



Request for Proposal("RFP")

Brenham Municipal Airport Terminal Building HVAC Replacment

RFP NO. 23-011– Addendum No. 1 Revised MEP plans

Revised MEP Plans:

New MEP plan set to replace current Attachment A and Attachment B. New MEP plans “Attachment A” for the Airport with the hood plenum incorporated and the captiveaire sheet added to the set.

ATTACHMENT A

SECTION 22.0 AND 23.0

GENERAL PLUMBING AND MECHANICAL REQUIREMENTS

GENERAL
THE WORK COVERED BY THIS SECTION INCLUDES THE FURNISHING OF EACH ITEM LISTED HEREIN AND OR SHOWN ON THE DRAWINGS...

CODES AND PERMITS
CONFORM TO ALL APPLICABLE CODES: 2018 INTERNATIONAL CODES; 2017 NEC (NFPA 70); 2012 TAS (TEXAS ACCESSIBILITY STANDARDS); 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)...

OBTAIN AND PAY ALL COSTS FOR REQUIRED PERMITS AND INSPECTION FOR ALL WORK INCLUDED HEREIN

ALL EQUIPMENT PROVIDED SHALL BE U.L. LISTED FOR THE USE INTENDED AND THE METHOD OF INSTALLATION.

INSTALL
THE SPECIFICATIONS AND SCHEDULES ON THE DRAWINGS ARE INTENDED TO DESCRIBE MATERIALS AND EQUIPMENT WHICH ARE TO BE 'FURNISHED' BY THE CONTRACTOR...

IN ALL CASES THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO COMPLEMENT EACH OTHER TO DEFINE COMPLETE WORKABLE SYSTEMS. THE SCALE OF THE DRAWINGS DOES NOT PERMIT THE SHOWING OF THE EXACT LOCATION OF ALL MATERIALS AND EQUIPMENT...

WORK INDICATED IN THE SPECIFICATIONS BUT NOT SHOWN ON THE DRAWINGS, AND VICE VERSA, IS AS BINDING AS THOUGH INDICATED BY BOTH. WHERE THE SPECIFICATIONS AND DRAWINGS CONFLICT THE ENGINEER WILL DETERMINE WHICH IS TO BE PROVIDED.

MATERIAL AND EQUIPMENT - GENERAL
UNLESS SPECIFICALLY NOTED ALL MATERIALS AND EQUIPMENT INSTALLED IN THIS PROJECT SHALL BE NEW AND IN GOOD CONDITION.

WORKMANSHIP
ALL WORKMANSHIP SHALL BE DONE IN A PROFESSIONAL MANNER AND IN ACCORDANCE WITH THE BEST MODERN PRACTICE. WHENEVER THE CONTRACT DRAWINGS OR SPECIFICATIONS OMIT OR CAUSE A REASONABLE DOUBT ABOUT WHAT IS PERMISSIBLE...

COORDINATION
ALL WORK UNDER THESE DIVISIONS HAS BEEN DESIGNED IN AN ATTEMPT TO AVOID CONFLICTS FOR SPACE DURING INSTALLATION. THE SCALE OF THE DRAWING DOES NOT PERMIT THE SHOWING OF THE EXACT LOCATION OF ALL MATERIALS AND EQUIPMENT...

AS-BUILT DRAWINGS
MAINTAIN AT THE JOB SITE A SET OF PRINTS USED FOR NO OTHER PURPOSE BUT TO RECORD, WITH COLORED PENCIL, 'AS BUILT' CHANGES AND DIAGRAMS NOTING THOSE PORTIONS OF THE WORK IN WHICH THE ACTUAL INSTALLATION VARIES SIGNIFICANTLY FROM THE CONTRACT DRAWINGS...

AT THE CONCLUSION OF THE PROJECT, THE JOB RECORDED 'AS BUILT' DRAWINGS SHALL BE DELIVERED TO THE ARCHITECT AS A CONDITION OF FINAL ACCEPTANCE.

SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT. SUBMITTALS SHALL INCLUDE ALL ITEMS WITH A TABLE OF CONTENTS AS A SINGLE SUBMITTAL (MECHANICAL, ELECTRICAL OR PLUMBING). PIECE MEAL AND/OR PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. EACH COMPLETE PDF FILE SHALL CONTAIN A TABLE OF CONTENTS SHOWING THE ORDER IN WHICH ITEMS ARE ARRANGED. COMPLETE DESCRIPTIVE LITERATURE, AND SHOP DRAWINGS WHERE APPROPRIATE, SHALL BE SUBMITTED FOR APPROVAL.

AFTER REVIEW BY THE ENGINEER THE SUBMITTAL WILL BE RETURNED WITH A COVER LETTER STATING REVIEW COMMENTS AND APPROVAL. SUBMITTALS NOT COMPLYING WITH THE ABOVE REQUIREMENTS ARE SUBJECT TO BEING RETURNED WITHOUT ACTION.

EQUAL PRODUCTS
THE NAMING OF A MANUFACTURER AND MODEL NUMBER, OR OTHER IDENTIFYING DESIGNATION, OF A PRODUCT HEREIN IS INTENDED TO ESTABLISH CONSTRUCTION, PHYSICAL SIZE, ELECTRICAL CHARACTERISTICS, CAPACITIES, AND/OR OTHER FEATURES AFFECTING THE UTILIZATION OF THE PRODUCT IN THIS PARTICULAR PROJECT. UNLESS OTHERWISE NOTED, THE PRODUCTS OF OTHER MANUFACTURERS WILL BE CONSIDERED AND WILL BE ACCEPTED IF THEY ARE EQUAL IN ALL RESPECTS TO THE SPECIFIED PRODUCTS...

EXCAVATION AND BACKFILL
ALL EXCAVATION FOR UNDERGROUND UTILITIES SHALL BE MADE TRUE TO GRADE SO THAT PIPING RESTS ON UNDISTURBED EARTH. IF THE ABOVE IS NOT FEASIBLE, OR AT THE CONTRACTOR'S OPTION, EXCAVATION SHALL BE MADE A MINIMUM OF SIX INCHES BELOW THE REQUIRED GRADE TO PROVIDE A SAND BED FOR THE PIPING. BACKFILL OVER PIPING SHALL BE MADE WITH EARTH OR FILL SAND FREE OF DEBRIS AND SHALL BE TAMPED BY HAND OR MECHANICAL MEANS TO THE DENSITY OF THE ADJACENT UNDISTURBED EARTH. BACK FILL UNDER SLABS ON GRADE SHALL BE MADE IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS OF SUCH AREAS. WHEN EXCAVATION IS TO BE MADE WHERE THE SURFACE MATERIAL IS CONCRETE, THE CONTRACTOR REQUIRING THE EXCAVATION SHALL LAYOUT THE LIMITS, CONTRACTOR REQUIRING THE EXCAVATION SHALL PERFORM ALL OTHER EXCAVATION AND BACKFILL IN ACCORDANCE WITH THE ABOVE.

ALL TRENCHING AND EXCAVATION SHALL BE DONE IN STRICT ACCORDANCE WITH CURRENT OSHA REQUIREMENTS AND ALL OTHER APPLICABLE SAFETY CODES AND STANDARDS.

GUARANTEE
BEFORE FINAL PAYMENT IS MADE, EACH CONTRACTOR OR SUB-CONTRACTOR PERFORMING WORK COVERED BY THESE DIVISIONS SHALL GUARANTEE, IN WRITING, THAT THE WORK PERFORMED IS FREE OF DEFECTIVE MATERIALS, EQUIPMENT AND FAULTY WORKMANSHIP AND SHALL REMAIN SO FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF ACCEPTANCE BY THE OWNER. THE GUARANTEE SHALL COVER THE REPLACEMENT OF ANY DEFECTIVE MATERIALS OR EQUIPMENT AND CORRECTION OF ANY FAULTY WORKMANSHIP WITHOUT ADDITIONAL COST TO THE OWNER.

END OF SECTION

SECTION 22.1

PLUMBING

GENERAL

GENERAL

THE WORK COVERED BY THIS SECTION INCLUDES THE FURNISHING OF EACH ITEM LISTED HEREIN AND/OR SHOWN ON THE DRAWINGS...

ALL WORK PERFORMED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL COMPLY WITH THE CURRENT APPROVED BUILDING CODE, UNLESS THE SPECIFICATIONS OR DRAWINGS INDICATE MORE RIGID REQUIREMENTS...

SCOPE OF WORK

WORK COVERED UNDER THIS SECTION OF THE SPECIFICATIONS INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, THE FOLLOWING: FURNISH AND INSTALL INTERIOR WATER, SANITARY SEWER AND VENT PIPING FROM FIXTURES IN THIS CONTRACT.

FURNISH AND INSTALL FLOOR DRAINS, FLOOR SINKS, HUB DRAINS AND CLEAN OUTS.

FURNISH AND INSTALL HOT AND COLD WATER COPPER PIPING THROUGHOUT.

FURNISH AND INSTALL LAVATORIES, WATER CLOSETS, AND ALL FITTINGS REQUIRED FOR EACH, TO MAKE THE FIXTURE COMPLETELY OPERATIONAL.

FLASHING FOR VENTS THROUGH ROOF.

FURNISH AND INSTALL INSULATION ON ALL WATER LINES WHERE REQUIRED.

PIPE AND FITTINGS

THE PIPE AND FITTINGS INDICATED BELOW SHALL BE USED FOR THE INDICATED SYSTEMS. THE ACCEPTED STANDARD JOINING PROCEDURES SHALL BE USED FOR THE PARTICULAR MATERIALS INVOLVED. ALL PIPE SHALL BE REAMED, OR OTHERWISE CLEANED, AFTER CUTTING TO REMOVE BURRS AND TO RESTORE TO FULL BORE.

WATER SERVICE HOT AND COLD COPPER WATER TUBE, TYPE 'L' RIGID, CONFORMING TO ASTM B88, WITH WROUGHT COPPER FITTINGS CONFORMING TO ANSI B16.22, AND 95.5 SOLDER JOINTS JOINED WITH HIGH TEMPERATURE SOLDER (SILFOS, SILBRZ, PHOSCOOPER, ETC.) OR PER TYPE A PIPING:

- 1. PEX-A (ENGLER METHOD CROSSLINKED POLYETHYLENE) PIPING: ASTM F 876/877
2. PEX-A FITTINGS: ELBOWS, ADAPTERS, COUPLINGS, PLUGS, TEES AND MULTI-PORT TEES (1/2 INCH THROUGH 2 INCH NOMINAL PIPE SIZE); ASTM F1960 COLD-EXPANSION FITTING MANUFACTURED FROM THE FOLLOWING MATERIAL TYPES: 2.1. UNS NO. C69300 LEAD-FREE (LF) BRASS. 2.2. 20% GLASS-FILLED POLYSULFONE AS SPECIFIED IN ASTM D 6394. 2.3. UNREINFORCED POLYSULFONE (GROUP 01, CLASS 1, GRADE 2) AS SPECIFIED IN ASTM D 6394. 2.4. POLYPHENYLSULFONE (GROUP 03, CLASS 1, GRADE 2) AS SPECIFIED IN ASTM D 6394. 2.5. BLEND OF POLYPHENYLSULFONE (55-50%) AND UNREINFORCED POLYSULFONE (REM.) AS SPECIFIED IN ASTM D 6394. 2.6. REINFORCED COLD-EXPANSION RINGS SHALL BE MANUFACTURED FROM THE SAME SOURCE AS PEX-A PIPING MANUFACTURER AND MARKED 'F1960'. 2.7. PROVIDE FITTINGS FROM THE SAME MANUFACTURER OF THE PIPING THERE SHALL BE NO JOINTS ALLOWED UNDER SLABS.

