

Addendum No. 01

Date: September 17, 2025

Project: MSU Barnard 111 – Lithography Lab

Contractor: TBD

Architect: Cushing Terrell
411 East main St. Suite 101, Bozeman, MT and 59715

To: All Plan Holders of Record

Pages: 4 – (1) 8 ½ x 11, (0) 11 x 17, and (3) 24 x 36 (If you did not receive correct # of pages, please notify us immediately)

Acknowledge receipt of this Addendum by inserting its number and date in the Proposal Form. Failure to do so may subject Bidder to disqualification. This Addendum forms a part of the Contract Documents. It modifies them as follows:

DRAWINGS

MECHANICAL

SHEET M200

1. ADD: Keynote note #15.

ELECTRICAL

SHEET E003

1. ADD: Specification Division 28 in its entirety.

SHEET E400

1. ADD: Keynote '3' to First Floor Remodel Special Systems Plan and keynote legend.

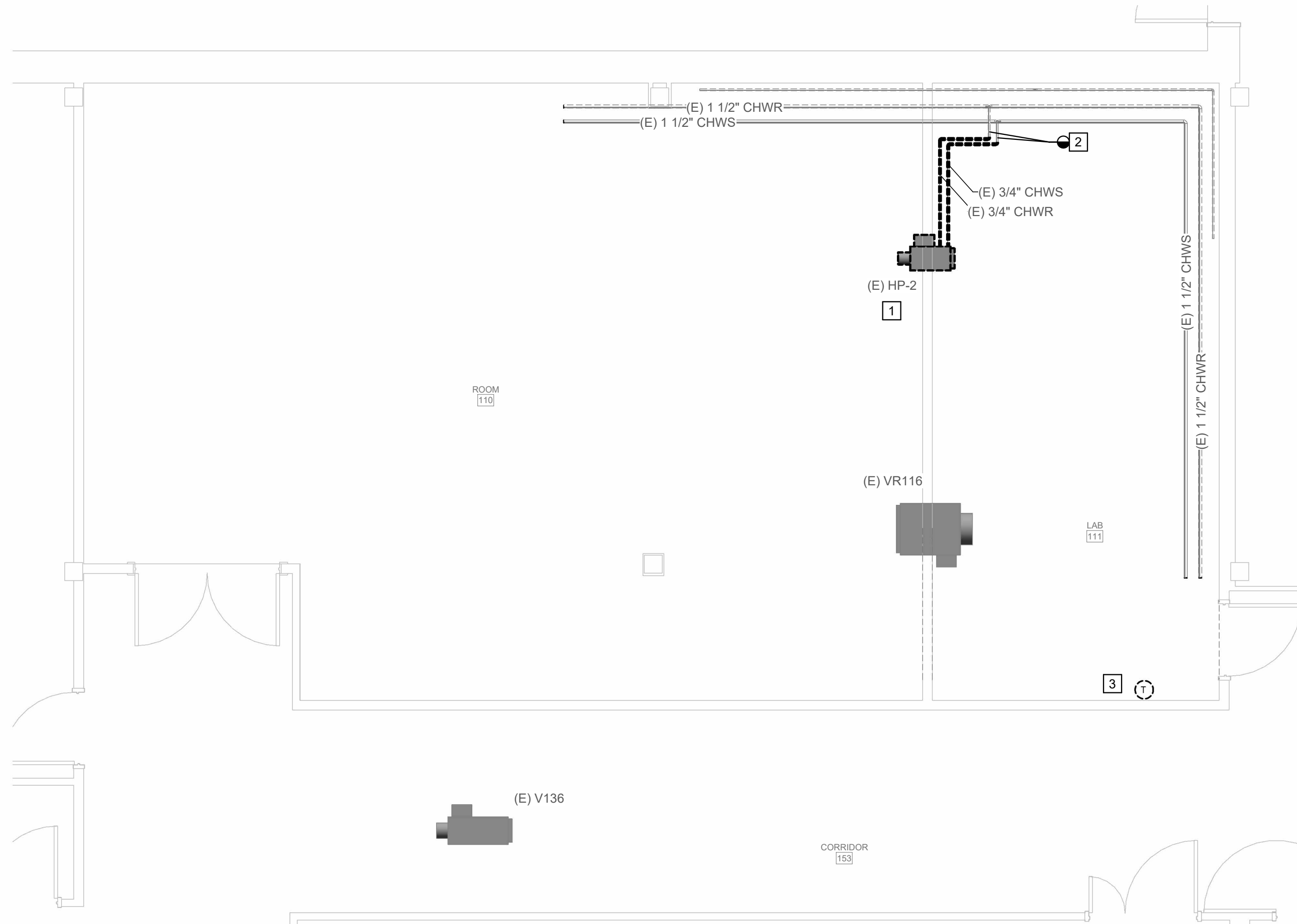
END OF ADDENDUM #1

DEMOLITION KEYNOTES

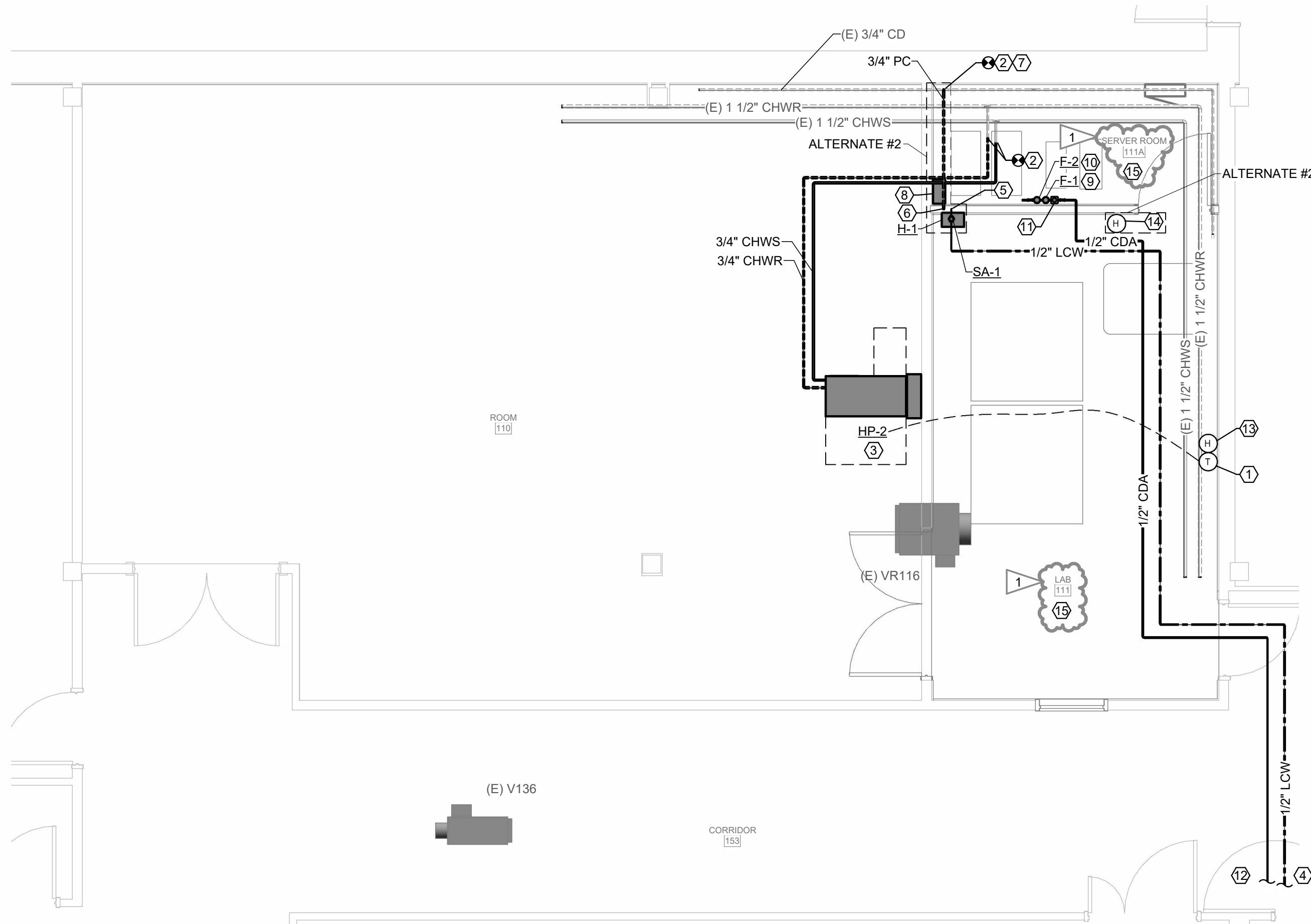
1. REMOVE EXISTING HEAT PUMP AND ACCESSORIES COMPLETE. NEARBY CONDENSATE PUMP TO BE SALVAGED AND REUSED WITH THE NEW HP-2.
2. REMOVE EXISTING CHILLED WATER TO EXTENT SHOWN, PREPARE PIPE FOR NEW CONNECTION. USE BRANCH ISOLATION VALVES IN THE RISERS OFF THE MAINS.
3. REMOVE AND RETAIN EXISTING THERMOSTAT IN WORKING CONDITION. GC TO PATCH WALL TO MATCH EXISTING.

