GAUGE.
 - D. HOLLOW METAL PANELS: SAME MATERIALS, CONSTRUCTION, AND FINISH AS ADJOINING HOLLOW METAL WORK.
 - F. DOOR HARDWARE: PANIC TYPE EXIT DEVICE
 - G. DOOR THRESHOLDS: 1/4" HIGH, HEAVY DUTY FOR DELIVERY DOOR.
 - H. ACCESSORIES:
 1. MOLDINGS AND STOPS FOR GLAZED LITES.
 2. LOUVERS: SIGHT-PROOF OF STEEL.
 - A. FINISHES: FACTORY PRIMING FOR FIELD PAINTING.
 - 1.4 WOOD DOORS: INTERIOR WOOD DOORS SHALL BE SOLID CORE AND COMPLY WITH THE FOLLOWING, INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS:
 - FACE: PRE-FINISHED MAPLE
 - GRADE: PREMIUM
 - STYLE: PANEL DOORS AS SELECTED BY OWNER.
 - CORE CONSTRUCTION: GLUED BLOCK CORE
 - THICKNESS: 1-3/4" THK.
 - WARRANTY: 5 YEARS
 - MANUFACTURER: GRAHAM OR APPROVED EQUAL.
 - FIRE RATING: AS INDICATED ON DOOR SCHEDULE.
 - 1.5 STEEL DOORS AND HOLLOW METAL FRAMES: PROVIDE STEEL DOORS AND HOLLOW METAL FRAMES COMPLYING WITH 501-100 - RECOMMENDED SPECIFICATIONS: STANDARD STEEL DOORS AND FRAMES, DOORS AND FRAMES SHALL BE MANUFACTURED BY BENCHMARK, CECO, REPUBLIC STEEL OR APPROVED EQUAL.
 - 1.6 INSTALLATION: INSTALL ACCORDING TO MANUFACTURE INSTRUCTIONS AND PROCEDURES.

SECTION 08710 - DOOR HARDWARE

- 1.1 SUMMARY
 - A. MECHANICAL DOOR HARDWARE FOR SWINGING DOORS.
 - B. CYLINDERS FOR DOOR HARDWARE.
 - C. ELECTRIFIED LOCAL (AUDIBLE) ALARM DOOR HARDWARE.
- 1.2 WARRANTY
 - A. MATERIALS AND WORKMANSHIP: THREE YEARS.
- 1.3 MAINTENANCE SERVICE
 - A. FULL-MAINTENANCE SERVICE: SIX MONTHS.
- 1.4 PRODUCTS
 - A. SCHEDULED DOOR HARDWARE: PRODUCTS SCHEDULED IN "DOOR HARDWARE SCHEDULE" ON DRAWINGS.
- 1.5 FIELD QUALITY CONTROL
 - A. INDEPENDENT ARCHITECTURAL HARDWARE CONSULTANT: CONTRACTOR -ENGAGED TO PERFORM INSPECTIONS.
 - B. OCCUPANCY ADJUSTMENT: AFTER THREE AND ELEVEN MONTHS.
- 1.6 DOOR HARDWARE SCHEDULE:
 - A. AS INDICATED ON DRAWINGS.
- 1.7 KEYING
 - A. PROVIDE TEMPORARY CONSTRUCTION CORES, CHANGE OUT TO PERMANENT CORES AT COMPLETION OF PROJECT. KEY TO MASTER AND COORDINATE WITH TENANT SPECIFICATIONS. PROVIDE 5 SETS OF EACH KEY INCLUDING MASTER AT COMPLETION OF PROJECT.

SECTION 08800 - GLAZING

- 1.1 SUMMARY
 - A. GLAZING REQUIRED FOR THE FOLLOWING:
 1. DOORS.
 2. WINDOWS.
 - 1.2 PERFORMANCE REQUIREMENTS
 - A. ENGINEERING DESIGN OF GLASS BY CONTRACTOR.
 - 1.3 QUALITY ASSURANCE
 - A. MOCKUPS FOR ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
 - 1.4 WARRANTY
 - A. INSULATING GLASS: NOT LESS THAN 10 YEARS.
 - 1.5 MATERIALS
 - A. GLAZING GASKETS: DENSE COMPRESSION OR LOCK STRIP.
 - B. SILICONE GLAZING SEALANTS: NEUTRAL CURING, CLASS 100/50
 - C. GLAZING TAPES: BACK-BEDDING-MASTIC TYPE.
 - D. MONOLITHIC-GLASS TYPES
 - A. GLASS TYPE FULLY TEMPERED FLOAT GLASS.
 - B. GLASS TYPE FULLY TEMPERED FLOAT GLASS.
 - E. INSULATING-GLASS TYPES
 1. GLASS TYPE: LOW-E-COATED, DOUBLE GLAZED CLEAR INSULATING GLASS.
 2. OUTDOOR LITE: HEAT-STRENGTHENED FLOAT GLASS OR FULLY TEMPERED FLOAT GLASS AS DESIGNATED ON DRAWINGS.
 3. INDOOR LITE: HEAT-STRENGTHENED FLOAT GLASS OR FULLY TEMPERED FLOAT GLASS.

SECTION 09000 - FINISHES

- 1.1 FINISHES SHALL BE OF THE SIZE, STYLE AND MANUFACTURER INDICATED ON THE FINISH SCHEDULE AND DRAWINGS. PROVIDE (1) EXTRA CARTON OF EACH FLOOR & CEILING TILE OF EACH TYPE. ALL INTERIOR FINISHES SHALL BE INSTALLED IN ACCORDANCE W/ MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL VERIFY IF SPECIAL SURFACE PREPARATION IS REQUIRED.

SECTION 09290 - GYPSUM BOARD

- 1.1 MATERIALS
 - A. INTERIOR GYPSUM BOARD:
 1. GYPSUM WALLBOARD.
 2. MOISTURE-RESISTANT GYPSUM BOARD.
 - B. TRIM ACCESSORIES:
 1. INTERIOR:
 1. ALUMINUM: EXTRUDED PROFILES.
 2. ACUSTICAL JOINT SEALANT: LOW VOC.
 - C. TEXTURE FINISHES:
 1. NON-AGGREGATE FINISH.
 - D. AUXILIARY MATERIALS:
 1. LAMINATING ADHESIVE: LOW VOC.
 2. ACUSTICAL JOINT SEALANT: LOW VOC.
 - E. CONTROL JOINTS:
 1. LOCATE AT WINDOW CORNERS, COLUMN CORNERS WHERE POSSIBLE. MAX. SPACING 50'-0" ON CENTER. DO NOT INSTALL CONTROL JOINTS IN AREAS SCHEDULED TO RECEIVE VINYL GRAPHICS.
 2. DETAIL PER DRYWALL MANUFACTURER'S RECOMMENDATIONS
 - F. LEVELS OF GYPSUM BOARD FINISH
 1. PER GYPSUM ASSOCIATION 214-10
 2. LEVEL 1 - ABOVE CEILINGS AND IN AREAS CONCEALED FROM VIEW
 3. LEVEL 4 - ALL AREAS EXPOSED TO VIEW EXCLUDING WALLS SCHEDULED TO RECEIVE VINYL GRAPHICS
 4. LEVEL 5 - WALL AREAS SCHEDULED TO RECEIVE VINYL GRAPHICS
 - G. METAL STUD FRAMING
 1. FRAMING INSTALLATION PER ASTM C-745, DEFLECTION L360.
 2. MIN. 20 GAUGE STUD FRAMING AT 16" O.C.
 3. PROVIDE STEEL BAR BRACING AT 48" O.C.

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

- 1.1 SUMMARY
 - A. ACOUSTICAL PANELS AND EXPOSED SUSPENSION SYSTEMS.
- 1.2 QUALITY ASSURANCE
 - A. ACOUSTICAL PANEL QUALITY STANDARD: ASTM E 1264.
 - B. METAL SUSPENSION SYSTEM QUALITY STANDARD: ASTM C 635.
 - C. MOCKUPS FOR EACH FORM OF CONSTRUCTION.
- 1.3 MATERIALS
 - A. ACOUSTICAL CEILING PANELS:
 1. TYPE AND FORM: REFER TO DRAWING - LIST OF FINISHES - FOR PRODUCT INFORMATION.
 2. LR: NOT LESS THAN: 0.85.
 3. NRC: NOT LESS THAN: 0.55.
 4. CAC: NOT LESS THAN: 35.
 5. THICKNESS: 5/8" INCH (15.9MM)
 6. MODULAR SIZE: 24 BY 48 INCHES (610 BY 1220 MM).
 - B. METAL SUSPENSION SYSTEMS:
 1. WIRE HANGERS, BRACES, AND TIES.
 2. HANGER RING OR FLAT HANGERS
 3. ANGLE HANGERS.
 4. SEISMIC PERMETER STABILIZER BARS, STRUTS, AND CLIPS.
 5. HOLD-DOWN CLIPS.
 6. IMPACT CLIPS.
 7. WIDE-FACE, GAPPED, DOUBLE-WEB STEEL: INTERMEDIATE DUTY, REFER TO DRAWING A-1.2 FOR OTHER PRODUCT INFORMATION.
 - C. METAL EDGE MOLDINGS AND TRIM: EXTRUDED
 - D. ACOUSTICAL SEALANTS.
- 1.4 INSTALLATION
 - A. INSTALLATION: ASTM C 636
- 1.5 FIELD QUALITY CONTROL
 - A. TESTING: BY CONTRACTOR/ CONSTRUCTION MANAGER -ENGAGED AGENCY TO TEST ACOUSTICAL PANEL CEILING HANGER FASTENERS.

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

- 1.1 PRODUCTS
 - A. RESILIENT BASE:
 1. MATERIAL REQUIREMENT: ROPPE PINNACLE OR EQ.
 2. STYLE/COLOR: AS INDICATED ON DRAWINGS.
 3. MINIMUM THICKNESS: 0.125 INCH (3.2MM).
 4. HEIGHT: AS INDICATED ON DRAWINGS.
 5. OUTSIDE CORNERS: PREFORMED.
 6. INSIDE CORNERS: PREFORMED.
 7. USE COIL PRODUCT ONLY, NO FOUR FOOT SECTIONS PERMITTED.
 - B. INSTALLATION MATERIALS:
 1. TROWELABLE LEVELING AND PATCHING COMPOUNDS.
 2. ADHESIVES.

SECTION 096813 - TILE CARPETING

- 1.1 WARRANTY
 - A. CARPET TILE FAILURE: LIFETIME LIMITED COMMERCIAL.
- 1.2 PRODUCTS
 - A. CARPET TILE: AS INDICATED ON DRAWINGS.
 1. FIBER: NYLON 6
 2. PILE CHARACTERISTICS: MULTI-LOOP PILE.
 3. DENSITY: 4500 OZ./CU. YD. (8.38 KILOTEXT).
 4. PILE THICKNESS: .120 (3.05 MM).
 5. TOTAL WEIGHT: 15.00 OZ./SQ.YD. (508.59 G/SQ.M).
 6. SIZE: 24 BY 24 INCHES (610 BY 610 MM).
 - B. INSTALLATION ADHESIVE: VOC CONTENT 50 G/L OR LESS.

SECTION 09920 - INTERIOR PAINTING

- 1.1 SUMMARY
 - A. SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON INTERIOR SUBSTRATES.
- 1.2 QUALITY ASSURANCE
 - A. QUALITY STANDARDS: "MPI APPROVED PRODUCTS LIST" AND "MPI ARCHITECTURAL PAINTING SPECIFICATION MANUAL."
- 1.3 INTERIOR PAINTING SCHEDULE
 - A. CONCRETE SUBSTRATES, NON-TRAFFIC SURFACES:
 1. LATEX SYSTEM: MPI INT 3.1E.
 2. LATEX OVER SEALER SYSTEM: MPI INT 3.1A.
 3. LATEX OVER LATEX AGGREGATE SYSTEM: MPI INT 3.1B.
 4. ALKYD SYSTEM: MPI INT 3.1D.
 - B. CONCRETE SUBSTRATES, TRAFFIC SURFACES:
 1. CLEAR SEALER SYSTEM: MPI INT 3.2F.
 2. WATER-BASED CLEAR SEALER SYSTEM: MPI INT 3.2G.
 - C. STEEL SUBSTRATES:
 1. QUICK-DRYING ENAMEL SYSTEM: MPI INT 5.1A.
 2. ALKYD DRY-FALL SYSTEM: MPI INT 5.1D.
 3. ALKYD SYSTEM: MPI INT 5.1E.
 4. ALUMINUM PAINT SYSTEM: MPI INT 5.1M.
 - D. GALVANIZED-METAL SUBSTRATES:
 1. ALKYD DRY-FALL SYSTEM: MPI INT 5.3F.
 2. ALKYD SYSTEM: MPI INT 5.3C.
 3. HIGH-PERFORMANCE ARCHITECTURAL LATEX SYSTEM: MPI INT 5.3M.
 - E. ALUMINUM (NOT ANODIZED OR OTHERWISE COATED) SUBSTRATES:
 1. ALKYD OVER VINYL WASH PRIMER SYSTEM: MPI INT 5.4A.
 2. ALKYD OVER QUICK-DRYING PRIMER SYSTEM: MPI INT 5.4J.
 3. ALUMINUM PAINT SYSTEM: MPI INT 5.4D.
 4. HIGH-PERFORMANCE ARCHITECTURAL LATEX SYSTEM: MPI INT 5.4F.
 - F. GYPSUM BOARD SUBSTRATES:
 1. LATEX SYSTEM: MPI INT 9.2A.
 2. ALKYD OVER LATEX PRIMER SYSTEM: MPI INT 9.2C.
 3. HIGH-PERFORMANCE ARCHITECTURAL LATEX SYSTEM: MPI INT 9.2B.

SECTION 10425 - SIGNAGE

- 1.1 SUMMARY
 - A. CONTRACTOR TO FURNISH AND INSTALL SIGNAGE PER LOCAL STATE AND FEDERAL CODES. SEE DRAWINGS FOR FURTHER REQUIREMENTS.
- 1.2 COMPONENTS
 - A. MATERIALS - PLASTIC, SELF ADHESIVE
 - B. RAISED TEXT AND TACTILE PER A.D.A. AND ANSI

SECTION 10520 - FIRE EXTINGUISHERS

- 1.1 SUMMARY
 - A. FURNISHED MATERIAL: HAND-CARRIED FIRE EXTINGUISHERS.
- 1.2 QUALITY ASSURANCE
 - A. FIRE EXTINGUISHERS: NFPA 10 AND FMG LISTED OR PER LOCAL JURISDICTION.
- 1.3 WARRANTY
 - A. MATERIALS AND WORKMANSHIP: SIX YEARS.
- 1.4 PRODUCTS
 - A. PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS:
 1. MULTIPURPOSE DRY-CHEMICAL TYPE, RECHARGABLE, 10 LBS. UL RATING 4A:60B:C OR PER LOCAL CODE.

SECTION 14000-FURNISHINGS

- 1.1 ALL FURNISHINGS (TABLES, CHAIRS, BENCHES, ETC.) SHALL BE PROVIDED AND INSTALLED BY OWNER. FURNISHINGS N.I.C.

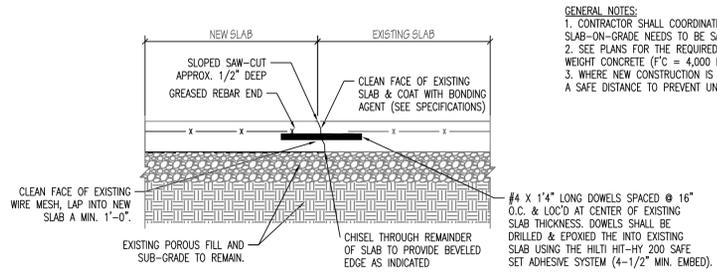
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 Client: Riverside School District
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 Taylor, Pa 18517

Consultants:

Seals:

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NEW TO EXISTING SLAB TRANSITION DETAIL
SCALE: T.S.

GENERAL NOTES:
 1. CONTRACTOR SHALL COORDINATE WITH PLANS THE REQUIRED LOCATIONS OF WHERE THE EXISTING SLAB-ON-GRADE NEEDS TO BE SAW-CUT FOR INSTALLATION OF NEW WORK.
 2. SEE PLANS FOR THE REQUIRED SLAB IN-FILL CONSTRUCTION. AT A MINIMUM INSTALL 4" THICK NORMAL WEIGHT CONCRETE (f'c = 4,000 PSI @ 28 DAYS) SLAB-ON-GRADE.
 3. WHERE NEW CONSTRUCTION IS TO BE INSTALLED CONTRACTOR SHALL TAKE CARE TO CUT-BACK SLAB AT A SAFE DISTANCE TO PREVENT UNDERMINING OF THE EXISTING SLAB-ON-GRADE.

DEMOLITION GENERAL NOTES (PLAN):

THE INTENT OF DEMOLITION PORTION OF THIS PROJECT IS TO REMOVE ALL INTERIOR (NON-STRUCTURAL) BUILDING ITEMS- INCLUDING BUT NOT LIMITED TO: ALL FINISHES, GYPSUM BOARD, DOORS AND FRAMES, INTERIOR NON-STRUCTURAL PARTITIONS, AND CEILINGS, DOWN TO CONCRETE SLAB. EXTERIOR WALLS, TENANT SEPARATION WALL AND PARITAL CEILINGS TO REMAIN. COORDINATE DEMOLITION WITH ALL NOTES AND TAGS THIS DRAWING, AND MEP DRAWINGS.

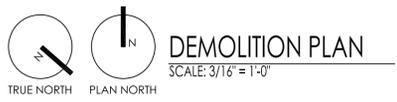
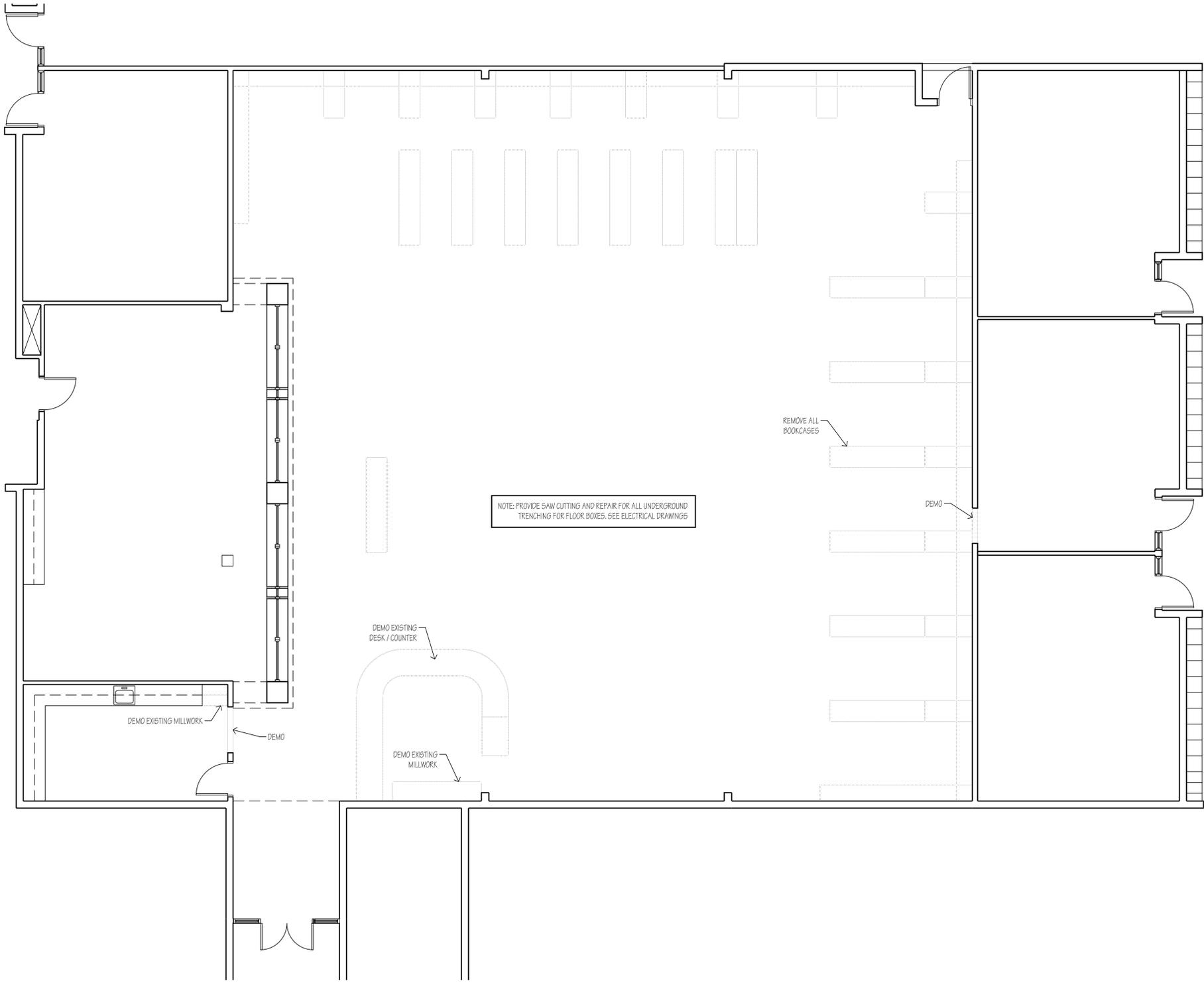
DEMOLITION NOTES (ENTIRE PROJECT):

- THIS DEMOLITION DRAWING IS PROVIDED AS A GENERAL GUIDE TO THE REMOVAL OF MATERIALS NEEDED TO FULLY COMPLETE THIS PROJECT AND MUST BE USED IN CONJUNCTION AND COORDINATION WITH ALL OTHER DRAWINGS IN THIS PACKAGE AS NOT ALL WORK NEEDED TO COMPLETE THIS PROJECT'S SCOPE OF WORK CAN BE DEPICTED HERE.
- ITEMS TO BE REMOVED ARE SHOWN WITH DOTTED LINEWORK.
- IDENTIFY HAZARDOUS MATERIALS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
- EXISTING FLOOR PREPARATION:
Floor must be structurally sound, clean, dry, dust free, smooth, level and free from dirt, grease, oil, paint, sealer, old adhesives, and other residues. Patch cracks and holes in excess of 1/8" deep with an approved patching compound as recommended by the floor covering manufacturer. For larger areas requiring leveling, use a cementitious underlayment mix.

All protruding objects must be removed. The floor must be flat (not undulating) to within 1/4" in 12' with no abrupt changes.

Sealing of concrete floors is at the discretion of the floor covering contractor. In general, properly cured (90 days minimum) steel trowel finished concrete requires no additional treatment. Excessively porous or dusty concrete slabs are exceptions

Provide Water Vapor testing for acceptable conditions prior to finish floor installation.



