

HVAC SPECIFICATIONS

PART 1 - GENERAL
1.1 GENERAL INTENT

- A. THE INTENTION OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS, AND EQUIPMENT, NECESSARY, OR REASONABLY INFERRABLE AS BEING NECESSARY, FOR FURNISHING, INSTALLATION AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEM DESCRIBED HEREIN.
- B. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS MADE A THOROUGH EXAMINATION OF THE SITE, AND ALL EXISTING CONDITIONS AND LIMITATIONS WHICH MAY AFFECT THIS WORK LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION.
- C. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT, GENERAL CHARACTER, AND LOCATION OF THE WORK TO BE PERFORMED, WHERE MINOR ADJUSTMENTS OF THE WORK ARE NECESSARY FOR PURPOSES OF FABRICATION OR INSTALLATION OF ITEMS, THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS WITH NO ADDED COMPENSATION, WHERE SUCH ADJUSTMENTS AFFECT FUNCTIONAL, OR AESTHETIC DESIGN OF THE WORK, THEY SHALL FIRST BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL.
- D. SITE UTILITIES: THE MECHANICAL DOCUMENTS INDICATE CONNECTION LOCATION OF VARIOUS BUILDING SERVICE. COORDINATE WORK WITH THE SITE UTILITIES CONTRACTOR TO ENSURE PROPER INVERT ELEVATION, PIPE SLOPE GRADIENT PIPE SIZE AND SEPARATION WITHIN TRENCH WORK. NOTIFY ARCHITECT OR ENGINEER OF ANY DISCREPANCY BETWEEN DRAWINGS AND FIELD CONDITIONS.
- E. COMPLY WITH ALL LOCAL AND STATE CODES REGARDING SEISMIC SUPPORT AND ISOLATION, NOT ALL SEISMIC REQUIREMENTS ARE SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION SEISMIC SUPPORT/ISOLATION OF HIS WORK.

1.2 GENERAL COORDINATION

- A. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF A SATISFACTORY COMPLETE, AND FULLY OPERATIONAL, PIECE OF WORK IN ACCORDANCE WITH TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- B. CONTRACTOR SHALL CONSULT ALL DRAWING FOR THE PROJECT TO DETERMINE THAT THE WORK AND EQUIPMENT WILL FIT AS PLANNED.
- C. THE LOCATION OF PIPING, DUCTS, EQUIPMENT, ETC., SHALL BE CHECKED TO ENSURE CLEARANCE FROM OPENINGS, STRUCTURAL MEMBER, CABINETS AND EQUIPMENT HAVING FIXED LOCATIONS. THIS SHALL BE ACCOMPLISHED PRIOR TO FABRICATION OF PIPE OR DUCTS.
- D. IF AT ANY TIME, AND IN ANY CASE, CHANGES IN LOCATION OF PIPING, DUCTS, EQUIPMENT, ETC., BECOMES NECESSARY, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY CHANGES SHOWN ON ANY OF THE PROJECT DRAWINGS AND SUCH CONFLICT COULD HAVE BEEN AVOIDED BY PROPER COORDINATION BETWEEN TRADES OR PROPER PRE-PLANNING OF WORK, SUCH REQUIRED CHANCES SHALL BE MADE BY THE CONTRACTOR AT NO EXTRA COST. THESE CHANGES ARE TO BE RECORDED ON THE RECORD DRAWINGS.
- E. THIS CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL INCIDENTAL ELECTRICAL INTERCONNECTIONS, CONDUIT, WIRING, ETC., WHICH ARE NECESSARY FOR SYSTEM OPERATION AND WHICH ARE NOT SPECIFICALLY SHOWN OR OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN DIVISION 26.
- F. ALL ELECTRICAL WORK INCIDENTAL TO OR ACCOMPLISHED UNDER THIS DIVISION SHALL COMPLY WITH ALL REQUIREMENTS OF DIVISION 26.
- G. PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR REFERRING TO THE DESIGN DOCUMENTS FOR ALL OTHER DISCIPLINES FOR PROJECT CONSTRUCTION AND OTHER DETAILS WHICH AFFECT THE MECHANICAL INSTALLATION. CONTRACTOR SHALL CONFER WITH ALL OTHER TRADES TO FINISH ADJACENT TO ITS WORK AND ARRANGE TO HAVE VISIBLE PORTIONS OF THIS WORK (SUCH AS ACCESS DOORS, VALVES, SPRINKLER HEADS, ESCUTOCHONS, ETC.) MERGE WITH THE FINISH IN A MANNER SATISFACTORY TO THE ARCHITECT.
- H. CONTRACTOR SHALL IDENTIFY ALL SERVICEABLE ITEMS (VALVES, DAMPERS, COILS, ETC.) SO THAT THE CEILING SUBCONTRACTOR MAY KNOW WHERE TO INSTALL ACCESS-TYPE PANELS SHOULD A LIFT-UP TYPE CEILING NOT BE INSTALLED. THIS CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR HIS WORK UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. ARCHITECT SHALL APPROVE LOCATIONS OF ACCESS PANELS PRIOR TO INSTALLATION.
- I. CEILING HEIGHTS ARCHITECTURAL DRAWINGS SHALL BE CHECKED FOR CEILING HEIGHTS, WALLS, AND CABINETS THAT ARE INTENDED TO CONCEAL WORK OF THIS SECTION, WHERE CONFLICTS OCCUR, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO INSTALLATION OF THE WORK. LOCATION OF EXPOSED WORK SUCH AS LIGHTS, DIFFUSERS, SPEAKERS, SPRINKLER HEADS TAKE PRECEDENCE OVER CONCEALED WORK.
- J. CONTRACTOR SHALL EXERCISE CARE TO MINIMIZE ANY DISTURBANCE TO ADJACENT AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION, ISOLATE WORK AREAS BY TEMPORARY PARTITIONS, TAPES, ETC., TO KEEP DUST AND DIRT IN THE CONSTRUCTION AREA.
- K. FLASHING, ALL NECESSARY FLASHING, SEALING, ETC., TO MAINTAIN THE WATERPROOF INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF ITEMS AS REQUIRED BY THIS SCOPE OF WORK.
- L. INSTALL ALL WORK OF THIS SCOPE TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE, AND REPAIR. MINOR DEVIATIONS FROM THE DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES INVOLVING OTHER TRADES MAY NOT BE MADE WITHOUT PRIOR APPROVAL.
- M. ALL PENETRATIONS MADE THROUGH RATED ASSEMBLIES TO ACCOMMODATE WORK OF THIS SECTION, MUST BE SEALED TO MAINTAIN THE RATING OF SUCH ASSEMBLY BY A U.L. RECOGNIZED SEALING METHOD.
- N. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF THIS WORK. COORDINATE ALL BLOCKING, SUPPORT, ETC., NECESSARY FOR THE INSTALLATION OF THIS WORK WITH THE GENERAL CONTRACTOR.

1.3 CODES, STANDARDS, PERMITS, AND FEES

- A. ALL APPLICABLE CODE LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS. THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE ARCHITECT IN WRITING PRIOR TO SUBMITTING A BID. OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ENFORCED LAWS, CODES, OR REGULATION, IF THE CONTRACTOR PERFORMS ANY WORK CONTRARY TO SUCH LAWS, ORDINANCES, RULES AND REGULATIONS HE SHALL ASSUME FULL RESPONSIBILITY, AND SHALL BEAR ALL COSTS ASSOCIATED WITH BRINGING WORK INTO COMPLIANCE.
- B. WHERE DRAWING OR SPECIFICATIONS CALL FOR MATERIAL OR CONSTRUCTION OF A BETTER QUALITY OR HIGHER CAPACITY THAN REQUIRED BY THE ABOVE-MENTIONED CODES AND STANDARDS, THE PROVISIONS OF THE DRAWINGS OR SPECIFICATIONS SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS OF THE CODES AND STANDARDS.
- C. THE RESPECTIVE SUB-CONTRACTOR, AT HIS EXPENSE, SHALL OBTAIN ALL PERMITS AND FEES REQUIRED FOR THIS SCOPE OF WORK ON THIS PROJECT. THE SUB-CONTRACTORS SHALL ALSO SCHEDULE ALL REQUIRED INSPECTIONS AND OBTAIN CERTIFICATES FOR HIS WORK AT HIS EXPENSE.
- D. THE FOLLOWING SPECIFIC STANDARDS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS FOR WORK OF THIS SECTION:
1. DUCTWORK: ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED PER THE PUBLISHED STANDARDS.
2. OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE) AND THE SHEET METAL AND AIR CONDITIONING NATIONAL ASSOCIATION (SMACNA), AND MEET THE REQUIREMENTS OF NFPA 90A AND NFPA 91.
3. FILTERS: ALL FILTER MEDIA SHALL BE UL CLASS 2.

1.4 SUBMITTALS AND SUBSTITUTIONS

- A. SUBMITTAL MATERIALS SHALL BE COMPLETE IN EVERY RESPECT AND SHALL CLEARLY INDICATE EQUIPMENT FEATURES, DIMENSIONS, WEIGHTS, PERFORMANCE CHARACTERISTICS, AND CAPACITIES. CAPACITY AND PERFORMANCE CALCULATIONS SHALL BE ADJUSTED TO INDICATE ACTUAL EQUIPMENT PERFORMANCE AT THE PROJECT ELEVATION. LITERATURE OR DRAWINGS THAT DESCRIBE MORE THAN ONE MODEL OR SIZE OF EQUIPMENT SHALL BE MARKED WITH ARROWS OR OTHERWISE CLEARLY INSCRIBED TO IDENTIFY THE ACTUAL EQUIPMENT THAT WILL BE FURNISHED. ALL OPTIONS AND SPECIAL PARTS OR FEATURE SHALL ALSO BE CLEARLY IDENTIFIED. ALL SUBMITTED MATERIALS MUST BE CLEAR, COMPLETE AND LEGIBLE. ALL SUBMITTALS OF THIS SCOPE MUST BE SUBMITTED AT ONE TIME, MULTIPLE AND VARIED SUBMITTALS WILL BE REJECTED.
- B. SUBMITTALS FOR ALL EQUIPMENT SHALL BE ROUTED THROUGH AND REVIEWED BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK ALL SUBMITTALS FOR ADEQUATE IDENTIFICATION, CORRECTNESS, AND COMPLIANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS AND APPLY A STAMP OF APPROVAL. FOR SUBMITTALS THAT ARE REQUIRED TO BE REVIEWED BY THE ENGINEER, A DIGITAL COPY SHALL BE FORWARDED REVIEW AFTER REVIEW AND APPROVAL BY THE CONTRACTOR, THESE WILL BE RETURNED AND SHALL BE REVISED AND RESUBMITTED UNTIL ACCEPTED BY THE ENGINEER. PROVIDE PRODUCT DATA FOR EACH PIECE OF EQUIPMENT/COMPONENT LISTED BELOW:
1. AIR MOVING EQUIPMENT
2. GRILLES, REGISTERS, AND DIFFUSERS
3. EXHAUST HOODS
4. WHERE SEISMIC SUPPORT IS REQUIRED BY CODES, PROVIDE SHOP DRAWINGS AND SUPPORTING CALCULATIONS IN ACCORDANCE WITH THE ASCE 7 CHAPTER 13, CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A LICENSED ENGINEER IN THE STATE IN WHICH THE PROJECT SITE OCCURS.
- C. APPROVED MANUFACTURERS, WHICH MAY SUBMIT EQUAL PRODUCT TO THOSE SPECIFIED, ARE LISTED IN THE EQUIPMENT SCHEDULES. ANY SUBMITTAL FOR CONSIDERATION AS AN EQUAL TO THAT SCHEDULED MUST CONTAIN ALL INFORMATION REQUIRED TO EVALUATE THIS CLAIM. MANUFACTURERS NOT LISTED AS EQUAL, MUST SUBMIT IN WRITING FOR REVIEW FIVE DAYS PRIOR TO BID CLOSING. CONTRACTOR IS RESPONSIBLE TO ASSURE ANY SUBSTITUTED ITEM MEETS ALL PHYSICAL AND PERFORMANCE REQUIREMENTS AS INTENDED IN THE DESIGN DOCUMENTS.
- D. APPROVAL, SUBMITTALS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS, NOR SHALL IT RELIEVE HIM FROM RESPONSIBILITY FOR ERRORS IN SHOP DRAWINGS OR OTHER SUBMITTAL LITERATURE.
- E. CONTRACTOR HAS SOLE RESPONSIBILITY TO COORDINATE ANY SUBSTITUTIONS WITH ALL OTHER DISCIPLINES. EQUIPMENT OF GREATER POWER, DIMENSIONS, CAPACITIES, AND RATINGS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING MECHANICAL AND ELECTRICAL SERVICES, CIRCUIT BREAKERS, CONDUIT, MOTORS, BASES, AND EQUIPMENT SPACES ARE INCREASED. NO ADDITIONAL COSTS WILL BE ACCEPTED FOR THESE INCREASES. NO ADDITIONAL COSTS WILL BE ACCEPTED FOR THESE INCREASES, IF LARGER EQUIPMENT IS PROVIDED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES OF THE EQUIPMENT ARE SPECIFIED, THE EQUIPMENT MUST MEET THE DESIGN REQUIREMENTS AND COMMISSIONING REQUIREMENTS. DESIGN OF ELECTRICAL REQUIREMENTS IS BASED ON MECHANICAL EQUIPMENT SPECIFIED. MECHANICAL SHALL COORDINATE WITH ELECTRICAL. CONTRACTOR IF EQUIPMENT PURCHASED IS DIFFERENT FROM THAT SPECIFIED STILL MEETS DESIGN INTENT, INCLUDING BUT NOT LIMITED TO OVERCURRENT PROTECTION, LOCAL DISCONNECTION MEANS, WIRE SIZING, AND DESIGN COSTS.