KEYNOTES

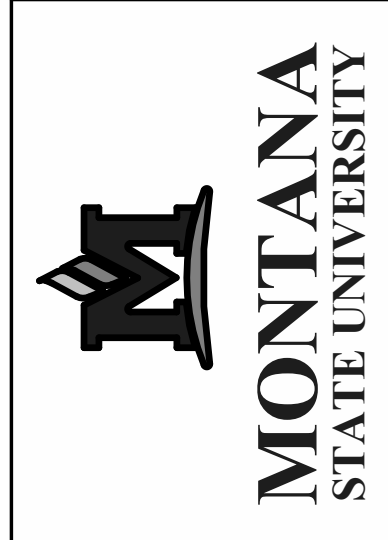
1. REINSTALL EXISTING THERMOSTAT INSTALL AT 44" AFF AWAY FROM HEAT PRODUCING EQUIPMENT. ROUGHED IN BY EC INSTALLED BY MC. MOUNT THERMOSTAT AT 48" AFF TO CENTER. UTILIZE EXISTING JOHNSON CONTROLS BUILDING MANAGEMENT SYSTEM. PROVIDE COOLING AND HEATING ENABLE SIGNALS TO THE HEAT PUMP. HEAT PUMP CONTROLS WILL DETERMINE THE OPERATION OF THE WATERSIDE ECONOMIZER AND COMPRESSOR TO MAINTAIN THE LEAVING DISCHARGE AIR TEMPERATURE. UNIT CONTROLS WILL ALSO OPERATE THE REVERSING VALVE FOR HEATING SERVICE. JCI TO WRITE TO THE OPERATION MODE POINT. TO SET HEAT OR COOL MODE, PROVIDE WATER SIDE ECONOMIZER SET POINT OF 40°F TO SWITCH OVER TO ECONOMIZER MODE.
2. CONNECT PIPING FIELD VERIFY LOCATION AND ELEVATION.
3. CONNECT WATER SIDE ECONOMIZER COOLING COIL CONDENSATE DRAIN TO HEAT PUMP CONDENSATE DRAIN AND ROUTE TO EXISTING CONDENSATE PUMP. VERIFY LOCATION OF EXISTING CONDENSATE PUMP AND RELOCATE AS REQUIRED. INSULATE CONDENSATE PIPING WITH 1/2" THICK FLEXIBLE ELASTOMERIC INSULATION FROM HP-2 TO THE CONDENSATE PUMP.
4. CONNECT LAB COLD WATER PIPE TO LAB COLD WATER IN MECHANICAL CHASE. THIS WORK IS TIED TO ALTERNATE #2.
5. 1/2" LAB COLD WATER DOWN. THIS WORK IS TIED TO ALTERNATE #2.
6. 3/4" PUMPED CONDENSATE DOWN. CONDENSATE PIPING TO BE TYPE L OR M COPPER WITH DRAINAGE PATTERN FITTINGS. SLOPE PIPE AT 1/8" PER FOOT TO THE CONDENSATE MAIN. THIS WORK IS TIED TO ALTERNATE #2.
7. CONNECT NEW CONDENSATE TO EXISTING CONDENSATE PIPING. ROUTE DIRECTLY AS POSSIBLE. THIS WORK IS TIED TO ALTERNATE #2.
8. SUMP PUMP SUPPLIED WITH HUMIDIFIER. INSTALL PER ALL MANUFACTURERS WRITTEN INSTRUCTIONS. THIS WORK IS TIED TO ALTERNATE #2.
9. COALESCING FILTER: INGERSOLL-RAND FA301 GRADE G OR APPROVED EQUAL. INSTALL AT 4'-6" AFF TO CENTERLINE.
10. COALESCING FILTER: INGERSOLL-RAND FA301 GRADE H OR APPROVED EQUAL. INSTALL AT 4'-6" AFF TO CENTERLINE. CONTRACTOR TOP PROVIDE CONNECTOR TO 6MM POLY TUBE AT TERMINATION OF COMPRESSED AIR PIPING.
11. PRESSURE REGULATOR: INGERSOLL-RAND ARO R37231-600-VS, 0-140 OSI RANGE, OR APPROVED EQUAL. INSTALL IN ACCESSIBLE LOCATION. COORDINATE WITH ALL TRADES.
12. CONNECT COMPRESSED AIR PIPE TO CLEAN DRY COMPRESSED AIR MAIN IN MECHANICAL CHASE.
13. NEW HUMIDISTAT. INSTALL AT 44" AFF. ROUGHED IN BY EC. INSTALLED BY MC. UTILIZE EXISTING JOHNSON CONTROL BUILDING CONTROLS SYSTEM TO TRACK TRENDS.
14. HUMIDITY CONTROLLER PROVIDED WITH HUMIDIFIER. INSTALL AT 44" AFF. ROUGH IN BY EC. INSTALLED BY MC. THIS WORK IS TIED TO ALTERNATE #2
15. RELOCATE EXISTING SPRINKLERS IN ROOM 111 AS REQUIRED TO MAINTAIN THE MAXIMUM SPACING TO SIDEWALLS OF 7'-6" MAXIMUM AND SPACING BETWEEN SPRINKLERS OF 15'-0" MAXIMUM TO COMPLY WITH NFPA 13 AND THE UL LISTING OF THE EXISTING SPRINKLERS. RELOCATION SHALL UTILIZE SCHEDULE 40 STEEL PIPE WITH THREADED JOINTS AND MALLEABLE IRON THREADED FITTINGS. PERFORM ALL WORK IN ACCORDANCE WITH NFPA 13. COORDINATE SPRINKLER SYSTEM IMPAIRMENT WITH THE OWNER AND FOLLOW THE REQUIREMENTS OF NFPA 25 CHAPTER 15. ALL WORK SHALL BE COMPLETED DURING WEEKEND HOURS WHEN BUILDING OCCUPANT USAGE IS REDUCED AND SHALL BE COMPLETED WITHIN SIX HOURS. NOTIFY MSU DEPARTMENT OF PUBLIC SAFETY AND BOZEMAN FIRE DEPARTMENT AT START OF THE IMPAIRMENT AND WHEN THE WORK HAS BEEN COMPLETED AND THE SYSTEM IS RESTORED TO OPERATION. CONTRACTOR SHALL ENGAGE A LICENSED FIRE PROTECTION CONTRACTOR TO PERFORM WORK.



1 FIRST FLOOR HYDRONIC DEMOLITION PLAN
M200 1/4" = 1'-0" NORTH REF



2 FIRST FLOOR HYDRONIC REMODEL PLAN
M200 1/4" = 1'-0" NORTH REF



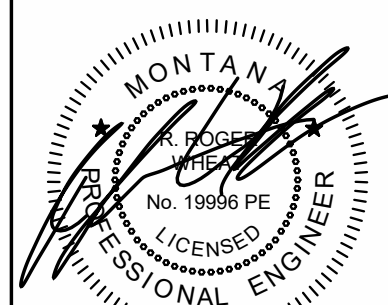
MSU-CPDC
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BARNARD HALL 111 LITHO
LAB RENOVATION
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DRAWN BY: MITCHELL		
REVIEWED BY: WHEAT		
REV.	DESCRIPTION	DATE
1	City Comments	09.16.20