CONDENSATE DRAIN LINES

TYPE K SOFT COPPER TUBING (ASTM B-88) AND WROUGHT COPPER FITTINGS JOINED WITH HIGH TEMPERATURE SOLDER (SILFOS, SILBRZ, PHOSCOOPER, ETC.). THERE SHALL BE NO JOINTS ALLOWED UNDER SLABS.

SANITARY SEWER DRAIN WASTE AND VENT LINES BELOW GRADE, NOT EXPOSED OR EXPOSED IN AREAS NOT USED AS RETURN AIR PLENUM;

EITHER CAST IRON OR SEWER GRADE SCHEDULE 40 PVC PIPE (ASTM D-1785, D-2665) AND FITTINGS WITH SOLVENT WELD JOINTS.

SANITARY SEWER DRAIN WASTE AND VENT LINES ABOVE GRADE, EXPOSED IN AREAS USED AS RETURN AIR PLENUMS; NO-HUB OR HUB AND SPIGOT CAST IRON SOIL PIPE

NO-HUB CAST IRON SOIL PIPE AND FITTINGS SHALL CONFORM TO ASTM A 888 AND/OR STANDARD SPECIFICATIONS 301 OF THE CAST IRON SOIL PIPE INSTITUTE. NO-HUB JOINTS SHALL CONFORM TO SPECIFICATION 310 OF THE CAST IRON SOIL PIPE INSTITUTE AND/OR ASTM C 1277. JOINTS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS

HUB AND SPIGOT PIPE, SERVICE WEIGHT (SV) CAST IRON SV CAST IRON PIPE AND FITTINGS SHALL CONFORM TO ASTM A 74. PIPING SHALL BE JOINED WITH NEOPRENE GASKETS WHICH CONFORM TO ASTM C 564.

NATURAL GAS PIPING SCHEDULE 40 STEEL PIPE WITH 15#F SCREW FITTINGS

PIPING INSTALLATION

ALL HORIZONTAL PIPING SHALL BE PLUMB, EXCEPT FOR WASTE AND VENT PIPING. WASTE AND VENT PIPING SHALL HAVE A MINIMUM OF 1/8" AND A MAXIMUM OF 1/4" PER FOOT FALL, EXCEPT WHERE NOTED OTHERWISE ON THE DRAWINGS.

ALL PIPING SHALL BE RUN PARALLEL TO THE VERTICAL WALL LINE EXCEPT WHERE OFFSETS REQUIRE OTHERWISE TO AVOID OBSTRUCTIONS.

ALL PIPING IN WALLS AND CHASES SHALL BE SECURELY ANCHORED TO PREVENT UNDUE MOTION OF PIPE AND FIXTURE SUPPLIES WHERE OPERATING VALVES

PROVIDE WATER HAMMER ARRESTORS IN PIPING SYSTEM AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY CODE

VALVES

A CHROME PLATED STOP VALVE SHALL BE INSTALLED IN THE WATER SUPPLY TO EACH ITEM OF PLUMBING EQUIPMENT. SUITABLE ADAPTERS SHALL BE PROVIDED FOR INSTALLATION OF VALVES IN COPPER LINES.

HOSE BIBBS AND FAUCETS WITH HOSE CONNECTIONS SHALL BE PROVIDED WITH VACUUM BREAKERS.

HANGERS AND SUPPORTS

ALL PIPES MUST BE ADEQUATELY SUPPORTED THROUGHOUT. HANGERS SHALL BE MALLEABLE SPLIT RING, EXCEPT HANGERS 1-1/2" AND LARGER MAY BE CLEVIS TYPE AT THE CONTRACTOR'S OPTION.

TRAPEZE HANGERS MAY BE USED TO SUPPORT TWO OR MORE PIPES AT THE SAME LOCATION; SUCH TRAPEZES SHALL BE ANGLE OR CHANNEL IRON OR METAL FRAMING EQUAL TO UNISTRUT OR ELEC. TRAPEZE HANGERS SHALL BE OF SUCH SIZE OR SERIES THAT THERE WILL BE NO VISIBLE DEFLECTION BETWEEN SUPPORTING ROOLS.

MAXIMUM HANGER SPACING SHALL BE AS FOLLOWS, WITH THE SMALLEST PIPE ON TRAPEZE HANGERS DETERMINING THE HANGER SPACING UNLESS INTERMEDIATE INDIVIDUAL HANGERS ARE USED ON THE SMALL PIPING TO SATISFY THE SPACING REQUIREMENTS.

THREADED STEEL PIPE 12" COPPER TUBING 1-1/2" AND LESS 6" COPPER TUBING GREATER THAN 1-1/2" PLASTIC PIPING 4"

PROVIDE A HANGER WITHIN 24" ON EITHER SIDE OF ANY ELBOW REGARDLESS OF MATERIAL TYPE OR SIZE.

ALL PEX PIPING SHALL BE SUPPORTED ACCORDING TO MANUFACTURER'S RECOMMENDATION AND USING PIPING MFG. SUPPORT SYSTEM COMPONENTS

ESCUTCHEONS

CHROME PLATED ESCUTCHEONS SIZED TO FIT SNUGLY AROUND THE PIPE SHALL BE USED AT ALL EXPOSED LOCATIONS OF PIPES WHICH PENETRATE WALLS AND CEILINGS. THIS DOES NOT INCLUDE THOSE PENETRATIONS IN EQUIPMENT ROOM OR ACCESSIBLE CHASES.

TESTING

DOMESTIC WATER - DOMESTIC WATER PIPING SHALL BE HYDRO-STATICALLY TESTED AT 125 PSI AND PROVEN TIGHT BY EXHIBITING NO DISCERNIBLE PRESSURE LOSS INDICATED ON A 0-300 PSI PRESSURE GAUGE OVER A FOUR HOUR PERIOD. THE SOURCE OF THE PRESSURE SHALL BE ISOLATED FROM THE SYSTEM DURING THE TEST. ANY LEAKS SHALL BE CORRECTED BY TIGHTENING THE JOINT, REPLACING THE FITTING AND/OR REPLACING THE PIPE AS NECESSARY TO STOP THE LEAK. TEST SHALL BE REPEATED AFTER REPAIR(S) UNTIL SYSTEM IS PROVEN TIGHT.

SANITARY AND WASTE SYSTEMS - ALL PIPING SHOULD BE TESTED WITH NOT LESS THAN 10 FEET HYDROSTATIC HEAD AND MAINTAINED FOR A PERIOD OF TWO HOURS.

INSULATION

THE FOLLOWING PIPING SHALL BE INSULATED WITH PREFORMED 1" OWENS CORNING FIBERGLASS WITH WHITE VAPOR BARRIER: - ALL PVC DRAIN AND VENT LINES EXPOSED IN RETURN AIR PLENUMS - ANY PEX PIPING LOCATED WITHIN RETURN AIR PLENUM AREA ABOVE THE CEILING - ALL DOMESTIC HOT WATER PIPING - ALL DOMESTIC WATER PIPING LOCATED WITHIN UNCONDITIONED WAREHOUSE OR WITHIN ANY EXTERIOR WALL ASSEMBLY

EXPOSED P-TRAPS, AND COLD AND HOT WATER SUPPLIES UNDER HANDICAP ACCESSIBLE LAVATORIES - PROVIDE FOAM INSULATING COVERS WITH EXTERNAL VINYL RE-CLOSEABLE SEALING STRIPS, TAMPER PROOF LOCKING DEVICE, AND WEEP SEAM TO PREVENT LEAKAGE BUILD UP, AS MANUFACTURED BY PLUMBEREX SPECIALTY PRODUCTS OR EQUAL.

END OF SECTION

SECTION 22.1

PLUMBING FIXTURES AND TRIM

GENERAL

THE REQUIREMENTS OF SECTION 22.0 APPLY TO ALL WORK DESCRIBED IN THIS SECTION. INCLUDES PLUMBING FIXTURES AND TRIM AND FLOOR DRAINS.

SUBMITTALS SHALL INCLUDE MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR ALL PLUMBING FIXTURES. ALL WATER CLOSETS, LAVATORIES, URINALS, SHOWER HEADS, ETC., SHALL CONFORM TO THE CURRENT STATE OF TEXAS WATER SAVING PERFORMANCE STANDARDS.

PRODUCTS

EACH PLUMBING FIXTURE, FLUSH VALVE, TOILET SEAT, SUPPLIES, FAUCETS, ETC., WILL HAVE A MINIMUM OF ONE MANUFACTURERS LISTED. ANY SUBMITTALS BESIDES THOSE LISTED MUST BE EQUAL AND ARE SUBJECT TO APPROVAL FROM ARCHITECT/ENGINEER.

EXECUTION

CHECK MILLWORK SHOP DRAWINGS, CONFIRM LOCATION AND SIZE OF FIXTURES AND OPENINGS BEFORE ROUGH-IN AND INSTALLATION.

INSTALL FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING. AT COMPLETION THOROUGHLY CLEAN PLUMBING FIXTURES AND EQUIPMENT.

PROVIDE REDUCERS AND ESCUTCHEONS AS REQUIRED FOR COMPLETE INSTALLATION.

HOSE BIBBS AND FAUCETS WITH HOSE CONNECTIONS SHALL BE PROVIDED WITH VACUUM BREAKERS.

SOLIDLY ATTACH CLOSET AND LAVATORY CARRIERS TO FLOOR WITH ANCHOR BOLTS. SECURE FOOT OR MOUNTING POINT SHALL BE SET, INCLUDING ANCHORING LUGS ON BACK SIDE OF CLOSET CARRIERS.

ALL CHINA FIXTURES AND ALL TOILET SEATS SHALL BE WHITE IN COLOR UNLESS OTHERWISE CALLED OUT ON DRAWINGS.

ALL LAVATORIES WHICH ARE ADA ACCESSIBLE ARE TO BE FURNISHED WITH P-TRAP COVERS AND VALVE/SUPPLY COVERS AS MANUFACTURED BY PLUMBEREX OR EQUAL.