1.5 DELIVERY, STORAGE AND HANDLING

- A. DELIVER PRODUCTS TO THE PROJECT PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS, AND OTHER INFORMATION NEEDED FOR IDENTIFICATION.
- B. ALL MECHANICAL EQUIPMENT AND MATERIAL ITEMS SHALL BE PROTECTED FROM WEATHER AND VANDALISM PRIOR TO ACTUAL INSTALLATION. FAN WHEELS, PUMPS AND OTHER ROTATING MACHINERY SHALL BE PERIODICALLY ROTATED DURING STORAGE. ANY FACTORY PAINTED EQUIPMENT SCRATCHED OR MARKED DURING SHIPMENT OR STORAGE SHALL BE RESTORED TO ORIGINAL, "NEW" CONDITION. THIS INCLUDES COMPLETE REPAINTING OF THE EQUIPMENT IF NECESSARY TO PROVIDE EXACT PAINT MATCH.
- C. CONTRACTOR IS RESPONSIBLE FOR RECEIVING AND OFFLOADING EQUIPMENT OF HIS SCOPE. IMMEDIATELY UPON RECEIPT, CONTRACTOR SHALL INSPECT ALL EQUIPMENT AND MATERIAL FOR SHIPPING DAMAGE AND REPLACE ANY DEFECTIVE ITEMS AT NO INCREASE TO CONTRACT AMOUNT.

1.6 SEQUENCING AND SCHEDULING

- A. COORDINATE MECHANICAL EQUIPMENT INSTALLATION WITH OTHER BUILDING COMPONENTS PRIOR TO ORDERING OR FABRICATION OF ADJOINING WORK.
- B. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN POURED-INPLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION TO ALLOW FOR MECHANICAL INSTALLATIONS.
- C. SEQUENCE, COORDINATE AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF WORK. COORDINATE INSTALLATION OF LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING.
- D. COORDINATION CONNECTION OF MECHANICAL SYSTEMS WITH EXTERIOR UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. COORDINATE CONNECTION OF ELECTRICAL SERVICES.
- E. PROVIDE IDENTIFICATION OF ALL EQUIPMENT. COORDINATE INSTALLATION OF IDENTIFYING DEVICES AFTER COMPLETING COVERING AND PAINTING WHERE DEVICES ARE APPLIED TO SURFACES. INSTALL IDENTIFYING DEVICES PRIOR TO INSTALLING ACOUSTICAL, CEILING AND SIMILAR CONCEALMENT.

1.7 PROJECT CLOSE-OUT

- A. CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR ANY DEFECTS IN WORKMAN SHIP OR EQUIPMENT, WHICH DEVELOP WITHIN ONE YEAR FROM ACCEPTANCE BY THE OWNER.
- B. CONTRACTOR SHALL MAINTAIN A REDLINE SET OF CONSTRUCTION DRAWINGS SHOWING DEVIATION BETWEEN THE DRAWINGS AND INSTALLED CONDITIONS. THESE SHALL BE PROVIDED OVER TO THE OWNER AT ACCEPTANCE OF THE WORK.
- C. PROVIDE THREE (3) COMPLETE SETS OF OPERATION AND MAINTENANCE MANUALS. THESE ARE TO INCLUDE ALL EQUIPMENT CUT-SHEETS, MANUFACTURER RECOMMEND MAINTENANCE PROCEDURES, MANUFACTURERS WARRANTY INFORMATION, AND CONTRACTORS WARRANTY LETTER AND CONTACT INFORMATION.
- D. PROVIDE THREE (3) REVENUE BASED REPORTS OF WATER AND AIR SYSTEMS AS APPLICABLE.
- E. CONTRACTOR SHALL INSTRUCT THE OWNER ON THE OPERATION AND MAINTENANCE OF ALL SYSTEMS PROVIDED UNDER THIS CONTRACT.

PART 2 - PRODUCTS

2.1 GENERAL

- A. DUCT DIMENSIONS SHOWN ON PLANS ARE NET FREE AREA.
- B. ROUND ELBOWS MUST HAVE A CENTERLINE RADIUS OF NO LESS THAN 1.5 TIMES THE DIAMETER OF THE ELBOW. SQUARE ELBOWS SHALL HAVE TURNING VANES.
- C. ALL DUCTWORK EXPOSED TO VIEW SHALL BE ROUND OR OVAL SPiral.

2.2 DUCTWORK MATERIALS

- A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS, MATERIAL THICKNESS, AND DUCT CONSTRUCTIONS METHODS, UNLESS OTHERWISE INDICATED. SHEET METAL MATERIALS SHALL BE FREE OF FITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS, UNLESS STATED OTHERWISE, ALL DUCTWORK TO BE 26 GAUGE MINIMUM.
- B. GALVANIZED SHEET STEEL- LOCK-FORMING QUALITY; COMPLYING WITH ASTM A 653/A 653M AND HAVING G90 (Z275) COATING DESIGNATION; DUCTS SHALL HAVE MILL-PHOSPHATIZED FINISH FOR SURFACES EXPOSED TO VIEW.

2.3 INSULATION AND LINER

- A. GENERAL.
1. FIRE- HAZARD CLASSIFICATION: MAXIMUM FLAME-SPREAD INDEX OF 25 AND SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED ACCORDING TO ASTM E 84.
2. INSULATION SCHEDULE:
- a. OUTSIDE THE BUILDING THERMAL ENVELOPE
- 1) INSULATE ALL SUPPLY AND RETURN DUCTS TO R-8
- b. INSIDE THE BUILDING THERMAL ENVELOPE
- 1) INSULATE SUPPLY AIR DUCTS TO R-6
- 2) INSULATE RETURN AIR DUCTS TO R-6
- 3) INSULATE OUTSIDE AIR DUCTS TO R-8 WITH CLOSED CELL INSULATION TO PREVENT CONDENSATION.
- B. DUCT INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 553, TYPE I AND ASTM C 1290, TYPE II WITH FACTORY-APPLIED FSK JACKET.
- C. FIBROUS-GLASS LINER: COMPLY WITH NFPA 90A OR NFPA 90B AND WITH NFMA AH24.
1. MATERIALS: ASTM C 1071, SURFACES EXPOSED TO AIRSTREAM SHALL BE COATED TO PREVENT EROSION OF GLASS FIBERS.
- a. THICKNESS: 1"
- b. LINER ADHESIVE: COMPLY WITH NFPA 90A OR NFPA 90B AND WITH ASTM C 916.
- c. MECHANICAL FASTENERS: GALVANIZED STEEL SUITABLE FOR ADHESIVE ATTACHMENT, MECHANICAL ATTACHMENT, OR WELDING ATTACHMENT TO DUCT WITHOUT DAMAGING LINER WHEN APPLIED AS RECOMMENDED BY MANUFACTURER AND WITHOUT CAUSING LEAKAGE IN DUCT.
- D. FIRE-RATED INSULATION SYSTEM: HIGH-TEMPERATURE, FLEXIBLE, BLANKET INSULATION WITH FSK JACKET THAT IS UL TESTED AND CERTIFIED TO PROVIDE REQUIRED FIRE RATING.
- E. REFRIGERANT PIPING INSULATION- FLEXIBLE ELASTOMERIC, MIN. 1" THICK R-4.
- F. PROTECT EXPOSED INSULATION WITH ALUMINUM JACKET.
- F. SEALANT: DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED WITH AN APPROVED SEALANT. COMPLY WITH R403.3.2 OF THE IECC. SEALANT SHALL BE HERCULES MTS100 OR EQUAL.

2.4 DUCT ACCESSORIES

- A. STANDARD VOLUME DAMPERS: SINGLE OR OPPOSED-BLADE DESIGN, STANDARD LEAKAGE RATING, AND SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS. SHAFTS TO BE FULL LENGTH, GALVANIZED STEEL, WITH ZINC-PLATED, DIE-CAST CORE WITH DIAL AND HANDLE MADE OF 302-INCH- THICK ZINC-PLATED STEEL, AND A 3/4-INCH HEXAGON LOCKING NUT. INCLUDE CENTER HOLE. SUIT DAMPER OPERATING-ROD SIZE, INCLUDING ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.
- B. FLEXIBLE CONNECTORS: FLAME-RETARDANT OR NONCOMBUSTIBLE FABRICS, COATINGS, AND ADHESIVES COMPLYING WITH UL 181, CLASS 1. PROVIDE HEAVY METAL EDGE BANDS, SEALED TO PREVENT LEAKAGE.
1. INDOOR SYSTEM: FLEXIBLE CONNECTOR FABRIC: GLASS FABRIC DOUBLE COATED WITH NEOPRENE.
2. OUTDOOR SYSTEM: FLEXIBLE CONNECTOR FABRIC: GLASS FABRIC DOUBLE COATED WITH WEATHERPROOF, SYNTHETIC RUBBER RESISTANT TO UV RAYS AND OZONE.
- C. FLEXIBLE DUCTS: UL 181, CLASS 1, UL 181, CLASS 1, BLACK POLYMER FILM SUGGESTED BY HELICALLY WOUND, SPRING-STEEL WIRE, 1-1/2" FIBROUS-GLASS INSULATION, POLYETHYLENE VAPOR BARRIER FILM. FLEX DUCT SHALL BE EQUAL TO CETAINTEED "CERTAFLEX" G25.