1 City Comments 09.16.2025

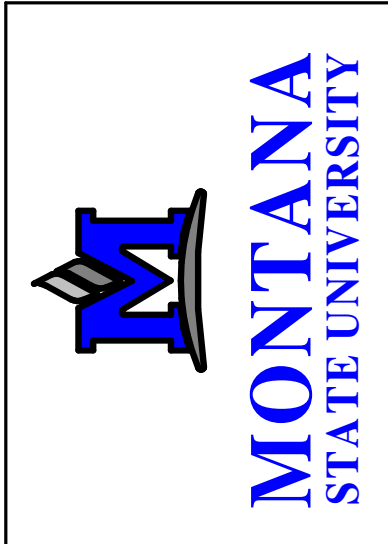


SHEET TITLE
HYDRONIC
PIPING PLANS

SHEET
M200

DATE
07.15.2025

ELECTRICAL SPECIFICATIONS DIVISION 26 - ELECTRICAL SCOPE The provisions, terms and requirements of Division 1 and 2, the applicable Drawings and Technical Specifications herein shall apply to work under this Division. This Work consists of, but is not necessarily limited to, the furnishing of all labor, equipment, appliances and materials and the performance of all operations in connection with the installation of all electrical work completed, in strict accordance with Specifications and/or Drawings, applicable codes, including incidental materials necessary and required for their completion. "PROVIDE" = Furnished and installed complete. "OR EQUAL" = Or equal as approved to quote by Engineer, 10 days prior to Bid via addendum. 260000 - COMMON WORK RESULTS A. Intent of Drawings: Drawings are partly diagrammatic and do not show exact location of conduit unless specifically dimensioned. B. Workmanship: 1. Work shall be accomplished by workmen skilled in particular trade, in conformance with best practices and accepted standards. 2. Work shall contribute to efficiency of operation, accessibility, maintenance and appearance. No part of installation shall interfere with operation of any other system or part of building. 3. Non-satisfactory work shall be corrected at no additional expense to Owner. C. Responsibility: 1. The Electrical Contractor is responsible for installation of satisfactory and complete work in accordance with the intent of Drawings and Specifications. Provide, at no extra cost, incidental items required for completion of work even though not specifically mentioned or indicated in Specifications or on Drawings. 2. If, at any time, and in any case, change in location of conduit, outlets, fixtures, switches, panels, electrical equipment or associated components, etc., becomes necessary due to obstacles or installation of other trades, such required changes shall be made by Contractor at no extra cost. 3. Conflicts discovered during construction shall be immediately called to the attention of the Engineer for decision. Do not proceed with installation in area of question until conflict has been fully resolved. 4. Coordinate all electrical work with other trades to prevent unnecessary delays in the construction schedule. 5. Excavation and backfill required by electrical installations shall be accomplished in accordance with Division 2 by this Contractor. 6. Provide temporary electrical power and lighting for all trades that require service during the course of this Project. Provide temporary service and distribution as required. Comply with the NFPA 70 and OSHA requirements. (Energy costs by General Contractor.) D. Guarantee-Warranty: This Contractor shall and hereby does warrant and guarantee: 1. That all work executed under this Section will be free from defects of materials and workmanship for a period of one year from the date of final acceptance of this work. 2. The Contractor agrees to, at the Contractor's own expense, repair and replace all such defective materials and work and all other work damaged thereby which becomes defective during the term of warranty. Agreement does not include damages done by Owner. E. Permits, Tests, Codes and Standards: 1. Electrical Contractor to pay for all permits and fees in connection with this work. 2. WORK SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITIONS OF ADOPTED LOCAL, STATE AND NATIONAL CODES AND ORDINANCES, THE STATE FIRE MARSHAL, AND UTILITY COMPANY REGULATIONS. 3. Electrical work shall conform to National Electrical Codes, latest editions, as a minimum requirement. 4. All material to conform with applicable standards. F. Discrepancies: Prior to submitting Bid, Contractor shall refer any apparent discrepancies or omissions to engineer for clarification. G. Prior Approvals: All proposed substitutions shall be received by the Engineer 10 days prior to Bid. Priors received after 3 p.m. of the 10th day will be rejected. Supply technical data, photometrics and dimensional Drawings showing that substitutes are equal to product specified. H. Shop Drawing Submittals: 1. In addition to distribution requirements for submittals specified in Division 1 Section "Submittals," submit Electronic Drawings in pdf format for final and official approval through the General Contractor as listed below. Provide pdf bookmark tabs for each type and section. Provide separate pdf for each spec section; do not combine sections together unless they are 5 pages or less. If the Authority Having Jurisdiction requires Shop Drawings to have a Registered Engineers Stamp Affixed, this shall be the sole responsibility of the Contractor to acquire such stamp at Contractor's cost. Additional copies may be required by individual Sections of these Specifications. Copies of price list sheets are not acceptable. Manufacturer's name and address must appear on each sheet. All copies shall be legible. Shop Drawings shall include a completed specification sheet of all equipment along with fabrication, installation drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Installation drawings for fire alarm shall be done with a computer cadd program and include no other system. A basic floor plan in pdf electronic format can be obtained through the General Contractor. Autocad .dwg format will not be available. I. Project Close-Out Record Documents: 1. Provide three full size sets, unless more are called for under Division 1 (one for Engineer and one for Owner). In addition to requirements called for under Division 1, indicate the following installed conditions: a. Actual location of all electrical service gear/feeders, panel/motor/special equipment/feeders, all major underground or underlab conduits, all conduit stubs for future use, any change in branch circuitry from Drawings, key junction boxes and pull boxes not indicated on Drawings, any control locations or indicator lights not shown on Drawings. b. Addendum items, change order items and all changes made to Drawings from Bidding phase through to Project completion. c. Actual equipment and materials installed. Where manufacturer and catalog number are indicated on Drawings, generally or in fixture or equipment schedules, change to reflect actual products installed. d. Change service panel and branch panel breaker locations and schedules to reflect actual installed conditions. J. Project Close-out Maintenance Manuals: 1. Prepare 3 copies, unless more are called for under Division 1 (one for Engineer, two for Owner). In addition to requirements under Division 1, provide heavy duty, durable 3-ring vinyl covered loose-leaf binder for each manual sized to receive 8.5 inch by 11 inch paper. Provide a clear plastic sleeve on the spine to hold labels and pockets in the cover to receive folded sheets. In manual, include all Shop Drawings, installation/operation/maintenance data furnished with electrical equipment, voice/data test reports, and letters from manufacturer's representatives that the fire alarm, has been completed and tested to satisfy requirements/codes. List project name, date, and Contractor's name, address and telephone number. Include index sheet for each Specification Section indicating equipment, with supplier and supplier's telephone number. Provide tabbed dividers indicating major groupings of equipment. 2. Turn over to Owner all spare equipment and devices specified and shown. K. Supporting Equipment: 1. Unless otherwise indicated, fasten electrical items and their supporting hardware securely to the building structure, including conduits, raceways, cables, cable trays, busways, cabinets, panelboards, transformers, boxes, disconnect switches, and control components. Fasten by means of wood screws or screw-type nails on wood, toggle bolts on hollow masonry units, concrete inserts or expansion bolts on concrete or solid masonry, and machine screws, welded threaded studs, or spring-tension clamps on steel. Threaded studs driven by a power charge and provided with lock washers and nuts may be used instead of expansion bolts and machine or wood screws. Do not weld conduit, pipe straps, or items other than threaded studs to steel structures. In partitions of light steel construction, use sheet metal screws. All device boxes in sheetrock walls will be tight before, during and after installation of sheetrock. 2. Provide supports for electrical items in accordance with NFPA 70 and all other applicable codes. 3. Contractor responsible for providing watertight conduit penetrations at all watertight walls, floors roofs and membranes. Contractor also responsible to maintain fire rating of walls, floors, roofs and membranes penetrated. 4. When applicable, center within insulation any electrical conduit routed in attic space. Provide sealing as per NFPA 70 300-7 for all conduits exposed to different temperatures.	260000 - COMMON WORK RESULTS (continued) L. Electrical Identification: 1. Apply circuit/control/item designation labels of engraved plastic laminate for disconnect switches, breakers, pushbuttons, pilot lights, FA duct detection, motor starters, panelboards and main control panel and similar systems. 2. Identify all 120 VAC and 208 VAC power receptacle cover plates with panel and circuit number utilizing a clear label with black designations. Designation example: L1-38. 3. Identify underground exterior electrical circuits by installation of continuous underground plastic marker, 6 - 8 inches below grade. 260300 - REMODEL WORK A. The Contractor shall carefully examine the Drawings and Specifications, visit the project site, and make note of all existing conditions, dimensions and limitations prior to Bid and make allowances thereto. B. No Change Orders will be issued for Contractor's failure to visit site, remodel work necessary for a complete installation of systems shown, and due to Contractor's lack of understanding of amount or difficulty of work involved. C. The Contractor shall also notify all corporations, companies, individuals or local authorities owning, or having jurisdiction over existing utilities and services which interfere in any manner with the execution of the work under this Contract, and shall remove, relocate or protect such utilities or equipment as required by the parties having jurisdiction over same. D. If existing active or non-active services (which may not be shown on plans) are encountered that require relocation or disconnecting, the Electrical Contractor shall make written request for decision on proper handling of the services. The Electrical Contractor shall not proceed with the work until so authorized by the Architect. E. When areas of the existing buildings are adjacent to the area of construction in which