MOUNTING HEIGHTS

MOUNT FIXTURES THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:

- A. WATER CLOSET: (1) STANDARD: 15 INCHES TO TOP OF BOWL RIM (2) ADA: 18 INCHES TO TOP OF SEAT B. URINAL: 17 INCHES TO TOP OF BOWL RIM C. LAVATORY: (1) STANDARD: 31 INCHES TO TOP OF BASIN RIM (2) ADA: 34 INCHES TO TOP OF BASIN RIM D. DRINKING FOUNTAIN: (1) STANDARD: 40 INCHES TO TOP OF SPOUT OUTLET. (2) ADA: 36 INCHES TO TOP OF SPOUT OUTLET.

END OF SECTION

GENERAL DEMOLITION NOTES

- 1. PRIOR TO BIDDING, THE CONTRACTORS SHALL VISIT THE SITE TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, AND TO VERIFY LOCATION, SIZE AND QUANTITY OF ITEMS TO BE REMOVED. SUBMITTAL OF HIS BID SHALL SIGNIFY HIS WILLINGNESS TO COMPLY WITH THE DESIGN AND HIS ACCEPTANCE OF ON-SITE CONDITIONS AS THEY EXIST. 2. SALVAGE ITEMS AND MATERIALS (REMOVED AND/OR DEMOLISHED) SHALL REMAIN THE PROPERTY OF THE OWNER AND AS A PART OF THIS CONTRACT THE CONTRACTOR SHALL DELIVER THESE TO A DESTINATION AS DIRECTED BY THE OWNER. 3. EACH ITEM OF EQUIPMENT, PLUMBING, RECEPTACLES, LIGHT FIXTURES, MOTORS, ETC., SHOWN TO BE DEMOLISHED SHALL HAVE ITS ASSOCIATED CIRCUITRY PIPING AND TRIM REMOVED BACK TO AN ACTIVE POINT FOR PLUMBING OR MECHANICAL AND BACK TO THE PROTECTIVE DEVICE IN THE PANEL, SWITCHBOARD, ETC. FOR ELECTRICAL EXCEPT AS OTHERWISE MENTIONED BY NOTES 4 AND 5 BELOW.

- 3.A. ASSOCIATED CIRCUITRY SHALL BE DEFINED TO INCLUDE ALL CONDUIT, CONDUCTORS, BOXES, WIRING DEVICES, COVER PLATES, LAMPS, FIXTURES, WIREWAYS, RACEWAYS, SWITCHES, STARTERS, ETC., WHICH ARE ASSOCIATED WITH THE ITEM SHOWN TO BE REMOVED. 3.B. ASSOCIATED PLUMBING SHALL BE DEFINED TO INCLUDE ALL PIPING, VENTS, VALVES, ESCUTCHEONS, ETC. ASSOCIATED WITH THE ITEM SHOWN TO BE REMOVED. WHERE AN ITEM TO BE REMOVED TIES INTO AN ACTIVE PIPE THE CONTRACTOR SHALL CAP THE EXISTING SERVICE AT THE POINT CLOSEST TO THE EXISTING PIPE TO REMOVE AND REMOVE ALL ABANDONED PIPING AND EQUIPMENT. WHERE A ROOF VENT IS SHOWN TO BE REMOVED THE PIPING IS TO BE REMOVED AND THE EXISTING VENT IS TO BE CAPPED SUCH THAT IT WILL BECOME AN INTEGRAL PART OF THE ROOFING SYSTEM. 3.C. ASSOCIATED MECHANICAL SHALL BE DEFINED TO INCLUDE ALL DUCT, EQUIPMENT, CONTROLS ETC. ASSOCIATED WITH THE ITEM SHOWN TO BE REMOVED. WHERE AN ITEM IS AN INTEGRAL PART OF AN EXISTING SYSTEM THE EXISTING SYSTEM SHALL BE CAPPED AND OR REPAIRED AS REQUIRED TO ASSURE THE REMAINING EQUIPMENT SHALL BE OPERABLE. 3.D. THE ELECTRICAL PROTECTIVE DEVICE SHALL REMAIN AS AN INTEGRAL PART OF THE EXISTING PANEL, SWITCHBOARD, ETC., AND SHALL BE LABELED AS A SPARE OR BE USED FOR NEW CIRCUITRY AS SHOWN. 3.E. WHERE CONDUIT ASSOCIATED WITH AN ITEM SHOWN TO BE REMOVED IS IN AN INACCESSIBLE AREA, SUCH AS ENCASED IN CONCRETE, THIS INACCESSIBLE CONDUIT ONLY SHALL BE ABANDONED IN PLACE. ALL CONDUCTORS SHALL BE REMOVED, THEN CONDUIT SHALL BE SEALED, CAPPED OR OTHERWISE TERMINATED IN A SAFE MANNER ACCEPTABLE TO THE OWNER, OR AS OTHERWISE STATED IN ITEM 3.F. 3.F. WHERE INACCESSIBLE CONDUIT OR PIPING ENDS OR MUST BE TERMINATED IN FINISHED SPACE, THE CONDUIT, PIPE, OR J-BOX SHALL BE REMOVED TO BELOW THE FINISHED SURFACE OF WALL, CEILING OR FLOOR, THEN VOID SHALL BE FILLED WITH NON-SHRINKING GROUT THEN RESURFACED AND REFINISHED TO MATCH SURROUNDING SURFACES.

- 4. WHERE ONLY A PORTION OF A CIRCUITS LOAD IS SCHEDULED TO BE REMOVED, ONLY THAT PORTION ASSOCIATED WITH DEMOLISHED DEVICE SHALL BE REMOVED TO A POINT WHERE THE REMAINING LOAD IS ACTIVE AND IN A GOOD OPERATING CONDITION. WHERE EXTENSION OF AN EXISTING CIRCUIT IS REQUIRED, CONDUIT AND WIRE SHALL BE RUN (CONCEALED WHERE POSSIBLE) FROM THE ITEMS EXISTING LOCATION TO ITS NEW LOCATION. CONDUIT SHALL BE ROUTED SO AS NOT TO INTERFERE WITH THE USE, OR MAR THE AESTHETICS OF THE AREA. WHERE NECESSARY THE CONTRACTOR SHALL RELOCATE AND RECONNECT CIRCUITRY ASSOCIATED WITH THE RELOCATION OF THE ITEM. 5. WHERE AN ITEM OR EQUIPMENT IS SCHEDULED TO BE REMOVED AND RELOCATED IN A SAFE MANNER ACCEPTABLE TO THE CONTRACTOR SHALL RELOCATE AND RECONNECT CIRCUITRY ASSOCIATED WITH THE RELOCATION OF THE ITEM. 6. WHERE AN ITEM OR EQUIPMENT IS SCHEDULED TO BE REMOVED AND RELOCATED IN A SAFE MANNER ACCEPTABLE TO THE CONTRACTOR SHALL RELOCATE AND RECONNECT CIRCUITRY ASSOCIATED WITH THE RELOCATION OF THE ITEM.

THE CONTRACTOR WILL FURNISH THE OWNER ONE COMPLETE SET OF AIR BALANCE DATA.

END OF SECTION

SECTION 23.1

COOLING, HEATING, AND VENTILATION

GENERAL

THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND APPLICABLE PORTIONS OF SECTION 23.0 OF THE SPECIFICATIONS ARE A PART OF THIS SECTION.

THE WORK COVERED BY THIS SECTION INCLUDES THE FURNISHING OF EACH ITEM LISTED HEREIN AND/OR SHOWN ON THE DRAWINGS; OF QUALITY OR SUBJECT TO QUALIFICATION NOTED HEREIN. THE CONTRACTOR SHALL PERFORM EACH OPERATION PRESCRIBED ACCORDING TO CONDITIONS STATED, AND SHALL PROVIDE THEREFORE ALL NECESSARY LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS. NECESSARY TO PROVIDE A COMPLETE OPERATIONAL SYSTEM.

REFER TO GENERAL AND SPECIAL PROVISIONS, CONTRACTORS SHALL BE QUALIFIED TO INSTALL AND SERVICE THE EQUIPMENT WHICH WILL BE INSTALLED UNDER THIS CONTRACT.

SCOPE

WORK INCLUDED IN THIS SECTION:

- A. INSTALLATION OF HVAC UNITS B. INSTALLATION OF REFRIGERANT PIPING C. INSTALLATION OF SHEET METAL DUCT WORK D. INSTALLATION OF AIR CONDITIONING CONTROLS AND LOW VOLTAGE WIRING E. INSTALLATION OF COPPER CONDENSATE DRAINS AND EMERGENCY DRAINS.

WORK SPECIFIED UNDER OTHER SECTIONS: PLUMBING SECTION 22 ELECTRICAL SECTION 26

PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT AS SPECIFIED ON THE DRAWING PLANS OR MECHANICAL EQUIPMENT SCHEDULE

EQUAL UNIT MANUFACTURES MAY BE SUBMITTED FOR APPROVAL PRIOR TO ORDERING

GRILL AND RESTICERS CEILING DIFFUSER MANUFACTURER AND SIZE SHALL BE AS SPECIFIED ON THE DRAWINGS

RETURN AIR GRILLS MANUFACTURER AND SIZE SHALL BE AS SPECIFIED ON THE DRAWINGS

DUCTWORK ALL DUCT WORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH RECOMMENDATIONS IN THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION'S LATEST EDITION OF "LOW VELOCITY DUCT CONSTRUCTIONS STANDARDS"

THE CONFIGURATION OF THE DUCTWORK INSTALLED SHALL CONFORM TO THAT SHOWN ON THE DRAWINGS. MODIFICATIONS WILL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

SUPPLY AND RETURN DUCT SHALL BE EXTERNALLY INSULATED GALVANIZED STEEL DUCT WRAPPED WITH MINIMUM 2" ALL SERVICE DUCT WRAP WITH A MINIMUM R-VALUE OF R8 IN CONDITIONED SPACES AND R8 IN UN-INSULATED AREAS. ACCEPTABLE INSULATION MANUFACTURERS ARE OWENS-CORNING, JOHN MANVILLE, KNAUF.

EXHAUST DUCTS SHALL BE GALVANIZED STEEL UNLINED.

ALL BRANCHES SHALL BE PROVIDED WITH DAMPERS WITH LOCKING QUADRANTS.

DUCT SEALANT - SEAL ALL JOINTS WITH HARDCAST INC. MASTIC OR EQUAL.

ALL STRAP HANGERS FOR DUCT SHALL BE VERTICAL. NO DUCT WILL BE PERMITTED TO REST OR LAY ON CEILINGS, OR BE HUNG FROM WIRES.

WHERE DUCT WORK ADJOINS UNIT INSTALL FLEXIBLE CONNECTIONS. CONNECTORS SHALL BE 30 OZ. CLOSELY WOVEN UL APPROVED GLASS FIBER, DOUBLE COATED WITH NEOPRENE, FIRE RETARDANT, WATERPROOF, AIR-TIGHT RESISTANT TO ACIDS AND GREASE.