2.5 ACCESS DOORS AND PANELS

- A. DUCT MOUNTED ACCESS DOORS: DOUBLE WALL, DUCT MOUNTING AND RECTANGULAR, FABRICATED OF GALVANIZED SHEET METAL WITH INSULATION FILL AND THICKNESS AS INDICATED FOR DUCT PRESSURE CLASS.
1. FRAME: GALVANIZED SHEET STEEL, WITH BEND-OVER TABS AND FOAM GASKETS.
2. PROVIDE NUMBER OF HINGES AND LOCKS AS FOLLOWS:
- a. LESS THAN 12 INCHES SQUARE: SECURE WITH TWO SASH LOCKS.
- b. UP TO 18 INCHES SQUARE: TWO HINGES AND TWO SASH LOCKS.
- c. UP TO 24 BY 48 INCHES: THREE HINGES AND TWO COMPRESSION LATCHES.

2.6 EQUIPMENT CURBS AND SUPPORT

- A. ROOF MOUNTED EQUIPMENT: PROVIDE FACTORY CURB TO MATCH EQUIPMENT PROVIDED. CURB TO MATCH ROOF SLOPE, TYPE, AND INSULATION DEPTHS FOR PROPER EQUIPMENT MOUNTING (ACCOUNT FOR APPLICABLE ACCESSORIES SUCH AS ECONOMIZERS AND ERVS).
- B. GROUND/FLOOR MOUNTED EQUIPMENT: PROVIDE CONCRETE HOUSE-KEEPING PAD AT LEAST 4" THICK AND AT LEAST 6" LARGER THAN THE EQUIPMENT BEING SUPPORTED.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
- B. LOCATION OF EQUIPMENT AND DEVICES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE UNLESS DIMENSIONED; DO NOT SCALE DRAWINGS. EXACT LOCATIONS OF SUCH ITEMS SHALL BE DETERMINED BY THE ARCHITECT'S REPRESENTATIVE AND/OR DETERMINED FROM SPECIAL DETAIL AND DRAWINGS. VERIFY THE PHYSICAL DIMENSIONS OF EACH ITEM OF MECHANICAL EQUIPMENT TO FIT THE AVAILABLE SPACE AND PROMPTLY NOTIFY THE ARCHITECT PRIOR TO ROUGH-INS IF CONFLICTS APPEAR.
- C. COORDINATION OF DIVISION 15 EQUIPMENT AND SYSTEMS TO THE AVAILABLE WIRING, EQUIPMENT, DUCTWORK, PIPING, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE INSTALLATION SHALL BE CONCEALED WITHIN BUILDING CONSTRUCTION, OR EXPOSED IN MECHANICAL ROOMS, UNLESS OTHERWISE NOTED.

3.2 GENERAL INSTALLATION

- A. PROVIDE ALL VALVES, DAMPERS AND CONTROL DEVICES REQUIRED TO COMPLETE BALANCING OF SYSTEMS AS DESCRIBED IN THESE DOCUMENTS OR AS NORMALLY ASSOCIATED WITH THE SYSTEMS TO BE INSTALLED WHETHER SPECIFICALLY CALLED FOR ON THE DRAWINGS, DETAILS OR SPECIFICATIONS OR NOT. IT SHALL BE UNDERSTOOD, UNLESS SPECIFICALLY STATED OTHERWISE, THAT ALL SYSTEMS INSTALLED SHALL COMPLY WITH INDUSTRY RECOGNIZED STANDARDS AND FEATURES.
- B. COORDINATE MECHANICAL SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING. GIVE RIGHT-OF-WAY PRIORITY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SPECIFIED SLOPE.
- C. WHERE MOUNTING CONDITIONS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
- D. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB, PARALLEL, AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES.
- E. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS AS MUCH AS PRACTICAL. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO AN ACCESSIBLE LOCATION.

- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY PROTECTING ANY PENETRATION OF A FIRE RATED ASSEMBLY. FIRE SEAL, CAULKING, AND APPURTENANCES SHALL BE UL LISTED FOR THE ASSEMBLY RATING IT IS APPLIED TO AND SHALL BE INSTALLED PER THE MANUFACTURERS WRITTEN INSTRUCTIONS. ALL SUCH MATERIALS SHALL MEET STATE, LOCAL, AND AUTHORITIES CODES AND STANDARDS.
- H. PENETRATIONS ARE PROHIBITED IN ANY STRUCTURAL MEMBERS (EXCEPT WHERE NOTED IN DRAWING) WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT. OBTAIN APPROVAL FOR OTHER FRAMED OPENINGS WHICH MAY BE REQUIRED IN ADDITION TO THOSE SHOWN ON DRAWINGS. PAY ALL COSTS FOR ADDITIONAL CUTTING OF HOLES AS THE RESULT OF INCORRECT LOCATION OF SLEEVES OR FURNISHING INCORRECT INFORMATION AS TO THE REQUIREMENTS OF FRAMED OPENINGS.

- I. FIRE-RATED ASSEMBLY PENETRATIONS:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY PROTECTING ANY PENETRATION OF A FIRE RATED ASSEMBLY. FIRE SEAL, CAULKING, AND APPURTENANCES SHALL BE UL LISTED FOR THE ASSEMBLY RATING IT IS APPLIED TO AND SHALL BE INSTALLED PER THE MANUFACTURERS WRITTEN INSTRUCTIONS. ALL SUCH MATERIALS SHALL MEET STATE, LOCAL, AND AUTHORITIES CODES AND STANDARDS.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FIRE RATED ASSEMBLY LOCATIONS AND RATINGS.
- J. SEISMIC RESTRAINT:
1. THE CONTRACTOR SHALL PROVIDE PROPER MECHANICAL SEISMIC RESTRAINTS FOR ALL INSTALLED ITEMS INCLUDING, BUT NOT LIMITED TO, DUCTS, PIPING, EQUIPMENTS AND ACCESSORIES. THE CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINTS AS LISTED BY THE CODES USED BY THE AHJ OR AS SHOWN ON THE DRAWINGS (WHICHEVER IS MORE STRINGENT).

3.3 DUCT INSTALLATION

- A. CONSTRUCT AND INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE."
- B. INSTALL DUCTS WITH FEWEST POSSIBLE JOINTS. INSTALL FABRICATED FITTINGS FOR CHANGES IN DIRECTIONS, SIZE, AND SHAPE AND FOR CONNECTIONS.
- C. COORDINATE LAYOUT WITH SUSPENDED CEILING, FIRE- AND SMOKE-CONTROL DAMPERS, LIGHTING LAYOUTS, AND SIMILAR FINISHED WORK.
- D. SEAL ALL JOINTS WITH UNITED DUCT SEALANT. APPLY SEALANT TO MALE END CONNECTORS BEFORE INSERTION, AND AFTERWARD TO COVER ENTIRE JOINT AND SHEET METAL SCREWS.
- E. NON-FIRE-RATED PARTITION PENETRATION: WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS AND EXTERIOR WALLS AND ARE EXPOSED TO VIEW, CONCEAL SPACES BETWEEN CONSTRUCTION OPENINGS AND DUCTS OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS DUCTS, OVERLAP OPENINGS ON 4 SIDES BY AT LEAST 1-1/2 INCHES.
- F. PAINT INTERIORS OF METAL DUCTS, THAT DO NOT HAVE DUCT LINER, FOR 24 INCHES UPSTREAM OF REGISTERS AND GRILLS. APPLY ONE OF FLAT, BLACK, LATEX FINISH COAT OVER A COMPATIBLE GALVANIZED-STEEL PRIMER.
- G. PROVIDE BALANCING DAMPERS AT POINT ON SUPPLY, RETURN, AND EXHAUST SYSTEM WHERE BRANCHES LEAD FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL AT A MINIMUM OF TWO DUCT WIDTHS FROM BRANCH TAKEOFF.
- H. INSTALL FLEXIBLE CONNECTORS IMMEDIATELY ADJACENT TO EQUIPMENT IN DUCTS ASSOCIATED WITH FANS AND MOTORIZED EQUIPMENT SUPPORTED BY VIBRATION ISOLATORS.
- I. CONNECT DIFFUSERS GRILLS TO LOW PRESSURE DUCTS WITH MAXIMUM 72-INCH LENGTH OF FLEXIBLE DUCT CLAMPED OR STRAPPED IN PLACE. CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH PAN-OUT STRAPS.
- J. INSTALL BACKDRAFT DAMPERS ON EXHAUST FANS OR EXHAUST DUCTS NEAREST TO OUTSIDE AND WHERE INDICATED.

3.4 HANGING AND SUPPORTING

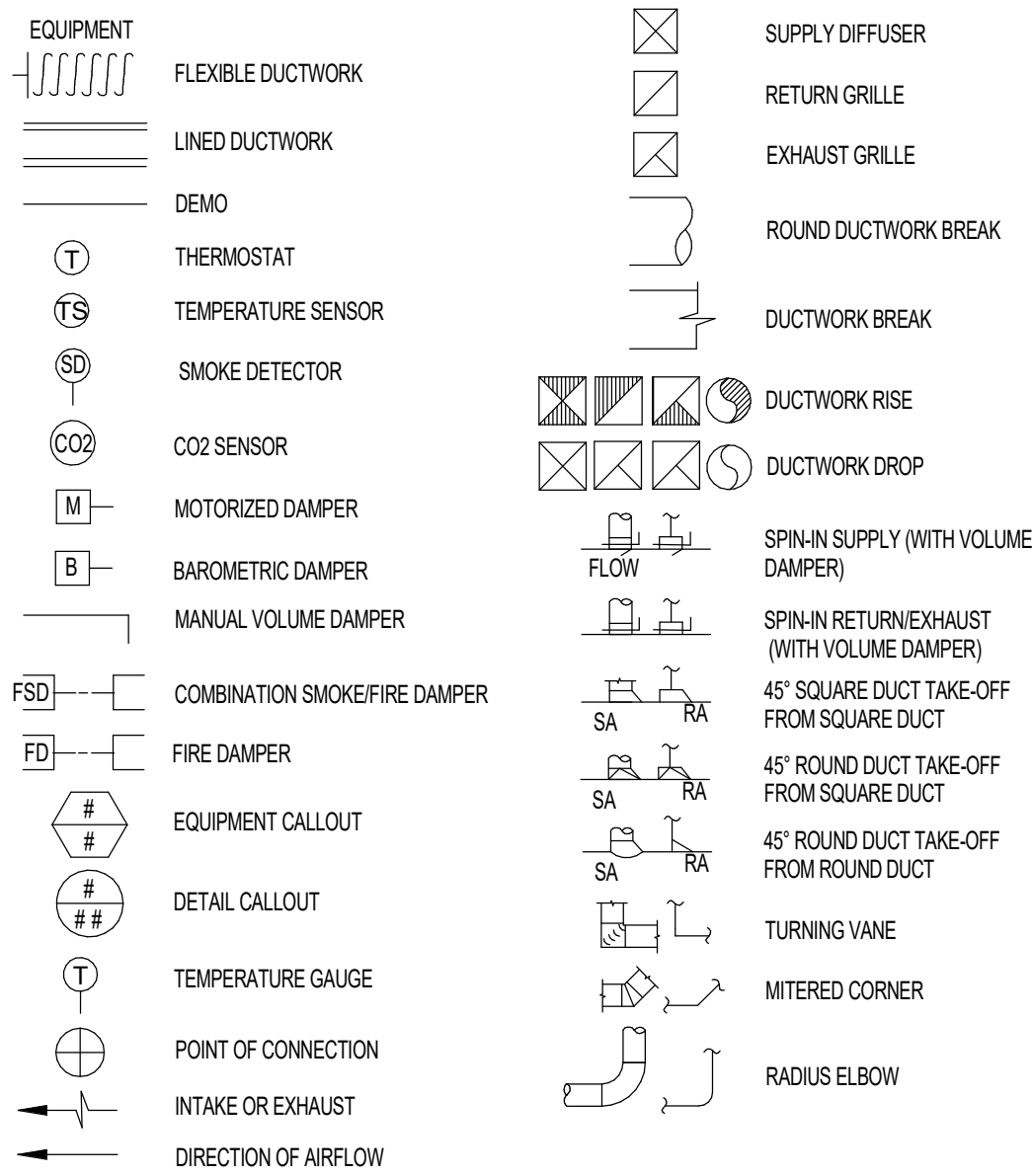
- A. SUPPORT HORIZONTAL DUCTS WITHIN 24 INCHES OF EACH ELBOW AND WITHIN 48 INCHES OF EACH BRANCH INTERSECTION.
- B. SUPPORT VERTICAL DUCTS AT MAXIMUM INTERVALS OF 16 FEET AND AT EACH FLOOR.
- C. SUPPORT ALL DUCTWORK, PIPING, AND EQUIPMENT AS REQUIRED BY THE LOCAL CODES, MANUFACTURERS RECOMMENDATIONS, AND STANDARD INDUSTRY PRACTICE.
- D. USE MATERIALS COMPATIBLE WITH INSULATIONS BEING SUPPORTED TO AVOID ELECTROLYTIC ACTION, AND CONFORM TO SMACNA, ANSI/ASME B31, NFPA, MSS SP-58, 89, 89.