work is going on and are occupied, then this Contractor shall arrange the work so as to reduce to a minimum the periods of interruption or outages in the various services. F. Not less than one week before any system is to be put out of service, the Contractor shall notify and coordinate with other trades and the Owner of such necessity including the extent of the work to be done during the outage, possible length of time required for that phase of the work, and the desired time at which the outage is to begin. G. Balance additional loads to existing circuitry between phases. Furnish a revised, typed panel directory on existing panelboards where loads have been added or changed on this project. H. Carefully lay out all work in advance to minimize cutting, channeling or drilling. Where necessary, all cutting and patching shall be done in a manner approved by the Architect. Do not endanger the stability of the structure. Restore any damaged surfaces to original conditions. Contractor at fault to assume all costs. I. Remove or relocate existing conduits, wires, equipment, devices or fixtures indicated on Drawings and as required by remodel operations. Where the reuse of existing conduits, wires, devices, or fixture is permitted, verify that wiring is continuous. Existing outlets or junction boxes shall not be rendered inaccessible by structural changes made to the building. J. Where existing walls are being turred out or refinished, extend existing outlets and devices to new surface as required. K. Existing equipment which is indicated as being removed and not indicated for re-use shall be disposed of unless stated otherwise. Light fixture ballasts may contain PCB's and shall be disposed of according to environmental regulations. 260519 - CONDUCTORS AND CABLES A. Submit Shop Drawings in accordance with the "Common Work Results" Section. B. Feeders: Copper THHN-THWN. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger. C. Branch Circuits: Copper THHN-THWN. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger. D. Multi-conductor Cable: Copper Type AC and Type MC with separate insulated ground wire. E. Aluminum conductors are not acceptable F. Conductor Insulation: Comply with NEMA WC 70 for types THHN-THWN. Utilize other types of insulation only where specifically noted or required by code for the installed condition. G. Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening valves or as specified in UL Codes. H. Color code secondary service, feeder, and branch circuit conductors with factory applied color to match existing building color code. 260526 - GROUNDING AND BONDING A. Submit Shop Drawings in accordance with the "Common Work Results" Section. B. Install separate insulated equipment grounding conductors for feeder and branch circuits in compliance with NFPA 70 Article 250. 260533 - RACEWAYS AND BOXES A. Submit Shop Drawings in accordance with the "Common Work Results" section. B. Conduit Raceway: 1. Indoors, use the following, unless otherwise stated: a. Concealed: EMT or MC cable. b. Exposed: EMT, IMC or RMC. 2. Outdoors, use the following, unless otherwise stated: a. Concealed: RMC or IMC. b. Exposed: RMC or IMC. c. Underground: Schedule 40 PVC with Schedule 80 PVC fittings. d. Connection to Vibrating Equipment: Liquid tight flexible metal conduit. 3. ENT IS NOT ALLOWED. 4. Conceal conduit and cable, unless otherwise noted; conduit is permitted to be exposed in equipment rooms. All conduits shall have insulated ground wire installed. Do not install conduit embedded in slabs. EMT fittings shall be steel, compression or set screw type. All raceways shall be installed and supported in accordance with NFPA 70 and applicable codes. C. Outlet Boxes: 1. Conform to UL 514A, "Metallic Boxes, Electrical," and UL 514B, "Fittings for Conduit and Outlet Boxes." Outlet boxes shall be metallic and installed flush in all areas, except mechanical rooms, above lay-in ceilings, or as otherwise indicated. Minimum size to be 4 inches square by 2-1/8 inches deep. Boxes shall be of type, shape, size and depth to suit each location and application. All fittings shall be steel. D. Pull and Junction Boxes: 1. Comply with UL 50, "Electrical Cabinets and Boxes," for boxes over 100 cubic inches volume. Boxes shall have screwed or bolt-on covers, shall be suitable for the intended application and shall be labeled. E. All materials shall be UL listed, appropriate for intended application. Entire raceway system shall be in accordance with NFPA 70, ANSI, NEMA, UL, and all other applicable codes. 260923 - LIGHTING CONTROL DEVICES A. Submit Shop Drawings in accordance with the "Common Work Results" Section. Shop drawings shall include background floor plans with device layouts and wiring/wire types, and coverages to demonstrate how this system will function to meet the design intent and the energy code. B. Manufacturer: As scheduled on the drawings. C. Perform the following tests and inspections: 1. Operational Test: After installing time switches and sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation. 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment. D. Provide letter of verification that the system has been completed and successfully tested. Letter to be included in As-Built manuals.	262726 - WIRING DEVICES A. Submit Shop Drawings in accordance with the "Common Work Results" Section. B. Acceptable Manufacturers: Pass & Seymour, Bryant, GE, Hubbell, Leviton. C. Devices: 1. General light switches shall be 20 amp, 120/277 volt AC rated and Industrial Grade. 