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 consulting engineers
 dmgroup.com

Seals:

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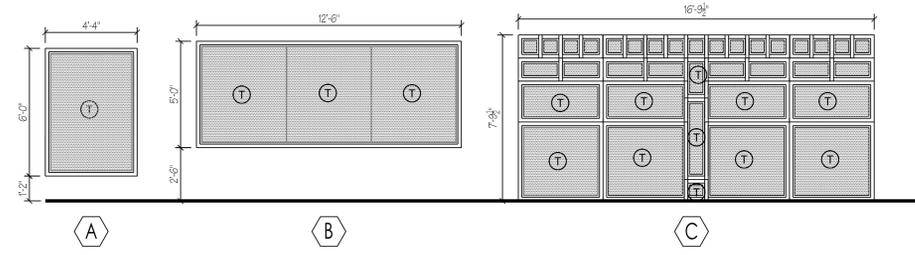
DEMOLITION PLAN

A1.1

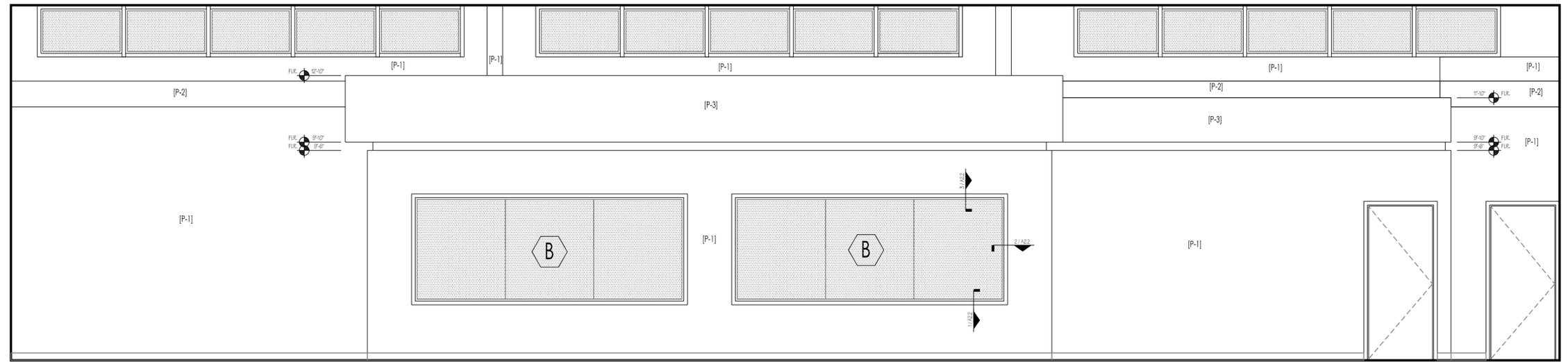
WINDOW SCHEDULE						
NO	NOMINAL SIZE		TYPE	QTY.	COLOR	REMARKS
	WIDTH	HEIGHT				
A	4'-4"	6'-0"	KAWNEER OR EQ. - PICTURE ASSEMBLY	1	P-4	
B	12'-6"	5'-0"	KAWNEER OR EQ. - PICTURE ASSEMBLY	2	P-4	
C	16'-9-1/2"	7'-9-1/2"	KAWNEER OR EQ. - PICTURE ASSEMBLY	2	P-4	MATCH EXISTING FRAME AND SIZES

- WINDOW GENERAL NOTES:**
1. ALL WINDOW SIZES ARE NOMINAL.
 2. ALL UNITS ARE NEW CONSTRUCTION.
 3. PROVIDE TEMPERED GLASS AS REQ'D BY CODE.
 4. ALL EXTERIOR WINDOWS TO BE TINTED. SAMPLE TO BE PROVIDED

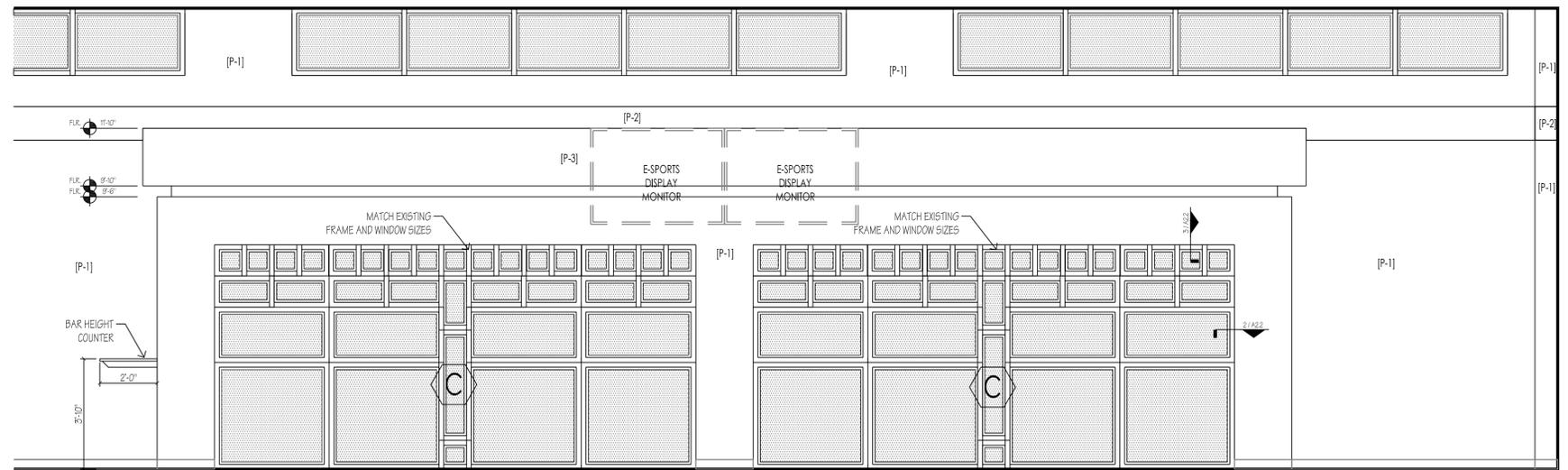
GLAZING LEGEND	
T	TEMPERED GLASS
S	SPANDREL PANEL
A	ALUMINUM PANEL



WINDOW ELEVATIONS



2 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



1 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"

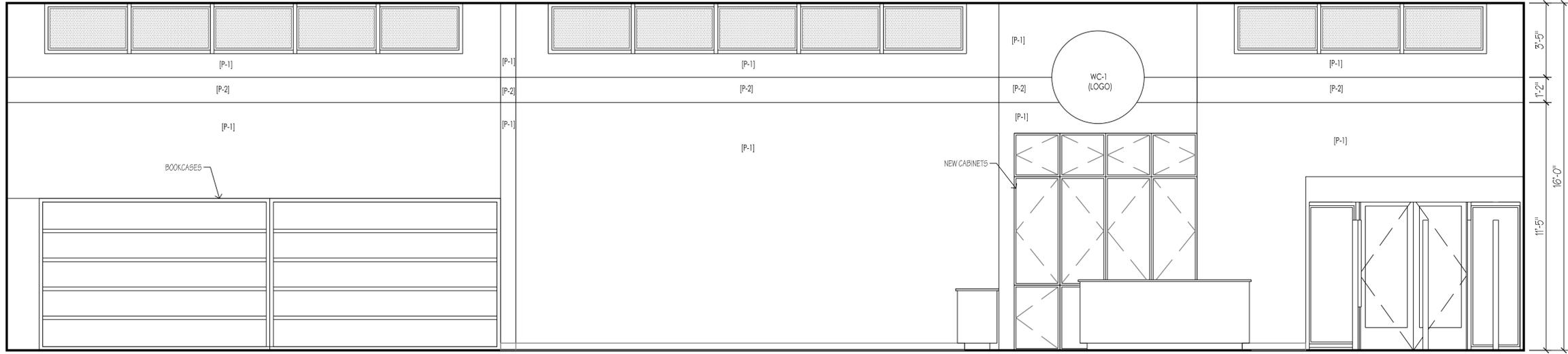
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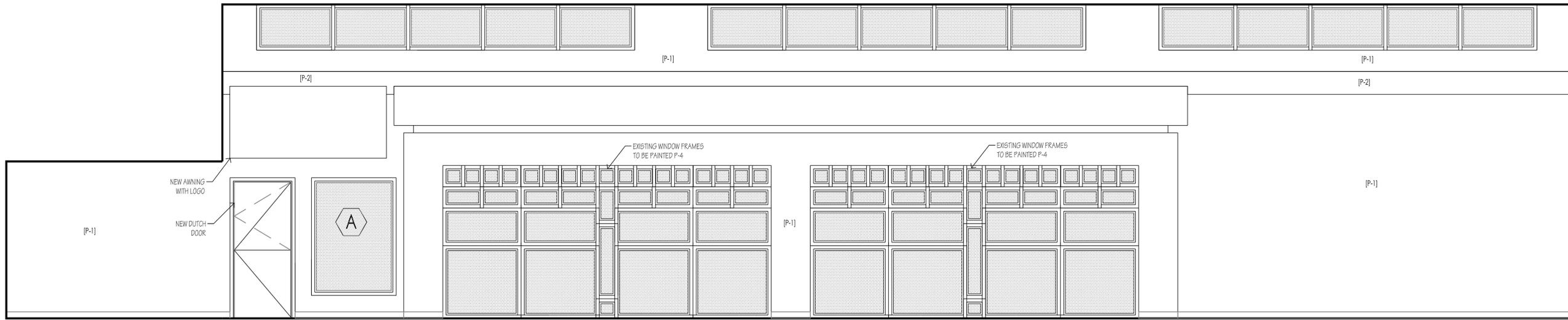
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Scale:	AS NOTED
Sheet:	INTERIOR ELEVATIONS
A3.1	

- 1 - - 2 - - 3 - - 4 - - 5 - - 6 - - 7 - - 8 - - 9 - - 10 -

- A -
- B -
- C -
- D -
- E -
- F -
- G -
- H -



2 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



1 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"

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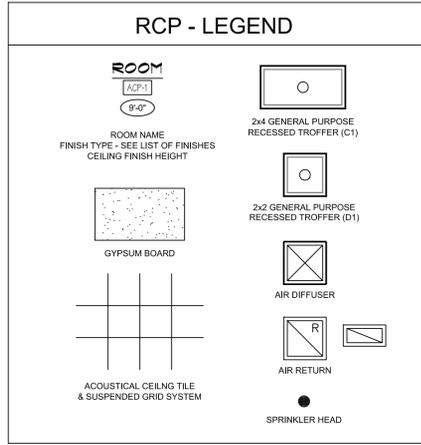
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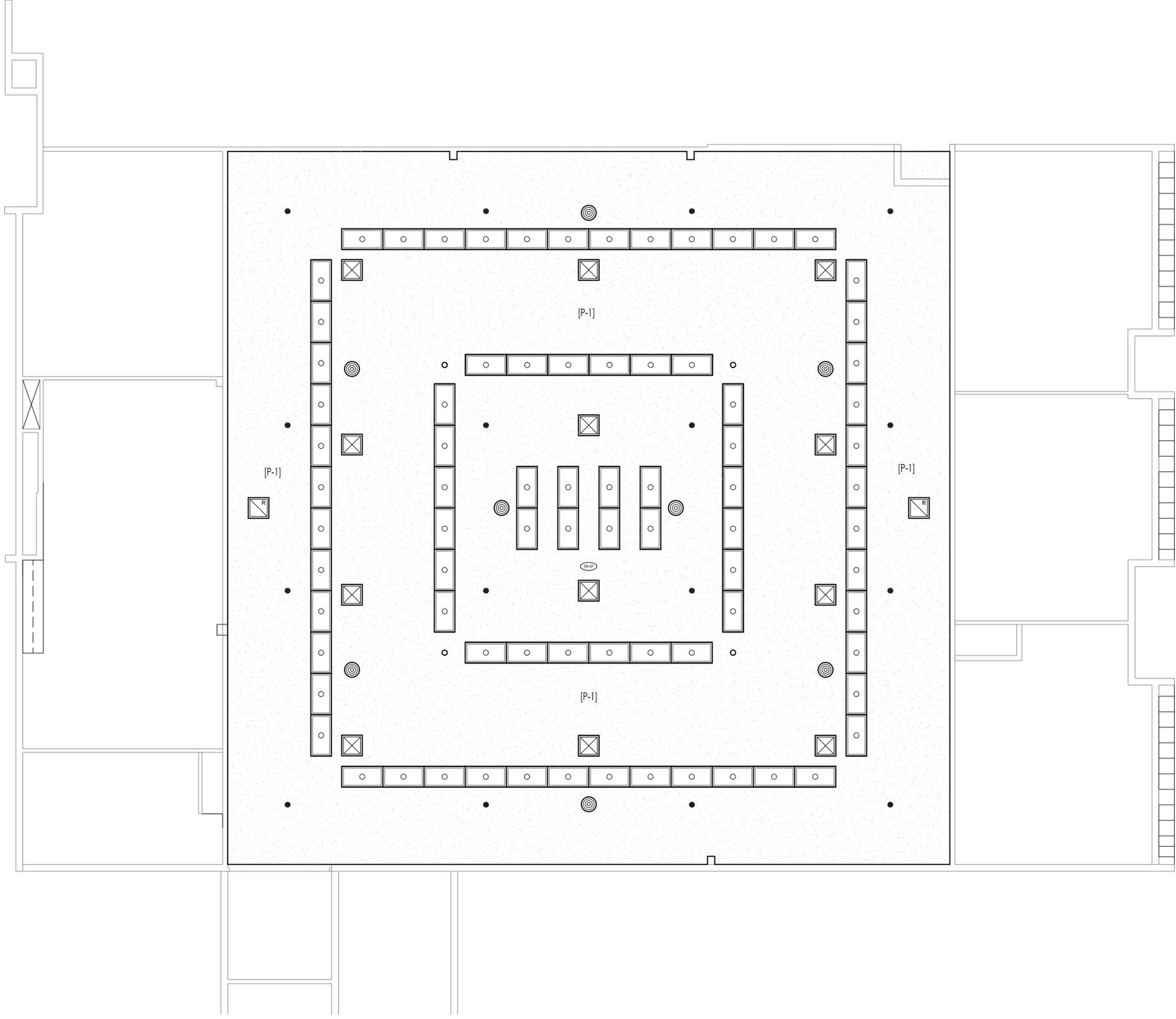
Seals:

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Scale:	AS NOTED
Sheet:	INTERIOR ELEVATIONS
A3.2	



GENERAL NOTES:
1. CEILING HEIGHTS TO BE COORDINATED W/ MECHANICAL SYSTEMS. ANY CEILING HEIGHT LESS THAN 8'-0" TO BE COORD. W/ ARCHITECT.



REFLECTED CEILING PLAN - UPPER
SCALE: 3/16" = 1'-0"

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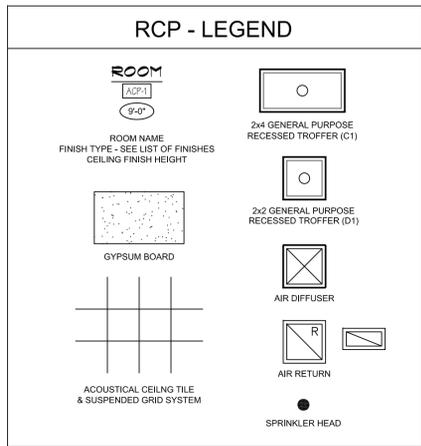
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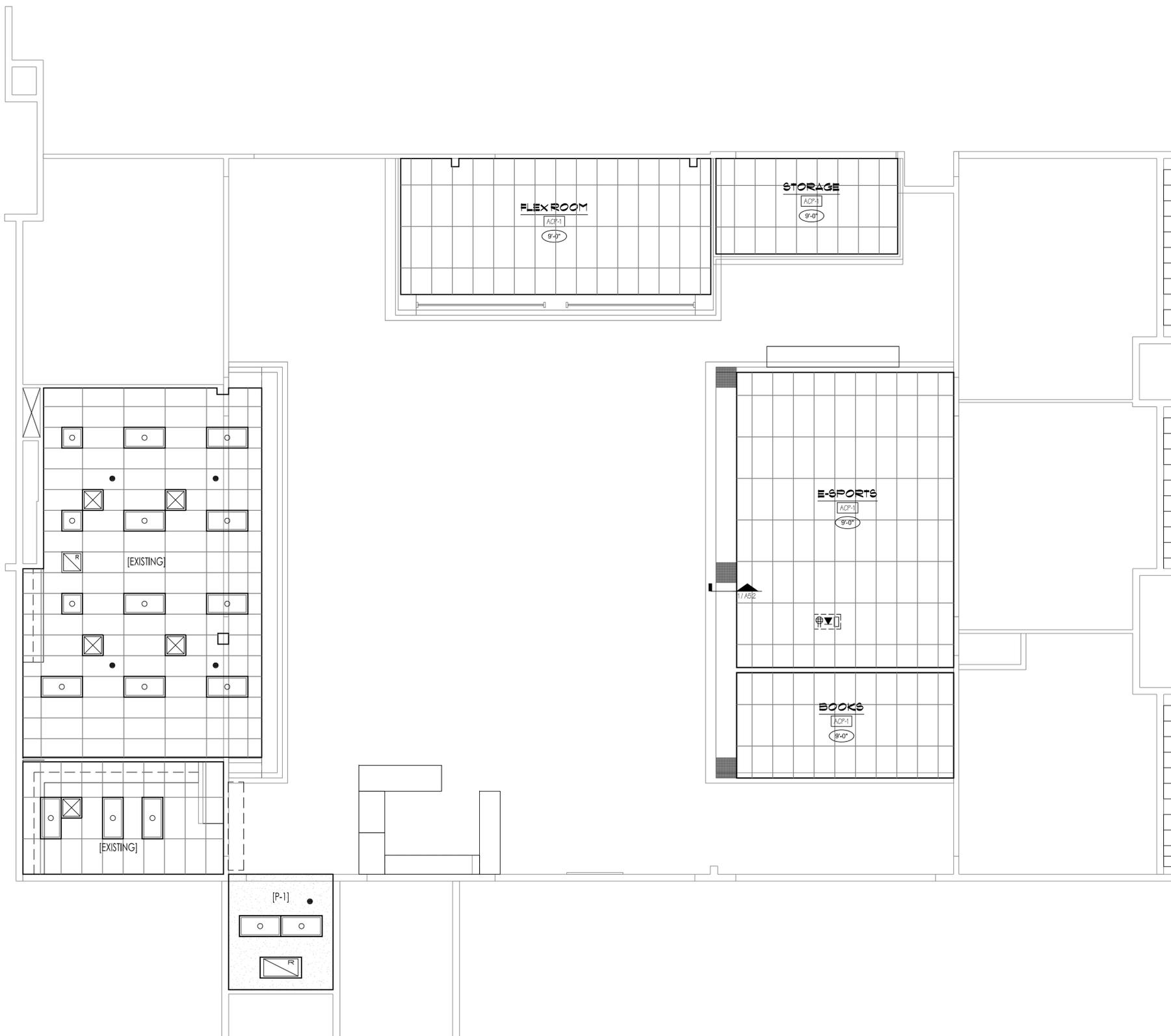
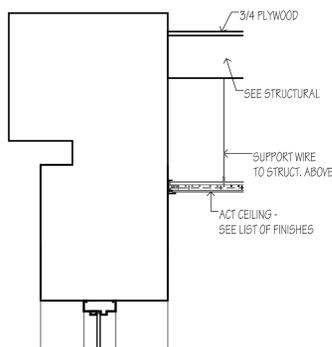
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Scale:	AS NOTED
Sheet:	REFLECTED CEILING PLAN
A5.1	

- 1 - - 2 - - 3 - - 4 - - 5 - - 6 - - 7 - - 8 - - 9 - - 10 -

- A -
- B -
- C -
- D -
- E -
- F -
- G -
- H -



GENERAL NOTES:
1. CEILING HEIGHTS TO BE COORDINATED W/ MECHANICAL SYSTEMS. ANY CEILING HEIGHT LESS THAN 8'-0" TO BE COORD. W/ ARCHITECT.



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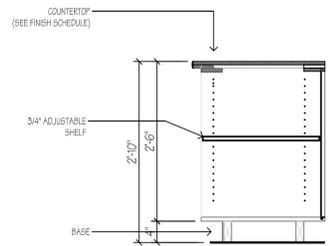
Seals:
Professional Engineer Seal
Professional Architect Seal
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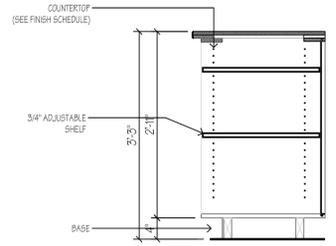
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Sheet:
REFLECTED CEILING PLAN

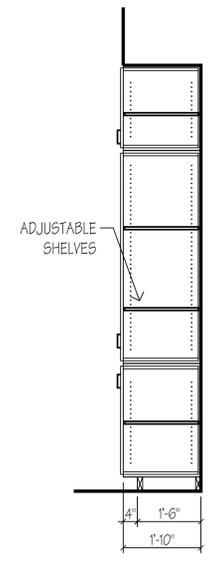
A5.2



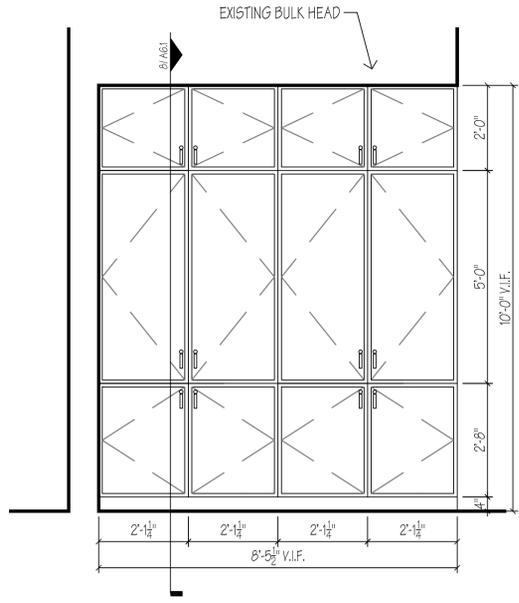
10 MILLWORK - SECTION DETAIL
SCALE: 3/4" = 1'-0"



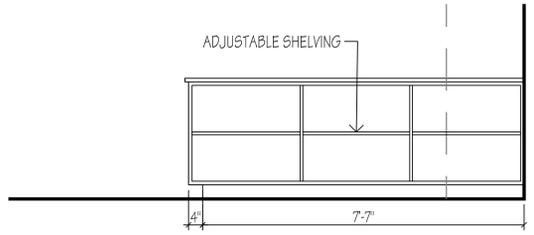
9 MILLWORK - SECTION DETAIL
SCALE: 3/4" = 1'-0"



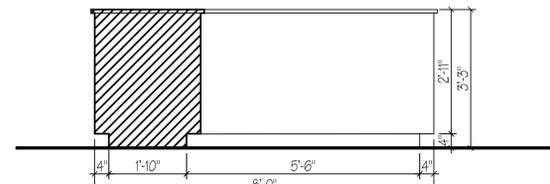
8 MILLWORK - SECTION DETAIL
SCALE: 1/2" = 1'-0"



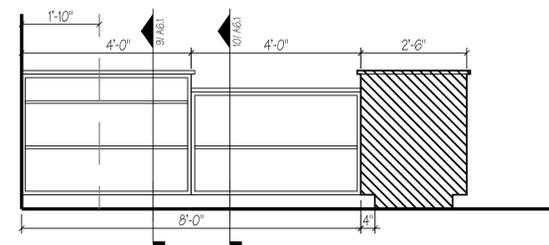
7 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



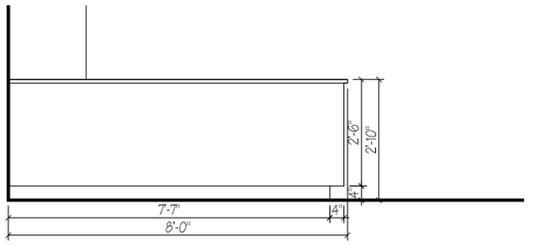
6 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



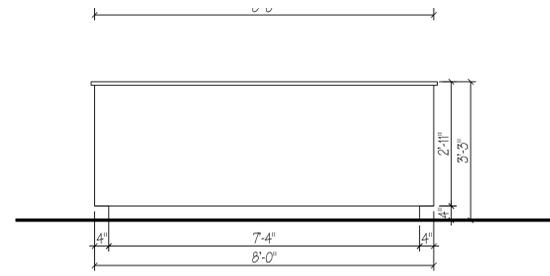
5 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



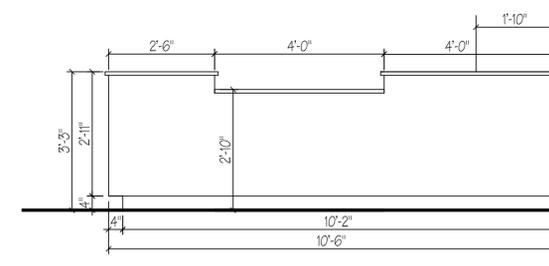
4 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



3 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



2 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



1 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

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Sheet:
MILLWORK DETAILS

A6.1



INTERIOR RENDERING
SCALE: N.T.S.



INTERIOR RENDERING
SCALE: N.T.S.



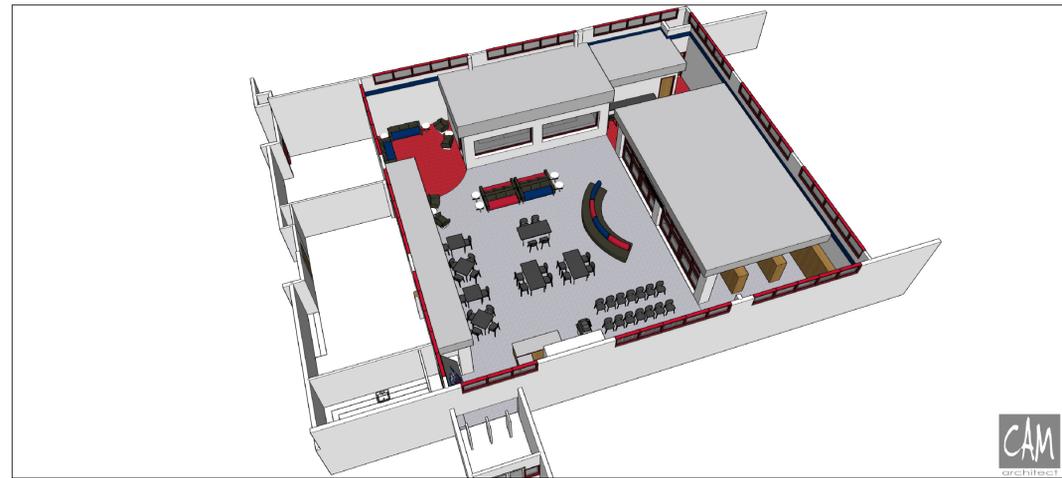
INTERIOR RENDERING
SCALE: N.T.S.



INTERIOR RENDERING
SCALE: N.T.S.



INTERIOR RENDERING
SCALE: N.T.S.



INTERIOR RENDERING
SCALE: N.T.S.