GENERAL HVAC NOTES

(RE: ALL MECHANICAL SHEETS)

- G1 THE INTENTION OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS, AND EQUIPMENT, NECESSARY, OR REASONABLY INFERRABLE AS BEING NECESSARY, FOR FURNISHING, INSTALLATION AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS DESCRIBED HEREIN.
- G2 THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR T-STATS, ALL LOW VOLTAGE WIRING AND REQUIRED CONDUIT.
- G3 ALL OUTSIDE AIR DUCTS TO BE EXTERNALLY INSULATED.
- G4 ALL SUPPLY DUCTS AND RETURN DUCTS TO BE INSULATED AND INTERNALLY LINED AS SHOWN ON DRAWING AND SPECIFICATIONS.
- G5 DUCTWORK LAYOUT IS PARTIALLY DIAGRAMMATIC, OFFSETS AND ADJUSTMENTS MAY BE REQUIRED TO COORDINATE WITH LIGHTS, DUCTS, PLUMBING AND STRUCTURE.
- G6 CONTRACTOR SHALL IDENTIFY ALL SERVICEABLE ITEMS (VALVES, DAMPERS, COILS, ETC.) SO THAT THE CEILING SUBCONTRACTOR MAY KNOW WHERE TO INSTALL ACCESS-TYPE PANELS SHOULD A LIFT-UP TYPE CEILING NOT BE INSTALLED. ARCHITECT SHALL APPROVE LOCATIONS OF ACCESS PANELS PRIOR TO INSTALLATION.
- G7 ALL PENETRATIONS MADE THROUGH RATED ASSEMBLIES TO ACCOMMODATE WORK OF THIS SECTION, MUST BE SEALED TO MAINTAIN THE RATING OF SUCH ASSEMBLY BY A U.L. RECOGNIZED SEALING METHOD.
- G8 CONTRACTOR HAS SOLE RESPONSIBILITY TO COORDINATE ANY SUBSTITUTIONS WITH ALL OTHER DISCIPLINES. EQUIPMENT OF GREATER POWER, DIMENSION, CAPACITIES, AND RATINGS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT HAS BEEN SUBMITTED FOR REVIEW, IN WRITING AND CONNECTING MECHANICAL AND ELECTRICAL SERVICES, CIRCUIT BREAKERS, CONDUIT, MOTORS, BASES, AND EQUIPMENT SPACES ARE ADJUSTED APPROPRIATELY. NO ADDITIONAL COSTS WILL BE APPROVED FOR THESE INCREASES, IF LARGER EQUIPMENT IS PROPOSED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES OF THE EQUIPMENT ARE SPECIFIED, THE EQUIPMENT MUST MEET THE DESIGN REQUIREMENTS AND COMMISSIONING REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR SUBSTITUTED EQUIPMENT MEETING THE INTENT OF THE ORIGINAL DESIGNED EQUIPMENT IN ALL ASPECTS.

MECHANICAL LEGEND



ABBREVIATIONS & DESCRIPTIONS

- OFF CAP FOR FUTURE
- CFM CUBIC FEET PER MINUTE
- ENR ENERGY EFFICIENCY RATIO
- ESP EXTERNAL STATIC PRESSURE
- EWT ENTERING WATER TEMPERATURE
- FCC FLOOR CLEANOUT
- HP HORSEPOWER
- IECC INTERNATIONAL ENERGY CONSERVATION CODE
- HVAC HEATING, VENTILATING, AIR CONDITIONING
- MCA MINIMUM CIRCUIT AMPS
- MOP MAXIMUM OVERCURRENT PROTECTION
- OSA OUTSIDE AIR
- PCA PHASE
- RA RETURN AIR
- RTU ROOFTOP UNIT
- SA SUPPLY AIR
- SEER SEASONAL ENERGY EFFICIENCY RATIO
- VTR VENT THROUGH ROOF
- V VOLTS
- WB WET BULB
- WI WITH

SHEET INDEX

M1.0 - MECHANICAL SPECIFICATIONS

M1.1 - MECHANICAL PLAN

M1.1 - MECHANICAL ROOF PLAN

M3.1 - MECHANICAL ISOMETRIC

M5.1 - MECHANICAL DETAILS

M6.1 - MECHANICAL SCHEDULE

Scileppis Remodel

210 THIRD STREET
CASTLE ROCK, COLORADO 80104

TDJ-ENV-FAALB
Custom Stainless Steel
Fabrication

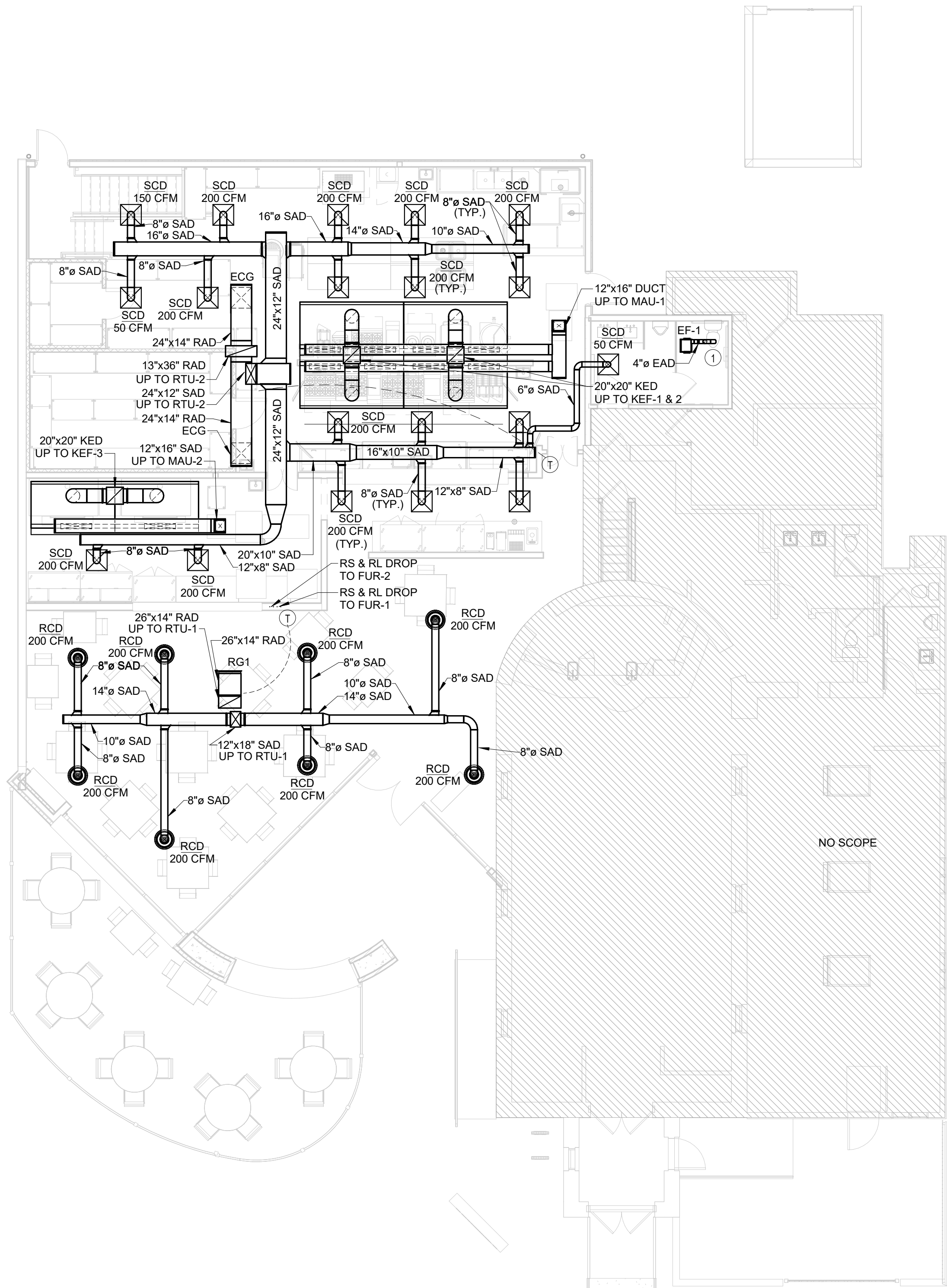
MECHANICAL SPECIFICATION

DATE: 07/31/2023
SCALE: N.T.S.