2. General receptacles shall be self-grounding 5-20R and Industrial Grade. Hospital Grade receptacles with led light indication shall be used for patient bed, critical care areas, emergency critical and emergency life safety. a. GFCI receptacles shall be 20 amp feed through type with two utilization points. Do not connect downstream devices to load side of GFCI. b. Tamper-Resistance receptacles shall comply with NFPA 70 tamper-resistant requirements. 3. Dimmers shall be as scheduled on the construction documents. 4. General device color shall be white. Emergency power device color shall be red only. D. Device Plates: 1. Device plates shall have opening for device intended and shall be Lexan. General device color shall be white. 2. All device plates shall have a clear label with the panel and circuit number designation in black. E. Weatherproof receptacle covers shall be a corrosion resistant die cast metal, minimum 3 inch deep, flip cover with latch and with pad locking provisions. 262816 - CIRCUIT AND MOTOR DISCONNECTS A. Submit Shop Drawings in accordance with the "Common Work Results for Electrical" Section. B. Manufacturer: Square D. C. Disconnects shall be heavy duty type with Class R rejection feature when required to be fusible. Voltage rating shall be at or greater than the application voltage. Provide NEMA 3R enclosure for exterior locations. Service switches shall be UL listed for use as service equipment. 262416 - PANELBOARDS A. Submit Shop Drawings in accordance with the "Common Work Results" Section. B. Manufacturer: Square-D. C. Load centers are not acceptable. D. Branch Panelboards shall have aluminum bus including neutral and ground bars. Breakers shall be bolt on type. Provide hinged front cover and hinged door (door in door) and feed through lugs. If indicated on the Panel Schedule, provide internal SPD with a 120 kA per phase surge rating and protect L-N, L-G and N-G modes; include status indicator. All panels shall be fully rated for the available AIC; series ratings are not allowed. E. Provide typed circuit schedules for existing panelboards where loads have changed and framed, typed circuit schedules for all new panelboards with identification of items controlled by each individual breaker. Indicate room numbers of items controlled or room name where appropriate for Owner's convenience. 262813 - OVER CURRENT PROTECTION DEVICES A. Submit Shop Drawings in accordance with the "Common Work Results" Section. B. Manufacturer: Bussman, Gould, Littelfuse or Brush. C. Fuses: 1. Motor or combination motor/branch circuit: UL listed RK-5. 2. Feeder Loads: UL listed RK-1. 3. Plug fuses shall be dual element Type S with adapter. 262816 - CIRCUIT AND MOTOR DISCONNECTS A. Submit Shop Drawings in accordance with the "Common Work Results for Electrical" Section. B. Manufacturer: Same as panelboard manufacturer. C. Disconnects shall be heavy duty type with Class R rejection feature when required to be fusible. Voltage rating shall be at or greater than the application voltage. Provide NEMA 3R enclosure for exterior locations. Service switches shall be UL listed for use as service equipment. DIVISION 27 - COMMUNICATIONS 270500 - TELE-DATA COMMUNICATIONS A. Submit Shop Drawings in accordance with DIVISION 01 requirements. B. Approved manufacturers: 1. Commscope C. Applicable Standards: 1. NFPA 70 – "National Electrical Code" 2. NECA 1-2015 – "Standard for Good Workmanship in Electrical Construction" 3. UL910 – "Standard for Safety Test for Flame-Propagation and Smoke-Density" 4. UL 969-2017 – "Standard for Marking and Labeling Systems" 5. TIA-569-D – "Telecommunications Pathways and Spaces" 6. TIA-568-D – "Telecommunications Structured Cabling Standards" 7. TIA-604 – "Fiber Optic Interconnectability Standard" 8. TIA-607-C – "Telecommunications Bonding and Grounding for Customers Premises" 9. TIA-526-14-B – "Optical Power Loss Measurements of Installed Multimode Fiber" 10. TIA-606-C – "Administration Standard for Telecommunications Infrastructure" D. Communications Rooms: Existing E. Voice/Data Workstation Rough-Ins: Provide 4 inch square, 2-1/8-inch deep 1-gang rough-in with 1-1/4" conduit stubbed to ceiling space with a 90 degree bend and insulated throat bushing, unless otherwise stated. F. Workstation Outlet Assemblies: Comply with UIT Standards with 760 series categor 6, Light Almond. See construction drawings for number of jacks. 1. Voice only Wall Jack Assemblies: Category 6, T568A terminated RJ45 module and blank module in a modular style faceplate. Comply with UIT Standards with 760 series categor 6, Light Almond. 2. Data only Wall Jack Assemblies: Category 6, T568A terminated RJ45 module and blank module in a modular style faceplate. Comply with UIT Standards with 760 series categor 6, Light Almond. 3. Combination Voice/Data Wall Jack Assemblies: Category 6, T568A terminated RJ45 modules and blank modules (minimum 2) in a modular style faceplate. Comply with UIT Standards with 760 series categor 6, Light Almond. G. Cables: 1. Horizontal Workstation Cabling: Category 6 unshielded twisted pair (UTP) cable, color Gray. Plenum rated cable shall be used in spaces used for air handling. 