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 Scale: AS NOTED
 Sheet: **RENDERINGS**

A7.2

GENERAL ABBREVIATIONS

[E].....	EXISTING	GEN.....	GENERATOR
[ETR].....	EXISTING TO REMAIN	GF.....	GROUND FAULT INTERRUPTER
[F].....	FUTURE	GND, G.....	GROUND
[N].....	NEW	GRMC.....	GALVANIZED RIGID METAL CONDUIT
Δ.....	DELTA	GRS.....	GALVANIZED RIGID STEEL
WYE.....	WYE	GSR.....	GROUND SENSING RELAY
Φ.....	PHASE	HGT.....	HEIGHT
1/C.....	SINGLE CONDUCTOR	HID.....	HIGH INTENSITY DISCHARGE
3/C.....	THREE CONDUCTOR	HOA.....	HAND OFF AUTO
A, AMP.....	AMPERE	HP.....	HORSEPOWER
AC.....	ALTERNATING CURRENT	HPS.....	HIGH PRESSURE SODIUM
A/C.....	AIR CONDITIONER	HZ.....	HERTZ
ADA.....	AMERICANS WITH DISABILITIES ACT	IEEE.....	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
ADDTL.....	ADDITIONAL	IMC.....	INTERMEDIATE METAL CONDUIT
AF.....	AMP FRAME/AMP FUSE	INCAND.....	INCANDESCENT
AFF.....	ABOVE FINISHED FLOOR	INSUL.....	INSULATION
AFG.....	ABOVE FINISHED GRADE	INT.....	INTERIOR/INTERLOCK
AHJ.....	AUTHORITY HAVING JURISDICTION	JB.....	JUNCTION BOX
AHL.....	AIR HANDLING UNIT	KCMIL.....	THOUSAND CIRCULAR MILLS
AIC.....	INTERRUPTING CAPACITY (AMPERES)	KW.....	KILOWATT
AL.....	ALUMINUM	KWH.....	KILOWATT HOUR
ANSI.....	AMERICAN NATIONAL STANDARDS INSTITUTE	KV.....	KILOVOLT
APPROX.....	APPROXIMATELY	KVA.....	KILOVOLT AMPERE
ARCH.....	ARCHITECTURAL	LA.....	LIGHTNING ARRESTER
AS.....	AMP SWITCH	LAB.....	LABORATORY
ASY.....	ASYMMETRICAL	LF.....	LINEAR FEET
ATC.....	AUTOMATIC TEMPERATURE CONTROL	LFMC.....	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
ATS.....	AUTOMATIC TRANSFER SWITCH	LT.....	LIGHT
AUX.....	AUXILIARY	LTG.....	LIGHTING
AT.....	AMP TRIP	MCM/C.....	METAL CLAD/MECHANICAL CONTRACTOR
AWG.....	AMERICAN WIRE GAUGE	MCB.....	MAIN CIRCUIT BREAKER
BATT.....	BATTERY	MCC.....	MOTOR CONTROL CENTER
BFC.....	BELOW FINISHED CEILING	MDP.....	MAIN DISTRIBUTION PANEL
BFG.....	BELOW FINISHED GRADE	MH.....	METAL HALIDE
BSMT.....	BASEMENT	MIN.....	MINIMUM
BLDG.....	BUILDING	MISC.....	MISCELLANEOUS
BRKR.....	BREAKER	MLO.....	MAIN LOGS ONLY
BMS.....	BALANCED MAGNETIC SWITCH	MNTD.....	MOUNTED
BR.....	BRANCH	N.....	NEUTRAL
BRF.....	BELOW RAISED FLOOR	NC.....	NORMALLY CLOSED
C, COND.....	CONDUIT	NEC.....	NATIONAL ELECTRIC CODE
CB.....	CIRCUIT BREAKER	NEMA.....	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CCV.....	CLOSED CIRCUIT TELEVISION	NESC.....	NATIONAL ELECTRICAL SAFETY CODE
CD.....	CENTIGRADE DEGREE	NFPA.....	NATIONAL FIRE PROTECTION ASSOCIATION
CE.....	CONCRETE ENCASED	C.E.....	NOT IN CONTRACT
CKT.....	CIRCUIT	NO.....	NORMALLY OPEN
CKTD.....	CIRCUITED	NTS.....	NOT TO SCALE
CLG.....	CEILING	O.C.....	ON CENTER
COAX.....	COAXIAL	P.....	POLE
CONC.....	CONCRETE	PA.....	PUBLIC ADDRESS
CONTR.....	CONTRACTOR	PB.....	PULL BOX/PUSH BUTTON
CLF.....	CURRENT LIMITING FUSES	P.C.....	PLUMBING CONTRACTOR
CT.....	CURRENT TRANSFORMER	PCU.....	POWER CONDITIONING UNIT
CU.....	COPPER	PH.....	PHASE
DB.....	DUCTBANK	PML.....	PANEL
DC.....	DIRECT CURRENT	PR.....	PRIMARY
DISC.....	DISCONNECT	PSI.....	POUNDS PER SQUARE INCH
DIST.....	DISTRIBUTION	PT.....	POTENTIAL TRANSFORMER
DIV.....	DIVISION	PVC.....	POLY VINYL CHLORIDE
DWG.....	DRAWING	RECEPT.....	RECEPTACLE
EA.....	EACH	REQD.....	REQUIRED
EB.....	ELECTRONIC BALLAST	RGS.....	RIGID GALVANIZED STEEL
E.C.....	ELECTRICAL CONTRACTOR	RM.....	ROOM
EF.....	EXHAUST FAN	RMC.....	RIGID METALLIC CONDUIT
EGC.....	EQUIPMENT GROUNDING CONDUCTOR	RNC.....	RIGID NONMETALLIC CONDUIT
EL.....	ELEVATION	SEC.....	SECONDARY
ELEC.....	ELECTRIC	SECT.....	SECTION
EMER.....	EMERGENCY	SF.....	SQUARE FEET
EMT.....	ELECTRICAL METALLIC TUBING	SN.....	SOLID NEUTRAL
ENCL.....	ENCLOSURE	SP.....	SPARE
EPO.....	EMERGENCY POWER OFF	SPEC.....	SPECIFICATIONS
EPR.....	ETHYLENE PROPYLENE RUBBER	SUSP.....	SUSPENDED
EQUIP.....	EQUIPMENT	SW.....	SWITCH
EW.....	ELECTRIC WATER COOLER	SWBD.....	SWITCHBOARD
EWH.....	ELECTRIC WATER HEATER	SYM.....	SYMMETRICAL
EX.....	EXAMPLE	TEL.....	TELEPHONE
EXIST.....	EXISTING	THRU.....	THROUGH
EXT.....	EXTERNAL/EXTERIOR	TRIP.....	TRIP
F.....	FUSE/FRAME	TS.....	TAMPER SWITCH
FA.....	FIRE ALARM	TYP.....	TYPICAL
FDR.....	FEEDER	U.G., U/G.....	UNDERGROUND
FIN.....	FINISHED	UL.....	UNDERWRITERS LABORATORY
FIX.....	FIXTURE	UL.....	UNLESS OTHERWISE NOTED
FL.....	FLOOR	UPS.....	UNINTERRUPTIBLE POWER SUPPLY
FLA.....	FULL LOAD AMPS	V.....	VOLT/VOLTAGE
FLEX.....	FLEXIBLE	VD.....	VOLTAGE DROP
FLUOR.....	FLUORESCENT	VCR.....	VACUUM CIRCUIT RECLOSER
FMC.....	FLEXIBLE METAL CONDUIT	W.....	WATT
FS.....	FLOW SWITCH	W.....	WITH
FT.....	FEET/FOOT	WP.....	WEATHERPROOF
FU.....	FUSE	XP.....	TRANSFORMER
G.....	GENERAL CONTRACTOR		
GEC.....	GROUNDING ELECTRODE CONDUCTOR		

ADDITION ABBREVIATIONS MAY BE DEFINED IN THE SPECIFICATIONS.

GRAPHIC CONVENTIONS

	EQUIPMENT TAG, TOP INDICATES EQUIPMENT DESIGNATION, BOTTOM INDICATES EQUIPMENT NUMBER, SEE M/P DRAWINGS FOR FURTHER INFORMATION
	PLAN CALLOUT, TOP INDICATES CALLOUT REFERENCE NUMBER, BOTTOM INDICATES SHEET NUMBER
	ELEVATION CALLOUT, TOP INDICATES CALLOUT REFERENCE NUMBER, BOTTOM INDICATES SHEET NUMBER
	SECTION CALLOUT, TOP INDICATES CALLOUT REFERENCE NUMBER, BOTTOM INDICATES SHEET NUMBER
	REVISION AREA
	REVISION TAG
	CONSTRUCTION KEYED NOTE TAG
	DEMOLITION KEYED NOTE TAG
	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	LIMIT OF DEMOLITION BETWEEN EXISTING TO REMAIN AND TO BE REMOVED

ELECTRICAL GENERAL NOTES

- THE ENTIRE INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE ENFORCED REVISIONS OF THE BUILDING CODE, NFPA 70, NEMA, UL LISTINGS, MANUFACTURERS' RECOMMENDATIONS, THE NATIONAL BOARD OF UNDERWRITERS, STATE CODES, LOCAL CODES, AND ALL AUTHORITIES HAVING JURISDICTION.
- GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1, GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION, PUBLISHED BY THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO SPACES OUTSIDE THE AREA OF WORK.
- ALL MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELLED FOR THE APPLICATION BY UNDERWRITERS LABORATORIES AND INSTALLED ACCORDING TO ITS LISTING.
- ALL DEVICES SHOWN ON DRAWINGS ARE DIAGRAMMATIC IN LOCATION AND SHOWN TO INDICATE THE EXTENT, GENERAL CHARACTER, AND GENERAL WIRING REQUIREMENTS ONLY.
- THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "WORK" SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES, SETUP, PROGRAMMING, AND OTHER INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE ALL WORK REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION OF THE ELECTRICAL SYSTEMS AS INDICATED OR IMPLIED BY THE DESIGN DOCUMENTS.
- THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS (DRAWINGS, SPECIFICATIONS, EQUIPMENT CUT SHEETS, ETC.) FOR ALL TRADES AND PROVIDE ALL ELECTRICAL WORK REQUIRED FOR COMPLETE AND OPERABLE INSTALLATION.
- THE CONTRACTOR SHALL COORDINATE ALL WORK, ELECTRICAL REQUIREMENTS, AND THE ACTUAL LOCATIONS OF ALL EQUIPMENT, CASEWORK, DEVICES, FIXTURES, SWITCHES, SENSORS, ETC., WITH ALL DRAWINGS, SPECIFICATIONS, AND WITH ALL TRADES IN THE FIELD PRIOR TO PROVIDING PRICING AND PERFORMING ANY ROUGH-IN WORK.
- THE CONTRACTOR IS HEREBY CAUTIONED THAT THE ELECTRICAL POWER CHARACTERISTICS (VOLTAGE, PHASE, HORSEPOWER, AMPERAGE, ETC.) OF EQUIPMENT ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF PROJECT DESIGN. CONTRACTOR SHALL VERIFY ACTUAL CHARACTERISTICS FOR EACH PIECE OF EQUIPMENT TO BE INSTALLED PRIOR TO ORDERING EQUIPMENT OR PERFORMING ANY ROUGH-IN WORK.
- DEVICES INDICATED TO BE INSTALLED IN THE SAME LOCATIONS WITH DIFFERENT ELEVATIONS SHALL BE ALIGNED VERTICALLY AND HORIZONTALLY. FOR ALL MOUNTING HEIGHTS AND LOCATIONS (SWITCHES, OUTLETS, FIRE ALARM AUDIBLE AND VISUAL DEVICES, FIRE ALARM PULL STATIONS, SECURITY DEVICES, CARD READERS, SENSORS, ETC.), REFER TO THE ARCHITECTURAL DRAWINGS AND COORDINATE ALL LOCATIONS BETWEEN TRADES.
- ADJUSTMENTS TO WIRING DEVICES TO AVOID STRUCTURAL OR OTHER INTERFERENCES AS WELL AS WORK INDICATED WITH MINOR DETAILS OMITTED SHALL BE PROVIDED WITHOUT EXTRA COST.
- ANY CHANGES AND/OR MODIFICATIONS MUST BE REVIEWED AND APPROVED BY THE ENGINEER AND/OR OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION.
- REMOVE ALL TRASH, DEBRIS, AND DEMOLITION MATERIAL FROM THE PREMISES AT THE END OF EACH WORK DAY. JOB SITE SHALL BE KEPT IN "BROOM CLEAN" CONDITION.
- ELECTRICAL PANELS AND DISCONNECTS SHALL BE LABELED WITH ENGRAVED PLASTIC TAGS MOUNTED ON THE OUTSIDE OF THE EQUIPMENT AND BEARING THE VOLTAGE AND DESIGNATION OF THE EQUIPMENT.
- PROVIDE ALL PANELBOARD SCHEDULES IN AN EDITABLE ELECTRONIC FORMAT (MS WORD OR EXCEL). LIGHTING CIRCUIT BREAKER LABELS SHALL BE SPECIFIC TO THE AREA. USE BUILDING COLUMNS, ROOM NAMES, ETC. FOR A MORE ACCURATE LOCATION.
- ALL RECEPTACLES AND BRANCH CIRCUITS WITHIN 6 FEET OF SINKS, 20 FEET OF WATER TANKS, IN KITCHENS, IN GARAGES, SERVING ELECTRIC WATER FOUNTAINS, AND ALL OTHER LOCATIONS REQUIRED BY THE NEC SHALL BE PROVIDED WITH GROUND FAULT PROTECTION.
- ALL EQUIPMENT SHALL BE NEMA RATED AND LISTED FOR THE APPLICATION AND ENVIRONMENT.
- IN THE EVENT THAT LOCAL EQUIPMENT DISCONNECTS CANNOT BE LOCATED SUCH THAT WORKING CLEARANCES ARE MAINTAINED, THE NEXT UPSTREAM OVERCURRENT DEVICE SHALL BE INDIVIDUALLY CAPABLE OF BEING LOCKED IN THE OPEN POSITION IN ACCORDANCE WITH 440.14 AND 430.102.
- ALL FIRE/SMOKE RATINGS SHALL BE MAINTAINED. APPLY FIRESTOPPING AND SEALANT AS REQUIRED.
- FLASH ALL ROOF PENETRATIONS IN ACCORDANCE WITH THE ROOFING SYSTEM MANUFACTURER AND THE CONTRACT DOCUMENTS.
- PROVIDE ALL WORK REQUIRED FOR A COMPLETE AND OPERABLE INSTALLATION OF THE FIRE ALARM, SECURITY, AND ANY OTHER SPECIAL SYSTEMS. COORDINATE EXACT REQUIREMENTS WITH OWNERS VENDORS.
- WHERE NO CIRCUIT IS DESIGNATED FOR A DEVICE (INCLUDING EQUIPMENT NOT SHOWN ON DRAWINGS), THE E.C. SHALL CIRCUIT TO THE NEAREST AVAILABLE PANEL WITH CONDUCTOR, RACEWAY, AND BREAKER SIZED PER THE LATEST ADOPTED REVISION OF THE NEC.
- ALL WIRE AND CONDUIT SHALL BE CONCEALED IN WALLS, CEILING PLENUMS, BULKHEADS AND IN ROOF STRUCTURAL AREAS, U.O.N. THE E.C. SHALL COORDINATE FULLY WITH ALL OTHER TRADES TO INSTALL ALL CONDUIT AND WIRING IN THESE ASSOCIATED STRUCTURES. ANY OTHER MEANS OF PATHWAY SUGGESTED MUST FIRST BE APPROVED FROM THE ELECTRICAL ENGINEER BEFORE INSTALLATION CAN PROCEED.
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PERTAINING TO THIS WORK. THE CONTRACTOR SHALL INVESTIGATE ALL RELOCATIONS AND NEW WORK AND MAKE ALLOWANCES IN HIS BID FOR ALL CHANGES TO THE ELECTRICAL SYSTEM WHICH ARE NECESSARY. FAILURE TO COMPLY WITH THIS SHALL NOT CONSTITUTE A REASON FOR PAYMENT OF EXTRA MONIES DURING THE CONSTRUCTION PHASE.
- MAKE ALL NECESSARY ARRANGEMENTS WITH THE OWNER FOR THE INSTALLATION OF TEMPORARY LIGHTING AND POWER SERVICES TAILORED FOR THIS PROJECT. SET TEMPORARY METERS IN ACCORDANCE WITH THE UTILITY PROVIDER'S REQUIREMENTS. INSTALL AND MAINTAIN ALL TEMPORARY LIGHT AND POWER WIRING, INCLUDING, BUT NOT LIMITED TO CONDUITS, WIRE, SWITCHES, FUSE BOXES, RECEPTACLES, DISTRIBUTION PANELBOARDS, FUSED DISCONNECT SWITCHES, GROUND FAULT INTERRUPTER EQUIPMENT, FIXTURES, LAMPS, FUSES AND ANY OTHER MATERIAL AND/OR EQUIPMENT REQUIRED TO PROVIDE SUFFICIENT ILLUMINATION AND POWER, AS REQUIRED BY THE STATE LABOR BOARD, O.S.H.A., OR ALL OTHER AUTHORITIES HAVING JURISDICTION FOR ALL AREAS OF THE SITE WHERE WORK WILL BE PERFORMED BY ANY CONTRACTOR. PROVIDE TEMPORARY POWER CIRCUITS, OUTLETS, ETC. IN ACCORDANCE WITH THE POWER REQUIREMENTS OF THE VARIOUS VOLTAGE/AMPERAGE/HORSEPOWER RATINGS OF THE EQUIPMENT AND TOOLS TO BE USED BY THE CONTRACTORS IN CONSTRUCTION WORK. ONCE THE PERMANENT LIGHTING AND POWER SYSTEMS ARE INSTALLED AND OPERATIONAL, MAKE THE CUT-OVER. REMOVE ALL TEMPORARY ELECTRICAL DISTRIBUTION COMPONENTS AND SYSTEM AFTER CUT-OVER.

LIGHTING

	LUMINAIRE WITH OUTLET BOX. EMERGENCY SUPPLY/NIGHT LIGHTING CIRCUIT. "A" INDICATES FIXTURE TYPE. (SEE FIXTURE SCHEDULE, TYP.) "LPI-X" INDICATES CIRCUIT NUMBER. (TYP.) SWITCH CONTROL. (TYP.)	SHADING INDICATES "a" INDICATES
	CEILING-MOUNTED LUMINAIRE	
	WALL-MOUNTED LUMINAIRE	
	POLE, BASE, ARM, AND SITE LIGHTING LUMINAIRE	
	CEILING OR WALL-MOUNTED EXIT SIGN (SHADED QUADRANT INDICATES FACE) WITH CHEVRONS AND EMERGENCY HEADS AS INDICATED ON FLOOR PLANS	
	BATTERY OPERATED EMERGENCY LIGHTING UNIT WITH DUAL HEADS	
	DUAL REMOTE HEAD FOR BATTERY OPERATED EMERGENCY LIGHTING UNIT	

SWITCHES

	WALL OUTLET BOX AND SINGLE POLE SWITCH (20 AMP)
	WALL OUTLET BOX AND THREE-WAY SWITCH (20 AMP)
	WALL OUTLET BOX AND FOUR-WAY SWITCH (20 AMP)
	WALL OUTLET BOX AND SINGLE-POLE SWITCH (20 AMP, NON-LOCK, WITH WEATHERPROOF COVER)
	WALL OUTLET BOX SINGLE POLE KEY SWITCH (20 AMP)
	WALL OUTLET BOX AND THREE-WAY KEY SWITCH (20 AMP)
	WALL OUTLET BOX AND FOUR-WAY KEY SWITCH (20 AMP)
	WALL OUTLET BOX AND DIMMER SWITCH
	LOW VOLTAGE LIGHTING SWITCH
	TIME SWITCH
	WALL-MOUNTED OCCUPANCY SENSOR
	CEILING-MOUNTED OCCUPANCY SENSOR
	AUTOMATIC DAYLIGHTING CONTROL SENSOR
	ROOM CONTROLLER

SWITCHING NOTES:

- MOUNT SWITCHES AT 42" U.O.N.
- SWITCHES SHALL BE RATED FOR LOAD CONTROLLED.
- DIMMERS SHALL BE COMPATIBLE FOR LIGHTING FIXTURE LAMP SOURCE AND BALLAST/DRIVER BEING CONTROLLED.
- WHERE MULTIPLE SWITCHES ARE SHOWN, PROVIDE GANG SWITCH IN SINGLE ENCLOSURE WITH SINGLE FACEPLATE.
- LOWERCASE LETTER DENOTES SWITCH CONTROL.

WIRING DEVICES

	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE
	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE, MOUNTED 6" ABOVE COUNTER BACKSPASH
	TWO GANG WALL OUTLET BOX AND TWO 20 AMP DUPLEX RECEPTACLES
	TWO GANG WALL OUTLET BOX AND TWO 20 AMP DUPLEX RECEPTACLES, MOUNTED 6" ABOVE COUNTER BACKSPASH
	WALL OUTLET BOX AND 20 AMP SINGLE RECEPTACLE
	WALL OUTLET BOX AND SPECIAL PURPOSE RECEPTACLE
	FLUSH FLOOR BOX WITH FIRE/SMOKE RATED PENETRATION, COVER, AND 20 AMP RECEPTACLE(S)/DATA OUTLET(S) CONFIGURATION AS INDICATED. PROVIDE MINIMUM 3/4" CONDUIT(2) TO NEAREST WALL AND UP TO ACCESSIBLE FINISHED CEILING U.O.N.
	CEILING OUTLET BOX AND 20 AMP RECEPTACLE CONFIGURATION AS INDICATED
	PLUGMOLD WITH DIVIDER. PROVIDE RECEPTACLES AND TELE/DATA OUTLETS AS INDICATED.
	FLUSH WALL JUNCTION BOX OR JUNCTION BOX ABOVE CEILING.

WIRING DEVICES NOTATIONS

- +XX DIMENSIONED HEIGHT A.F.F.
- "a" LOWERCASE LETTER DENOTES SWITCH CONTROL.
- "EX" EXISTING DEVICE
- "GFI" GROUND FAULT CIRCUIT INTERRUPTER PERSONAL PROTECTION
- "GFP" GROUND FAULT PROTECTION OF EQUIPMENT
- "IG" ISOLATED GROUND (RECEPTACLES INCLUDE SEPARATE GREEN GROUND CONDUCTOR TO ISOLATED GROUND BUS IN PANEL)
- "WP" WEATHERPROOF

SYMBOLS LEGEND NOTE

NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED ARE APPLICABLE TO THIS PROJECT. INDIVIDUAL DRAWINGS MAY DEFINE UNIQUE SYMBOLS FOR CONVENIENCE.

EQUIPMENT

	208/120V PANELBOARD
	480/277V BRANCH CIRCUIT PANELBOARD
	UNFUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR CONTROLLER
	MAGNETIC MOTOR STARTER OR CONTACTOR
	MOTOR CONNECTION
	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOADS
	TRANSFORMER
	MOTORIZED DAMPER LOCATION (FURNISHED UNDER DIVISION 23)
	TIME CLOCK
	EMERGENCY POWER OFF SWITCH
	ENCAPSULATED RELAY/SHUTDOWN RELAY
	SURGE PROTECTION DEVICE
	VARIABLE FREQUENCY DRIVE

FIRE ALARM

	WALL-MOUNTED FLUSH MANUAL PULL STATION
	WALL-MOUNTED AUDIO AND VISUAL ALARM WITH CANDELA RATING AS NOTED
	WALL-MOUNTED VISUAL ALARM WITH CANDELA RATING AS NOTED
	CEILING-MOUNTED SMOKE DETECTOR, "CO" DENOTES COMBINATION CARBON MONOXIDE/SMOKE DETECTOR
	CEILING-MOUNTED HEAT DETECTOR, "CO" DENOTES COMBINATION CARBON MONOXIDE/SMOKE DETECTOR
	DUCT-MOUNTED SMOKE DETECTOR, "CO" DENOTES COMBINATION CARBON MONOXIDE/SMOKE DETECTOR
	SPRINKLER SYSTEM FLOW SWITCH CONNECTION
	SPRINKLER SYSTEM PRESSURE SWITCH CONNECTION
	SPRINKLER SYSTEM TAMPER SWITCH CONNECTION
	FIRE ADDRESSABLE INTERFACE MODULE
	FIRE ALARM SYSTEM CONTROL MODULE
	FIRE ALARM SYSTEM MONITOR MODULE
	FIRE ALARM SYSTEM CONTROL PANEL
	FIRE ALARM SYSTEM ANNUNCIATOR PANEL

TELECOMMUNICATIONS

	COMBINATION TELE/DATA WALL OUTLET BOX WITH MINIMUM 1" CONDUIT TO ABOVE ACCESSIBLE FINISHED CEILING (PROVIDE PULL CORD AND END BUSHING) MOUNTED AT 18" A.F.F. U.O.N. SEE DRAWINGS FOR CABLE TYPE, QTY, ETC.
	FLUSH FLOOR BOX FOR ONE TELEPHONE AND ONE DATA JACK WITH COVER. PROVIDE MINIMUM 1" CONDUIT TO NEAREST WALL AND UP TO ABOVE ACCESSIBLE CEILING (PROVIDE PULL CORD AND END BUSHING) U.O.N. SEE DRAWINGS FOR CABLE TYPE, QTY, ETC.
	FLUSH-MOUNTED TELEVISION CABLE LOCATION WITH RECESSED FLAT PANEL MOUNTING ENCLOSURE EQUIPPED WITH RECEPTACLE, DATA DROP, AND CABLE TV COAX CONNECTION (COORDINATE LOCATION AND MOUNTING HEIGHT WITH ARCHITECT.) SEE DRAWINGS FOR CABLE TYPE, QTY, ETC.