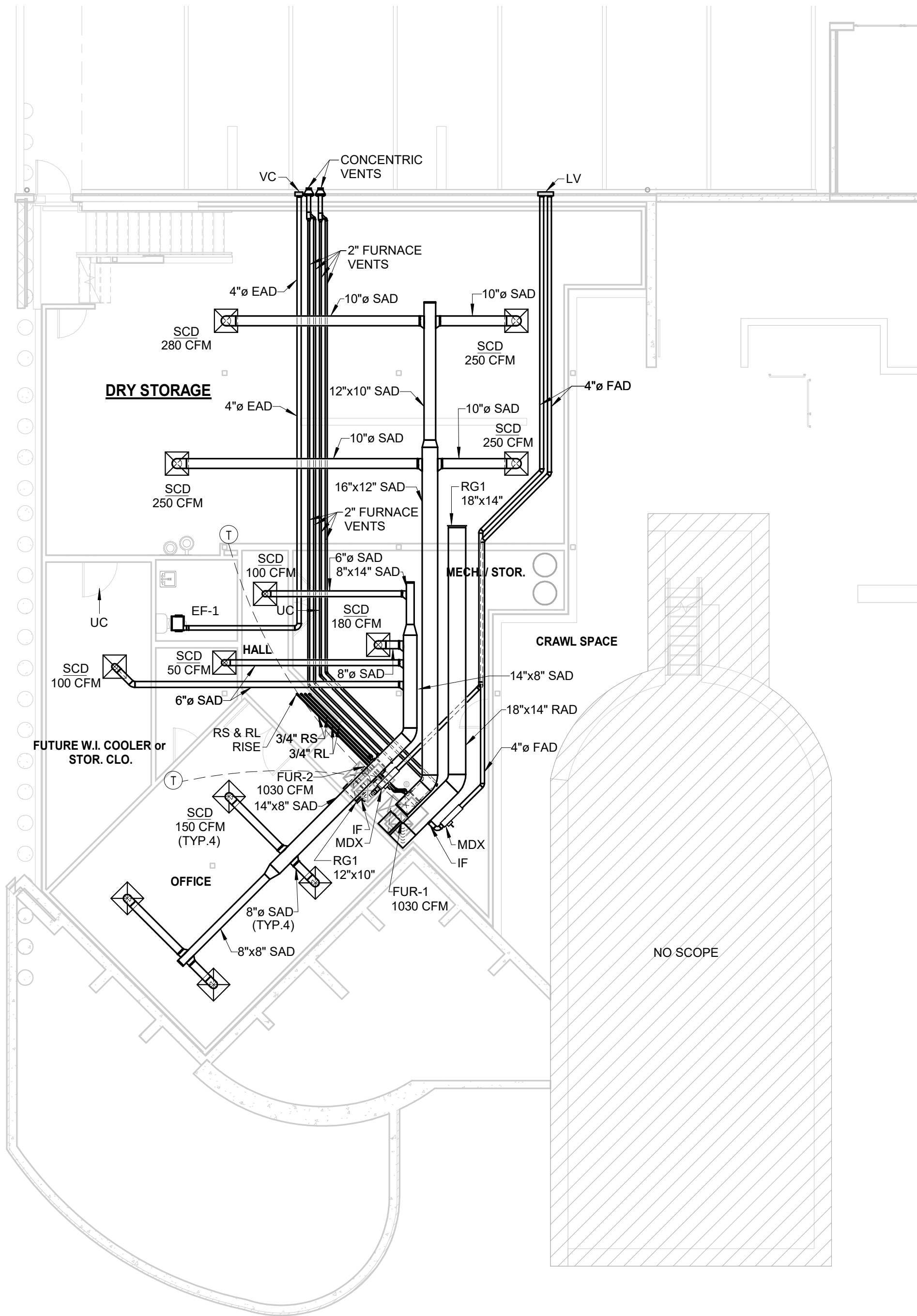
M1.0



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



1 MECHANICAL PLAN - MAIN FLOOR
1/8" = 1'-0"



2 MECHANICAL PLAN - LOWER FLOOR
1/8" = 1'-0"

GENERAL NOTES:

- ALL RETURN DUCTS SHALL BE INTERNALLY LINED WITH ACOUSTIC DUCT LINING.
- INSURE ALL OUTSIDE AIR INTAKES ARE A MINIMUM OF 10' FROM EXHAUST OUTLETS.

KEYED NOTES:

- ROUTE EXHAUST UP THROUGH ROOF. TERMINATE WITH GOOSENECK AND BIRDSCREEN.

MINIMUM VENTILATION RATES										
AREA	EQUIPMENT	OCCUPANT CLASSIFICATION	OCCUPANT DENSITY #/1000 FT²	PEOPLE OSA FLOW RATE CFM/PERSON	AREA OSA RATE CFM/FT²	ZONE AREA (FT²)	OCCUPANT DENSITY	PEOPLE OSA FLOW RATE (CFM)	AREA OSA FLOW (CFM)	REQUIRED OSA
PIZZA DINING	RTU-1	DINING ROOM	70	7.5	0.18	1000	70	525	180	705
KITCHEN	RTU-2	KITCHEN (COOKING)	20	7.5	0.12	1870	37.4	280.5	224.4	504.9
DRY STORAGE	FUR-1	KITCHEN (COOKING)	2	5	0.06	1320	2.64	13.2	79.2	92.4
OFFICE	FUR-2	KITCHEN (COOKING)	5	5	0.06	450	2.25	11.25	27	38.25

TABLE 403.3.1.1 IMC 2015



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:

MECHANICAL PLAN

DATE:

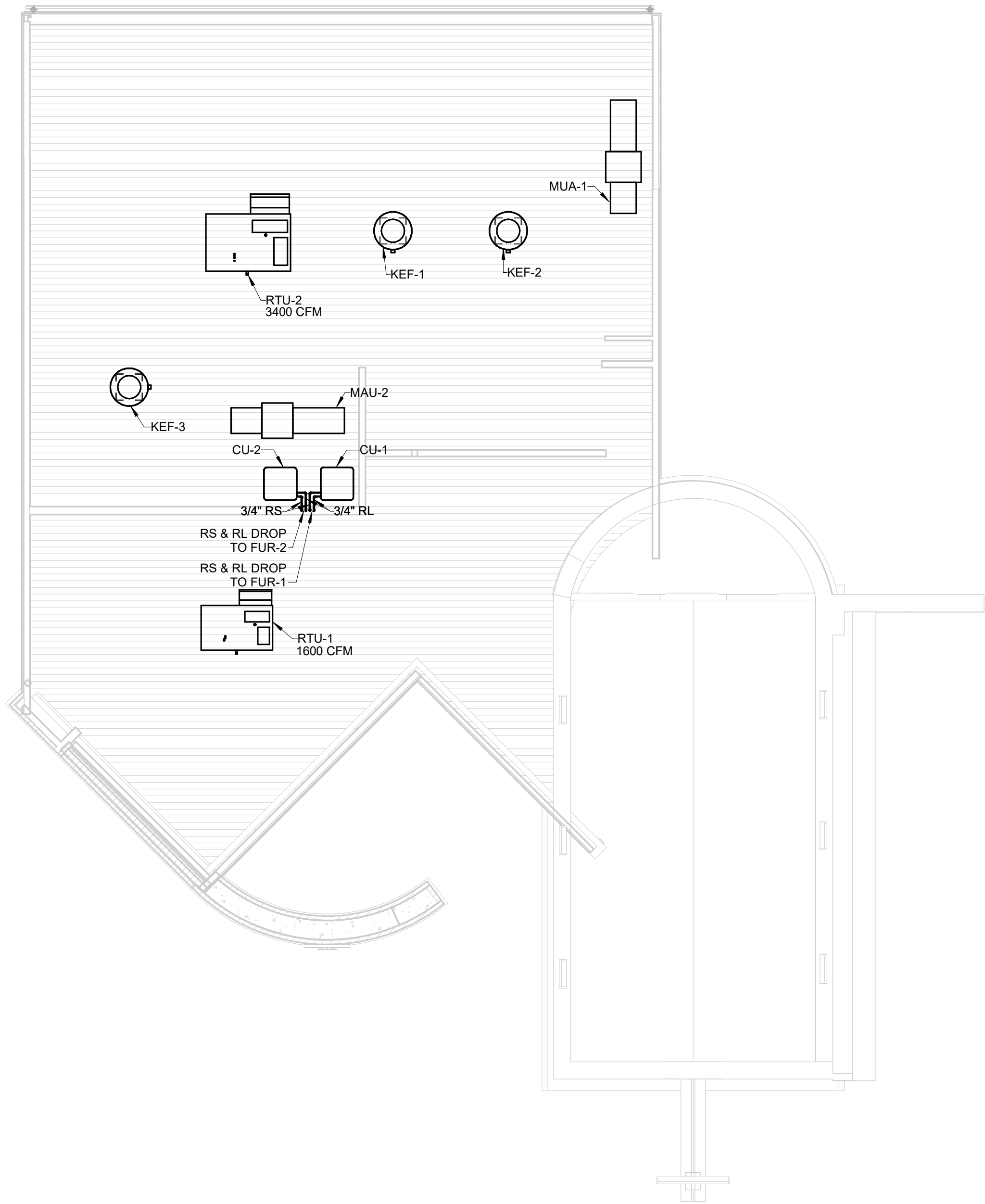
RM

07/31/2023

SCALE: 1/8" = 1'-0"

SHEET NUMBER

M1.1



1 MECHANICAL ROOF PLAN
1/8" = 1'-0"



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

ADDRESS: NAME: &
ADDRESS:



MECHANICAL ROOF
PLAN

DESIGNED BY: RM	CHECKED BY: DM
DATE: 07/31/2023	ARCHITECT:

SCALE: 1/8" = 1'-0"

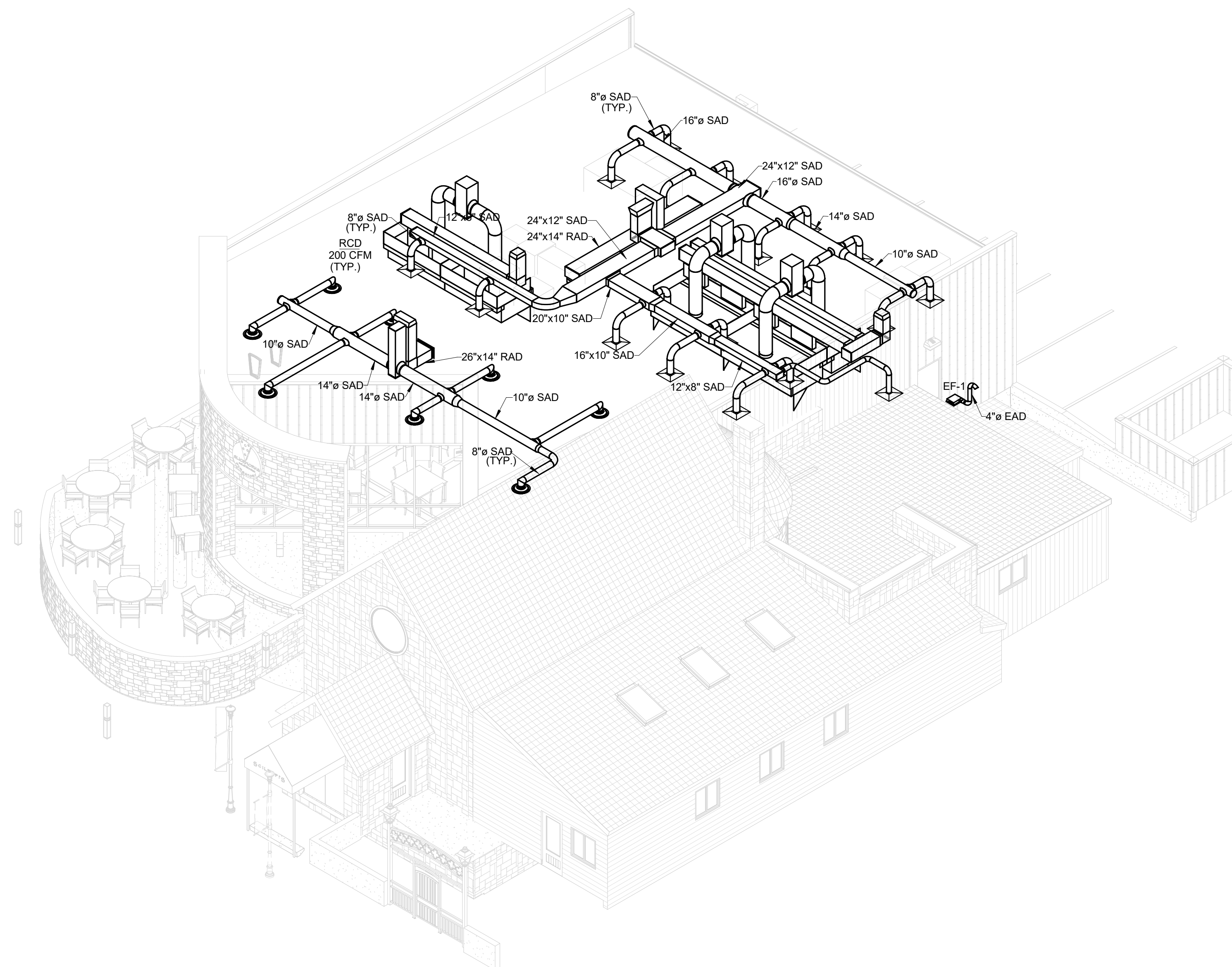
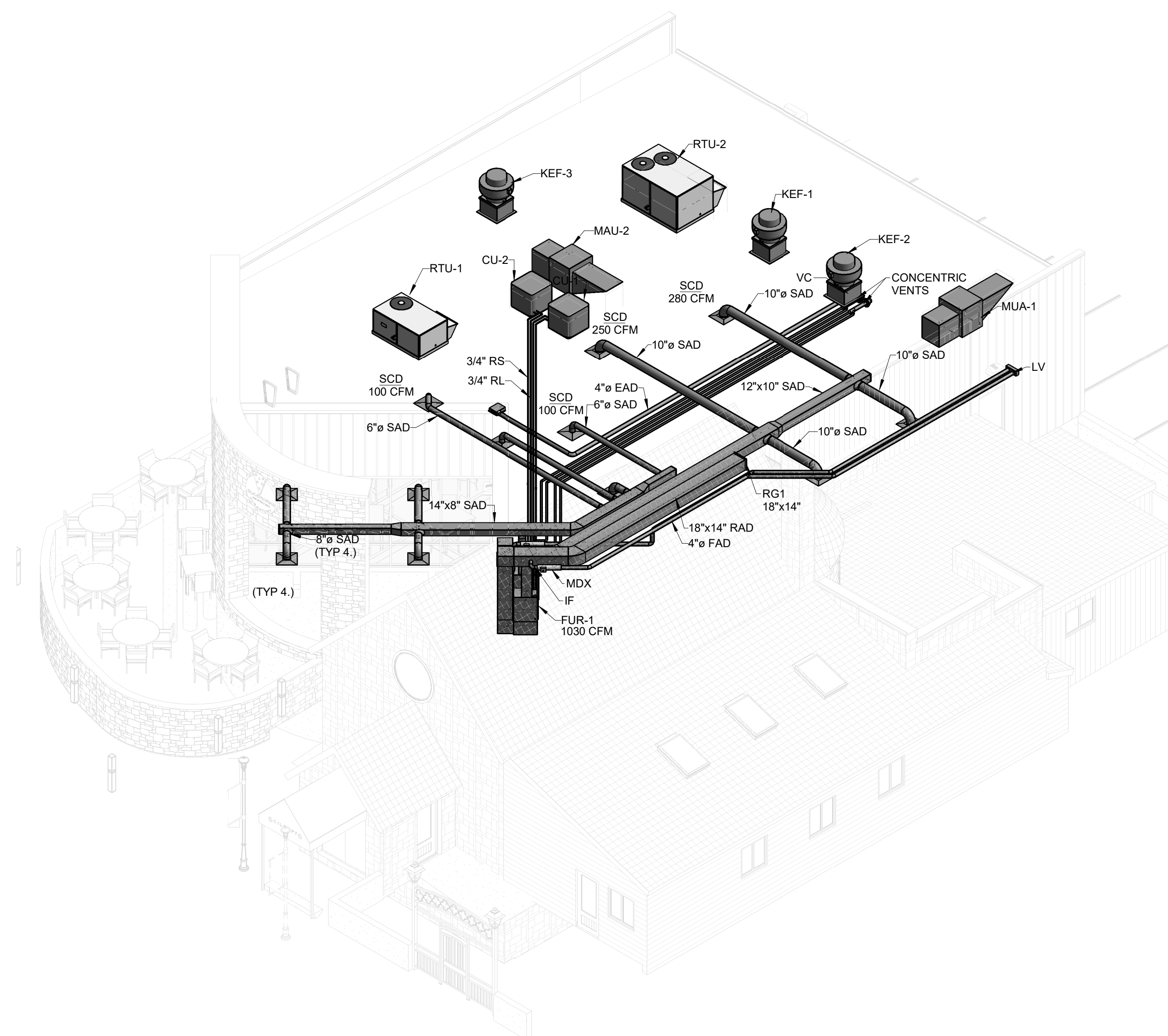
SHEET NUMBER