2. Fiber Optic Backbone Cabling: Existing H. Racks: Existing I. Workstation Patch Panels: Existing J. Fiber Backbone Patch Panels: Existing	270500 - TELE-DATA COMMUNICATIONS (continued) K. Patch Cords (UTP): Provide 4 pair cables in appropriate lengths for each workstation patch panel port (used or unused), Category 6 rated and terminated with an RJ-45 plug at each end. Cables to be routed from workstation patch panels to telephone patch panel above or Owner's hub equipment below. Length shall be long enough to be routed from the workstation port through the front cable manager, through the side cable manager, through the front cable manager to the telephone patch port or Owner's hub port. Also, provide 6 foot, Category 6 rated patch cords for each workstation jack at the user end. L. Fiber Backbone Patch Cords: Existing M. Workstation Wiring Installation: 1. Install cable without damaging conductors or jacket. Do not bend cable to a smaller radius than minimum recommended by manufacturer. Do not exceed manufacturer's recommended pulling tensions. Pull cables simultaneously where more than one is being installed in the same raceway or at the same location. Use pulling compound or lubricant where necessary. Compound used must not damage conductor or insulation. Use pulling methods that will not damage cable or raceway, including fish tape, cable, rope, and wire-cable grips. 2. Wiring shall be a minimum of 48 inches from Transformers and motors >= 5 HP and minimum of 5 inches from light fixtures. 3. Wiring Support Methods a. UTP Wiring Method: Install wiring above accessible ceilings exposed and supported to structure with Erico Cable Cat or Bline 2-inch-wide J hooks, supported to structure every 30 inches to 60 inches to corridor cable tray. Install all other wiring in EMT conduit concealed. Conceal raceway except in unfinished spaces as indicated. 4. Wiring in Wire Closets and Cabinets: Install conductors parallel to and at right angles to walls. Bundle, lace, and train the conductors to terminal points with no excess. Use wire distribution spools at points where cables are fanned or conductors turned. Connect conductors that are terminated, spliced, or interrupted to terminal blocks. Label each terminal with designations approved in accordance with EIA/TIA Standards. 5. Conductor Terminations: Terminate conductors of cables on terminal blocks, patch panels and devices using tools recommended by manufacturer. N. Identification: 1. Comply with UIT standards. 2. Patch Panel Labeling: Existing 3. Rack Labeling: Existing 4. Communications Room: Existing 5. Cable Schedule/Map: Existing O. Field Quality Control: 1. Testing Agency: Provide a qualified NRTL, BICSI certified testing agency to perform tests and inspections. 2. Perform tests and inspections as follows: a. Visually inspect UTP and optical fiber cable jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments, and inspect cabling connections for compliance with TIA-568-D. b. Visually confirm Category 6, marking of outlets, cover plates, outlet/connectors, and patch panels. c. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components. d. UTP Performance Tests: Test for each outlet and multi-user outlet assembly. Perform the following tests in accordance with TIA-568-0-D. 3. Retesting: Correct deficiencies indicated by tests and completely retest work affected by such deficiencies. Verify that the total system meets the Specifications and complies with applicable standards. Contractor will be reimbursed for replacement of existing cable upon approval of engineer. Report of Tests and Inspections: Prepare a written record of inspections, tests, and detailed test results in the form of a test log. All tests (pass and failed) shall be submitted in native format of the tester being used. Retested links shall be identified as retest when corrected. Names of technicians performing tests shall be reported in the test report. DIVISION 28 - ELECTRONIC SAFETY AND SECURITY 283100 - FIRE DETECTION AND ALARM A. Submit Shop Drawings in accordance with the "Common Work Results" Section. B. Manufacturer: Edwards C. Compliance: Fire Alarm Design shall be compliance with enforced International Building Codes, NFPA 72, NFPA 13 and NFPA 90A and applicable Government Agency Codes. D. Control panel: Existing E. Horn/Strobe Units: Combination flush mount type. Strobe units to be Xenon Strobe Type and shall comply with ADA requirements. Install in flush mounted back boxes 80 inches to bottom of device or 6 inches from ceiling to top of device, which ever is lower. Strobes shall be synchronized. Surface installations shall utilize surface box provided by fire alarm manufacturer and Wiremold 700. Box by Wiremold not acceptable. F. Notification circuits shall be wired Class B. Conductors shall be minimum #16 awg FA conductor enclosed in red EMT. G. Provide a letter of verification that the fire alarm system has been completed and tested in accordance with NFPA procedures by manufacturer's representative with an attached copy of the AHJ's acceptance report. The letter shall be included with As-Built manuals. H. Training: Train Owner's personnel for operation of addition fire alarm notification. Coordinate training with owner. END OF SECTION
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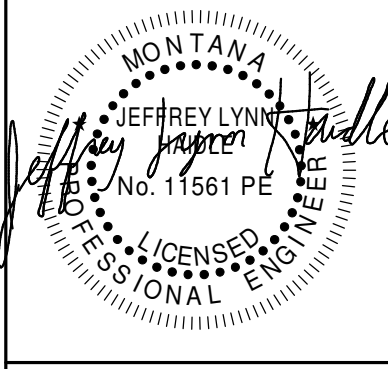
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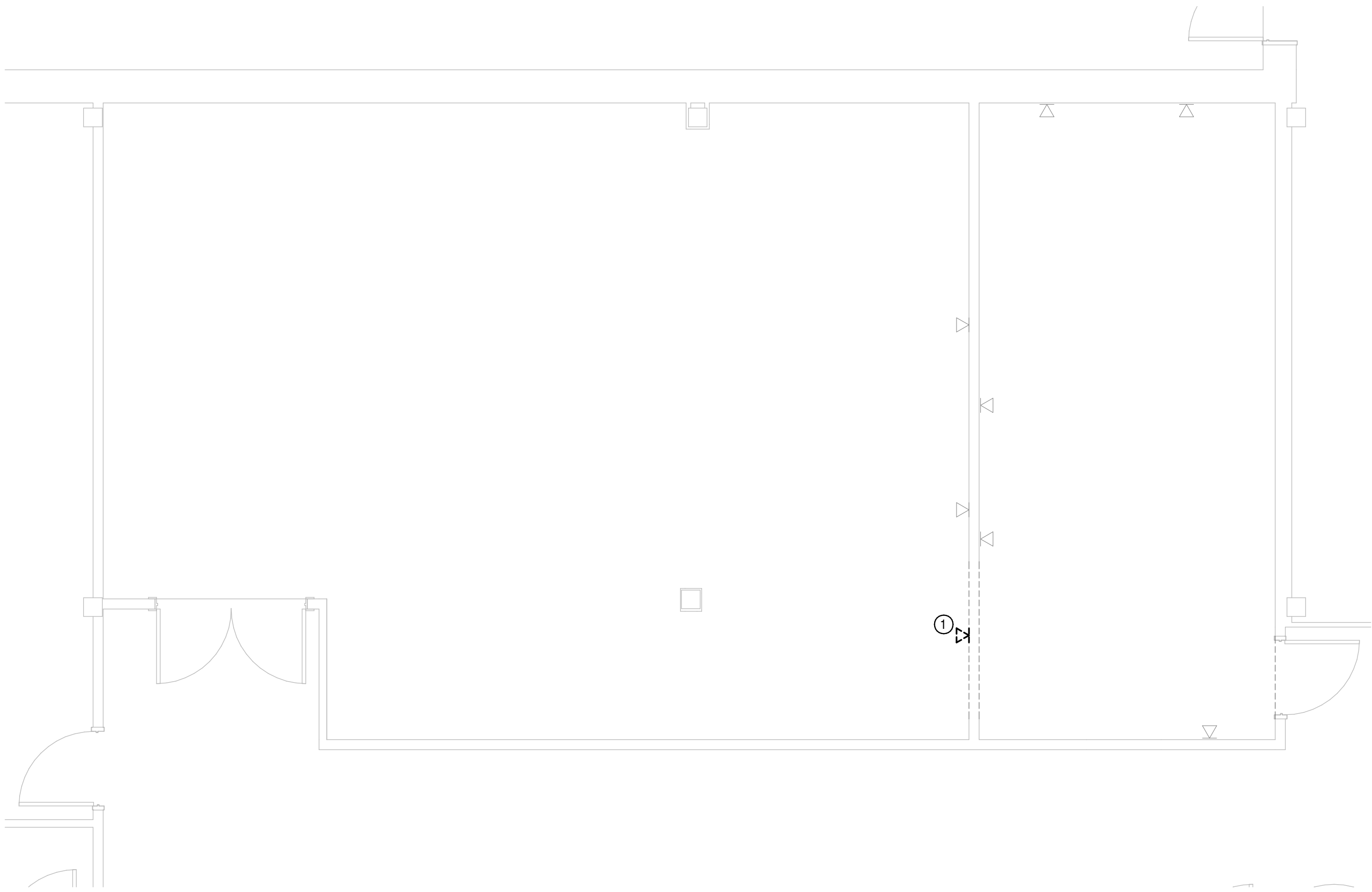
DRAWN BY: RESTAD		
REVIEWED BY: HAIDLE		
REV.	DESCRIPTION	DATE
1	City Comments	09.16.2026