FLEXIBLE DUCT SHALL BE FOIL WRAPPED WITH 2" OF INSULATION WITH A MINIMUM R-VALUE OF R8. CONNECTIONS OF FLEX DUCT TO SHEET METAL DUCTS SHALL BE DONE USING ROUND INSERTS AND NYLON TIE WRAP BANDS DESIGNED AND SOLD SPECIFICALLY FOR THIS USE. TAPE OR TIE WIRE WILL NOT BE ACCEPTABLE.

DUCT ACCESSORIES

ACCESS DOORS SHALL BE RIGID AND CLOSE-FITTING, FABRICATED OF GALV. STEEL WITH SEALING GASKETS AND QUICK FASTENING LOCKING DEVICES. FOR INSULATED DUCTWORK INSTALL A 1/2" TIGHTLY CRIMPED INTO THE METAL EDGING STRIP. ATTACH TO DUCTWORK AND EQUIPMENT BY SCREWS OR BOLTS AT 6 INCHES ON CENTER. PROVIDE FLEXIBLE CONNECTIONS AT ALL FANS, AIR HANDLING UNITS, AND ANY OTHER EQUIPMENT SUBJECT TO VIBRATION.

BACKDRIFT DAMPERS SHALL BE OF THE MULTI-BLADE, PARALLEL ACTION GRATE TYPE WITH THE BLADES A MAXIMUM OF 6 INCHES WIDE AND HAVING FELT OR FLEXIBLE VINYL SEALING EDGES. THE BLADES SHALL BE LINKED TOGETHER IN A RAFFLE-FREE MANNER. PROVIDE DAMPERS WITH A DEVICE TO PERMIT ADJUSTMENT FOR VARYING DIFFERENTIAL STATIC PRESSURES.

FLEXIBLE CONNECTIONS SHALL BE FABRICATED OF NEOPRENE COATED FLAMEPROOF FABRIC, CONFORMING TO UL STANDARD #241. TIGHTLY CRIMPED INTO THE METAL EDGING STRIP. ATTACH TO DUCTWORK AND EQUIPMENT BY SCREWS OR BOLTS AT 6 INCHES ON CENTER. PROVIDE FLEXIBLE CONNECTIONS AT ALL FANS, AIR HANDLING UNITS, AND ANY OTHER EQUIPMENT SUBJECT TO VIBRATION.

BALANCING, TESTING AND ADJUSTING

THE AIR DISTRIBUTION SYSTEM SHALL BE BALANCED TO PROVIDE THE SUPPLY AIR TEMPERATURES AND QUANTITIES CALLED FOR ON THE DRAWINGS. EACH INDIVIDUAL SUPPLY OUTLET SHALL BE BALANCED WITH PLUS OR MINUS 10 PERCENT, BUT THE TOTAL AIR IN THE SYSTEM SHALL BE BALANCED WITH PLUS OR MINUS 5 PERCENT. BALANCING SHALL BE ACCOMPLISHED WITH ALL FAN COIL/FURNANCE UNITS RUNNING, ALL RESTROOM EXHAUST FANS RUNNING AND ALL DOORS CLOSED.

THE CONTRACTOR WILL FURNISH THE OWNER ONE COMPLETE SET OF AIR BALANCE DATA.

END OF SECTION

SECTION 26.0

GENERAL ELECTRICAL

GENERAL

GENERAL

THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND APPLICABLE PORTIONS OF SECTION 22.0/23.0 OF THE SPECIFICATIONS ARE HEREBY MADE A PART OF THE SECTION.

PROVIDE ALL SUPERVISION, LABOR EQUIPMENT, TOOLS, TRANSPORTATION SERVICES AND MATERIALS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL SYSTEMS AND FOR THE BUILDING. MAKE THE INSTALLATION IN ACCORDANCE WITH RECOGNIZED GOOD PRACTICE FOR THIS TYPE OF WORK. USE THE PROPER MATERIALS AND THE PROPER METHODS, WHETHER OR NOT THESE ARE DESCRIBED IN DETAIL HEREIN. ALL EMPLOYEES MUST BE SKILLED IN THE WORK TO WHICH THEY ARE ASSIGNED. ALL MATERIALS MUST BE NEW AND UNDAMAGED AND OF GOOD QUALITY.

CODES AND PERMITS

CONFORM TO ALL APPLICABLE CODES: 2018 INTERNATIONAL CODES; 2017 NEC (NFPA 70); 2012 TAS (TEXAS ACCESSIBILITY STANDARDS); 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AND ALL AMENDMENTS TO THE ADOPTED CODES BY THE LOCAL AUTHORITY HAVING JURISDICTION. WHERE THE DRAWINGS AND SPECIFICATIONS EXCEED THE REQUIREMENTS OF THE CODE, COMPLY WITH THE DRAWINGS AND SPECIFICATIONS.

OBTAIN AND PAY ALL COSTS FOR REQUIRED PERMITS AND INSPECTION FOR ALL WORK INCLUDED HEREIN.

ALL EQUIPMENT PROVIDED SHALL BE U.L. LISTED FOR THE USE INTENDED AND THE METHOD OF INSTALLATION.

COORDINATION

COORDINATE WORK OF THIS SECTION WITH THAT OF OTHER TRADES IN ORDER THAT THE VARIOUS COMPONENTS OF THE WORK WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE AND WILL ALLOW PROPER SERVICE ACCESS TO ALL EQUIPMENT, NOT JUST THAT INSTALLED IN THIS SECTION.

ANY COMPONENTS OF THE ELECTRICAL SYSTEMS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE, MUST BE REMOVED AND RELOCATED AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.

WHERE VARIOUS ITEMS OF EQUIPMENT AND MATERIALS ARE SPECIFIED AS SCHEDULED (SUCH AS BY CATALOG NUMBERS), THE PURPOSE IS TO DEFINE THE TYPE AND QUALITY, NOT TO SET FORTH THE EXACT TRIM REQUIRED. THE ELECTRICAL CONTRACTOR WILL VERIFY THE ACTUAL TRIM NEEDED WITH THE MATERIAL IT IS TO BE MOUNTED ON OR IN.

SHOP DRAWINGS AND SUBMITTALS

SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT. SUBMITTALS SHALL INCLUDE ALL ITEMS WITH A TABLE OF CONTENTS AS A SINGLE SUBMITTAL (MECHANICAL, ELECTRICAL OR PLUMBING). PIECE MEAL AND/OR PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. EACH COMPLETE PDF FILE SHALL CONTAIN A TABLE OF CONTENTS SHOWING THE ORDER IN WHICH ITEMS ARE ARRANGED. COMPLETE DESCRIPTIVE LITERATURE, AND SHOP DRAWINGS WHERE APPROPRIATE, SHALL BE SUBMITTED FOR APPROVAL.

AFTER REVIEW BY THE ENGINEER THE SUBMITTAL WILL BE RETURNED WITH A COVER LETTER STATING REVIEW COMMENTS AND APPROVAL. SUBMITTALS NOT COMPLYING WITH THE ABOVE REQUIREMENTS ARE SUBJECT TO BEING RETURNED WITHOUT ACTION.

DRAWINGS

DRAWINGS INDICATE APPROXIMATE LOCATIONS OF THE VARIOUS ITEMS OF ELECTRICAL SYSTEMS, THESE ITEMS ARE SHOWN APPROXIMATELY TO SCALE AND ATTEMPT TO SHOW HOW THESE ITEMS SHOULD BE INTEGRATED. LOCATE ALL THE VARIOUS ITEMS BY ON-THE-JOB MEASUREMENTS. CONFORMANCE WITH ARCHITECTURAL REQUIREMENTS AND COOPERATION WITH OTHER TRADES AND THE OWNER IN LOCATING EQUIPMENT.

AS-BUILT DRAWINGS

MAINTAIN AT THE JOB SITE A SET OF PRINTS USED FOR NO OTHER PURPOSE BUT TO RECORD, WITH COLORED PENCIL, 'AS BUILT' CHANGES AND DIAGRAMS NOTING THOSE PORTIONS OF THE WORK IN WHICH THE ACTUAL INSTALLATION VARIES SIGNIFICANTLY FROM THE CONTRACT DRAWINGS. THESE 'AS BUILT' DRAWINGS SHALL INCLUDE EXACT DIMENSIONED LOCATIONS OF ALL UNDERGROUND UTILITIES, REFERENCED TO PERMANENT ABOVEGROUND FEATURES OR STRUCTURES.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JANETTE SMITH, P.E. 144891, ON MARCH 9, 2023. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

FOR CONSTRUCTION
CITY OF BRENHAM AIRPORT OFFICE/RESTAURANT BUILDING HVAC RENOVATION
 3001 AVIATION WAY, BRENHAM, TX 77833

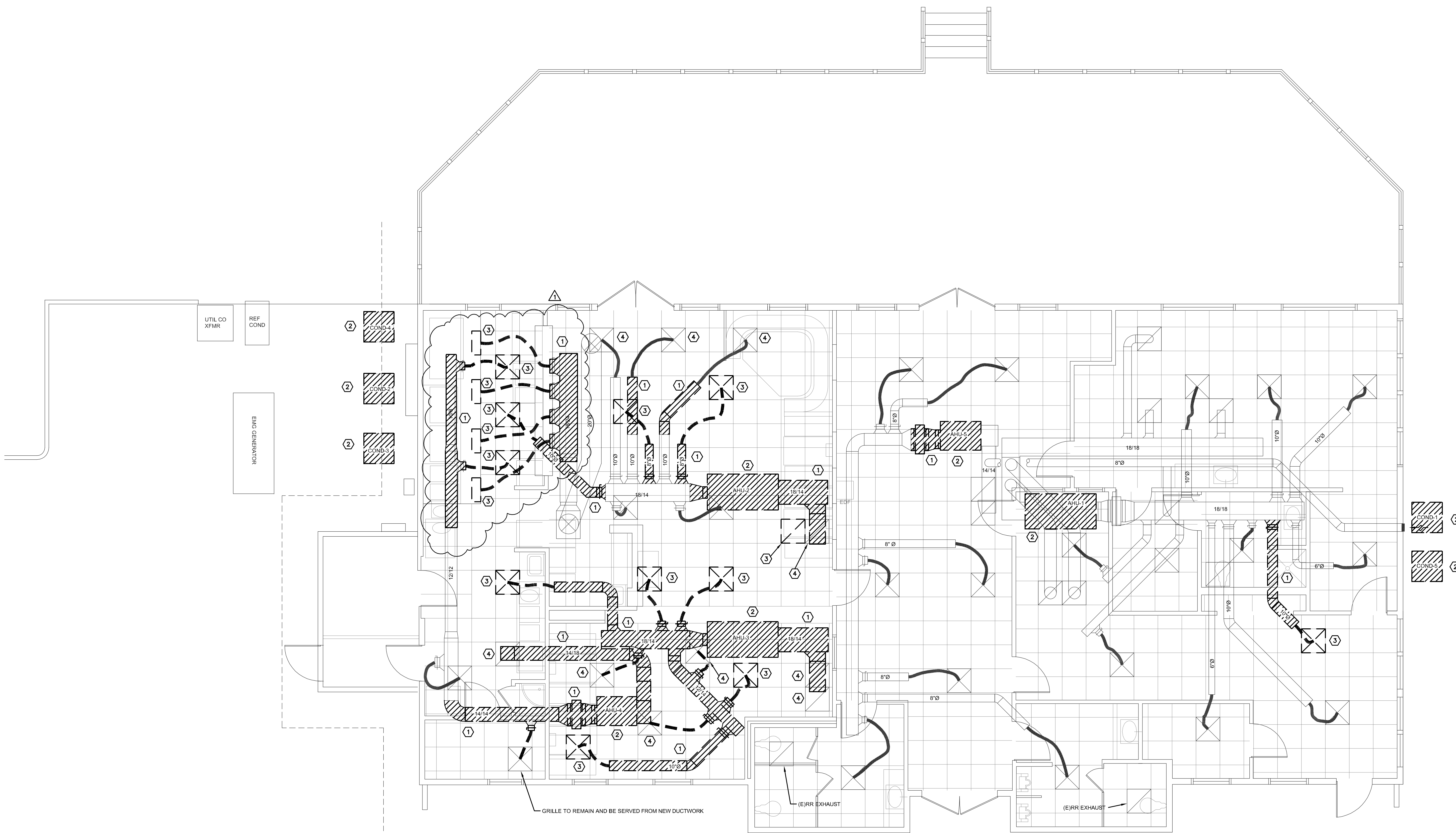
REVISIONS		
#	Date	Revision Notes
1	08/11/23	OWNER CHANGES ADD HOOD PLENUM