M1.2

REVISION	REMARKS	BY	DATE



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



INDOOR ENVIRONMENT USA
A LIMITED LIABILITY COMPANY

1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

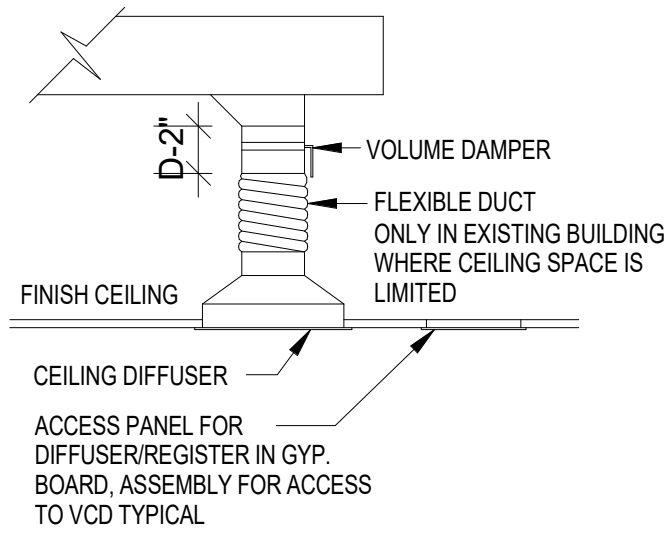
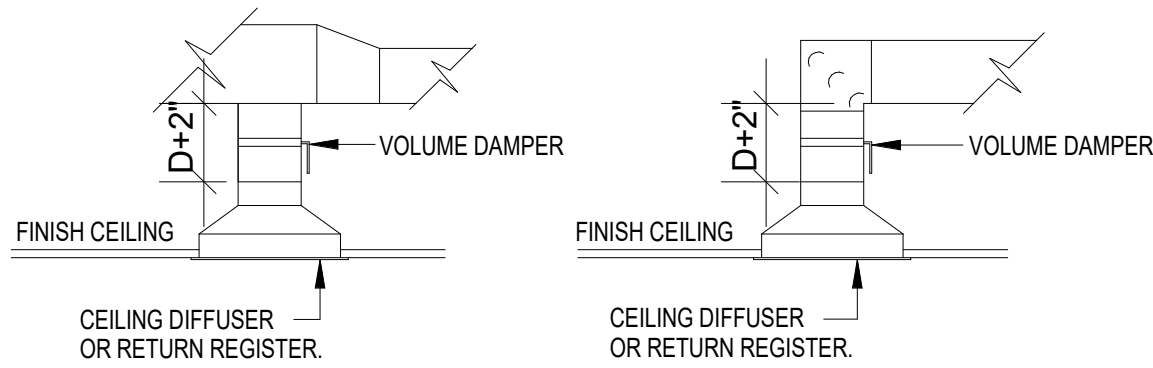
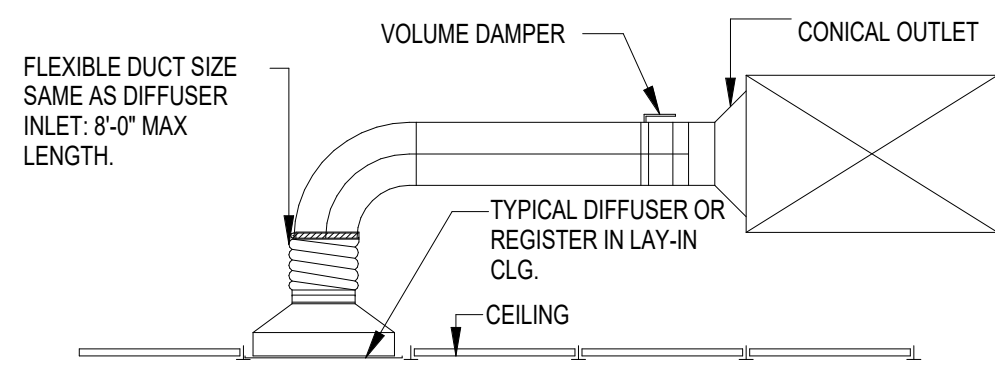
DEN-FAB
Custom Stainless Steel
Fabrication

Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104

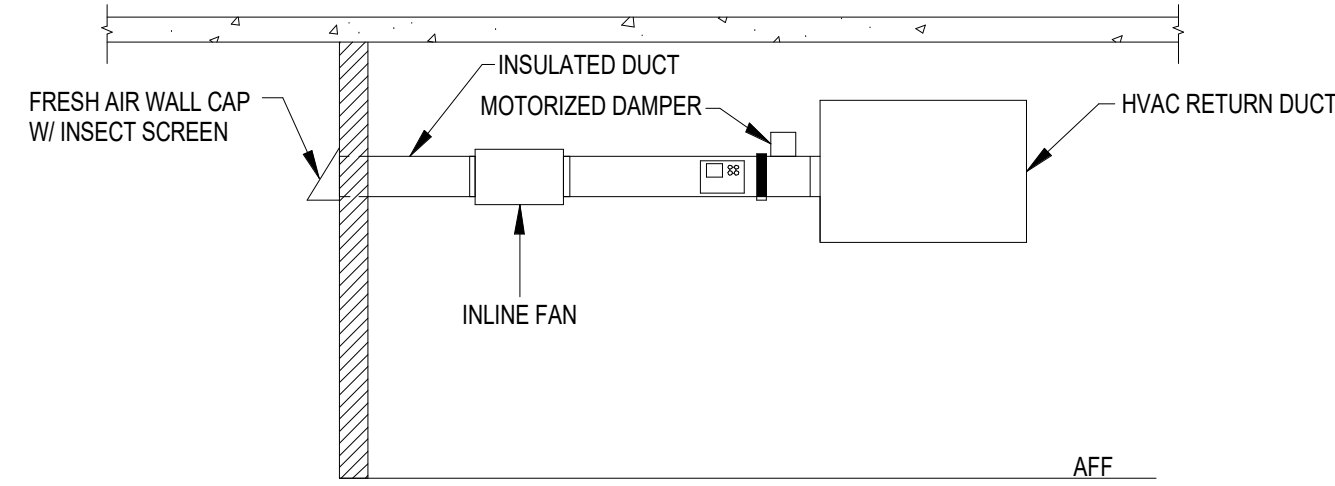
[illegible]

DRAWN: RM	CHECKED: DM
DATE: 07/31/2023	ARCH:
SCALE: N.T.S.	

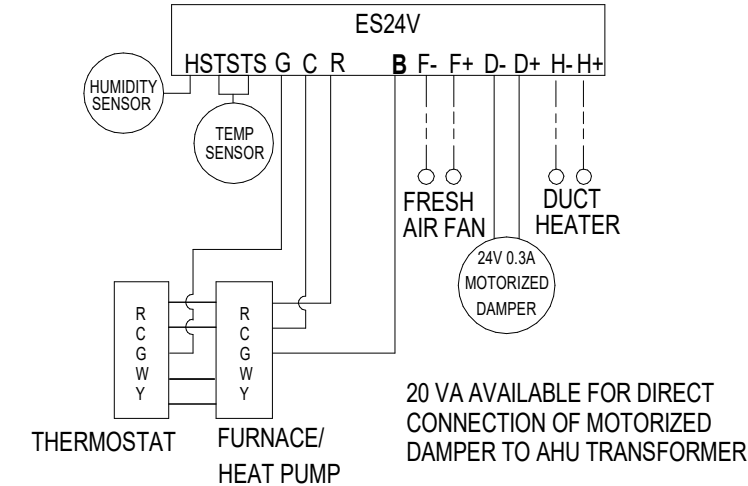
SHEET NUMBER



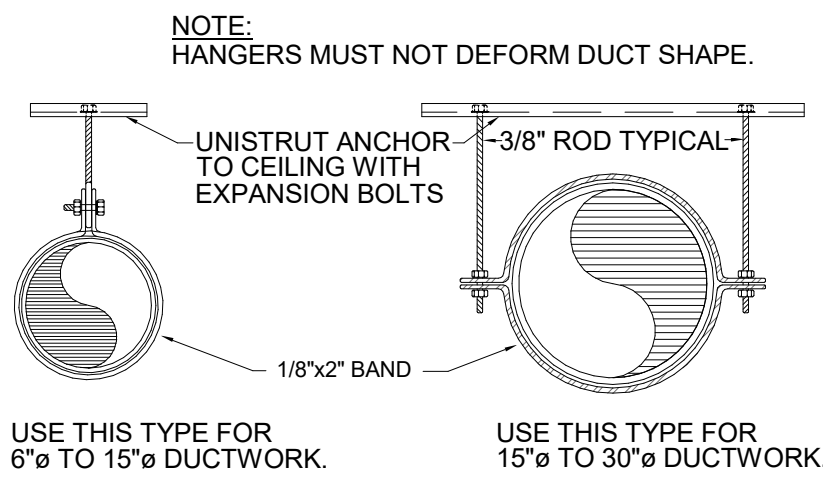
1 TYPICAL VOLUME DAMPER, DIFFUSER, GRILL, REGISTER AND/OR FLEX DUCT CONN. DETAIL
N.T.S.