RACEWAYS

	HOMERUN TO PANEL
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CONDUIT WITH CAP
	LADDER TYPE CABLE TRAY (NUMBER INDICATES WIDTH)
	OVERHEAD CONDUCTORS
	UNDERGROUND DUCTBANK SYSTEM
	DUCTBANK SYSTEM SECTION CALLOUT, "X-X" INDICATES CORRESPONDING SECTION

COORDINATION NOTE

THE HVAC, PLUMBING, AND ELECTRICAL CONTRACTORS SHALL BE AWARE THAT THE CEILING HEIGHTS, SOFFITS AND SPACE CONDITIONS ON THIS PROJECT ARE CRITICAL AND SPACE ALLOCATION MUST BE COORDINATED BETWEEN ALL TRADES AND MAINTAINED. EACH CONTRACTOR OR TRADE SHALL REFER TO THE STRUCTURAL AND ARCHITECTURAL DRAWINGS IN ADDITION TO THE HVAC, PLUMBING, AND ELECTRICAL DRAWINGS TO DETERMINE ACCEPTABLE LAYERING OF ALL EQUIPMENT.

Client: **HIGH SCHOOL LIBRARY RENOVATION**
 Client: Riverside School District
 300 Davis St.
 Taylor, Pa 18517

Consultants:

design management group
 consulting engineers
 architects
 dmgroup.com

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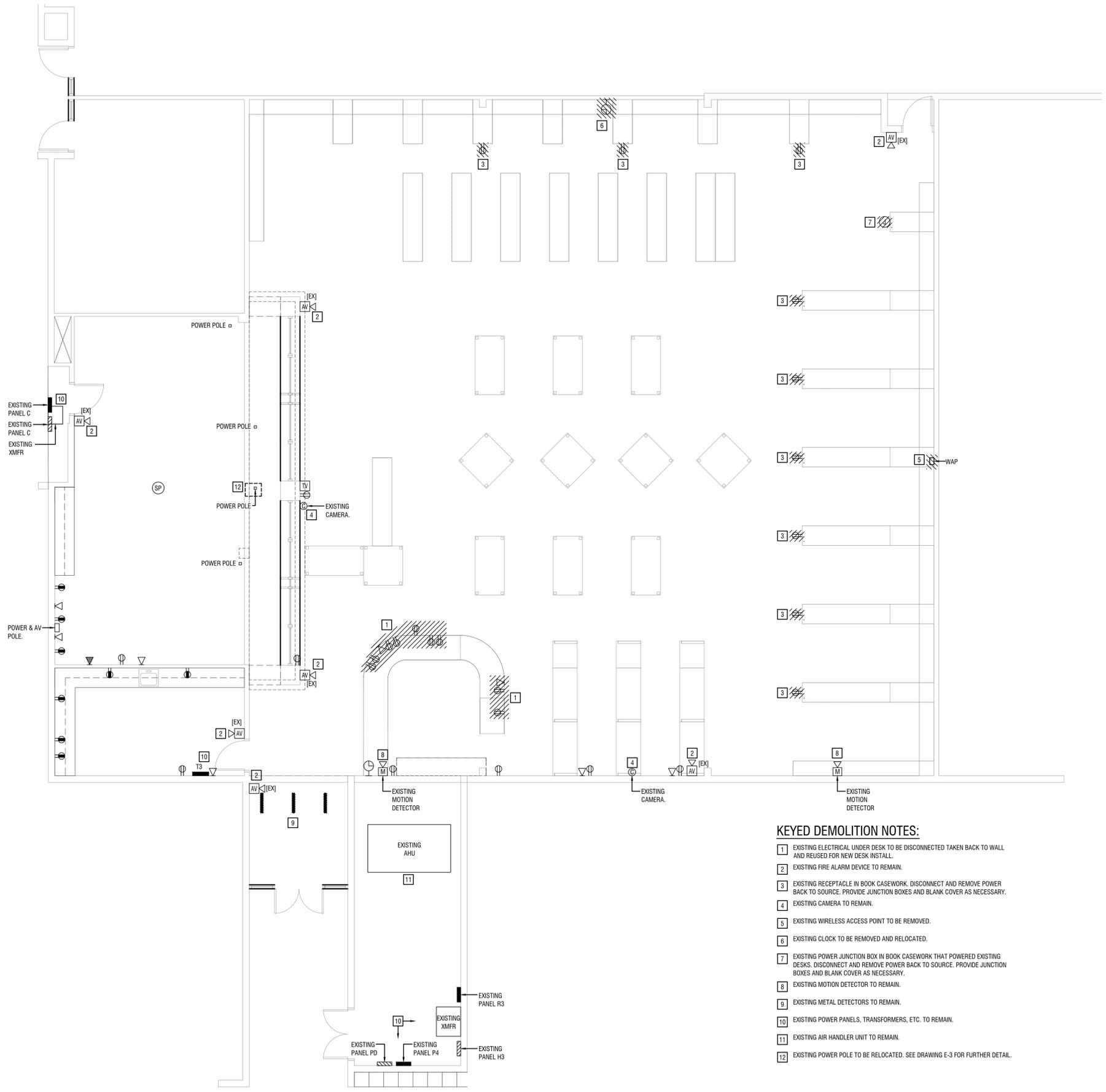
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ELECTRICAL COVER SHEET

E-1



- KEYED DEMOLITION NOTES:**
- 1 EXISTING ELECTRICAL UNDER DESK TO BE DISCONNECTED TAKEN BACK TO WALL AND REUSED FOR NEW DESK INSTALL.
 - 2 EXISTING FIRE ALARM DEVICE TO REMAIN.
 - 3 EXISTING RECEPTACLE IN BOOK CASEWORK. DISCONNECT AND REMOVE POWER BACK TO SOURCE. PROVIDE JUNCTION BOXES AND BLANK COVER AS NECESSARY.
 - 4 EXISTING CAMERA TO REMAIN.
 - 5 EXISTING WIRELESS ACCESS POINT TO BE REMOVED.
 - 6 EXISTING CLOCK TO BE REMOVED AND RELOCATED.
 - 7 EXISTING POWER JUNCTION BOX IN BOOK CASEWORK THAT POWERED EXISTING DESKS. DISCONNECT AND REMOVE POWER BACK TO SOURCE. PROVIDE JUNCTION BOXES AND BLANK COVER AS NECESSARY.
 - 8 EXISTING MOTION DETECTOR TO REMAIN.
 - 9 EXISTING METAL DETECTORS TO REMAIN.
 - 10 EXISTING POWER PANELS, TRANSFORMERS, ETC. TO REMAIN.
 - 11 EXISTING AIR HANDLER UNIT TO REMAIN.
 - 12 EXISTING POWER POLE TO BE RELOCATED. SEE DRAWING E-3 FOR FURTHER DETAIL.

1 POWER DEMOLITION PLAN
ED-1 SCALE: 3/16" = 1'-0"

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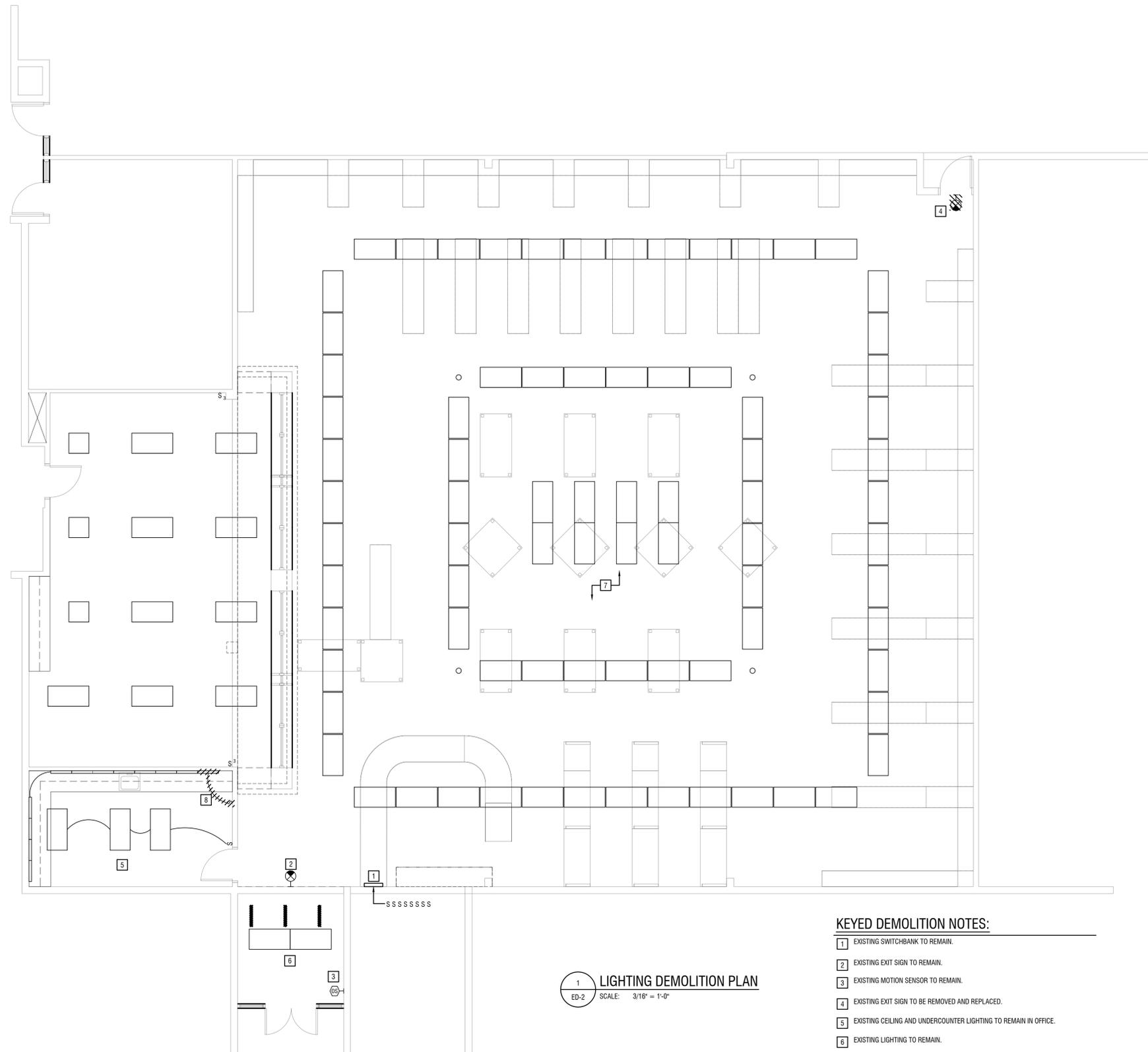
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POWER DEMOLITION PLAN
ED-1



1 LIGHTING DEMOLITION PLAN
ED-2 SCALE: 3/16" = 1'-0"

- KEYED DEMOLITION NOTES:**
- 1 EXISTING SWITCHBANK TO REMAIN.
 - 2 EXISTING EXIT SIGN TO REMAIN.
 - 3 EXISTING MOTION SENSOR TO REMAIN.
 - 4 EXISTING EXIT SIGN TO BE REMOVED AND REPLACED.
 - 5 EXISTING CEILING AND UNDERCOUNTER LIGHTING TO REMAIN IN OFFICE.
 - 6 EXISTING LIGHTING TO REMAIN.
 - 7 ALL EXISTING LIGHTING IN HIGH CEILING AND SWITCHING TO REMAIN.
 - 8 REMOVE EXISTING SWITCH AND SECTION OF UNDER COUNTER LIGHT FIXTURE FOR INSTALL OF NEW DISPLAY WALL.

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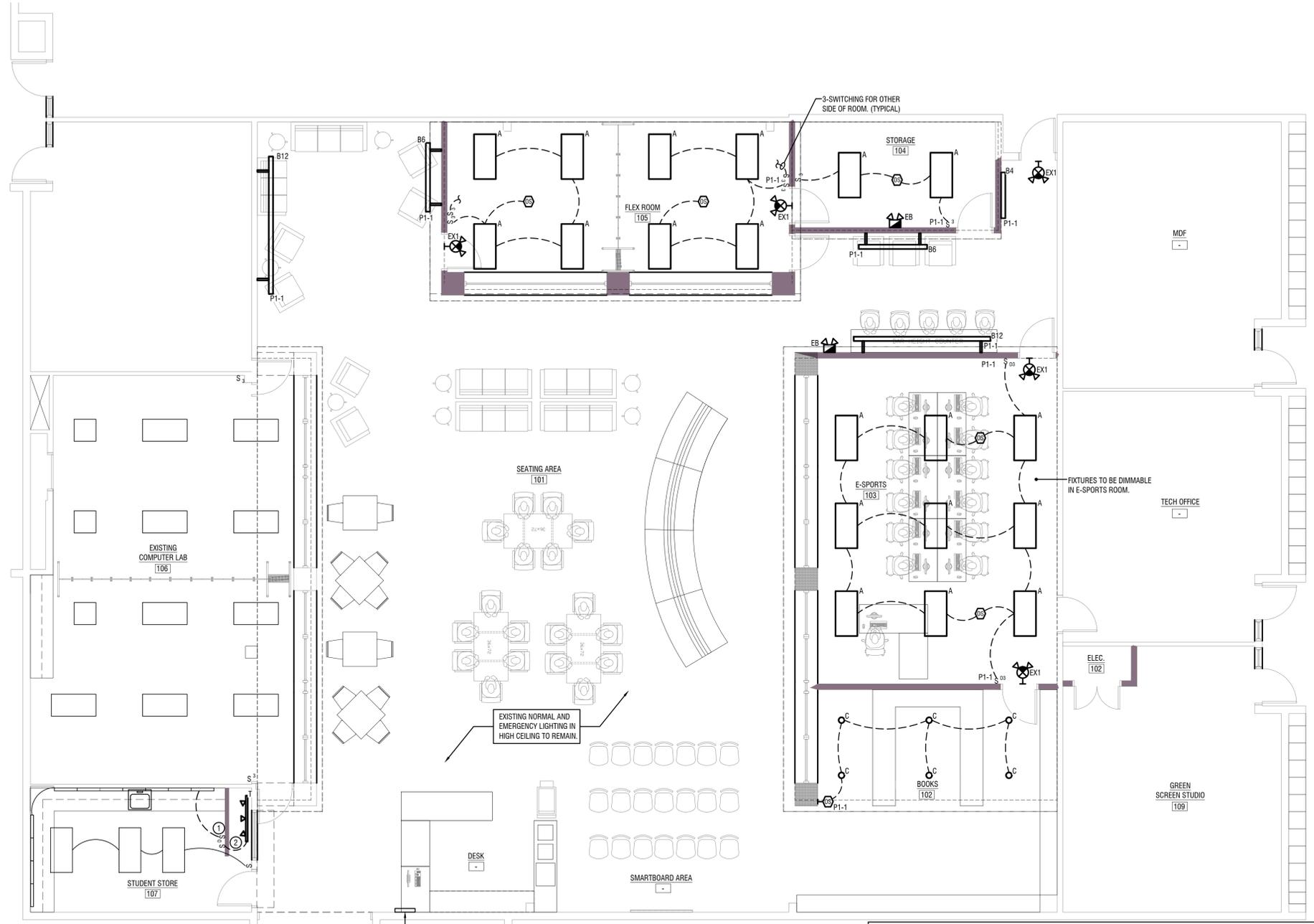
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LIGHTING DEMOLITION PLAN
ED-2



KEYED CONSTRUCTION NOTES

- ① NEW SWITCH FOR EXISTING UNDER COUNTER LIGHTING. PROVIDE ALL NCEAASRY WIRING TO TIE NEW SWITCH INTO FIXTURES.
- ② DIMMER SWITCH FOR TRACK LIGHTING. TIE POWER INTO LIGHTING CIRCUIT FEEDING THE SPACE.

1 LIGHTING PLAN
SCALE: 3/16" = 1'-0"

BUILDING LIGHTING FIXTURE SCHEDULE					
TYPE	CATALOG No.	DESCRIPTION	LAMP	VOLTS	REMARKS
A	COLUMBIA LIGHTING OR EQUAL CFP24-55/41/3440	2x4' FLAT PANEL FIXTURE	40W LED	UNV	
B4	FINELITE LIGHTING OR EQUAL HP4-WM-ID4-SB-840-TG-BG-96LG-120-SC-FC10-MB-0B0	4' LINEAR WALL ARM MOUNT INDIRECT/DIRECT FIXTURE	8W/FT LED	UNV	INTEGRATED OCCUPANCY SENSOR
B6	FINELITE LIGHTING OR EQUAL HP4-WM-ID6-SB-840-TG-BG-96LG-120-SC-FC10-MB-0B0	6' LINEAR WALL ARM MOUNT INDIRECT/DIRECT FIXTURE	8W/FT LED	UNV	INTEGRATED OCCUPANCY SENSOR
B12	FINELITE LIGHTING OR EQUAL HP4-WM-ID12-SB-840-TG-BG-96LG-120-SC-FC10-MB-0B0	12' LINEAR WALL ARM MOUNT INDIRECT/DIRECT FIXTURE	8W/FT LED	UNV	INTEGRATED OCCUPANCY SENSOR
C	PRESCOLITE LIGHTING OR EQUAL LTR-6RD-H-SL10L-DM1-LTR-6RD-T-SL-40K8MD	6" RECESSED DOWNLIGHT	12W LED	UNV	
EB	DUAL LITE OR EQUAL EV2	EMERGENCY BATTERY PACK WITH HEADS	(2) 1W LED	UNV	
EX	DUAL LITE OR EQUAL EVCURW-O	EMERGENCY EXIT SIGN	2W LED	UNV	
EX1	DUAL LITE OR EQUAL EVCURW	EMERGENCY EXIT SIGN WITH HEADS	(2) 1W LED	UNV	
EX2	DUAL LITE OR EQUAL EVCURWD4	EMERGENCY EXIT SIGN WITH HEADS AND REMOTE CAPACITY	(2) 1W LED	UNV	
T	CONTECH LIGHTING OR EQUAL TRACK-LT-X-X - HEADS- NCTL9050F3SCD-X	LED TRACK FIXTURE	7W/HEAD LED	UNV	PROVIDE HEADS AND TRACK LENGTH AS SHOWN ON DRAWING.
Ⓢ	HUBBELL CONTROL SOLUTIONS CAT. No. OMNIDT2000BP1277	LINE VOLTAGE, DUAL TECH. OCCUPANCY & VACANCY CEILING MOUNTED SENSOR	NA	UNV	
Ⓢ	HUBBELL CONTROL SOLUTIONS CAT. No. LHMTS1-X	LINE VOLTAGE, DUAL TECH. OCCUPANCY & VACANCY WALL MOUNTED SENSOR	NA	UNV	

NOTES:
 1. COORDINATE FINAL FIXTURE SELECTIONS, COLOR TEMPERATURE, AND FINISHES WITH ARCHITECT AND OWNER.
 2. PROVIDE ALL REQUIRED PROVISIONS FOR DIMMING AND MULTI-LEVEL SWITCHING.
 3. PROVIDE ALL REQUIRED POWER PACKS AND MOUNTING DEVICES FOR OCCUPANCY SENSORS. INCLUDE ALL MOUNTING, DRIVERS, FILTERS, POWER PACKS, AND OTHER SUPPORTING PARTS FOR A COMPLETE AND WORKING SYSTEM. LOCATION OF ALL OCCUPANCY SENSORS IS APPROXIMATE. REVIEW MANUFACTURERS WRITTEN INSTRUCTIONS BEFORE INSTALLING. TO PREVENT FALSE ACTIVATION, MOUNT ULTRASONIC CEILING-MOUNT SENSORS AT LEAST SIX FEET AWAY FROM DIFFUSERS.

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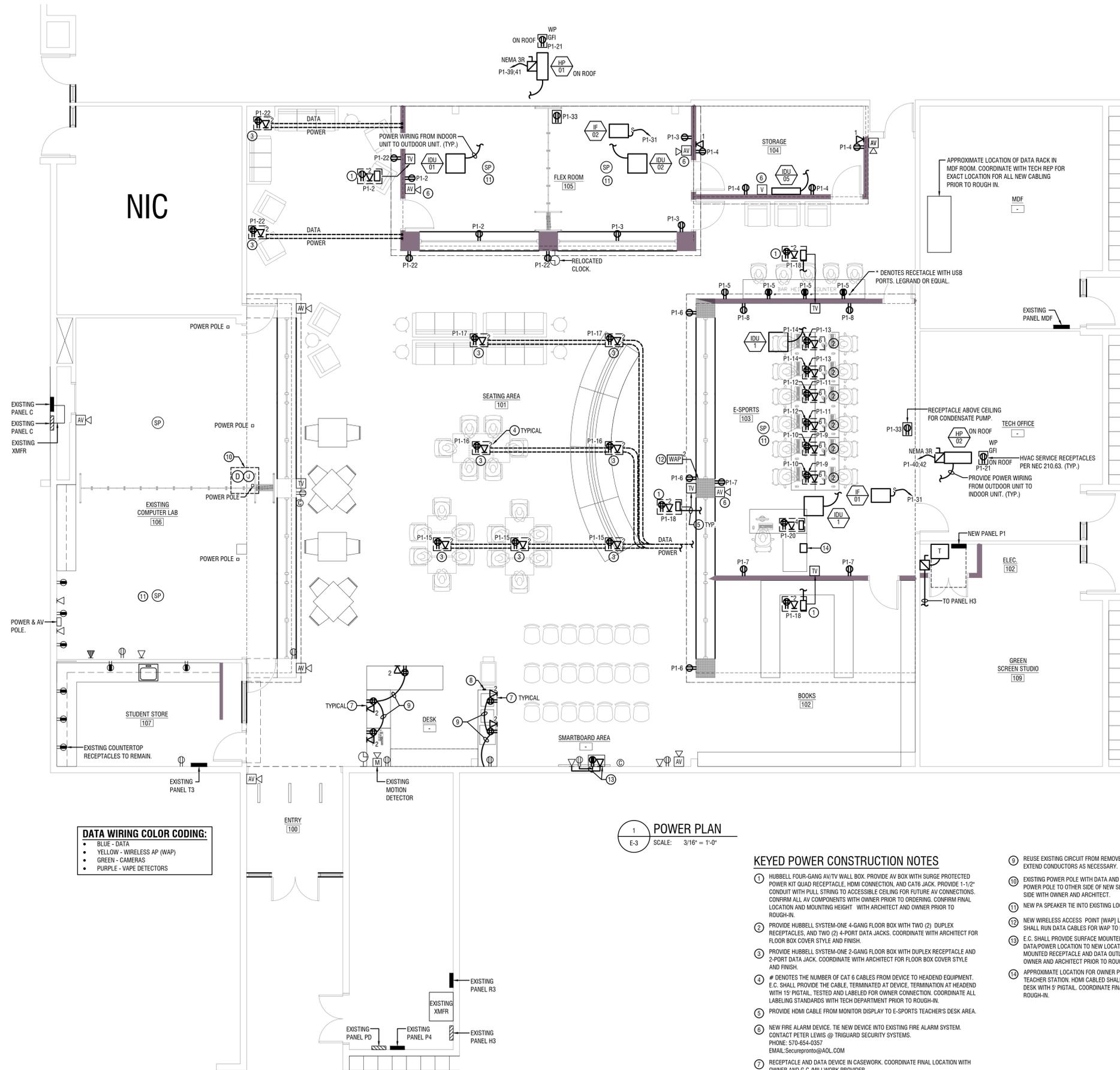
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E-2**



DATA WIRING COLOR CODING:

- BLUE - DATA
- YELLOW - WIRELESS AP (WAP)
- GREEN - CAMERAS
- PURPLE - VAPE DETECTORS

1 POWER PLAN
E-3 SCALE: 3/16" = 1'-0"

KEYED POWER CONSTRUCTION NOTES

- HUBBELL FOUR-GANG AV/TV WALL BOX. PROVIDE AV BOX WITH SURGE PROTECTED POWER KIT QUAD RECEPTACLE, HDMI CONNECTION, AND CAT6 JACK. PROVIDE 1-1/2" CONDUIT WITH PULL STRING TO ACCESSIBLE CEILING FOR FUTURE AV CONNECTIONS. CONFIRM ALL AV COMPONENTS WITH OWNER PRIOR TO ORDERING. CONFIRM FINAL LOCATION AND MOUNTING HEIGHT WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
- PROVIDE HUBBELL SYSTEM-ONE 4-GANG FLOOR BOX WITH TWO (2) DUPLEX RECEPTACLES, AND TWO (2) 4-PORT DATA JACKS. COORDINATE WITH ARCHITECT FOR FLOOR BOX COVER STYLE AND FINISH.
- PROVIDE HUBBELL SYSTEM-ONE 2-GANG FLOOR BOX WITH DUPLEX RECEPTACLE AND 2-PORT DATA JACK. COORDINATE WITH ARCHITECT FOR FLOOR BOX COVER STYLE AND FINISH.
- # DENOTES THE NUMBER OF CAT 6 CABLES FROM DEVICE TO HEADEND EQUIPMENT. E.C. SHALL PROVIDE THE CABLE, TERMINATED AT DEVICE, TERMINATION AT HEADEND WITH 15' PIGTAIL, TESTED AND LABELED FOR OWNER CONNECTION. COORDINATE ALL LABELING STANDARDS WITH TECH DEPARTMENT PRIOR TO ROUGH-IN.
- PROVIDE HDMI CABLE FROM MONITOR DISPLAY TO E-SPORTS TEACHER'S DESK AREA.
- NEW FIRE ALARM DEVICE. TIE NEW DEVICE INTO EXISTING FIRE ALARM SYSTEM. CONTACT PETER LEWIS @ TRIGUARD SECURITY SYSTEMS. PHONE: 570-654-0357 EMAIL: Securephotos@AOL.COM
- RECEPTACLE AND DATA DEVICE IN CASEWORK. COORDINATE FINAL LOCATION WITH OWNER AND G.C./MILLWORK PROVIDER.
- E.C. SHALL PROVIDE PASS-THRU GROMMET FOR PRINTER POWER AND DATA CABLES. COORDINATE WITH OWNER AND MILLWORK PROVIDER FOR FINAL LOCATION.
- REUSE EXISTING CIRCUIT FROM REMOVED DEVICES. PROVIDE JUNCTION BOX AND EXTEND CONDUCTORS AS NECESSARY.
- EXISTING POWER POLE WITH DATA AND POWER. E.C. SHALL INCLUDE IN BID TO MOVE POWER POLE TO OTHER SIDE OF NEW SLIDING DIVIDING WALL. COORDINATE FINAL SIDE WITH OWNER AND ARCHITECT.
- NEW PA SPEAKER TIE INTO EXISTING LOOP.
- NEW WIRELESS ACCESS POINT (WAP) LOCATION. OWNER TO PROVIDE WAP. E.C. SHALL RUN DATA CABLES FOR WAP TO HEADEND.
- E.C. SHALL PROVIDE SURFACE MOUNTED POWER AND DATA RACEWAY FROM EXISTING DATA/POWER LOCATION TO NEW LOCATION FOR SMARTBOARD. PROVIDE SURFACE MOUNTED RECEPTACLE AND DATA OUTLET. COORDINATE FINAL LOCATION WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
- APPROXIMATE LOCATION FOR OWNER PROVIDED E-SPORTS VIDEO EQUIPMENT IN TEACHER STATION. HDMI CABLED SHALL BE RAN FROM MONITOR LOCATIONS TO DESK WITH 5' PIGTAIL. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

Client: **HIGH SCHOOL LIBRARY RENOVATION**
Client: Riverside School District
300 Davis St.
Taylor, Pa 18517

Consultants:

design management group
consulting engineers
architects
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Revisions | Issues

No. Date:

Phase: **BID**

Project: Highschool Library Renovation
Date: 06/27/2022
Drawn: DP Checked: KS
Scale: AS NOTED
Sheet: POWER PLAN

EXISTING PANELBOARD SCHEDULE																
DESIGNATION:	H3			MAINS:	600A			VOLTAGE:	480/277V-3Ø-4W			LOCATION:	SEE FLOOR PLAN			
TYPE:	SQUARE D OR EQUAL			O.C. DEVICE:	M.L.O.			MIN. AIC RATING:	42,000			SUPPLY:	SWITCHBOARD			
LOAD:				LOAD:				LOAD:				LOAD:				
CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	C	GND	WIRE	TRIP	POLE	CKT	
3	3	20	E	E	E	EX AIR HANDLER (AHU-1)				E	E	E	20	3	4	
7	/	/	/	/	/					/	/	/	/	/	8	
9	3	20	E	E	E	EX BLOWER COIL (BC-3)				E	E	E	20	3	10	
11	/	/	/	/	/					/	/	/	/	/	12	
13	/	/	/	/	/					/	/	/	/	/	14	
15	3	20	E	E	E	EX BLOWER COIL (BC-5)				E	E	E	20	3	16	
17	/	/	/	/	/					/	/	/	/	/	18	
19	1	20	E	E	E	EX LOBBY LIGHTS								20	1	20
21	1	20	OFF			OFF								20	1	22
23	1	20	OFF			OFF								20	1	24
25	/	/	/	/	/					/	/	/	/	/	26	
27	3	90	*	*	*	NEW PANEL P1 VIA XMFR	4.0Ø	4.6Ø	3.9Ø	E	E	E	400	3	28	
29	/	/	/	/	/					/	/	/	/	/	30	
TOTAL/PHASE							4.0Ø	4.6Ø	3.9Ø							

CONNECTED LOAD	12.72	(KVA)
DEMAND LOAD @ 0.80	10.18	(KVA)
DEMAND	12.24	(A)

* SEE ONE-LINE DIAGRAM

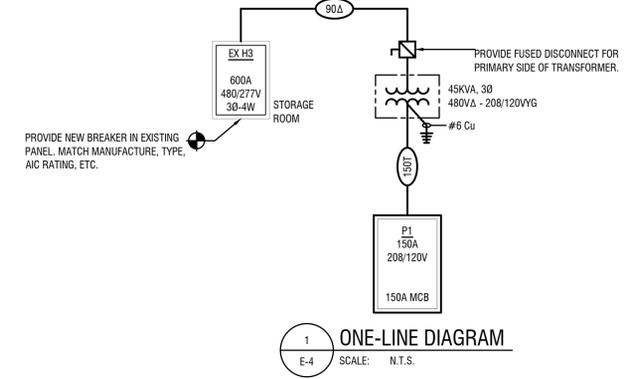
BREAKERS, WIRING, LOADS, ETC. SHOWN IN BOLD ARE NEW.

NEW PANELBOARD SCHEDULE																	
DESIGNATION:	P1			MAINS:	150A			VOLTAGE:	208/120V-3Ø-4W			LOCATION:	SEE FLOOR PLAN				
TYPE:	SQUARE D OR EQUAL			O.C. DEVICE:	150A M.C.B.			MIN. AIC RATING:	22,000			SUPPLY:	PANEL H3 VIA XMFR				
LOAD:				LOAD:				LOAD:				LOAD:					
CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	C	GND	WIRE	TRIP	POLE	CKT		
1	1	20	12	12	**	LIGHTING	1.00	0.54					12	12	1	2	
3	1	20	12	12	**	RECEPTACLES		0.72	0.72				12	12	20	1	4
5	1	20	12	12	**	COUNTERTOP RECEPTACLES			0.72	0.54			12	12	20	1	6
7	1	20	12	12	**	RECEPTACLES	0.54	0.36					12	12	20	1	8
9	1	20	12	12	**	FLOOR RECEPT		0.72	0.72				12	12	20	1	10
11	1	20	12	12	**	FLOOR RECEPT			0.72	0.72			12	12	20	1	12
13	1	20	12	12	**	FLOOR RECEPT	0.72	0.72					12	12	20	1	14
15	1	20	12	12	**	FLOOR RECEPT		0.72	0.72				12	12	20	1	16
17	1	20	12	12	**	FLOOR RECEPT			0.72	0.54			12	12	20	1	18
19	1	20	12	12	**	RECEPTACLES	0.90	0.36					12	12	20	1	20
21	1	20	12	12	**	ROOF RECEPT		0.36	1.26				12	12	20	1	22
23	1	20				SPARE							20	1	24		
25	1	20				SPARE							20	1	26		
27	1	20				SPARE							20	1	28		
29	1	20				SPARE							20	1	30		
31	1	20	12	12	**	IF-01 & IF-02	1.20						20	1	32		
33	1	20	12	12	**	CONDENSATE PUMPS		0.36					20	1	34		
35	2	30				SPARE							20	2	36		
37	/	/	/	/	/					/	/	/	/	/	38		
39	2	25	10	10	3/4"	HP-1		2.00	2.00				3/4"	10	25	2	40
41	/	/	/	/	/					/	/	/	/	/	42		
TOTAL/PHASE							6.34	10.30	7.96								

CONNECTED LOAD	24.60	(KVA)
DEMAND LOAD @ 0.80	19.68	(KVA)
DEMAND	54.63	(A)

* SEE ONE-LINE DIAGRAM

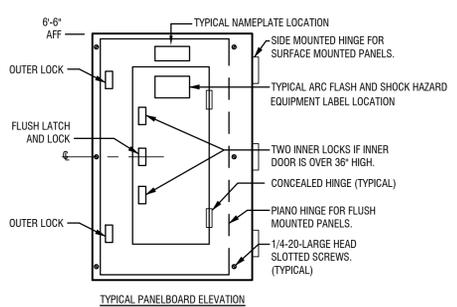
** CONDUCTORS SHALL BE IN EMT CONDUIT WHERE SUBJECT TO PHYSICAL DAMAGE. METAL CLAD (MC) CAN BE USED IN CONCEALED PLACES AND NOT SUBJECT TO PHYSICAL DAMAGE.



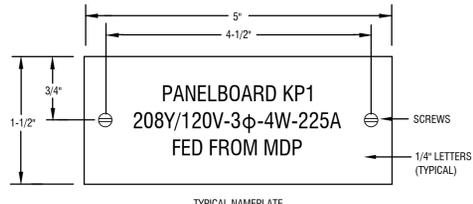
FEEDER SCHEDULE						
TAG	RUNS	CONDUCTOR	INSULATION	GROUND	CONDUIT	REMARKS
150T	1 SET	(4) 1/0 AWG	COPPER THHN/THWN-2	#6 AWG	2"	
90A	1 SET	(3) #3 AWG	COPPER THHN/THWN-2	#8 AWG	1-1/2"	

NOTES:

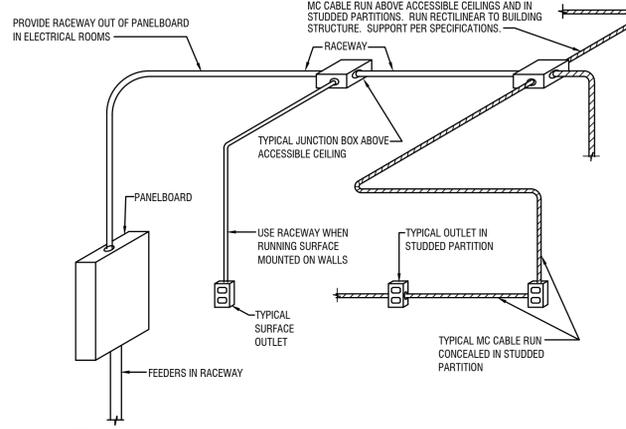
- FOR ALL TRANSFORMERS NOT IN PLAIN SITE OR 50 FEET OF THE PANEL FEEDING THE TRANSFORMER, THE PRIMARY DISCONNECTING MEANS SHALL BE LOCKABLE AND ITS LOCATION SHALL BE FIELD MARKED ON THE TRANSFORMER.
- PROVIDE SECONDARY OVERCURRENT PROTECTION SUCH THAT THERE IS NO MORE THAN 10 FEET OF CONDUCTOR LENGTH BETWEEN TRANSFORMER AND OVERCURRENT DEVICE TERMINALS.
- PROVIDE SUPPLY SIDE BONDING JUMPERS IN ACCORDANCE WITH 70:250.102.



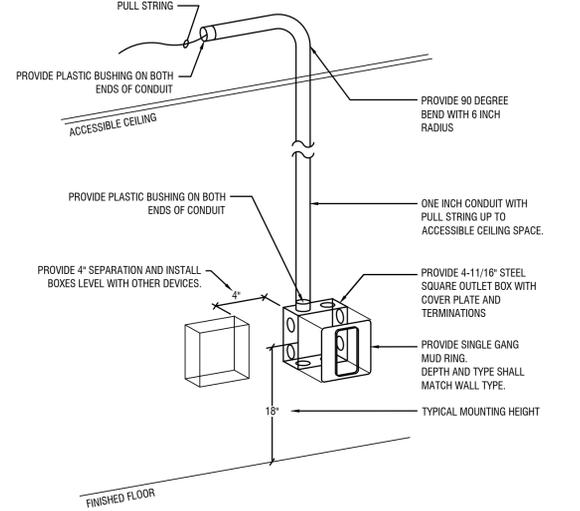
- NOTES:
- ALL BOLTS SHALL HAVE LARGE (3/8") ROUND HEAD. NO WASHERS ALLOWED.
 - PROVIDE UNISTRUT MOUNTING ARRANGEMENT DICTATED BY FIELD CONDITIONS. SECURELY FASTEN ALL SUPPORT POINTS INTO THE SLAB, WALL OR BEAM.
 - PROVIDE ARC FLASH AND SHOCK HAZARD EQUIPMENT LABELS PER THE LATEST REVISION OF NFPA 70E.



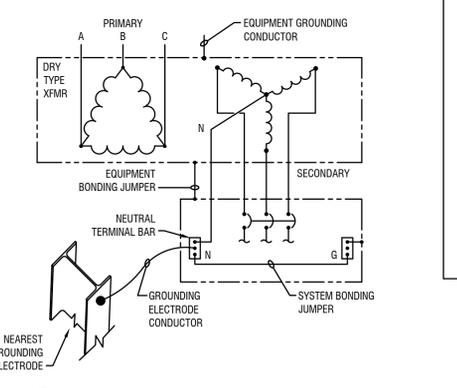
- NOTES:
- LABEL ALL PANELBOARDS, TRANSFER SWITCHES, TRANSFORMERS, CONTROL PANELS, DISCONNECTS, ETC. GREATER THAN 60A, AND MINI SUBSTATIONS.
 - REFER TO SPECIFICATIONS FOR ADDITIONAL LABELING REQUIREMENTS.
 - NAMEPLATE TO BE 1/16" THICK BLACK BAKELITE PLASTIC WITH WHITE RECESSED ENGRAVED LETTERS.
 - SECURE NAMEPLATE TO SURFACES WITH (2) FLAT HEAD BRASS SCREWS. ADHESIVE CEMENT SHALL NOT BE ALLOWED.
 - NAMEPLATE INFORMATION SHALL INCLUDE NAME, VOLTAGE, AMPERAGE AND EQUIPMENT FED FROM.



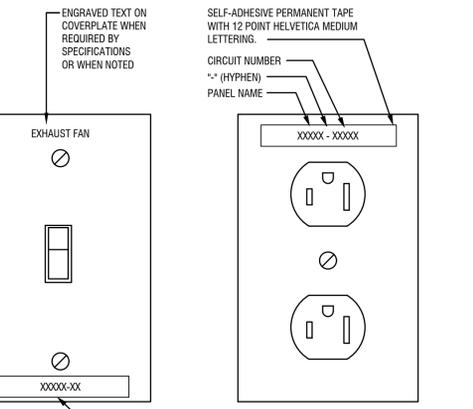
- NOTES:
- THIS DETAIL IS MEANT AS A BRIEF SUMMARY OF WIRING METHODS. SEE ONE-LINE DIAGRAM AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.
 - ALL CONDUIT SHALL BE CONCEALED ABOVE CEILINGS OR IN WALLS AND FLOORS, U.O.N.
 - BRANCH CIRCUITS SERVING UNFINISHED AREAS SHALL BE ALLOWED TO BE SURFACE-MOUNTED IN RACEWAY.



4 TYPICAL TELE/DATA BOX INSTALLATION DETAIL
SCALE: N.T.S.

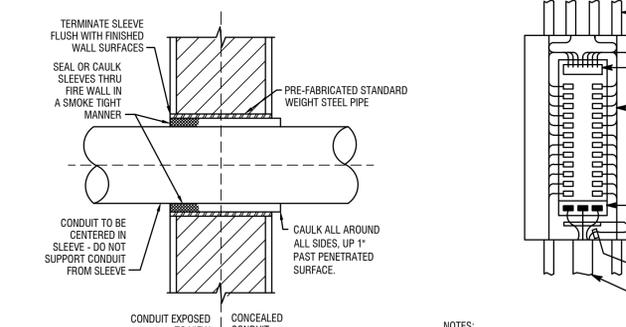


5 TRANSFORMER GROUNDING DETAIL
SCALE: NONE



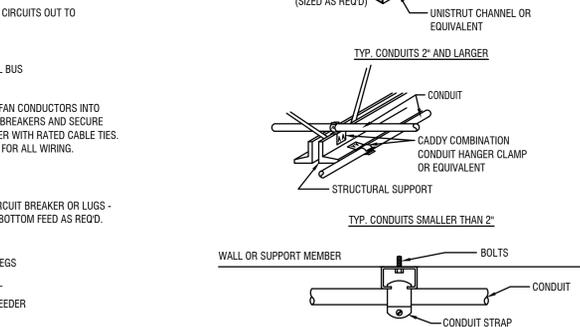
- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL LABELING INFORMATION AND COLORS OF LABELS FOR DIFFERENT SYSTEMS.
 - MODIFY TEXT AS REQUIRED.
 - LABEL DEVICES IN SURFACE METAL RACEWAYS, POWER POLES, FLOOR BOXES, CONCEALED MULTI-SERVICE POWER BOXES, ETC. SIMILARLY.

6 DEVICE CIRCUIT LABELING DETAIL
SCALE: N.T.S.



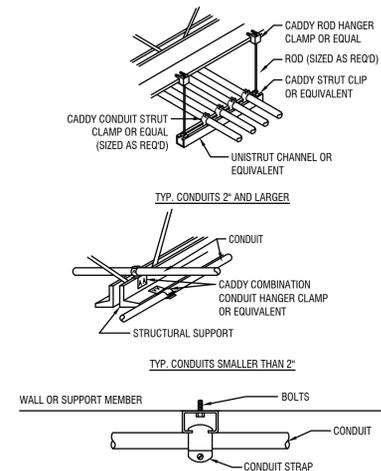
- NOTES:
- PROVIDE FIRESTOPPING AT ALL PENETRATIONS THROUGH RATED ASSEMBLIES IN A SMOKE-TIGHT MANNER AND TO MAINTAIN A UL 319 CLOSURE. FIRE RETARDING MATERIAL TO MAINTAIN RATING TO THAT OF SURFACE BEING PENETRATED.
 - PROVIDE PRE-FABRICATED, STANDARD WEIGHT, STEEL PIPE SLEEVES. CONDUIT TO BE CENTERED IN SLEEVE. DO NOT SUPPORT CONDUIT FROM SLEEVE.
 - IN UNFINISHED AREAS, CAULK ALL AROUND ALL SIDES, UP 1" PAST PENETRATED SURFACE.
 - IN FINISHED AREAS, TERMINATE SLEEVE AND SEALANT FLUSH WITH WALL SURFACE.

7 RATED PENETRATION DETAIL
SCALE: N.T.S.



- NOTES:
- ALL WIRE AND CONDUIT SHALL BE CONCEALED IN WALLS, CEILING PLENUMS, BULKHEADS AND IN ROOF STRUCTURAL AREAS, U.O.N. THE E.C. SHALL COORDINATE FULLY WITH ALL OTHER TRADES TO INSTALL ALL CONDUIT AND WIRING IN THESE ASSOCIATED STRUCTURES. ANY OTHER MEANS OF PATHWAY SUGGESTED MUST FIRST BE APPROVED FROM THE ELECTRICAL ENGINEER BEFORE INSTALLATION CAN PROCEED.
 - ALL RACEWAYS AND MC CABLE SHALL BE RECTILINEAR TO BUILDING STRUCTURE AND SUPPORTED PER SPECIFICATIONS.
 - PROVIDE ARC FLASH STUDY AND CORRESPONDING ARC FLASH AND SHOCK HAZARD EQUIPMENT LABELS PER THE LATEST REVISIONS OF IEEE 1584 AND NFPA 70E.

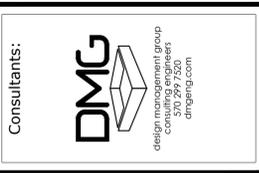
8 TYP. PANEL WIRING DETAIL
SCALE: N.T.S.



- NOTES:
- THESE ARE TYPICAL ARRANGEMENTS. PROVIDE HANGERS, SUPPORTS, UNISTRUT MOUNTING, ETC. DICTATED BY FIELD CONDITIONS. SECURELY FASTEN ALL SUPPORT POINTS INTO THE SLAB, WALL, OR BEAM.
 - PROVIDE CLEVIS HANGERS FOR ALL SINGLE CONDUIT RUNS 2" AND LARGER.
 - ALL SUPPORT SPACING SHALL BE IN COMPLIANCE WITH NEC REQUIREMENTS.

9 HANGER AND SUPPORT DETAIL
SCALE: N.T.S.

Client: **HIGH SCHOOL LIBRARY RENOVATION**
Client: Riverside School District
300 Davis St.
Taylor, Pa 18517



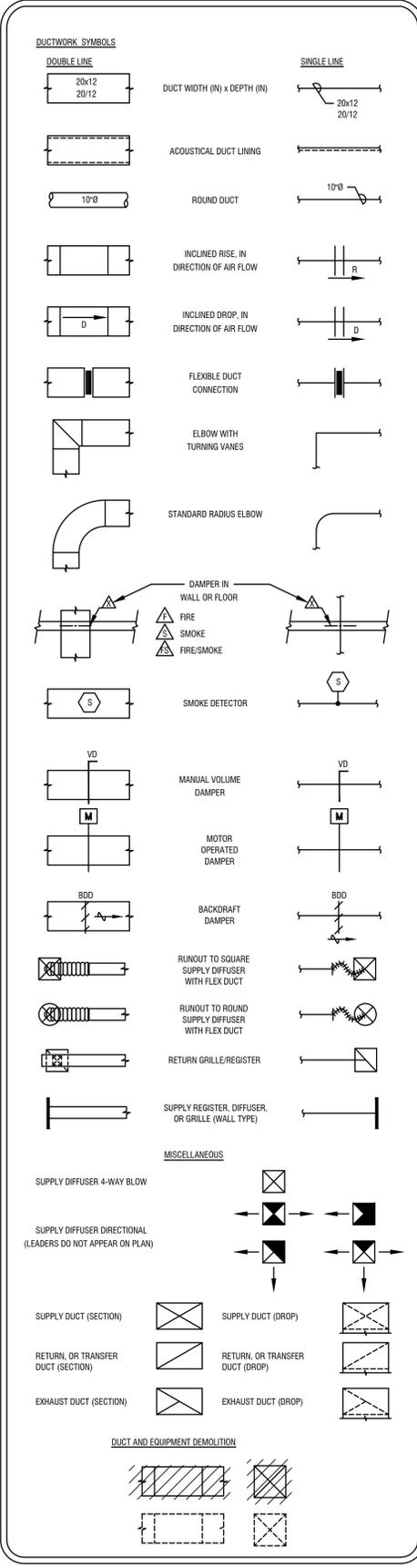
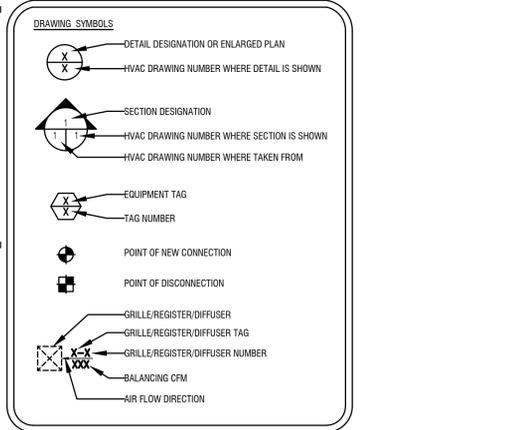
Revisions Issues	
No.	Date:

Phase: **BID**

Project: Highschool Library Renovation
Date: 06/27/2022
Drawn: DP Checked: KS
Scale: AS NOTED
Sheet: **E-4**