PROJECT #: 101-2226
 DRAWN BY: JDS
 CHECKED BY: GPK
 DATE: MARCH 2023
 SHEET TITLE

MECHANICAL DEMO PLAN

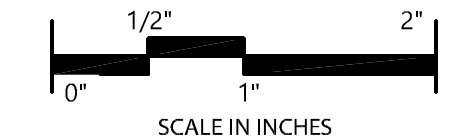
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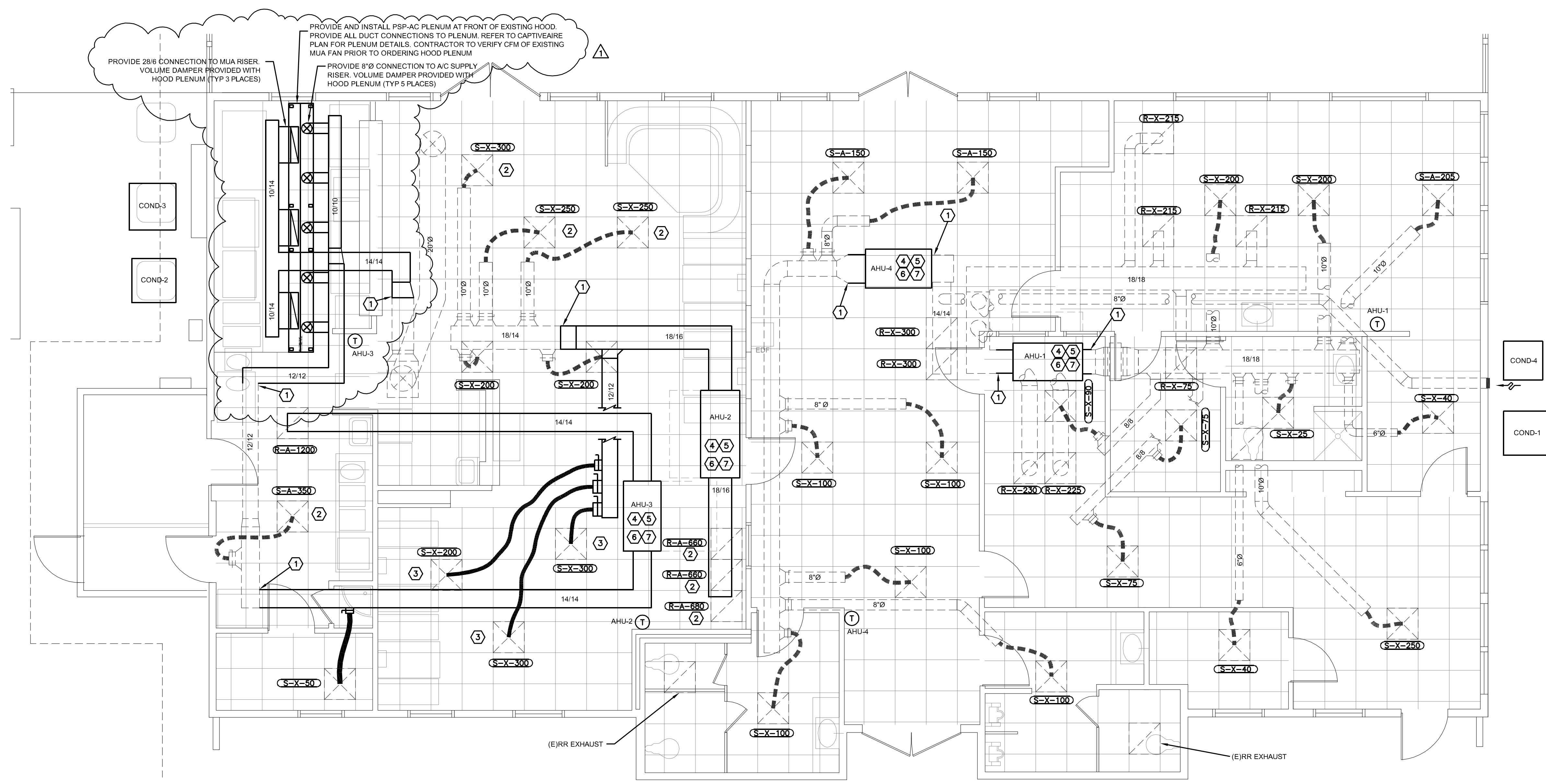


- NOTES:**
- 1 HATCHED DUCTWORK TO BE REMOVED. REPAIR OPENING IN REMAINING DUCTWORK UNLESS OPENING TO BE REUSED FOR NEW DUCTWORK
 - 2 AHU/COND AND ASSOCIATED TSTAT TO BE REMOVED
 - 3 GRILLE AND ASSOCIATED FLEX TO BE REMOVED
 - 4 GRILLE TO BE RELOCATED

MECHANICAL DEMO PLAN
 SCALE: 1/4"=1'-0"