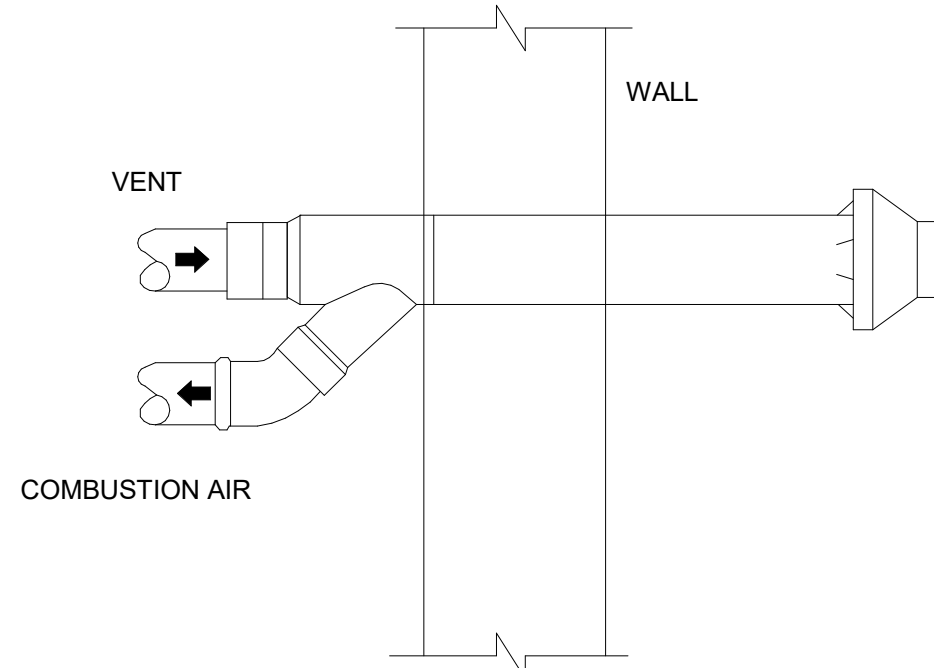
2 FRESH AIR DAMPER INSTALLATION
N.T.S.



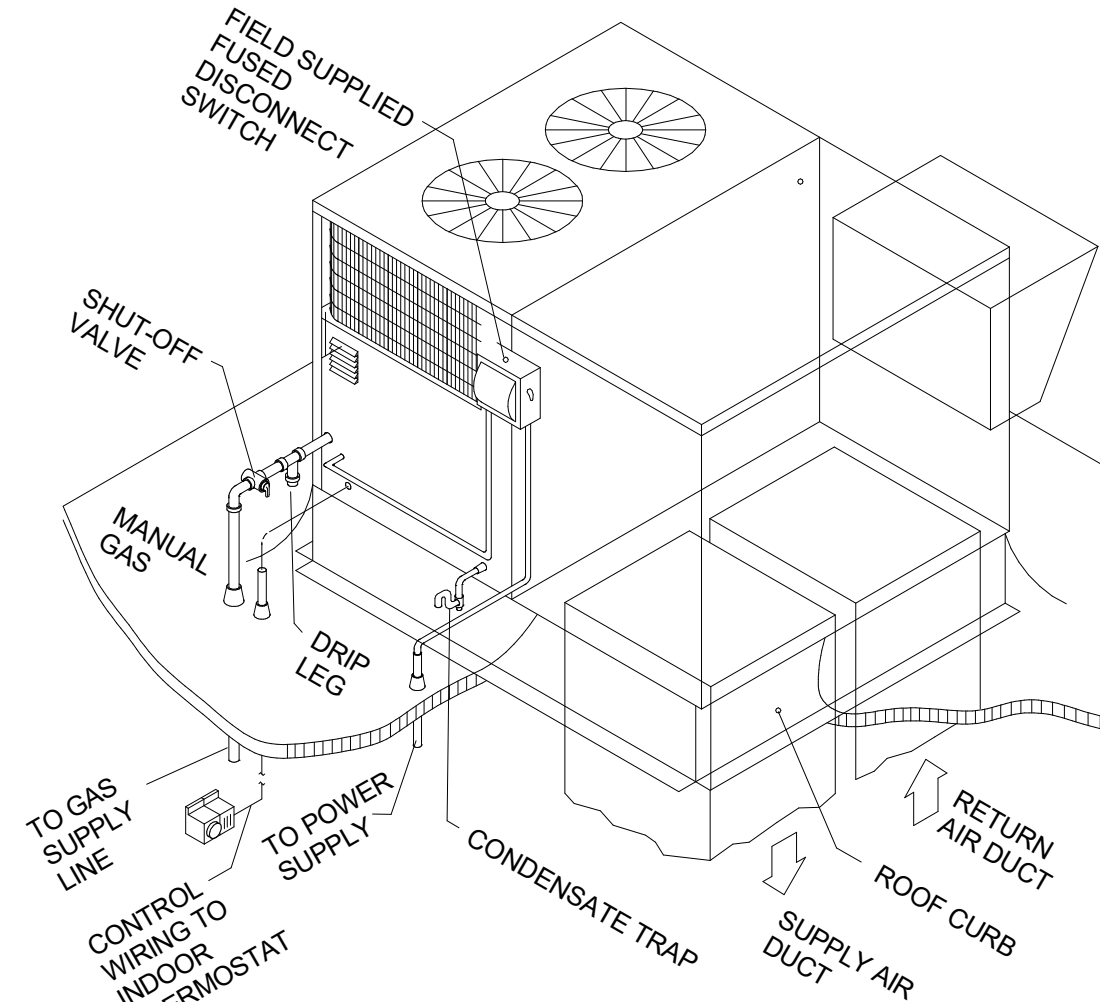
3 FRESH AIR DAMPER WIRING
N.T.S.



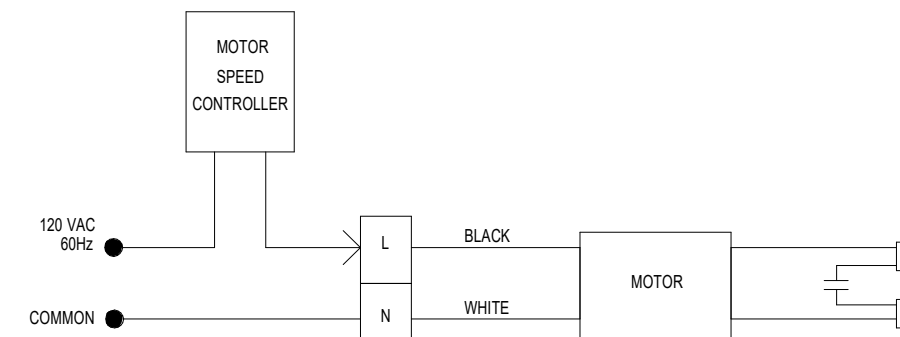
4 CIRCULAR DUCT SUPPORT DETAIL
N.T.S.



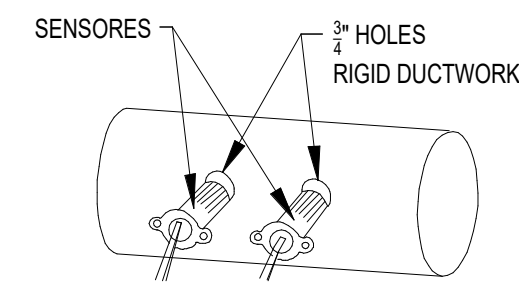
5 WALL CONCENTRIC VENT
N.T.S.



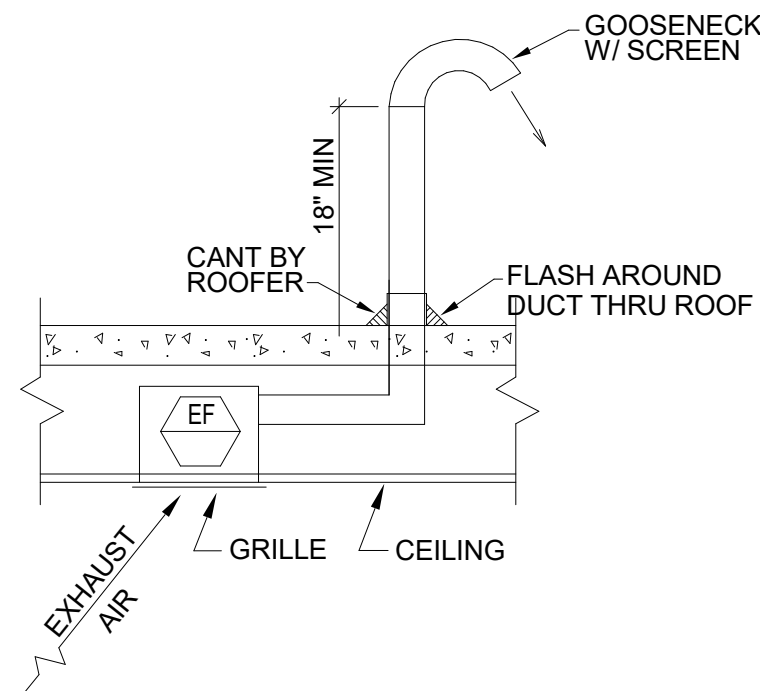
6 GAS-FIRED ROOF TOP UNIT
N.T.S.