ELECTRICAL ONE-LINE, PANELBOARDS & DETAILS

MECHANICAL ABBREVIATIONS	
AC	ALTERNATING CURRENT
ACC	AIR COOLED CONDENSER
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AF	AIR FAN
AFB	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ARCH	ARCHITECTURE
ATC	AUTOMATIC TEMPERATURE CONTROL
ATM	ATMOSPHERE
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
B	BOILER
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOS	BOTTOM OF STEEL
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
CAV	CONSTANT AIR VOLUME
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
C&I	CONTROLS & INSTRUMENTATION
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CORR	CORRIDOR
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONTROL VALVE
CU FT	CUBIC FEET
CVS	CONTROL VALVE STATION
D	DIFFUSER OR REGISTER
dB	DECIBEL RE 10 WATT
DBT	DRY BULB TEMPERATURE (°F)
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE FAHRENHEIT (°F)
DIA	DIAMETER
DM	DIMENSION
DN	DOWN
DP	DEW POINT TEMPERATURE (°F)
DX	DIRECT EXPANSION
DWG	DRAWING
E	EXHAUST
EAT	ENTERING AIR TEMPERATURE (°F)
EC	ELECTRICAL CONTRACTOR
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEV	ELEVATION
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE (°F)
F	FILTER
FA	FACE AREA
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FLR	FLOOR
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FR	FINNED RADIATION
FT	FEET
FVEL	FACE VELOCITY
F&T	FLOAT AND THERMOSTATIC
GA	GAUGE OR GAGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GH	GRAVITY HOOD
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HCA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HR	HOUR
HUJ	HEATING & VENTILATING UNIT
HWT	HOT WATER SUPPLY TEMPERATURE
HX	HEAT EXCHANGER
IB	INVERTED BUCKET TRAP
IFB	INTEGRAL FACE & BYPASS
IN	INCH
IPS	IRON PIPE SIZE
KW	KILOWATTS
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE (°F)
LESF	LEAKS
LD	LINEAR DIFFUSER
LF	LINEAR FEET
LWT	LEAVING WATER TEMPERATURE (°F)
MOD	MOTOR OPERATED DAMPER
MOU	MAKEUP AIR UNIT
MAX	MAXIMUM
MB	MIXING BOX
MBH	1000 BTUH
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MMBH	1,000,000 BTUH
NA	NOT APPLICABLE
NC	NOISE CRITERIA, dB RE 20 µPa
NC	NORMALLY CLOSED
NC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OAD	OUTSIDE AIR DAMPER
OBD	OPPOSED BLADE DAMPER
OZ	OUNCE
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE
PHC	PREHEAT COIL
PROP	PROPELLER
PSI	POUNDS PER SQUARE INCH
PSIG	PSI, GAUGE
P+F	PITCH AND FLOW
QTY	QUANTITY
R	REGISTER
RA	RETURN AIR
RC	ROOM CRITERIA, dB RE 20 µPa
RF	RETURN/RELIEF AIR FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT
RPM	REVOLUTIONS PER MINUTE
S	SMOKE DETECTOR
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SENS	SENSIBLE
SF	SQUARE FEET
SP	STATIC PRESSURE (IN. WG.)
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
SV	SOLENOID VALVE
T	THERMOSTAT
TEMP	TEMPERATURE (°F)
TOO	TOP OF DUCT
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
T&D	TRANSFER DUCT
TYP	TYPICAL
UC	UNDERCUT
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UV	UNIT VENTILATOR
UVL	ULTRA VIOLET LIGHT
V	VALVE, VOLT
VA	VOLT-AMPERE
VD	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VV	VAV WITH FAN
VOL	VOLUME
W	WATT
WB	WET BULB TEMPERATURE (°F)
WC	WATER COLUMN
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

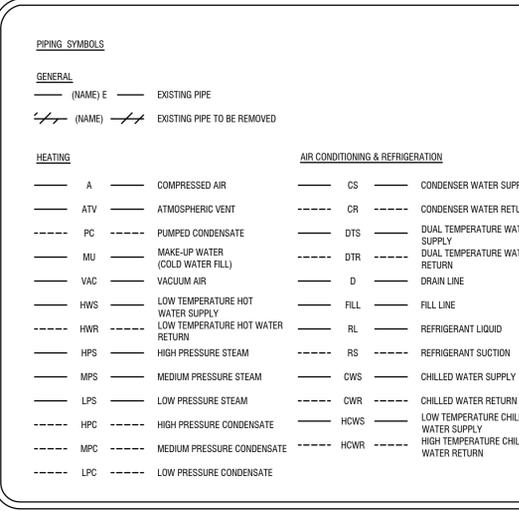


- GENERAL PIPING NOTES:**
- INSTALL PIPING TO ALLOW ACCESS VALVES, AIR VENTS, EQUIPMENT REQUIRING ACCESS, AND TO PROVIDE MAXIMUM HEADROOM.
 - PROVIDE OFFSETS TO MAINTAIN CEILING HEIGHT AND TO COORDINATE WITH OTHER TRADES.
 - INSTALL VALVES IN HORIZONTAL PIPING WITH VALVE STEMS AT OR ABOVE THE PIPE CENTERLINE.
 - ARRANGE PIPING FOR VENTING OF AIR AND DRAINAGE OF THE ENTIRE SYSTEM.
 - INSTALL CONDENSATE DRAIN PIPING PITCHED AT 1/8" PER FOOT IN DIRECTION OF FLOW.
- GENERAL DUCTWORK NOTES:**
- CHANGES IN SHAPE OR DIMENSION SHALL BE MADE WITH MAXIMUM TRANSITION OF 1 TO 7.
 - SEPARATE GALVANIZED SHEET METAL FROM ALUMINUM OR COPPER WITH LEAD OR FELT GASKETS.
 - PROVIDE SUPPLEMENTAL STIFFENING AND SUPPORT TO DUCTS AND APPARATUS CASINGS TO PREVENT DRUMMING, SAGGING, AND TO PROVIDE A STRUCTURALLY SOUND ASSEMBLY.
 - INSTALL DUCT FROM SHOWER EXHAUST GRILLES GRADING DOWN TO EXHAUST GRILLE, WITHOUT DIPS OR TRAPS.
 - PROVIDE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER WORK.
 - PROVIDE DUCTWORK AND TRANSITIONS TO CONNECT DUCTWORK TO EQUIPMENT AND COILS.
 - INSTALL FLEXIBLE DUCTWORK IN A FULLY EXTENDED CONDITION WITHOUT SAGS OR KINKS.
 - INSTALL DUCT MOUNTED SMOKE DETECTORS IN ACCESSIBLE LOCATIONS.
 - UNLESS NOTED OTHERWISE, PROVIDE 1" THICK DUCT LINING FOR A MINIMUM OF 10 FEET OF DUCTWORK FROM THE SUPPLY AIR DISCHARGE AND RETURN AIR INLET OF AIR HANDLING UNITS, ENERGY RECOVERY UNITS, AND BLOWER COILS. FOR ALL LINED DUCTWORK, DIMENSIONS INDICATED ON DRAWINGS SHALL BE INSIDE CLEAR DIMENSIONS MEASURED FROM FACE-OF-LINER TO FACE-OF-LINER. LINING IS NOT REQUIRED FOR TOILET EXHAUST FANS. ROOF MOUNTED DUCTS ARE TO BE LINED AS DESCRIBED ABOVE AND ARE TO BE INSULATED WITH 2" THICK RIGID INSULATION AND WRAPPED WITH EPDM MATERIAL, SAME COLOR AS ROOF.
 - INSTALL DUCTS CONVEYING GREASE LADEN AIR AT A PITCH OF 1/4" PER FOOT OPPOSITE THE DIRECTION OF FLOW

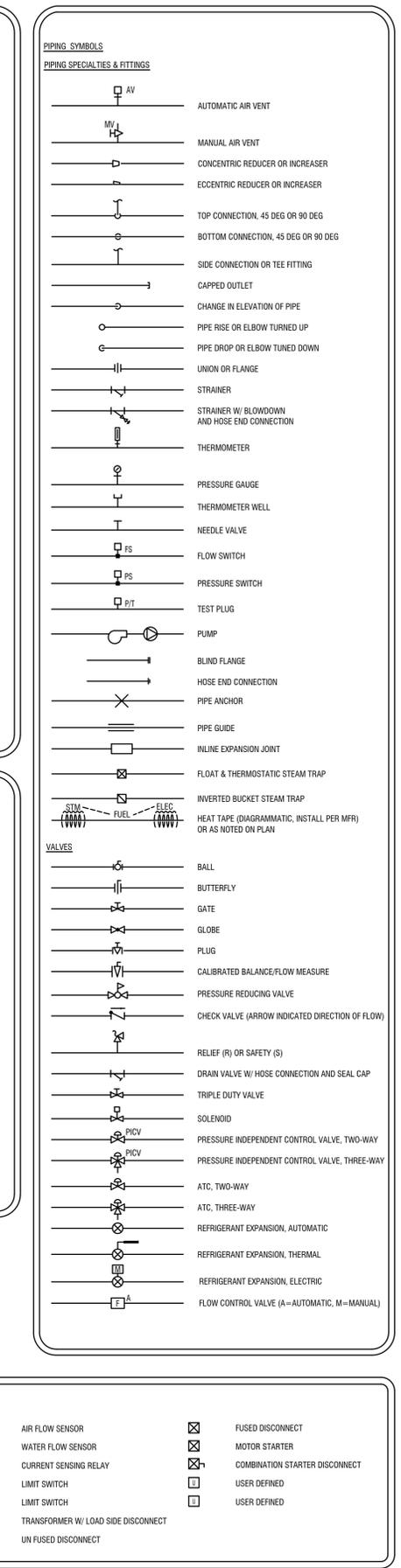
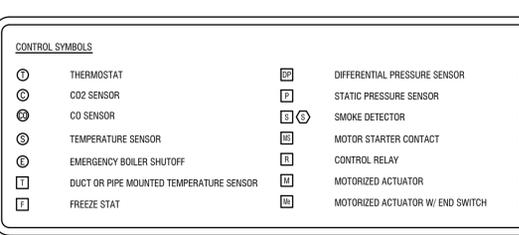
- GENERAL AUTOMATIC TEMPERATURE CONTROL NOTES:**
- TRANSFORMERS OR FILTERS FOR OPERATION OF AUTOMATIC TEMPERATURE CONTROLS FROM BUILDING POWER CIRCUITS SHALL BE PROVIDED UNDER DIVISION 23.
 - WIRING LOWER THAN 110 VOLTS FOR INTERLOCKED DEVICES, DDC CONTROLLERS, TERMINAL CONTROL UNITS, FLOW MEASURING DEVICES, AND OTHER POWER CONSUMING CONTROL DEVICES SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 23. WIRING 110 VOLTS AND HIGHER FOR INTERLOCKED DEVICES, DDC CONTROLLERS, TERMINAL CONTROL UNITS, FLOW MEASURING DEVICES, AND OTHER POWER CONSUMING CONTROL DEVICES SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 26.
 - BRANCH CIRCUIT WIRING AND CONDUIT FOR CONTROL EQUIPMENT POWER SHALL BE SEPARATE FROM OTHER POWER WIRING. EACH CIRCUIT SHALL EXTEND TO A 120V BRANCH CIRCUIT PANEL, AND IDENTIFIED 20V, 20 AMPERE, SINGLE POLE BRANCH CIRCUIT BREAKER FURNISHED IN THE PANEL TO SERVE THE CIRCUIT. NO MORE THAN 2 DDC CONTROLLER INSTALLATIONS SHALL OPERATE FROM A SINGLE 120V BRANCH CIRCUIT, UNLESS INDICATED OTHERWISE.
 - WHERE SYSTEMS ARE SERVED BY EMERGENCY POWER, CONTROLS FOR OPERATION OF THOSE SYSTEMS SHALL ALSO BE SERVED BY EMERGENCY POWER.
 - WHERE DAMPERS PREVENT AIRFLOW THROUGH AN AIR HANDLING UNIT OR FAN, THOSE DAMPERS SHALL BE PROVIDED OPEN PRIOR TO STARTING THE UNIT OR FAN. PROOF SHALL BE BY MECHANICAL SAFETY LIMIT SWITCH ACTIVATED BY THE DAMPER BLADE. FOR SERVICE WITH VARIABLE FREQUENCY DRIVES THE SWITCH SHALL BE WIRED IN THE AUTOMATIC AND HAND/TEST POSITIONS AND IN THE BYPASS POSITION FOR VARIABLE FREQUENCY DRIVES WITH BYPASS.
 - ALL LOW VOLTAGE WIRING AND AIR PIPING OR TUBING SHALL BE PLENUM RATED. MECHANICAL CONTRACTOR SHALL FURNISH ALL LOW VOLTAGE WIRING, AIR PIPING, AND TUBING REQUIRED FOR AUTOMATIC TEMPERATURE CONTROLS SYSTEMS. LOW VOLTAGE WIRING IS ALL WIRE OPERATING AT A VOLTAGE LOWER THAN 110 VOLTS.
 - ALL TEMPERATURE CONTROL SHALL HAVE A 5 DEGREE DEAD-BAND WITH OVERLAP RESTRICTIONS. EQUIPMENT SHALL BE PROVIDED WITH AT LEAST ONE MEANS OF EMERGENCY SHUT DOWN. SET BACK CONTROL SHALL ALLOW FOR AUTOMATIC RESTART AS WELL AS TEMPORARY OPERATION AS REQUIRED BY MAINTENANCE.

- ADDITIONAL MECHANICAL REQUIREMENTS:**
- DRAWINGS ARE SCHEMATIC IN NATURE INTENDED TO EXEMPLIFY CODE COMPLIANCE FOR THE PURPOSE OF OBTAINING A CONSTRUCTION PERMIT. THE CONTRACTOR SHALL ASSURE THE PROPER INSTALLATION AND OPERATION OF ALL ASSOCIATED SYSTEMS.
 - THE INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES.
 - PROVIDE R-S (INSTALLED VALUE) DUCTWORK INSULATION WITH VAPOR BARRIER IN INTERIOR SPACES. INSTALL PER THE MANUFACTURERS WRITTEN INSTRUCTIONS. INSULATION SHALL BE PROVIDED ON RETURN AIR SYSTEMS WHERE THE DUCTWORK IS NOT LOCATED WITHIN CONDITIONED SPACES. WHERE DUCTWORK IS INSTALLED OUTSIDE, PROVIDE R-8 BOARD WITH WEATHER PROOF JACKET. MATERIALS SHALL BE COMPLIANCE WITH ALL APPLICABLE ASTM TESTS AS WELL AS NFPA 90A AND 90B.
 - DUCTWORK SHALL BE GALVANIZED SHEET STEEL IN THE GAUGE AS REQUIRED PER THE LATEST VERSION OF SMACNA GUIDELINES.
 - PROVIDE SUPPLEMENTAL STIFFENING AND SUPPORTS TO DUCTS AND APPARATUS CASINGS TO PREVENT DRUMMING, SAGGING AND TO PROVIDE A STRUCTURALLY SOUND ASSEMBLY.
 - PROVIDE ALL DUCTWORK FITTINGS INCLUDING BUT NOT LIMITED TO TEES, TAPS, ELBOWS, VOLUME DAMPERS ETC IN ACCORDANCE WITH THE LATEST VERSION OF SMACNA GUIDELINES.
 - COORDINATE ELECTRICAL POWER REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. PROVIDE MEANS OF DISCONNECT FOR EQUIPMENT AS REQUIRED.
 - THE CONTRACTOR SHALL ADJUST DUCTWORK AND EQUIPMENT LAYOUT IN FIELD AS REQUIRED TO FACILITATE A NEAT AND HIGH QUALITY INSTALLATION.
 - PROVIDE CONTROL WIRING AND DEVICES IN COMPLIANCE WITH THE CURRENTLY ADOPTED VERSION OF THE NATIONAL ELECTRIC CODE.
 - DO NOT INSTALL SERVICEABLE EQUIPMENT WITHIN 10' OF ROOF EDGES
 - DO NOT INSTALL AIR INTAKES WITHIN 10' OF EXHAUST TERMINALS OR PLUMBING VENTS
 - FURNISH IOM MANUALS AND AS-BUILT DRAWINGS WITH 90 DAYS OF COMPLETION OF WORK
 - ALL EXPOSED DUCTWORK SHALL BE DOUBLE WALLED OR INTERNALLY LINED TO PREVENT THE FORMATION OF CONDENSATION.
 - ALL REFRIGERATION PIPING SHALL BE ACR TYPE COPPER TUBE WITH BRAZED FITTINGS. SIZED IN ACCORDANCE WITH ASSOCIATED EQUIPMENT MANUFACTURERS WRITTEN INSTRUCTIONS. INSULATE ALL REFRIGERANT PIPING WITH 1" FLEXIBLE ELASTOMERIC LINER. PROVIDE INSULATION MANUFACTURERS WEATHER-PROOF MASTIC FOR ALL OUTDOOR INSTALLATIONS.

- GENERAL MECHANICAL NOTES:**
- CODES AND STANDARDS LISTED IN SPECIFICATIONS AND DRAWINGS ARE MINIMUM STANDARDS. WHERE REQUIREMENTS ON THE DRAWINGS OR SPECIFICATIONS EXCEED THE MINIMUM CODE REQUIREMENTS, THE DRAWINGS OR SPECIFICATIONS SHALL GOVERN.
 - THE POWER RATING OF MOTORS AND OTHER MECHANICAL EQUIPMENT AND THE ELECTRICAL CHARACTERISTICS OF ELECTRICAL SYSTEMS SERVING THEM HAVE BEEN ESTABLISHED AS MINIMUMS WHICH ALLOW THAT EQUIPMENT TO FUNCTION PROPERLY TO PRODUCE THE REQUIRED CAPACITIES. POWER RATINGS INCLUDE REASONABLE SAFETY FACTORS TO ACCOMMODATE COMMON DIFFERENCES BETWEEN DESIGN PARAMETERS AND FIELD CONSTRUCTION PRACTICES. EQUIPMENT WITH POWER RATINGS LESS THAN THOSE INDICATED ON THE DRAWINGS SHALL NOT BE PERMITTED.
 - REASONABLE EFFORTS HAVE BEEN MADE TO COORDINATE ELECTRICAL REQUIREMENTS OF MECHANICAL EQUIPMENT WITH THE ELECTRICAL SYSTEMS SERVING THAT EQUIPMENT. DIFFERENCES AMONG MANUFACTURERS OF MECHANICAL EQUIPMENT MAKE IT IMPOSSIBLE TO PRODUCE A SINGLE ELECTRICAL DESIGN WHICH WILL SATISFY THE VARYING ELECTRICAL REQUIREMENTS OF THE THOSE MANUFACTURERS. CONSEQUENTLY, THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS OF THE MECHANICAL EQUIPMENT ACTUALLY FURNISHED ON THIS PROJECT WITH THE ELECTRICAL SYSTEMS ACTUALLY FURNISHED ON THIS PROJECT AND PROVIDE ELECTRICAL SYSTEMS REQUIRED BY THAT EQUIPMENT. THIS COORDINATION EFFORT SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF EITHER THE MECHANICAL EQUIPMENT OR THE ELECTRICAL SYSTEMS SERVING THAT EQUIPMENT. ELECTRICAL SYSTEM REVISIONS REQUIRED TO COORDINATE WITH THE MECHANICAL EQUIPMENT ACTUALLY FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
 - DRAWINGS INDICATE GENERAL LOCATIONS OF FIXTURES, APPARATUS, EQUIPMENT, PIPING, AND DUCTWORK. CHANGES ON LOCATION SHALL BE MADE TO ACCOMMODATE EXISTING OR NEW BUILDING CONDITIONS AND COORDINATION WITH OTHER TRADES, INCLUDING HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, AND ARCHITECTURAL, SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
 - THOROUGHLY CLEAN/FLUSH EXISTING AND NEW HYDROVIC PIPING SYSTEMS WITH CLEAN WATER. AFTERWARDS, REMOVE AND CLEAN OR REPLACE STRAINER SCREENS.
 - ALL HVAC SYSTEMS SHALL BE TESTED AND BALANCED ACCORDING TO NEBB AND SMACNA STANDARDS. PROVIDE REPORT UPON COMPLETION.
 - PROVIDE ACCESS TO EQUIPMENT AND PORTIONS OF BUILDING SYSTEMS REQUIRING SERVICE.
 - DO NOT INSTALL DUCTWORK, PIPING, OR EQUIPMENT IN ELECTRICAL ROOMS, ELEVATOR ROOMS, OR ELEVATOR SHAFTS, UNLESS EXPLICITLY INDICATED ON THE DRAWINGS. PIPING, DUCTWORK, AND EQUIPMENT (SWITCHGEAR, SWITCHBOARDS, PANELS, MOTOR CONTROL CENTERS, VARIABLE FREQUENCY DRIVES, TRANSFORMERS, OR STARTERS) SHALL NOT BE INSTALLED DIRECTLY ABOVE OR 42" IN FRONT OF ELECTRICAL EQUIPMENT FROM THE FLOOR TO THE STRUCTURE ABOVE.
 - PROVIDE START UP AND COMMISSIONING OF ALL EQUIPMENT PROVIDED IN COMPLIANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS. PROVIDE START UP AND WARRANTY PAPERWORK AT THE COMPLETION OF WORK. WORK SHALL BE COMPLETED BY THE MANUFACTURER OR A MANUFACTURERS CERTIFIED FIRM OR TECHNICIAN. CONFIRM CALIBRATION OF ALL SENSORS AND ADJUST AS REQUIRED.
 - UNLESS INDICATED OTHERWISE, EQUIPMENT AND MATERIALS SHALL BE NEW AND OF THE CUSTOMARY STANDARD AND QUALITY FURNISHED BY THE DESIGNATED MANUFACTURER FOR THAT CATALOG NUMBER.
 - AIR SYSTEMS SHALL OPERATE WITHOUT AERODYNAMIC NOISE GENERATED FROM FAULTY INSTALLATION OF DUCTWORK, DIFFUSERS, OR ANY PORTION OF THE AIR DISTRIBUTION SYSTEM.
 - SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT. HANGER RODS SHALL BE SUSPENDED FROM THE STRUCTURE. DO NOT SUSPEND FROM OTHER PIPING, CONDUIT, EQUIPMENT, OR DUCTWORK.
 - ALL WORK REFERENCED UNDER DIVISION 23 SHALL BE DONE BY THE MECHANICAL CONTRACTOR.
 - DRAWINGS INDICATE DESIGN INTENT. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL INSTALLATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN OTHER TRADES TO ASSURE THE PROPER INSTALLATION OF ALL EQUIPMENT.
 - ALL PIPING, DUCTWORK, INSULATION, CONDUITS, SUPPORTS AND HVAC EQUIPMENT EXPOSED TO VIEW SHALL BE PAINTED. COLOR SHALL BE SELECTED BY ARCHITECT.
 - WHERE DUCTWORK IS EXPOSED DUCT SEAMS SHALL BE MINIMIZED AND SHALL BE OF HIGH QUALITY WORKMANSHIP. ALL DUCTWORK SHALL BE CONSTRUCTED AND SEALED IN ACCORDANCE WITH SMACNA STANDARDS.
 - ALL MATERIALS EXPOSED WITHIN THE PLENUM SHALL BE NON COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E-84.



- ALL INSTALLATIONS AND MATERIALS SHALL MEET THE FOLLOWING:**
- INTERNATIONAL BUILDING CODE, 2015
 - INTERNATIONAL FIRE CODE, 2015
 - INTERNATIONAL ENERGY CONSERVATION CODE, 2015
 - INTERNATIONAL MECHANICAL CODE, 2015
 - INTERNATIONAL FUEL GAS CODE, 2015
 - ALL FEDERAL, STATE AND LOCAL ORDINANCES



HIGH SCHOOL LIBRARY RENOVATION

Client: Riverside School District
300 Davis St.
Taylor, Pa 18517

Consultants: **DMG** design management group consulting engineers architects dmging.com

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Sheet: **M-1**

MECHANICAL COVER SHEET



1 EXISTING MECHANICAL PLAN
M-2 SCALE: 3/16" = 1'-0"

- KEYED NOTES:**
- 1** EXISTING SUPPLY AIR DIFFUSER IN HIGH CEILING TO REMAIN.
 - 2** EXISTING GRILLE TO REMAIN.
 - 3** EXISTING AIR HANDLER AND ALL ASSOCIATED DUCTWORK, DIFFUSERS, CONTROLS, ETC. TO REMAIN.