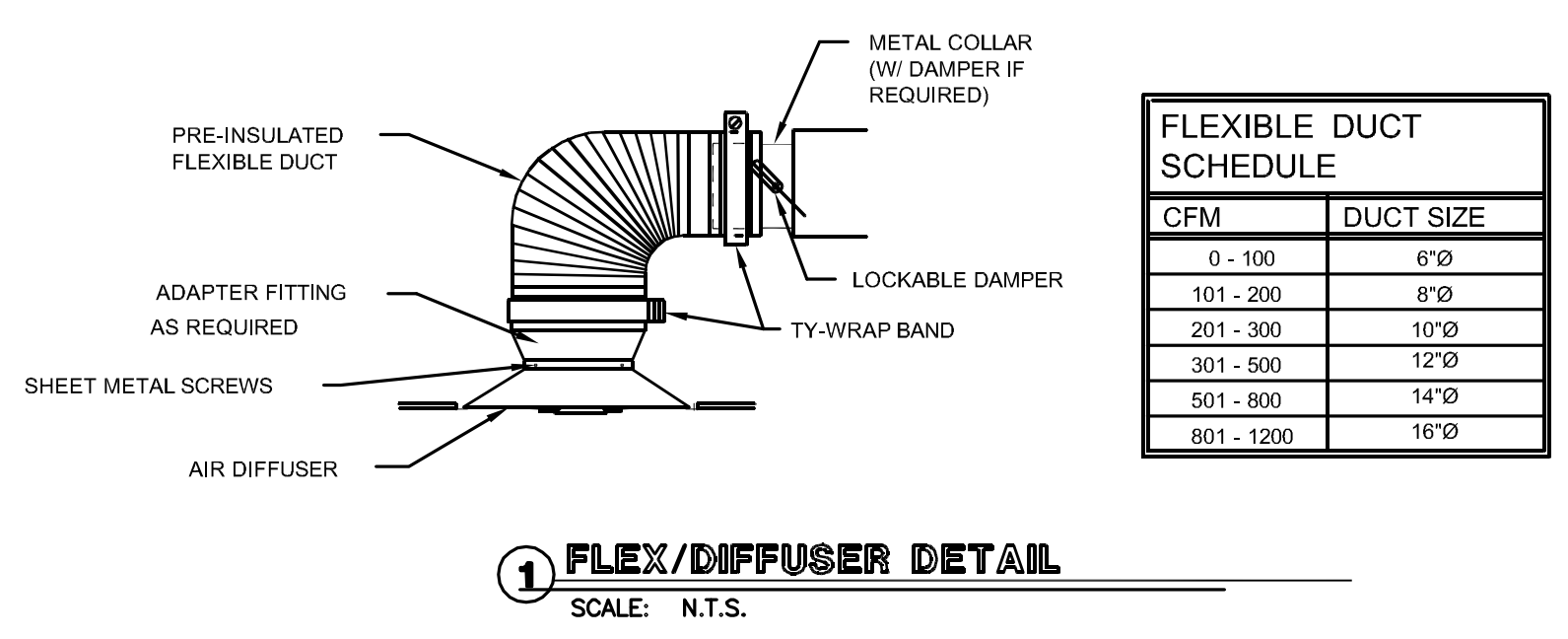
PLOT DATE: SATURDAY, AUGUST 12, 2023



MECHANICAL SYMBOLS SCHEDULE

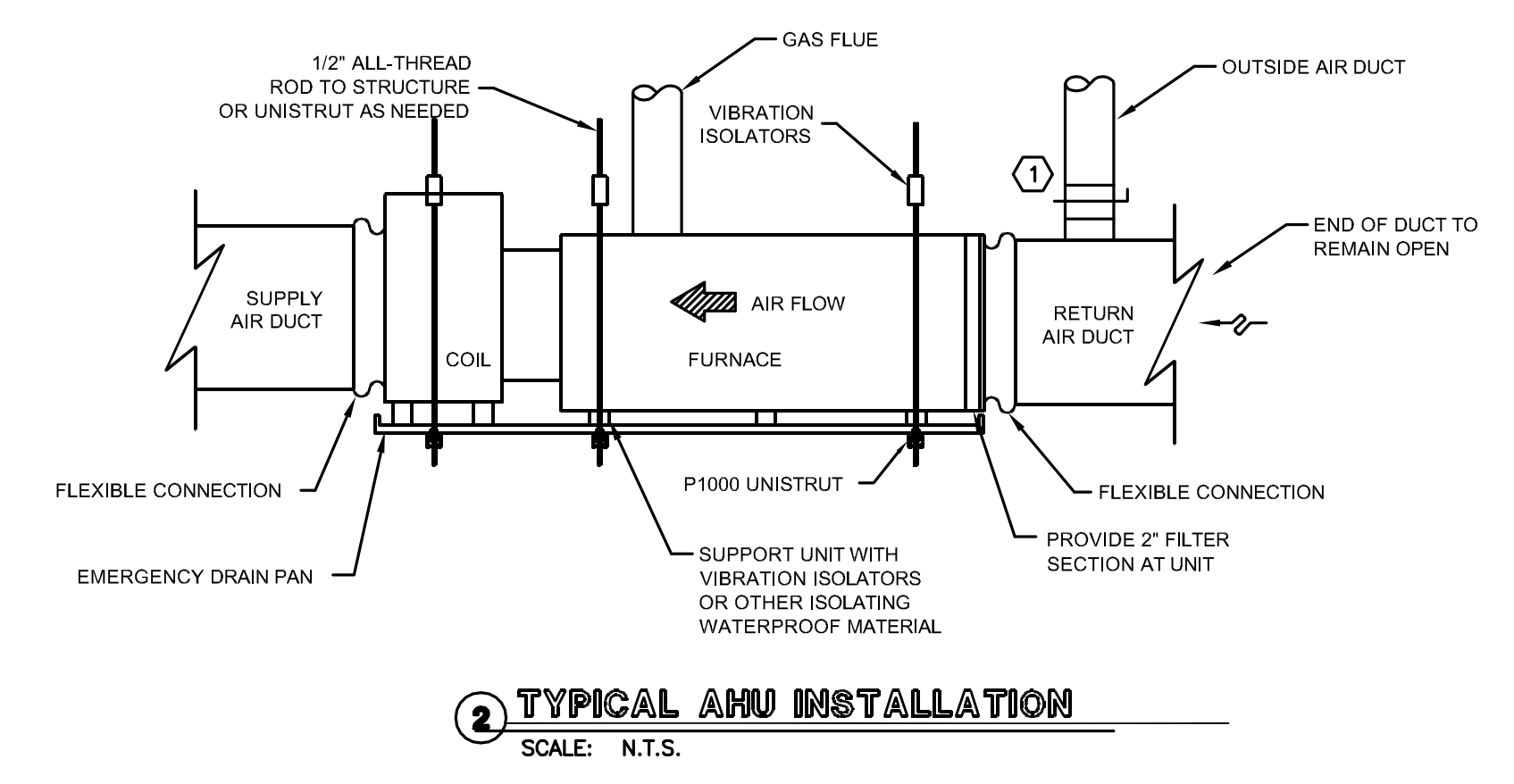
SYMBOL	DESCRIPTION
[Symbol]	EXISTING SUPPLY AIR DIFFUSER
[Symbol]	EXISTING RETURN AIR DIFFUSER
[Symbol]	SQUARE TO ROUND DUCT TRANSITION
[Symbol]	NEW SUPPLY AIR DIFFUSER TYPE "X"
[Symbol]	NEW RETURN AIR DIFFUSER TYPE "X"
[Symbol]	TURNING VANES
[Symbol]	SUPPLY AIR DIFFUSER
[Symbol]	FLEX DUCT Ø
[Symbol]	LOCKABLE DAMPER
[Symbol]	ROUND DUCT INSIDE DIAMETER AS SHOWN
[Symbol]	FIRE DAMPER
[Symbol]	WHI
[Symbol]	INTERNAL CLEAR DUCT DIMEN (INCHES) WIDTH(W) HEIGHT(H)
[Symbol]	NEW RECTANGULAR DUCT
[Symbol]	EXISTING RECTANGULAR DUCT
[Symbol]	CAPPED DUCT
[Symbol]	THERMOSTAT

X	Y	Z
S=SUPPLY	TYPE	CFM
R=RETURN		
OA=OUTSIDE AIR		
T=TRANSFER		



FLEXIBLE DUCT SCHEDULE

CFM	DUCT SIZE
0 - 100	6"Ø
101 - 200	8"Ø
201 - 300	10"Ø
301 - 500	12"Ø
501 - 800	14"Ø
801 - 1200	16"Ø



MECHANICAL PLAN
 SCALE: 1/4"=1'-0"

GRILLE SCHEDULE

TYPE	USE	DESCRIPTION
X		EXISTING SUPPLY/RETURN DIFFUSER

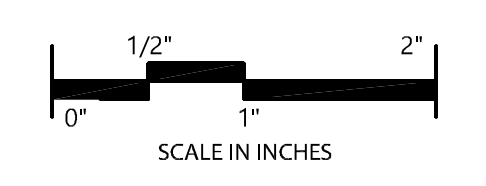
- NOTES:**
- CONNECT NEW DUCT TO EXISTING THIS APPROXIMATE LOCATION
 - RELOCATED GRILLE. MODIFY FLEX AS NEEDED TO SERVE GRILLE AT ADJUSTED LOCATION
 - RELOCATED GRILLE
 - AIR HANDLING UNIT TO BE SUSPENDED FROM STRUCTURE SIMILAR TO DETAIL 2 THIS SHEET. PROVIDE FLOAT SWITCH IN DRAIN PAN WIRED FOR AUTOMATIC SHUT DOWN OF UNIT UPON DETECTION OF WATER IN PAN
 - ROUTE CONDENSATE DRAIN PIPING FROM AHU TO (E) CONDENSATE DRAIN PIPING FROM DEMO-ED AHUS
 - CONNECT (E)OA DUCT TO NEW RETURN PLENUM AND PROVIDE LOCKABLE DAMPER AT CONNECTION SET TO ALLOW SCHEDULED CFM OF OA
 - ROUTE CONCENTRIC VENT/FLUE PIPING UP THROUGH EXISTING ROOF PENETRATION. ANY NECESSARY MODIFICATIONS TO EXISTING ROOF JACK TO BE PROVIDED AND INSTALLED BY ROOFING CONTRACTOR

MECHANICAL EQUIPMENT SCHEDULE

DESIG.	MFG./NO.	CFM	O.A. CFM	COOLING	HEATING (KBTUH) REBT / OBTUH	V/PH	RLA	MOCP	SEER	AFUE	LP GAS LOAD
AHU-1,3	RHEEM GAS FURNACE MODEL # R862V0403A17MASCAP COIL MODEL # RCFZ817SEA	1200	AHU-1: 110 AHU-3: 0	33.8KBTUH	42.0 41.0	120/1	5.9	20		98%	17 CFH
AHU-2	RHEEM GAS FURNACE MODEL # R862V0853A17MASCAP COIL MODEL # RCFZ817SEA	2000	400	57.7 KBTUH	84.0 82.0	120/1	9.6	20		98%	34 CFH
AHU-4	RHEEM GAS FURNACE MODEL # R862V0403A17MASCAP COIL MODEL # RCFZ817SEA	800	90	23.6 KBTUH	42.0 41.0	120/1	5.9	20		98%	17 CFH
COND-1,3	RHEEM TWO STAGE CONDENSER MODEL # RA16AZ38AJ3CALHP			NOM. 3 TON		240/1	16.8	35	16.0		
COND-2	RHEEM TWO STAGE CONDENSER MODEL # RA16AZ26AJ3CALHP			NOM. 5 TON		240/1	33.6	70	15.5		
COND-4	RHEEM SINGLE STAGE CONDENSER MODEL # RA16AZ24AJ3CALHP			NOM. 2 TON		240/1	12.8	25	17.0		

NOTES:

- PROVIDE ECONET SMART THERMOSTAT FOR TEMPERATURE AND HUMIDITY CONTROL FOR EACH AHU
- PROVIDE CONCENTRIC VENT KIT FOR EACH GAS FURNACE
- PROVIDE LP GAS CONVERSION KIT FOR EACH GAS FURNACE



REVISIONS

#	Date	Revision Notes
1	08/11/23	OWNER CHANGES ADD HOOD PLENUM

PROJECT # 101-2226
 DRAWN BY: JDS
 CHECKED BY: GPK
 DATE: MARCH 2023
 SHEET TITLE

FOR QUESTIONS, CALL THE
Houston Mechanical
REGION 126
PHONE: (346) 330-2007
EMAIL: reg126@captiveaire.com

HOOD INFORMATION - JOB#6141620

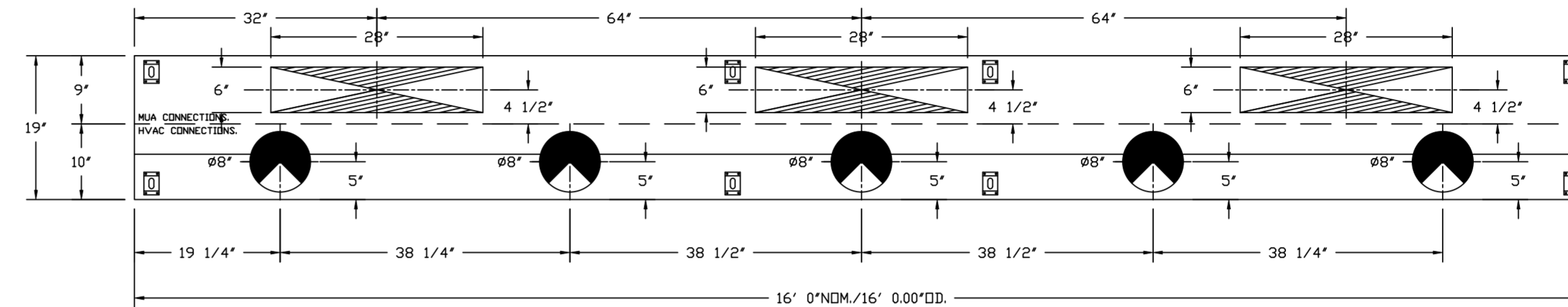
HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)						TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL			SP	END TO END
1		196 MISC ACPSP-ONLY	CAPTIVEAIRE	16' 0"	300 DEG	I	N/A	0	0						1200	430 SS WHERE EXPOSED	ALONE	ALONE	