SHEET TITLE
ELECTRICAL
SPECIFICATIONS

SHEET
E003

DATE
07.15.2025



1 FIRST FLOOR DEMOLITION SPECIAL SYSTEMS PLAN
E400 1/4" = 1'-0"



2 FIRST FLOOR REMODEL SPECIAL SYSTEMS PLAN
E400 1/4" = 1'-0"



5 DATA KEYPLAN
E400 1" = 30'-0"

GENERAL DEMOLITION NOTES

- ELECTRICAL WORK IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. PATCHING AND PAINTING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- DISCONNECT ALL ELECTRICAL ITEMS WHICH ARE TO BE REMOVED AND/OR RELOCATED WHILE MAINTAINING CONTINUITY OF REMAINING CIRCUITRY.
- PROVIDE NEW CONDUCTORS, RACEWAYS, ETC., AS REQUIRED TO MAINTAIN OPERATION OF EXISTING OUTLETS, EQUIPMENT, ETC. WHICH REMAIN OR ARE RELOCATED.
- NO EXISTING WIRING MAY BE REUSED IN THE NEW ELECTRICAL WORK UNLESS OTHERWISE NOTED.
- ALL EXISTING CIRCUITS, CONDUIT AND WIRE THAT ARE NOT IN USE AFTER DEMOLITION IS COMPLETED SHALL BE REMOVED.
- EXISTING LIGHT FIXTURES WHICH ARE NOT REUSED SHALL BE DELIVERED TO THE OWNER.
- EXISTING CONDUITS IN THE FLOOR WHICH ARE NOT USED AND WHICH ARE ABANDONED SHALL BE TRIMMED TO FLOOR SURFACE, GROUND FLUSH AND FILLED WITH GROUT. FINISH FLOOR TO MATCH EXISTING.
- WORK SHALL BE PERFORMED WITH NO DISRUPTION OF THE OWNER'S BUSINESS. ALL ELECTRICAL POWER DISRUPTIONS SHALL BE SCHEDULED AND APPROVED BY THE OWNER.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH NEC, STATE AND LOCAL BUILDING CODE.
- ALL DASHED ITEMS ON DEMOLITION PLANS ARE TO BE REMOVED UNLESS NOTED OTHERWISE. SOLID ITEMS ARE TO REMAIN OR TO BE RELOCATED AS NOTED. NOTE - ITEMS SHOWN IN THE DEMOLITION PLANS ARE BASED ON FIELD OBSERVATIONS. ADDITIONAL ELECTRICAL ITEMS MAY BE ENCOUNTERED THAT ARE NOT SHOWN - ALL GENERAL ELECTRICAL ITEMS ARE TO BE REMOVED THAT ARE NOT SHOWN, BUT ARE IN AREAS OF COMPLETE REMODEL.

DEMOLITION KEYNOTES

- RETAIN EXISTING CATEGORY 6 CABLING FROM DATA OUTLET THAT IS REMOVED.

GENERAL NOTES

- COMPLY WITH LATEST ADOPTED NEC, NFPA 72 AND LATEST ADOPTED IBC/IFC.
- ALL NEW DATA SHALL BE CAT 6 ROUTED TO COMMUNICATIONS ROOM 140.

REMODEL KEYNOTES

- CONTRACTOR SHALL USE EXISTING CATEGORY 6 CABLING RETAINED FROM DEMOLITION AND RE-ROUTE TO EXTENT POSSIBLE. ALL REUSED CABLING SHALL PASS CABLE TESTING. PROVIDE NEW CABLING BACK TO EXISTING DATA ROOM IF ANY CABLING FAILS TEST.
- PHONE LINE AND LAN CONNECTION FOR NEW LITHOGRAPHY MACHINE. COORDINATE EXACT LOCATION OF DATA OUTLET WITH EQUIPMENT INSTALLER BEFORE ROUGH IN.
- PROVIDE NEW HORN STROBE AND CONNECT TO NEAREST NAC CIRCUIT. CONTRACTOR SHALL VERIFY CIRCUIT LOAD TO ENSURE AMPERAGE MEETS CODE REQUIREMENTS. SEE PLAN FOR FACP LOCATION.



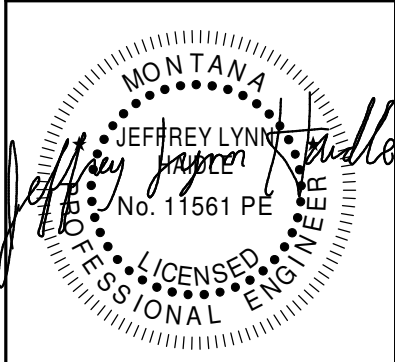
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