Client: **HIGH SCHOOL LIBRARY RENOVATION**
 Client: Riverside School District
 300 Davis St.
 Taylor, Pa 18517

Consultants:

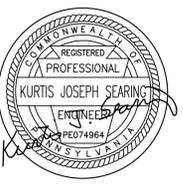


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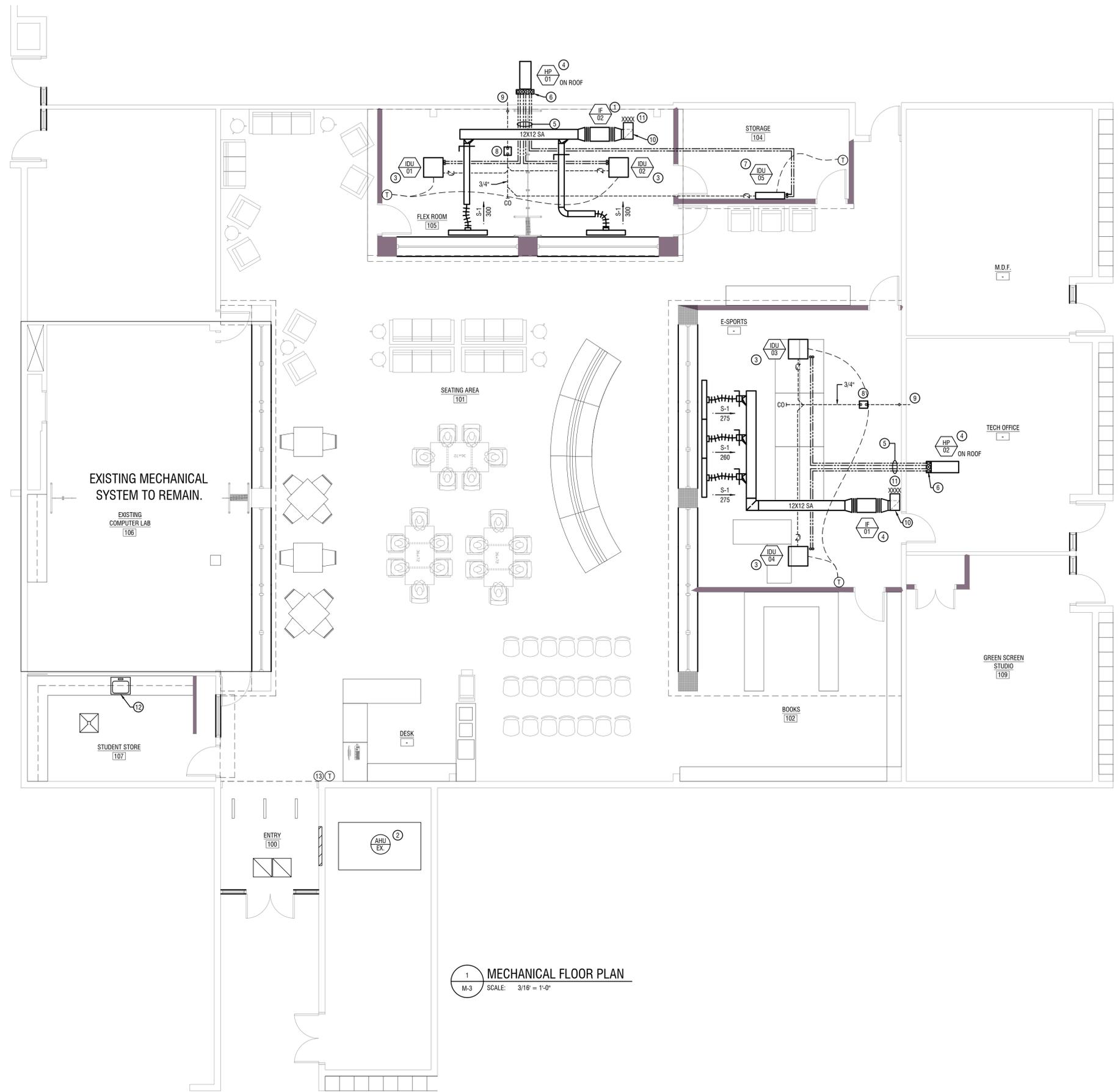
EXISTING MECHANICAL PLAN
M-2

KEYED CONSTRUCTION NOTES

- 1 IN-LINE EXHAUST FAN HUNG ABOVE ROOM CEILING LEVEL. FAN SHALL BE USED TO CIRCULATE VENTILATION AIR PROVIDED BY EXISTING AIR HANDLER. FAN SHALL ENERGIZE WITH THE AIR HANDLER. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. SEE SCHEDULE AND DETAILS FOR MORE INFORMATION.
- 2 EXISTING AIR HANDLER AND ALL ASSOCIATED DUCTWORK, DIFFUSERS, CONTROLS, ETC. TO REMAIN.
- 3 CEILING MOUNTED 2X2 VRF CASSETTE UNIT. PROVIDE ALL NECESSARY HARDWARE AND INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. SEE EQUIPMENT SCHEDULE FOR MORE INFORMATION. WIRE TO THERMOSTAT SHOWN. COORDINATE FINAL LOCATION OF THERMOSTAT WITH ARCHITECT AND OWNER PRIOR TO CONSTRUCTION. BALANCE OUTSIDE AIR INTAKE TO CFM VALUE SHOWN.
- 4 VRF OUTDOOR UNIT MOUNTED ON ROOF. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE BASE RAILS AND ALL REQUIRED MOUNTING HARDWARE. SEE SCHEDULE FOR MORE INFORMATION.
- 5 SIZE AND INSTALL REFRIGERANT LINESETS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 6 REFRIGERANT LINESETS UP THROUGH ROOF TO CONDENSING UNIT ABOVE. SEAL PENETRATIONS WEATHER TIGHT. SEE DETAIL FOR MORE INFORMATION.
- 7 WALL MOUNTED VRF INDOOR UNIT. WIRE TO THERMOSTAT AS SHOWN. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE CONDENSATE PUMP AND ROUTE PIPING AS SHOWN. DISCHARGE ONTO ROOF. SEE SCHEDULE FOR MORE INFORMATION.
- 8 PROVIDE LITTLE GIANT VCMX CONDENSATE PUMP. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE ALL NECESSARY CONTROLS, CONTROL WIRING, PIPING, ETC. FOR A FUNCTIONING CONDENSATE DISPOSAL SYSTEM. COORDINATE REQUIREMENTS WITH EC.
- 9 CONDENSATE PIPING OUT TO DISCHARGE ON LOW ROOF. SEAL PENETRATION WEATHER TIGHT.
- 10 INTAKE DUCT DOWN TO INTAKE FAN ABOVE CEILING. PROVIDE VANED ELBOWS FOR NOISE REDUCTION.
- 11 TERMINATE DUCT WITH WIRE MESH SCREEN.
- 12 EXISTING KITCHEN SINK TO REMAIN.
- 13 RELOCATE EXISTING THERMOSTAT TO NEW LOCATION SHOWN. COORDINATE FINAL LOCATION WITH ARCHITECT AND BUILDING OWNER PRIOR TO CONSTRUCTION.

GENERAL NOTES

1. ALL EXISTING SUPPLY AND RETURN DIFFUSERS AND GRILLES SERVED BY EXISTING AIR HANDLER NOT SHOWN FOR CLARITY. SEE M-2 FOR MORE INFORMATION.
2. CLEAN ALL EXISTING DUCTWORK AND SUPPLY AND RETURN REGISTERS.



1 MECHANICAL FLOOR PLAN
M-3 SCALE: 3/16" = 1'-0"

Client: **HIGH SCHOOL LIBRARY RENOVATION**
Client: Riverside School District
300 Davis St.
Taylor, Pa 18517

Consultants:
DMG
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MECHANICAL PLAN
M-3

MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF INDOOR UNIT SCHEDULE

System Tag	Room Name	Tag Reference	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F) / (Water in temp)	Heating Design Entering Temp DB/WB (°F) / (Water in temp)	Corrected Capacity			Estimated Cooling Coil LAT (°F) / (LWT)	Estimated Heating Coil LAT (°F) / (LWT)	Refrig Pipe Dim Liquid/Suction (inch)	Fan Speed Setting	Peak Fan Airflow (cfm) / (Design gpm G(US)/min)	Max Fan ESP Setting 208V/230V (IN WG)	Voltage / Phase	Power Cooling 208V/230V (kW)	Power Heating 208V/230V (kW)	Electrical MCA/MFS	Condensate Removal Rate (gal/hr)	Notes / Options
									Cooling Diversity Full/Partial (See Note 5, 6)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)												
System 1	FLEX	IDU-01	NTXCKS09A112AA	Ceiling-Cassette (Four-Way)	8,300.0	9,400.0	80.0/67.0	70.0	FULL DEMAND	8,120.0	7,516.4	FULL DEMAND	3,882.4	58.0	81.1	1/4 / 3/8	HIGH	335	208/230V/1-phase		Powered by Outdoor	0.06	1, 2, 3, 4, 5, 6
System 1	FLEX	IDU-02	NTXCKS09A112AA	Ceiling-Cassette (Four-Way)	8,300.0	9,400.0	80.0/67.0	70.0	FULL DEMAND	8,120.0	7,516.4	FULL DEMAND	3,882.4	58.0	81.1	1/4 / 3/8	HIGH	335	208/230V/1-phase		Powered by Outdoor	0.06	1, 2, 3, 4, 5, 6
System 1	TECH	IDU-05	NTXNST06A112AA	Wall-Mounted	5,500.0	6,300.0	80.0/67.0	70.0	FULL DEMAND	5,380.7	5,380.7	FULL DEMAND	2,602.0	67.0	76.2	1/4 / 3/8	HIGH	406	208/230V/1-phase		Powered by Outdoor	0.68	1, 2, 3, 4, 5, 6
System 2	ESPORTS	IDU-03	NTXCKS12A112AA	Ceiling-Cassette (Four-Way)	10,900.0	12,000.0	80.0/67.0	70.0	FULL DEMAND	10,663.6	8,343.2	FULL DEMAND	4,956.2	55.6	84.2	1/4 / 3/8	HIGH	335	208/230V/1-phase		Powered by Outdoor	0.25	1, 2, 3, 4, 5, 6
System 2	ESPORTS	IDU-04	NTXCKS12A112AA	Ceiling-Cassette (Four-Way)	10,900.0	12,000.0	80.0/67.0	70.0	FULL DEMAND	10,663.6	8,343.2	FULL DEMAND	4,956.2	55.6	84.2	1/4 / 3/8	HIGH	335	208/230V/1-phase		Powered by Outdoor	0.25	1, 2, 3, 4, 5, 6

- Notes & Options:
- Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
 - Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
 - See outdoor unit schedule for outdoor ambient conditions, connected capacity, and other factors associated with corrected capacities
 - See schematic piping/control diagram for indication of required indoor unit remote controllers, system controllers, and integration devices.
 - Full demand corrected capacity includes de-rate associated with indoor vs. outdoor connected capacity indicated on outdoor unit schedule for associated system.
 - Partial corrected capacity assumes sufficient diversity exists such that the connected capacity de-rate does not apply.
 - It is recommended to always base heating corrected capacity on full demand.

MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF OUTDOOR UNIT SCHEDULE

System Tag	Tag Reference	M-NET Address	Model Number	Modules	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	Nom System Connected Capacity (% of NOM)	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Max Pipe Length from BC or 1st Joint (feet)	Refrig Pipe Dim High/Low Pressure (inch) (See Note 4)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module 208/230 or 460V				Notes / Options
															Voltage / Phase	MCA 208/230 or 460V	RFS	MOCP	
System 1	HP-01		NTXMMX24A132BA		22,000.0	25,000.0	12.4 [18]	100.0%	90.0	0.2	0.0	0 / 0	21,820.7	10,366.8	208/230V / 1-phase	22.1	25	25	1, 2, 3, 4, 5, 6, 7
System 2	HP-02		NTXMMX24A132BA		22,000.0	25,000.0	12.4 [18]	100.0%	90.0	0.2	0.0	0 / 0	21,327.2	9,912.5	208/230V / 1-phase	22.1	25	25	1, 2, 3, 4, 5, 6, 7

- Notes & Options:
- Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
 - Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
 - Efficiency values for IEER, EER, COP are based on AHRI 1230 test method for mixture of ducted & non-ducted indoor units.
 - For systems with multiple modules, refrigerant pipe dimensions indicate total system combined piping downstream of module twinning.
 - Added field charge listed is in addition to factory charge, this must be updated based upon final as-built piping layout.
 - Corrected capacities shown are based on lowest guaranteed outdoor temperature, temperatures below this are not guaranteed.
 - Provide unit with all accessories required for low ambient cooling.

Ventilation Calculations								
Room	Type	# People	Rp	Ra (CFM/SQ.FT.)	Room Area (SQ.FT.)	Required Ventilation Air	Assumed OA % from Ex. AH	Required Supply Air for Adequate Ventilation
ESPORTS	Computer Lab	13	10	0.12	600	202	25%	808
FLEX	Computer Lab	10	10	0.12	400	148	25%	592

FAN SCHEDULE													
MARK	AREA SERVED	BASE OF DESIGN		FAN TYPE	DRIVE	CFM	ESP	RPM	MOTOR HP OR WATTS	VOLTAGE	SONES	WEIGHT	NOTES
		MANUFACTURER	MODEL										
IF-01	SEE PLANS	GREENHECK	SG-100-VG	INLINE INTAKE	DIRECT	810	0.350	941	1/4 HP	115	5.50	34	1,2,3
IF-02	SEE PLANS	GREENHECK	SG-100-VG	INLINE INTAKE	DIRECT	600	0.350	772	1/4 HP	115	5.50	34	1,2,3

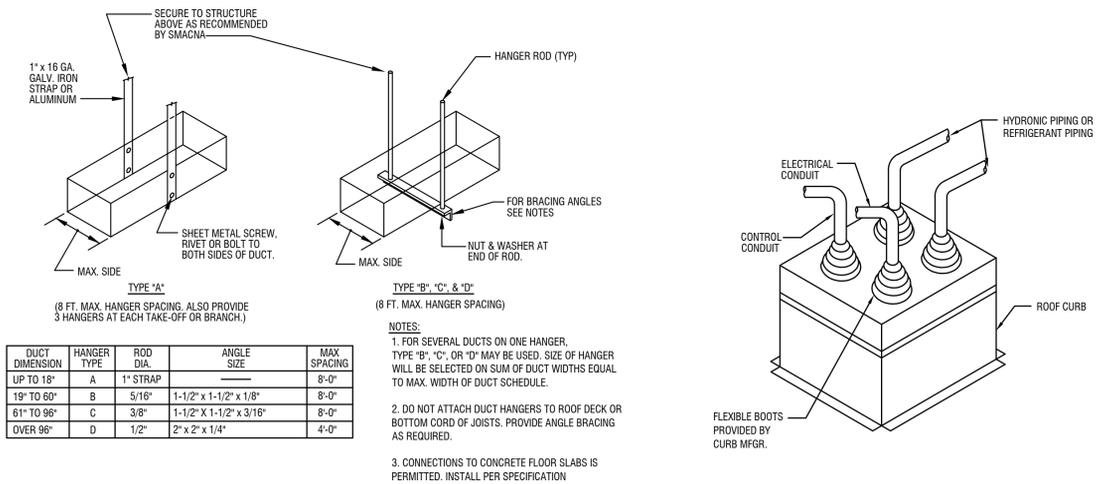
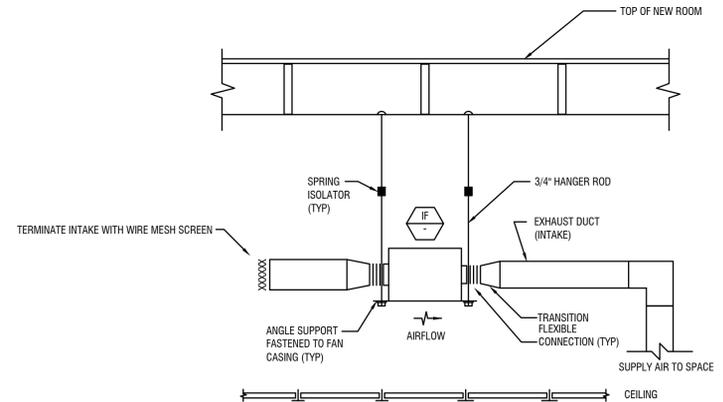
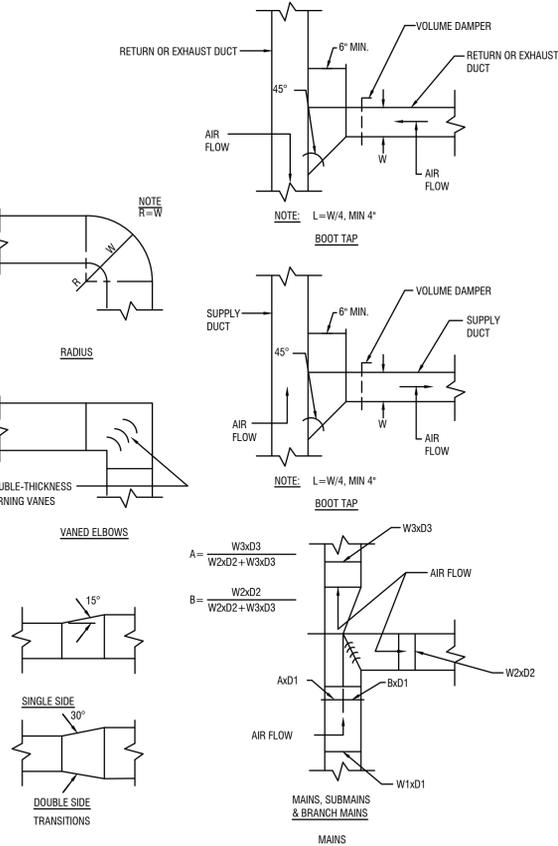
NOTES:

- INSTALL IN ACCORDANCE WITH MANUFACTURER WRITTEN INSTRUCTIONS. COORDINATE INSTALLATION WITH ALL TRADES.
- PROVIDE COMPLETE WITH SPRING HANGAR KIT, BACKDRAFT DAMPER, SPEED CONTROL DIAL AND START CONTACTS/RELAY, LOCAL DISCONNECT SWITCH, AND ROOF CAP.
- TI IN WITH EXISTING LIBRARY AIR HANDLER. FAN SHALL ENERGIZE WHILE LIBRARY IS OCCUPIED.

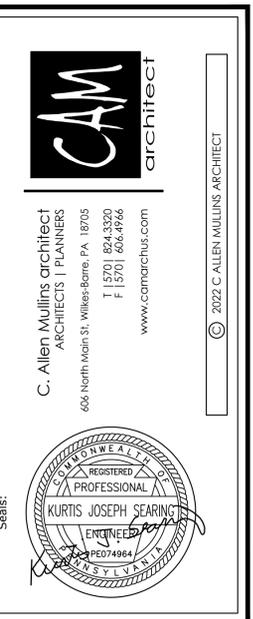
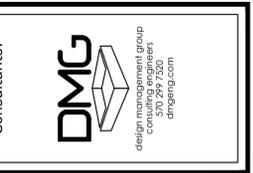
DIFFUSER, GRILLE, AND REGISTER SCHEDULE											
MARK	CFM	BASE OF DESIGN		TYPE	THROW 1100-1100-150 (FT)	NECK SIZE (IN)	MODULE SIZE (IN)	MAX. NC LEVEL	MAX. SP LEVEL	NOTES	
		PRICE	3 SLOT SDS100 W/ SDA PLENUM								
S-1	201-300			LINEAR SLOT DIFFUSER	10-13-18	7"Ø	48 X 6	25	0.1	1,2,3,4	

NOTES:

- INSTALL IN ACCORDANCE WITH MANUFACTURER WRITTEN INSTRUCTIONS. COORDINATE WITH ALL TRADES.
- PROVIDE WITH FACTORY INSTALLED OPPOSED BLADE DAMPER.
- COORDINATE MOUNTING HARDWARE WITH ARCHITECTURAL CEILING AND WALL FINISHES
- DUCT RUNNOUT SIZES SHALL MATCH DIFFUSER OR GRILLE CONNECTION DIMENSIONS UNLESS OTHERWISE NOTED.



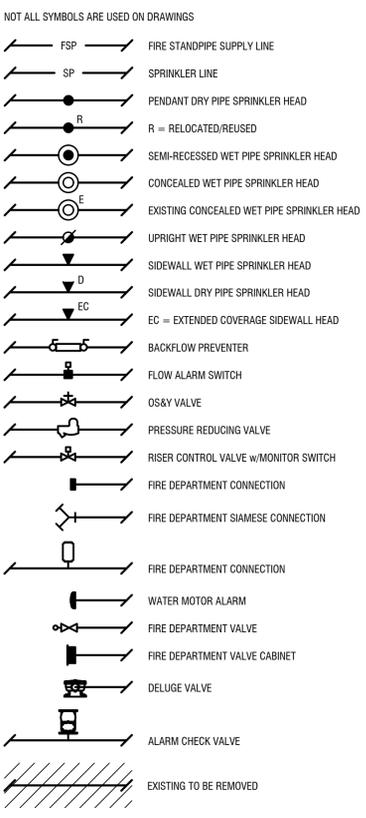
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MECHANICAL SCHEDULES AND DETAILS

FIRE PROTECTION LEGEND



GRAPHIC CONVENTIONS	
	EQUIPMENT TAG, TOP INDICATES EQUIPMENT DESIGNATION, BOTTOM INDICATES EQUIPMENT NUMBER
	PLAN CALLOUT, TOP INDICATES CALLOUT REFERENCE NUMBER, BOTTOM INDICATES SHEET NUMBER
	ELEVATION CALLOUT, TOP INDICATES CALLOUT REFERENCE NUMBER, BOTTOM INDICATES SHEET NUMBER
	SECTION CALLOUT, TOP INDICATES CALLOUT REFERENCE NUMBER, BOTTOM INDICATES SHEET NUMBER
	REVISION AREA
	REVISION TAG
	CONSTRUCTION KEYED NOTE TAG
	DEMOLITION KEYED NOTE TAG
	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	LIMIT OF DEMOLITION BETWEEN EXISTING TO REMAIN AND TO BE REMOVED

THE FIRE PROTECTION CONTRACTOR SHALL PERFORM AN ADDITIONAL FLOW TEST PRIOR TO START OF WORK

PRIOR TO STARTING WORK THE FIRE PROTECTION CONTRACTOR SHALL CONDUCT A NEW FLOW TEST AT A HYDRANT OF HIS CHOOSING NEAR THE SITE OR OBTAIN RECENT FLOW DATA FROM THE LOCAL WATER UTILITY COMPANY WITHIN 12 MONTHS PRIOR TO SUBMITTAL OF WORKING PLANS (IN ACCORDANCE WITH NFPA-13 SECTION 23.2.1.1). THE FLOW TEST RESULTS PROVIDED BY THE CONTRACTOR SHALL BE USED TO HYDRAULICALLY CALCULATE THE SYSTEM.

THE CONTRACTOR MAY ADJUST MAIN SIZE TO PROVIDE THE MOST ECONOMICALLY SIZED SYSTEM BASED ON THE FLOW TEST RESULTS. SIZE ALL OTHER PIPING ACCORDINGLY.

COORDINATION NOTE
THE HVAC, PLUMBING, AND ELECTRICAL CONTRACTORS SHALL BE AWARE THAT THE CEILING HEIGHTS, SOFFITS AND SPACE CONDITIONS ON THIS PROJECT ARE CRITICAL AND SPACE ALLOCATION MUST BE COORDINATED BETWEEN ALL TRADES AND MAINTAINED. EACH CONTRACTOR OR TRADE SHALL REFER TO THE STRUCTURAL AND ARCHITECTURAL DRAWINGS IN ADDITION TO THE HVAC, PLUMBING, AND ELECTRICAL DRAWINGS TO DETERMINE ACCEPTABLE LAYERING OF ALL EQUIPMENT.