HOOD INFORMATION

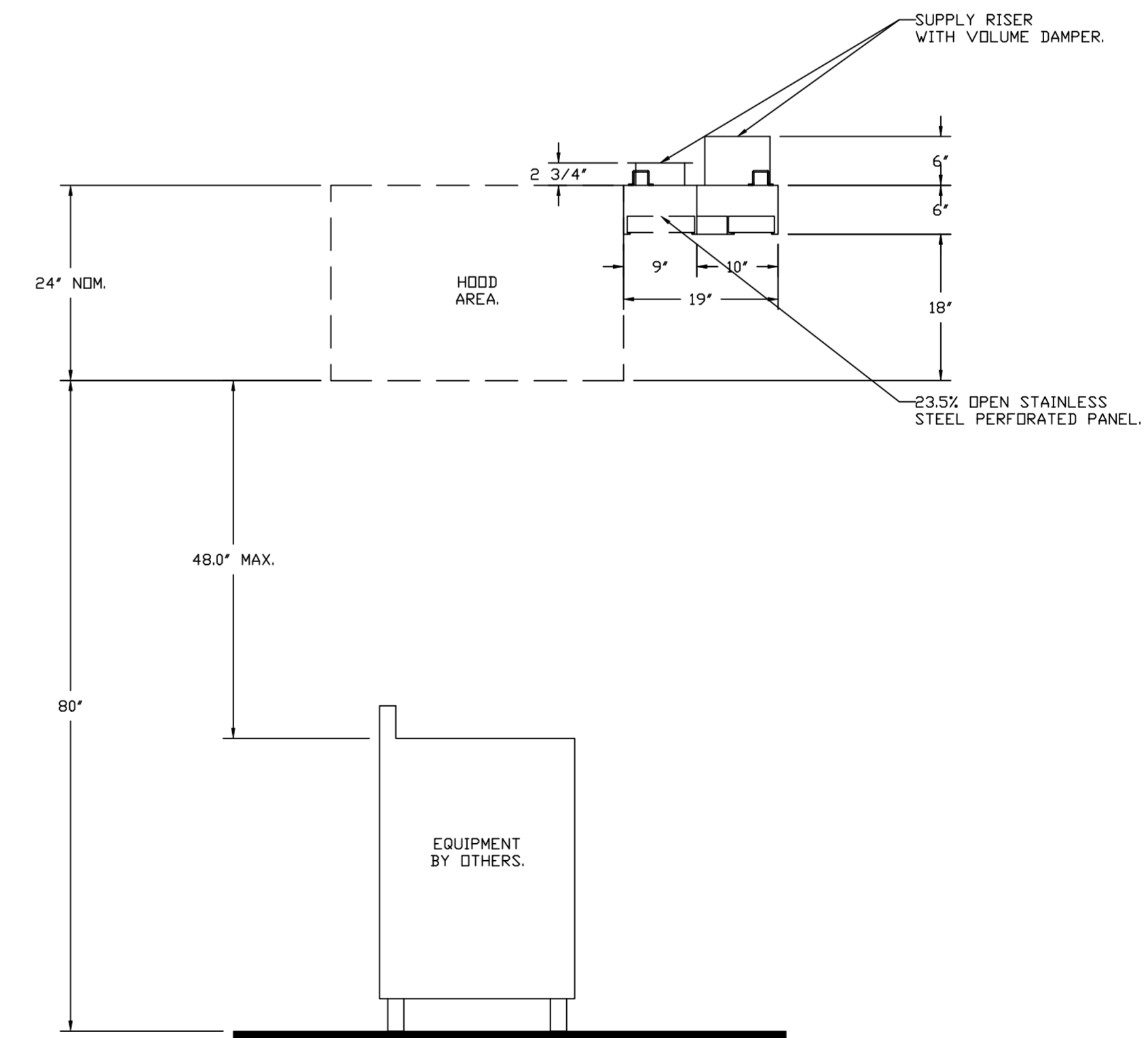
HOOD NO	TAG	FILTER(S)					LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	ELECTRICAL MODEL #		
1						0									NO	211 LBS

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)			
							WIDTH	LENG	DIA	CFM
1	Front	192'	10'	6'	AC			8"	159	0.077'
					AC			8"	159	0.077'
					AC			8"	159	0.077'
					AC			8"	159	0.077'
					AC			8"	159	0.077'
	Back	192'	9'	6'	MUA	6"	28"		400	0.110'
					MUA	6"	28"		400	0.110'



PLAN VIEW - HOOD #1
16' 0.00" LONG 196MISC ACPSP-ONLY



SECTION VIEW - MODEL 196MISC ACPSP-ONLY
HOOD - #1

REVISIONS	
DESCRIPTION	DATE

www.captiveaire.com
Houston Mechanical
3302 Canal St., Suite 53, Houston, TX, 77003 PHONE: (346) 330-2007 FAX: 9195168746 EMAIL: reg126@captiveaire.com

Brenham Airport AC-PSP Only
BRENHAM, TX, 77833

DATE: 8/1/2023
DWG.#: 6141620
DRAWN BY: FJ
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
1



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FOR CONSTRUCTION

CITY OF BRENHAM AIRPORT OFFICE/RESTAURANT BUILDING HVAC RENOVATION

3001 AVIATION WAY, BRENHAM, TX 77833

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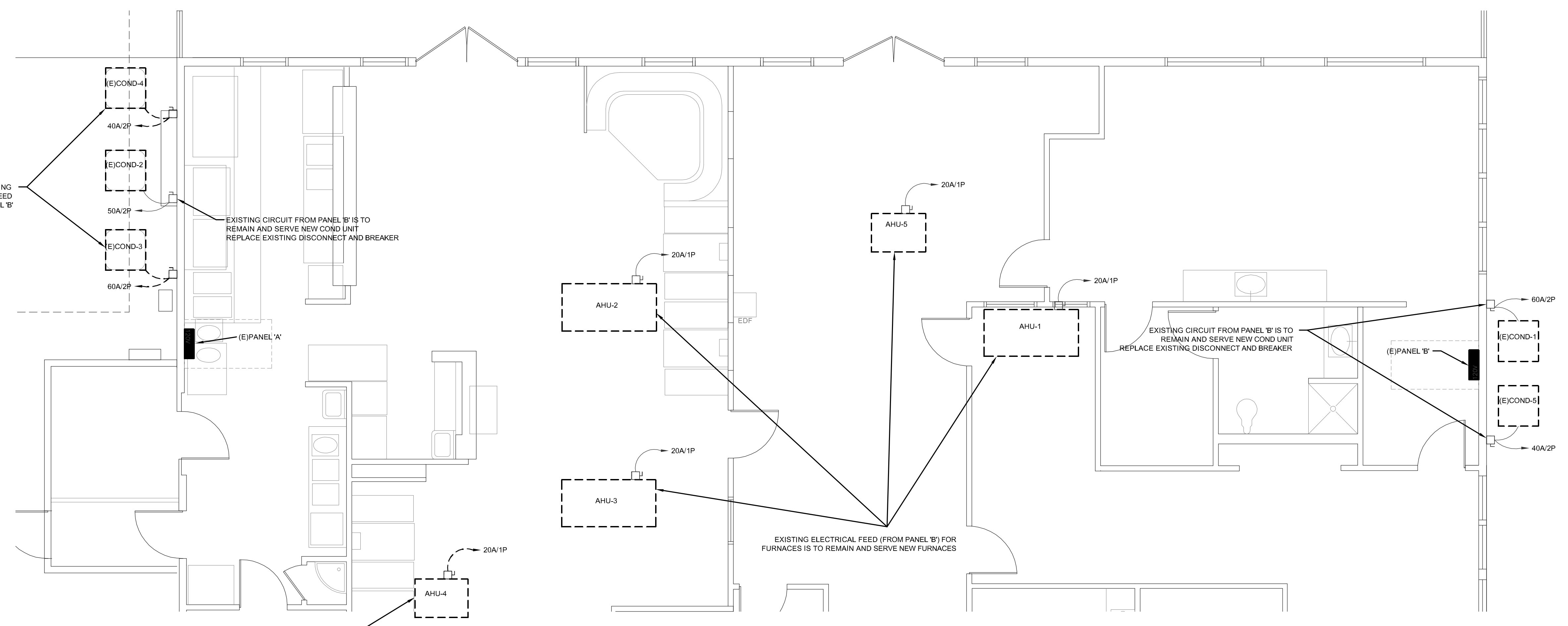
PROJECT #: 01-2226
 DRAWN BY: JDS
 CHECKED BY: GPK
 DATE: MARCH 2023

SHEET TITLE
ELECTRICAL PLANS

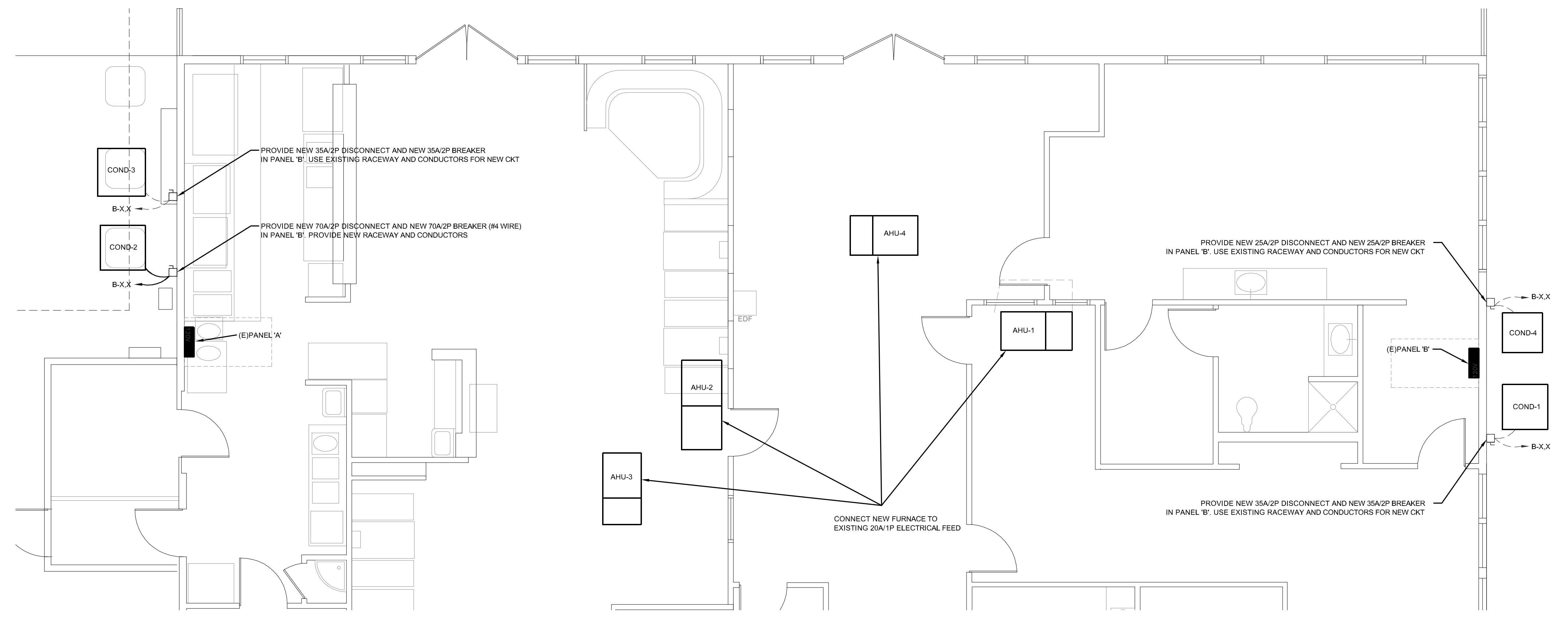
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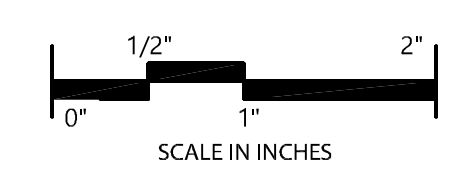
ELECTRICAL SCHEDULE	
SYMBOL	DESCRIPTION
○ "X"	RECESSED TYPE "X"
□ "X"	LAY-IN FIXTURE TYPE "X"
⊗ "X"	WALL MOUNTED LIGHT FIXTURE TYPE "X"
⊗ "X"	EXIT LIGHT TYPE "X" DIRECTIONAL AS NOTED
⊗ "X"	BRACKET MTD. FIX. TYPE "X"
	UNSWITCHED FIXTURE
⊕	DUPLEX RECEPTACLE
⊕ GFI	DUPLEX RECEPTACLE W/GROUND FAULT INTERRUPTION
⊕ WP	DUPLEX RECEPTACLE WEATHER PROOF
⊕	2-115V DUPLEX RECEPTACLES GANGED TOGETHER IN ONE BOX
\$	SINGLE POLE SWITCH
\$	THREE WAY SWITCH
\$	DIMMER SWITCH
⊠	VISUAL ALARM
⊠	AUDIO VISUAL ALARM
⊠	FIRE ALARM MANUAL PULL
⊠	MAIN FIRE ALARM PAN.
▽	TELEPHONE/DATA OUTLET IN WALL
▽	TELEPHONE/DATA OUTLET IN FLOOR BOX OR AS NOTED
⊕	120V PANEL
⊕	480V PANEL
⊕	*HOME RUN* CIRCUIT (120/277V)
⊕	DISCONNECT # OF POLES/NEMA RATING/ F OR NF/CURRENT RATING
XPXXXXXXX	NOTE: ALL SYMBOLS MAY NOT BE USED



DEMO POWER PLAN
 SCALE: 1/4"=1'-0"



POWER PLAN
 SCALE: 1/4"=1'-0"



PLOT DATE: SATURDAY, AUGUST 12, 2023

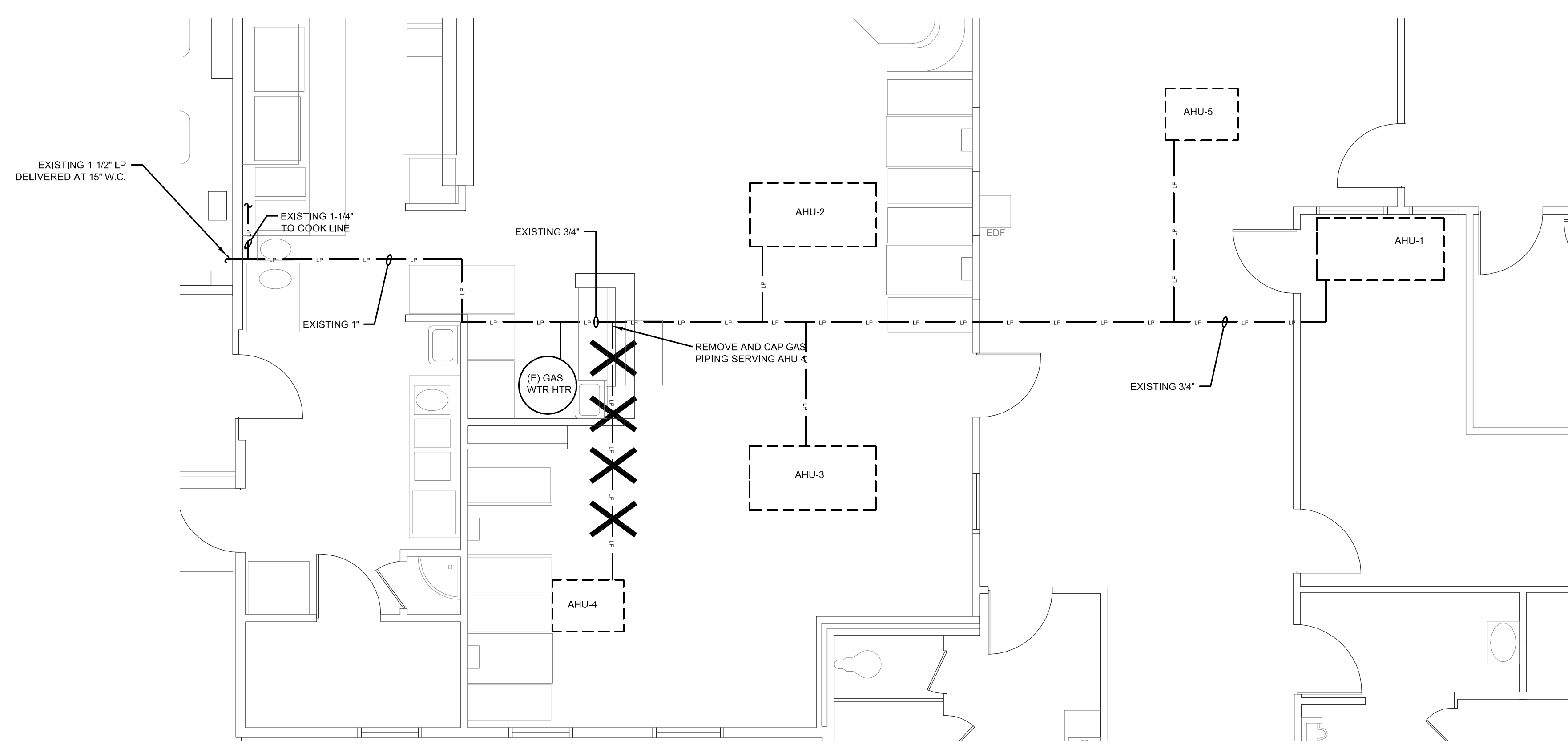
REVISIONS		
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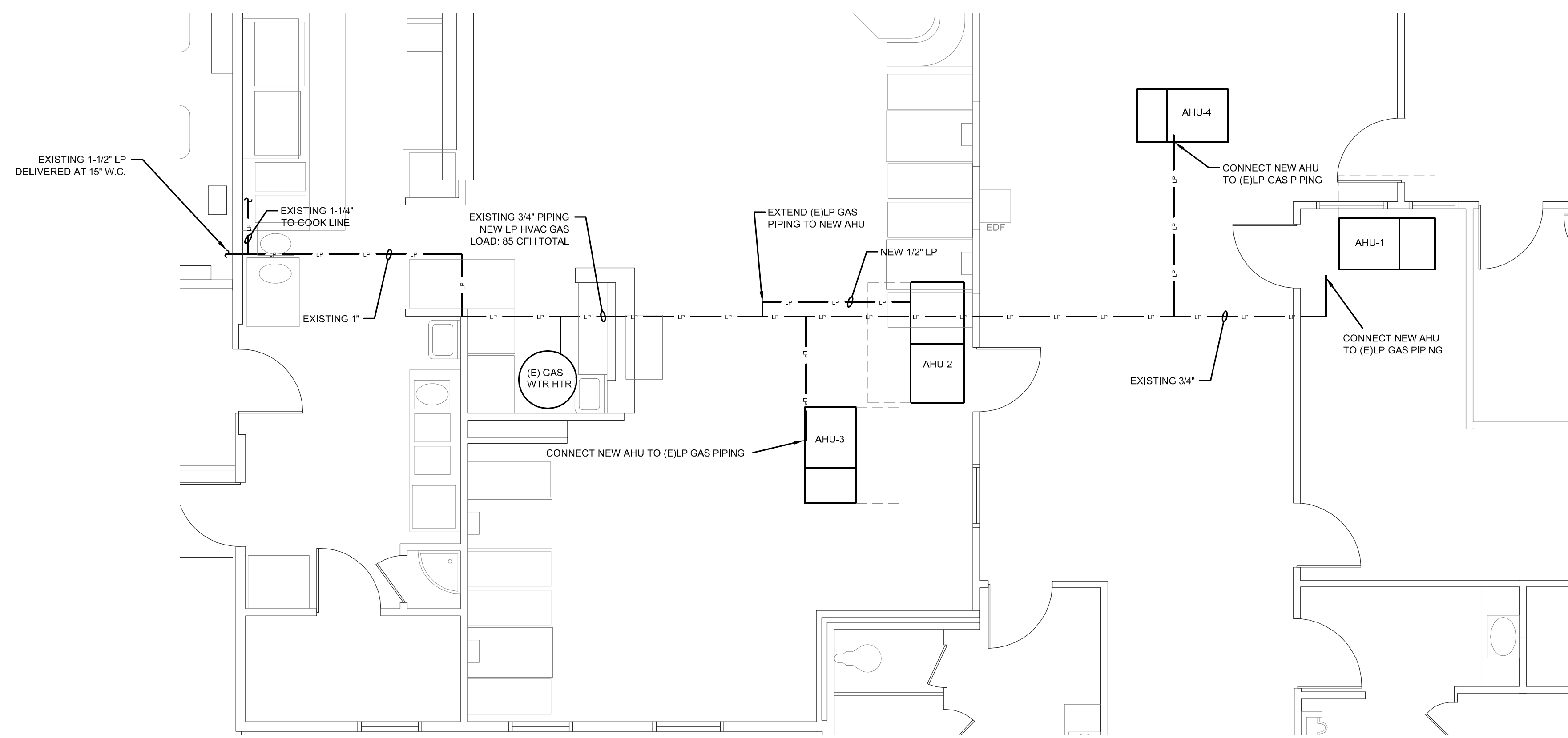
PLUMBING PLANS

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A DEMO LP GAS PLAN
 SCALE: 1/4"=1'-0"



B LP GAS PLAN
 SCALE: 1/4"=1'-0"

PLUMBING PIPING LEGEND	
SYMBOL	DESCRIPTION
---	SANITARY SEWER (SS)
---	SANITARY SEWER (SS) BELOW GRADE
---	SANITARY VENT (SV)
---	DOMESTIC COLD WATER SUPPLY
---	DOMESTIC HOT WATER SUPPLY
---	DOMESTIC WATER BELOW FLOOR
A	COMPRESSED AIR
NG	NATURAL GAS
>	GATE VALVE
○	BALL VALVE
FCO	FLOOR CLEAN OUT
WCO	WALL CLEAN OUT
VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN
A.F.F.	ABV. FINISHED FLOOR
ATP	AUTOMATIC TRAP PRIMER
(N)	NEW EQUIPMENT OR LINES
(E)	EXISTING EQUIPMENT OR LINES
U.G.	UNDER GROUND
R.D.	ROOF DRAIN

NOTE: ALL SYMBOLS MAY NOT BE USED