SPRINKLER DESIGN CRITERIA AND NOTES

- ALL AREAS OF THE RENOVATION SHALL BE FULLY SPRINKLERED BY MODIFYING EXISTING HEAD LOCATIONS AND/OR ADDING HEADS AS NECESSARY.
- ALL FIRE PROTECTION WORK SHALL MEET THE REQUIREMENTS OF NFPA 13 AND ALL LOCAL ORDINANCES.
- SPRINKLER PROTECTION: TO DETERMINE SPACING, DENSITY, AND HOSE STREAM ALLOWANCE, APPLY THE FOLLOWING COVERAGE CLASSIFICATIONS.
 - LIGHT HAZARDS OCCUPANCIES: CLASSROOMS OFFICES, LOBBIES, WAITING ROOMS, TOILET ROOMS, CORRIDORS, AND CUSTOMARY ACCESS AREAS.
 - ORDINARY HAZARD GROUP 1 OCCUPANCIES: MECHANICAL EQUIPMENT ROOMS, TRANSFORMER ROOMS, ELECTRICAL ROOMS, ELECTRIC CLOSETS, ELEVATOR SHAFTS, ELEVATOR MACHINE ROOMS AND FILE STORAGE.
 - ORDINARY HAZARD GROUP 2 OCCUPANCIES: STORAGE ROOMS, TRASH ROOMS, CLEAN AND SOILED LINEN ROOMS STORAGE AREAS, CLEAN AND SOILED UTILITY ROOMS, JANITOR CLOSETS, BUILDING MANAGEMENT STORAGE, FILE STORAGE AREAS FOR THE ENTIRE AREA OF THE SPACE UP TO 140 SQUARE METERS (1500 SQUARE FEET).
- HYDRAULICALLY CALCULATED WET PIPE SYSTEMS: AUTOMATIC SPRINKLERS THROUGHOUT ENTIRE AREA(S) SHALL BE INSTALLED AS HYDRAULICALLY CALCULATED SYSTEMS TO PROVIDE THE MINIMUM REQUIRED DENSITY TO THE HYDRAULICALLY MOST REMOTE AREA BASED ON OCCUPANCY CLASSIFICATION. THE HEAD COVERAGE SHALL EXCEED NFPA-13 LIMITATIONS.
- HYDRAULICALLY CALCULATED WET SPRINKLER SYSTEMS SHALL INCLUDE AN INTERIOR AND EXTERIOR HOSE ALLOWANCE BASED ON OCCUPANCY CLASSIFICATION AS REQUIRED BY NFPA 13.
- COORDINATE ALL FIRE PROTECTION WORK WITH ARCHITECTURAL REFLECTED CEILING PLANS, HVAC DUCTWORK AND DIFFUSER LOCATIONS AND ELECTRICAL LIGHTING LOCATIONS. RELOCATE EXISTING PIPING SHOWN TO REMAIN AS NECESSARY.
- THE SPRINKLER TRADE SHALL COORDINATE SPRINKLER HEAD AND PIPING LAYOUT WITH LIGHTING, DIFFUSER AND DUCTWORK LAYOUTS. LIGHTING, DIFFUSERS AND DUCTWORK SHALL TAKE PRECEDENCE OVER THE SPRINKLER SYSTEM.
- SPRINKLER HEADS SHALL HAVE A 1/2" NOMINAL ORIFICE AND A TEMPERATURE RATINGS OF 165°F. SPRINKLER HEADS LOCATED NEAR HEAT PRODUCING EQUIPMENT IN AREAS SUBJECT TO HIGH TEMPERATURES, THE SPRINKLER HEADS SHALL HAVE A TEMPERATURE RATING OF 212°F. ALL SPRINKLER HEADS SHALL BE QUICK RESPONSE TYPE.
- SPRINKLERS SHALL BE PROVIDED IN THE FOLLOWING AREAS WHETHER OR NOT REQUIRED BY THE CODES:
 - MECHANICAL ROOM
 - CLOSET
 - VESTIBULES
 - STAIRWELLS - TOP, BOTTOM AND INTERMEDIATE LANDING AND IN ENCLOSED SPACES UNDER STAIRS AND UNDER WALKWAYS.
 - UNDER WIDE (48" AND WIDER) DUCTS AND AC EQUIPMENT.
 - ENCLOSED COMBUSTIBLE SPACES.
 - ALL LOCATIONS COVERED BY NFPA CODE 13, CHAPTER 4
 - ABOVE AND BELOW PLATFORMS FOR HVAC EQUIPMENT
 - ABOVE AND BELOW CEILING CLOUDS PER NFPA CODE (SEE ARCHITECTURAL CEILING PLAN FOR LOCATIONS)
- THE CONTRACTOR SHALL TEST THE ENTIRE SYSTEM(S) IN ACCORDANCE WITH NFPA-13, STATE AND LOCAL CODE REGULATIONS. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR A FINAL INSPECTION AND APPROVAL BY ALL REQUIRED GOVERNING AGENCIES. APPOINTMENTS MUST BE MADE IN ADVANCE FOR THESE INSPECTIONS. TEST REPORTS SHALL BE FURNISHED TO THE OWNER.
- ALL SPRINKLER HEADS SHALL BE LOCATED IN ACCORDANCE WITH THE SPRINKLER DESIGN CRITERIA NOTES ON THIS DRAWING AND NFPA.
- VERIFY ALL CEILING HEIGHTS PRIOR TO INSTALLATION OF SPRINKLER DROPS.
- SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED IN FIELD WITH ALL OTHER TRADES BEFORE INSTALLATION.
- THE ABOVE CEILING CONSTRUCTION IS CONGESTED, THIS CONTRACTOR SHALL CAREFULLY REVIEW ALL DRAWINGS TO COORDINATE ALL NECESSARY PIPE RUNS. MULTIPLE OFFSETS IN PIPING WILL BE NECESSARY TO ACCOMMODATE PIPE RUNS THROUGH CEILINGS AND TO AVOID CONFLICTS WITH ALL OTHER TRADES.
- NO PIPING SHALL BE RUN IN SPACES SUBJECT TO FREEZING. THIS CONTRACTOR MUST COORDINATE WITH THE G.C. AS TO LOCATION OF PIPE RUNS TO ENSURE ALL PIPING WILL BE PROTECTED AGAINST FREEZING.
- THIS CONTRACTOR SHALL COORDINATE WITH G.C. AND MAKE G.C. AWARE OF ALL NECESSARY CUTTING AND PATCHING. G.C. WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING.
- THESE DRAWINGS INDICATE THE SIZE AND GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. ANY DIMENSIONS NOT SHOWN SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS. FOR EXACT LOCATIONS, HEIGHT, DOOR SWINGS, MOUNTING HEIGHTS, ETC. REFER TO ARCHITECTURAL DRAWING AND DETAILS.
- PRIOR TO STARTING ANY WORK, PURCHASE OF EQUIPMENT, ETC. COORDINATE THE WORK WITH OTHER TRADES. CONFER WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION AND ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT OF OTHERS, WITH THE BUILDING CONSTRUCTION AND WITH ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. IN THE EVENT THERE IS A CONFLICT IN COORDINATION BETWEEN TRADES, THE OWNER WILL RESOLVE IT.
- BIDDERS, BEFORE SUBMITTING A PROPOSAL, SHALL VISIT AND EXAMINE CAREFULLY THE AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH THE DIFFICULTIES THAT WILL EFFECT THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH EXAMINATION BEEN MADE.
- SUBMIT SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ENGINEER FOR REVIEW AND COMMENTS BEFORE FABRICATION OF THE WORK IS STARTED.
- ALL PARTS OF THE WORK AND ASSOCIATED EQUIPMENT SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PERFECT OPERATING CONDITION.
- PROVIDE ALL LABOR AND MATERIALS NEEDED FOR A COMPLETE AND PROPERLY OPERATIONAL SYSTEM. THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED, DESIGNED AND INSTALLED BY THIS CONTRACTOR. THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS TO ALL AGENCIES HAVING JURISDICTION. NO WORK SHALL COMMENCE ON THE SYSTEM UNTIL THESE DOCUMENTS ARE FULLY APPROVED. SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN PENNSYLVANIA.
- THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF WORK TO BE PERFORMED; THE DRAWINGS ARE NOT INTENDED TO SHOW EXACT LOCATIONS OR TO SHOW EVERY PIPE, SPRINKLER HEADS, FITTING, VALVE OR APPURTENANCE REQUIRED FOR A COMPLETE INSTALLATION. IT IS THE INTENT OF THESE DOCUMENTS TO PROVIDE A COMPLETELY SPRINKLERED BUILDING IN ACCORDANCE WITH NFPA AND THE LOCAL JURISDICTION HAVING AUTHORITY. DO NOT SCALE LOCATION, DIMENSIONS, OR QUANTITY OF SPRINKLER HEADS FROM THESE DRAWINGS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR INCREASED QUANTITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS AND FOR COORDINATION OF HIS WORK WITH THAT OF OTHER TRADES. PERFORM WORK IN AN ORDERLY MANNER AND WITH THE LEAST POSSIBLE INTERFERENCE.
- SPRINKLER HEADS ARE TO BE LOCATED IN THE CENTER OF CEILING TILES, UNLESS SHOWN OTHERWISE. SPRINKLER HEADS LOCATED IN 2'-0"x2'-0" CEILING SHALL BE LOCATED IN THE CENTER OF THE 2'-0"x2'-0" AREA OF THE TILE.
- CONTRACTOR SHALL INSTALL ALL SPRINKLER PIPE AND FITTINGS SO THE SYSTEM CAN BE DRAINED.
- WORK SHALL CONFORM TO OR MEET THE REQUIREMENTS OF THE MOST CURRENT PENNSYLVANIA EDITION OF:
 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS; 2016 NFPA 13
 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEM; 2016 NFPA 14
 - STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION; 2016 NFPA 20
 - INTERNATIONAL BUILDING CODE; 2018 IBC
 - NATIONAL ELECTRIC CODE (NFPA 70); 2017 NEC
 - NATIONAL FIRE ALARM AND SIGNALING CODE; 2016 NFPA 72
 - ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES

TEST AND INSPECTION:

- THE CONTRACTOR SHALL TEST THE ENTIRE SYSTEM IN ACCORDANCE WITH NFPA STANDARDS AND REGULATIONS. CONTRACTOR SHALL COORDINATE ALL ARRANGEMENTS FOR A FINAL INSPECTION & APPROVAL BY THE AUTHORITY HAVING JURISDICTION. APPOINTMENTS MUST BE MADE IN ADVANCE FOR THESE INSPECTIONS. TEST REPORTS SHALL BE FURNISHED TO THE OWNER.
- PROVIDE INSTRUMENTS, EQUIPMENT: PAY EXPENSES INCURRED IN MAKING TESTS, OBTAIN APPROVALS & CERTIFICATES.
- THIS CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED TO HIS OWN OR OTHER CONTRACTORS' WORK AS A RESULT OF TESTS AND WILL BE CALLED UPON TO PAY FOR ALL REPAIRS WITHOUT ADDITIONAL COST TO OWNER.

Client: **HIGH SCHOOL LIBRARY RENOVATION**
 Client: Riverside School District
 300 Davis St.
 Taylor, Pa 18517

Consultants:

design management group
 consulting engineers
 dmging.com

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FIRE PROTECTION COVER SHEET

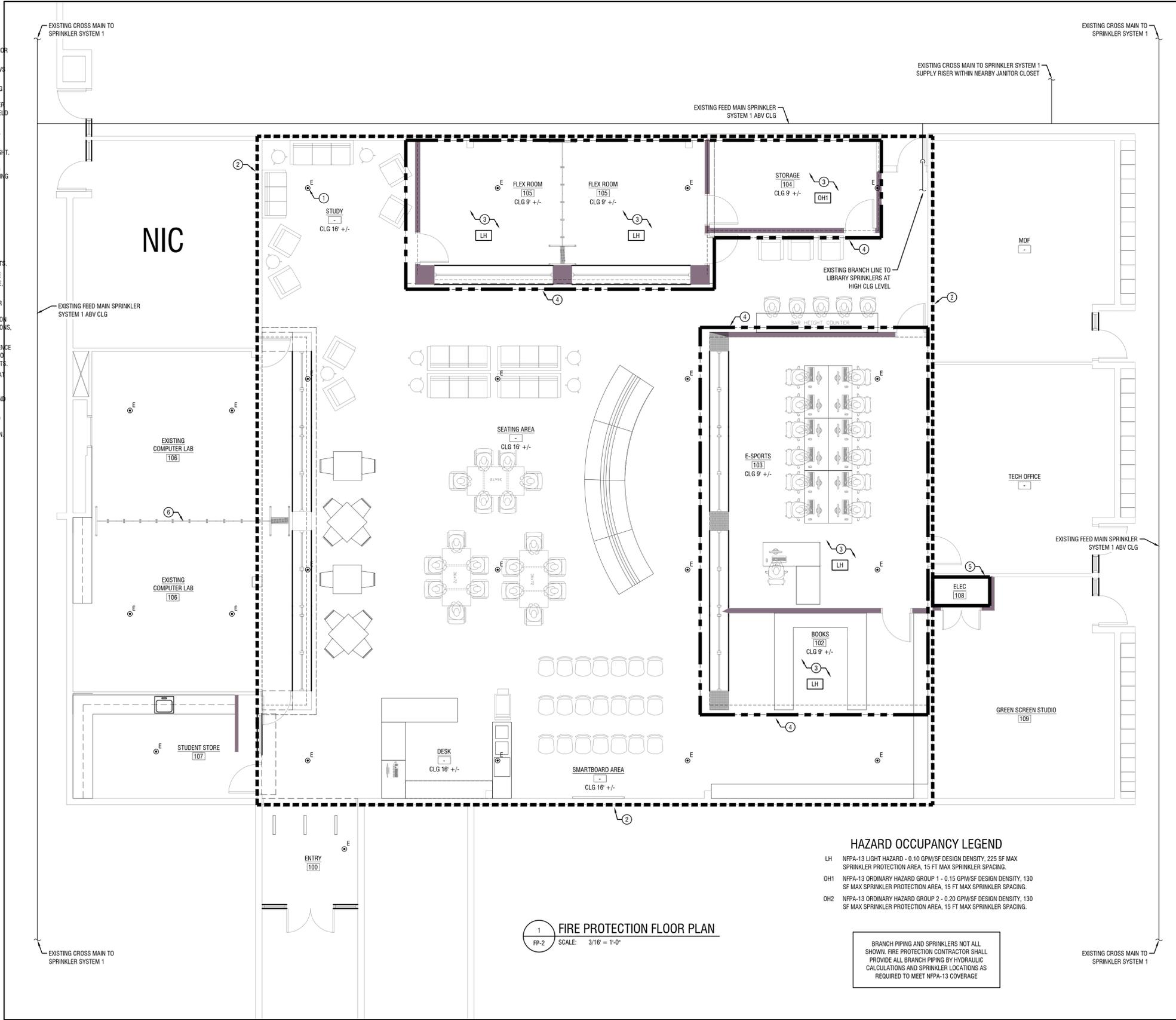
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KEYED CONSTRUCTION NOTES

- 1 APPROXIMATE LOCATION OF EXISTING SPRINKLER AT CEILING LEVEL (TYPICAL). CONTRACTOR SHALL FIELD VERIFY ALL EXISTING LOCATIONS AND SPRINKLER TYPES PRIOR TO CONSTRUCTION.
- 2 OUTLINE OF LIBRARY AREA WITH HIGH CEILING (APPRX 16') WITH CLEAR STORY WINDOWS NEAR ROOF LEVEL. REFER TO ARCHITECTURAL PLANS FOR MORE INFORMATION.
- 3 NEW ROOMS WITH LOW CEILINGS (APPX 8') ADDED TO LIBRARY AREA WITH HIGH CEILING LEVEL. EXISTING SPRINKLER HEADS AT HIGH CEILING LEVEL TO REMAIN. CONTRACTOR SHALL PROVIDE NEW SPRINKLERS AT LOW CEILING LEVELS FOR NEW ROOMS. SPRINKLER BRANCH PIPING TO BE CONNECTED TO NEAREST ADEQUATELY SIZED BRANCH PIPING. FIELD VERIFY BEST POSSIBLE POINT OF NEW CONNECTION.
- 4 OUTLINE OF NEW ROOMS TO BE ADDED WITHIN LIBRARY AREA WITH LOW CEILING LEVEL (APPX 8'). REFER TO ARCHITECTURAL PLANS FOR MORE INFORMATION.
- 5 PROVIDE NEW SPRINKLER COVERAGE WITHIN NEW ELECTRICAL CLOSET AT CEILING HEIGHT.
- 6 NEW MOVEABLE PARTITION INSTALLED WITHIN EXISTING ROOMS. FIELD VERIFY EXISTING SPRINKLER HEAD LOCATIONS IN RELATION TO NEW WALL AND ROOM SIZE. ADJUST CEILING SPRINKLER COVERAGE IF NECESSARY AS REQUIRED BY NFPA-13.

GENERAL NOTES

1. SPRINKLER HEAD LOCATIONS TO BE DETERMINED BY HYDRAULIC CALCULATIONS AND NFPA-13 REQUIREMENTS (TYPICAL FOR ALL SPRINKLER HEADS).
2. PIPE SIZES AND LOCATIONS TO BE DETERMINED BY HYDRAULIC CALCULATIONS AND NFPA-13 REQUIREMENTS (TYPICAL FOR ALL PIPE SIZES AND LOCATIONS).
3. COORDINATE FINAL SPRINKLER LOCATIONS WITH REFLECTED CEILING PLAN, DIFFUSERS, LIGHTS, KITCHEN HOODS, CABINETRY, OBSTRUCTIONS, ETC. AND NFPA-13 REQUIREMENTS.
4. IN AREAS WITH SUSPENDED CEILING PANELS OR HARD FINISHES, SPRINKLERS SHALL BE CONCEALED TYPE PENDANTS OR SIDEWALLS. IN AREAS EXPOSED TO STRUCTURE ABOVE, SPRINKLERS SHALL BE UPRIGHTS. SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
5. THIS DRAWING IS FOR REFERENCES PURPOSE ONLY. THE FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL DESIGN OF THE SPRINKLER SYSTEM AND ITS CONFORMANCE TO NFPA-13 AND ANY LOCAL CODE REQUIREMENTS. THE FIRE PROTECTION CONTRACTOR SHALL INCLUDE ALL NEEDED OFFSETS, CHANGES IN DIRECTION, TRANSITIONS, ETC. NEEDED FOR COMPLETE AND OPERATIONAL SYSTEMS.
6. ALL PIPE SIZES, ROUTING, LOCATIONS, ETC. SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY. CONTRACTOR MAY RESIZE AND LOCATE PIPING PER HYDRAULIC CALCULATIONS TO PROVIDE MORE ECONOMICAL SYSTEM WHILE STILL MEETING ALL NFPA-13 REQUIREMENTS.
7. WET PIPE SPRINKLER SYSTEMS SHALL ONLY BE LOCATED AND INSTALLED IN AREAS THAT CAN BE MAINTAINED RELIABLY ABOVE 40°F. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL WET PIPE SPRINKLER LINES ARE INSTALLED WITHIN HEATED AREAS. COORDINATE HEATED AREAS AND INSULATION LOCATIONS WITH OWNER, ARCHITECT, AND MC PRIOR TO CONSTRUCTION.
8. EXISTING LINES SHOWN ARE APPROXIMATE BASED ON SPRINKLER DRAWINGS OBTAINED FROM PREVIOUS CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SPRINKLER PIPE LOCATIONS, SIZES, CONDITION, ETC. PRIOR TO CONSTRUCTION.



HAZARD OCCUPANCY LEGEND

- LH NFPA-13 LIGHT HAZARD - 0.10 GPM/SF DESIGN DENSITY, 225 SF MAX SPRINKLER PROTECTION AREA, 15 FT MAX SPRINKLER SPACING.
- OH1 NFPA-13 ORDINARY HAZARD GROUP 1 - 0.15 GPM/SF DESIGN DENSITY, 130 SF MAX SPRINKLER PROTECTION AREA, 15 FT MAX SPRINKLER SPACING.
- OH2 NFPA-13 ORDINARY HAZARD GROUP 2 - 0.20 GPM/SF DESIGN DENSITY, 130 SF MAX SPRINKLER PROTECTION AREA, 15 FT MAX SPRINKLER SPACING.

1 FIRE PROTECTION FLOOR PLAN
SCALE: 3/16" = 1'-0"

BRANCH PIPING AND SPRINKLERS NOT ALL SHOWN. FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL BRANCH PIPING BY HYDRAULIC CALCULATIONS AND SPRINKLER LOCATIONS AS REQUIRED TO MEET NFPA-13 COVERAGE

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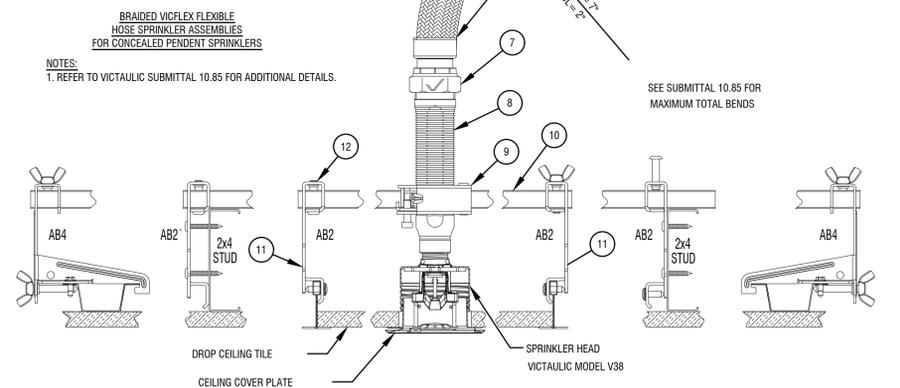
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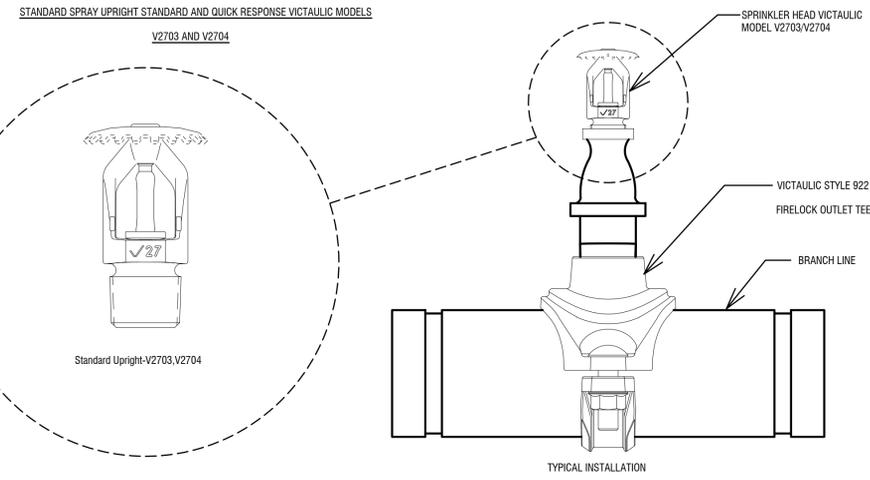
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FIRE PROTECTION FLOOR PLAN
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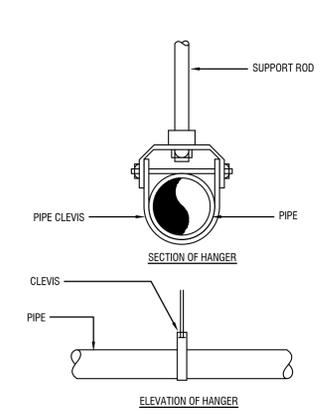
PRODUCT LEGEND	
1	INLET NIPPLE (1" FPT)
2	NUT
3	ISOLATION RING
4	COLLAR / WELD FITTING
5	STAINLESS STEEL FLEXIBLE BRAIDED HOSE (1" NOMINAL DIAMETER) (LENGTHS AVAILABLE 31", 36", 48", 60", & 72")
6	COLLAR / WELD FITTING
7	NUT
8	REDUCING OUTLET (AVAILABLE 1/2" OR 3/4" FPT)
9	CENTER BRACKET ASSEMBLY
10	SQUARE BAR (AVAILABLE IN 24" AND 48" LENGTHS)
11	END BRACKET ASSEMBLY
12	SHEET METAL SCREW
13	VIC MECHANICAL-T OUTLET STYLE 922 FIRELOCK (1" FPT) SEE VICTAULIC SUBMITTAL NUMBER 10.85



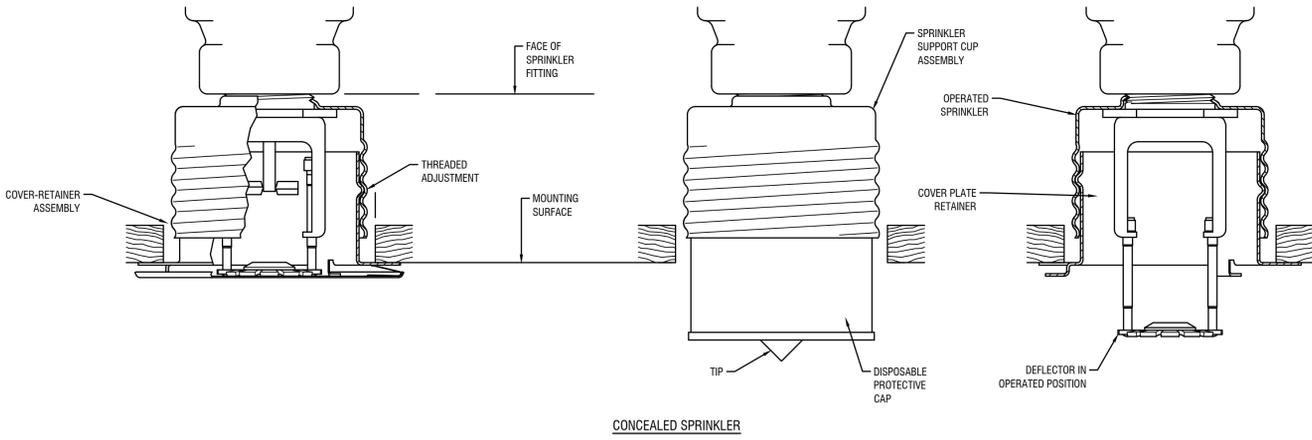
1 CONCEALED SPRINKLER INSTALLATION DETAIL (BASIS OF DESIGN)
FP-3 SCALE: NOT TO SCALE



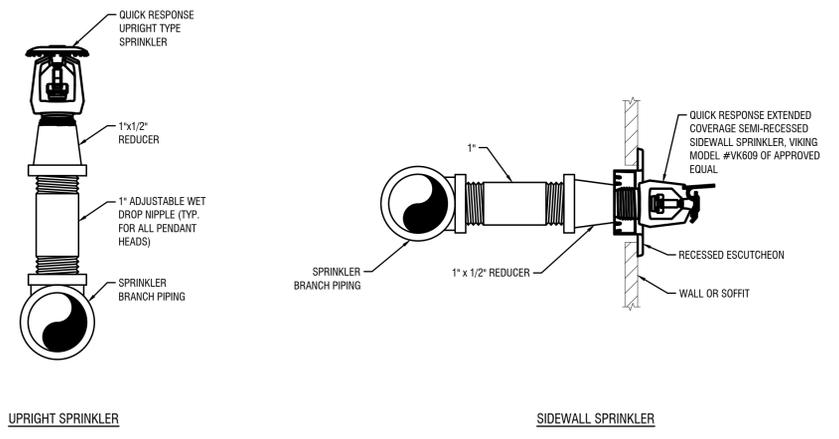
2 UPRIGHT SPRINKLER INSTALLATION DETAIL (BASIS OF DESIGN)
FP-3 SCALE: NOT TO SCALE



3 SPRINKLER HANGER DETAIL
FP-3 SCALE: NOT TO SCALE



4 SPRINKLER DETAILS
FP-3 SCALE: NOT TO SCALE



UPRIGHT SPRINKLER

SIDEWALL SPRINKLER

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