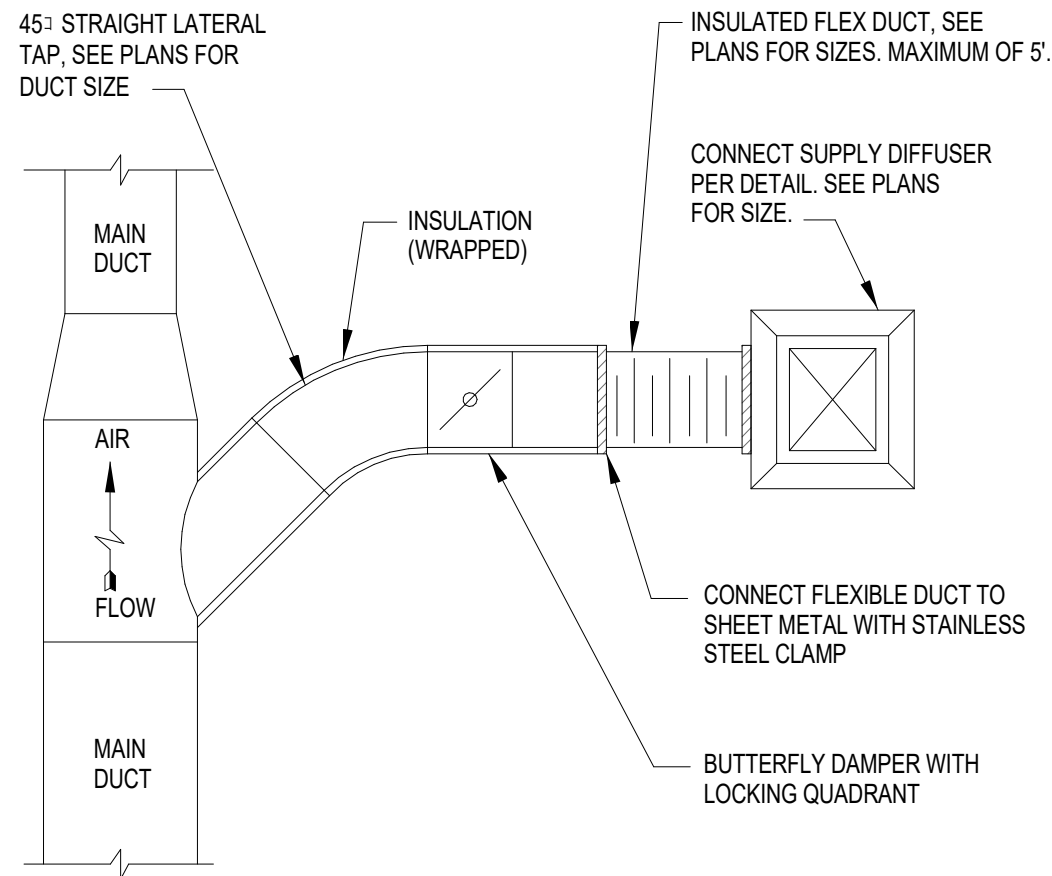
7 INLINE FAN WIRING
N.T.S.



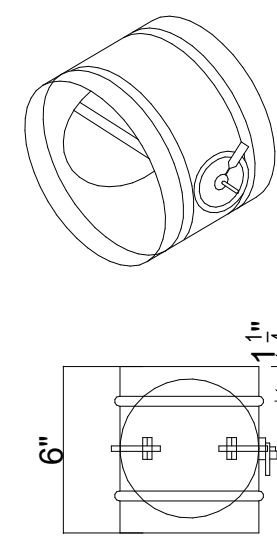
8 SENSOR INSTALLATON
N.T.S.



9 CEILING EXHAUST FAN DETAIL
N.T.S.

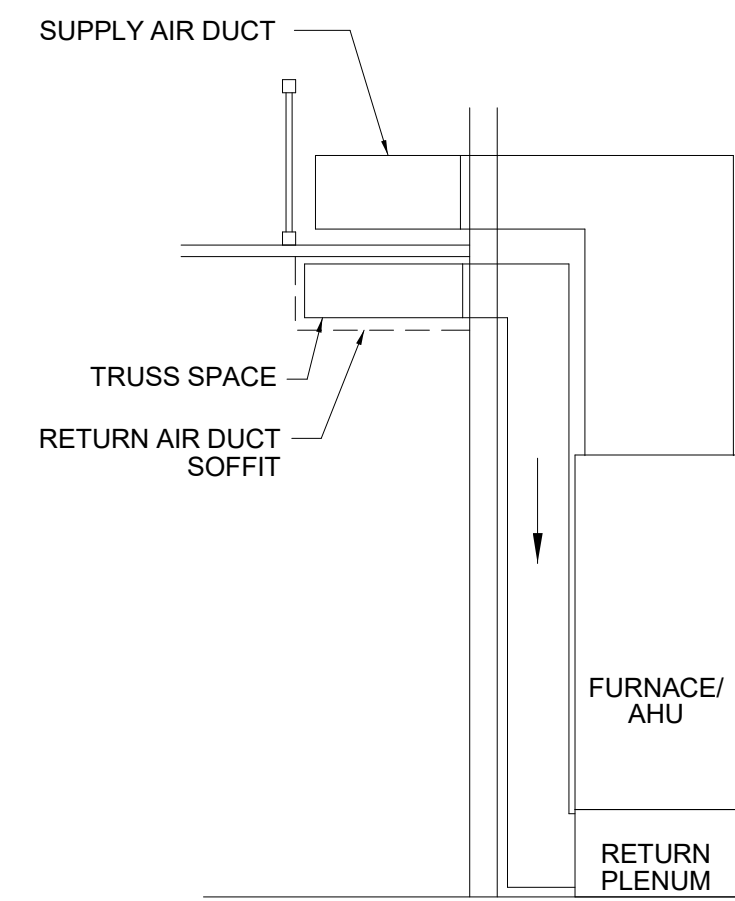


10 ROUND DUCT TAKEOFF DETAIL
N.T.S.



- NOTE:
- 22 GAUGE GALVANIZED STEEL FRAME, 6" LONG STANDARD. DOUBLE BEADED FOR STRENGTH.
 - 22 GAUGE GALVANIZED STEEL BLADE WITH CENTER "V" BREAK FOR ADDED STRENGTH.
 - 3/8" SQUARE ZINC PLATED STEEL BLADE SHAFTS WITH TIGHT SEALING NYLON BUSHINGS.
 - ALL STEEL PARTS WITH GALVANIZED FINISH OR ZINC PLATING.
 - MAXIMUM OPERATING TEMPERATURE IS 250° F.
 - MANUAL LOCKING QUADRANT SUPPLIED FACTORY MOUNTED TO DAMPER SLEEVE.
 - MAXIMUM DIAMETER 24", MINIMUM DIAMETER 4".
 - DAMPERS ARE SUPPLIED APPROXIMATELY 1/8" UNDER NOMINAL DIAMETER.

11 ROUND MANUAL BALANCING DAMPER
N.T.S.



12 AHU DETAIL
N.T.S.



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



MECHANICAL DETAILS

DESIGNED BY: RM	DRAWN BY: DM
DATE: 07/31/2023	ARCHITECT: ARCH
SCALE: N.T.S.	

SHEET NUMBER

M5.1



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

ROOFTOP UNITS SCHEDULE																					
MARK	BRAND	MODEL	SITE ELEV. (FT)	TONNAGE	SEER/ IEER-EER	CFM	OSA CFM	ESP (N.W.C.)	ELECTRICAL			COOLING CAPACITY				MIN. SEER	HEATING CAPACITY			WEIGHT (LBS)	REMARKS
									POWER SUPPLY	MCA	MOCP	QC TOTAL (MBH)	QC SENS. (MBH)	EAT (F)			INPUT (MBH)	OUTPUT (MBH)	LAT (F)		
														DB	WB						
RTU-1	CARRIER	48GCFM05A2M5-6U0C0	5300	4	16	1600	705	0.5	208/3/60	27	30	41.5	40.5	80	62	16	114 / 91	91 / 73	119	741	1, 2, 3
RTU-2	CARRIER	48HCFD09A2M5-6U0J0	5300	8.5	13.8	3400	505	0.5	208/3/60	41	50	87.5	87.5	80	62	16	170 / 137	140 / 112	101	1112	1, 2, 3

- NOTES:
- PROVIDE TAMPERPROOF ENCLOSURE FOR THERMOSTAT. CONFIRM PROGRAMMABLE THERMOSTAT.
 - PROVIDE ONE NEW AIRTEST TR9292-B 0-10VDC DUCT MOUNTED CO2 SENSOR. SET MAX OSA TO 850 CFM. WIRE CO2 SENSOR TO CONTROL BOARD ON RTU.
 - CAP BOTH SUPPLY AND RETURN RTU PENETRATIONS AND INSULATE. RTU-2 IS EXISTING FROM SHELL AND CAPACITY IS NOT NEEDED. ABANDON IN PLACE.

WIRE CO2 SENSOR TO CO2 SENSOR INPUT ON CARRIER RTU CONTROL BOARD. SET ECONOMIZER MAX AIRFLOW TO SCHEDULED VALUE. UNIT WILL MODULATE TO MAINTAIN MAX FLOW WHEN CO2 LEVEL RISES ABOVE 600 PPM.

FURNACE SCHEDULE													
SYMBOL	BRAND	MODEL	SUPPLY FAN (HP)	VOLTS/PHASE/HZ	ELECTRICAL			MAX.FLOW (CFM@0.5")	HEATING CAPACITY INPUT/OUTPUT (MBH)	FURNACE AFUE (%)	DIMENSIONS HxWxD	WEIGHT (LBS.)	NOTES
					POWER SUPPLY	MCA	MOCP						
FUR-1	CARRIER	59TP6B040V14--10	1/2	120/60/1	120/60/1	7.0	15	1030	40/39	96	35 x 14 x 13	123	1, 2 & 3
FUR-2	CARRIER	59TP6B040V14--10	1/2	120/60/1	120/60/1	7.0	15	1030	40/39	96	35 x 14 x 13	123	1, 2 & 3

- NOTES:
- PROVIDE WITH PROGRAMMABLE THERMOSTAT.
 - PROVIDE WITH CONCENTRIC VENT KIT.
 - PROVIDE WITH EVAPORATOR COIL.

CONDENSING UNIT											
SYMBOL	BRAND	MODEL	MBTUH COOL	SEER	ELECTRICAL			REFRIGERANT	DIMENSIONS LxWxH (IN)	WEIGHT	NOTES
					POWER SUPPLY	MCA	MOCP				
CU-1	CARRIER	24AAA524WOO30	24	15	208/60/1	14.1	20	R-410A	34 x 34 x 32	122	1
CU-2	CARRIER	24AAA524WOO30	24	15	208/60/1	14.1	20	R-410A	34 x 34 x 32	122	1

- NOTES:
- PROVIDE WITH GROUND ISOLATION PAD.

EXHAUST FAN SCHEDULE														
SYMBOL	BRAND	MODEL	TYPE	SERVICE	CFM	E.S.P. (I.N. W.C.)	FAN (RPM)	ELECTRICAL			WATTS	AMPS	WEIGHT (LBS)	NOTES
								VOLTS	PHASE	HZ				
EF-1	FANTECH	PRO 100	CEILING EXHAUST FAN	RESTROOM	100	0.25	1,167	115	1	60	25	0.4	9	1 & 2

- NOTES:
- PROVIDE WITH WALL SWITCH.
 - FURNISH FANS WITH BACKDRAFT DAMPERS.

AIR DISTRIBUTION DEVICE SCHEDULE							
MARK	DESCRIPTION	MOUNTING	MANUFACTURER AND MODEL#	SIZE	MATERIAL	FINISH	REMARKS
RCD	CEILING DIFFUSER	SURFACE MOUNT	PRICE RCD	SEE PLANS	STEEL	COORDINATE WITH ARCHITECT	
SCD	CEILING DIFFUSER	LAY-IN CEILING	PRICE SCD	24 "x 24"	STEEL	COORDINATE WITH ARCHITECT	
RG1	RETURN GRILLE	DUCT MOUNT	PRICE 500	SHOWN ON PLANS	STEEL	COORDINATE WITH ARCHITECT	
ECG	EGG CRATE GRILLE	SURFACE/GRID	PRICE 80	24 "x 24"	ALUMINUM	COORDINATE WITH ARCHITECT	
VC	VENT CAP	WALL MOUNT	SEHO SFZ 4	4"	ALUMINUM	CLEAR ANODIZED	
LV	LOUVERED VENT	WALL MOUNT	SEHO KX-N	4"	ALUMINUM	CLEAR ANODIZED	

- NOTES:
- PROVIDE APPROPRIATE MOUNTING FRAME WITH CEILING TYPE.

OUTSIDE AIR DAMPER/ACTUATOR				
TAG	DESCRIPTION	MAKE	MODEL	NOTES
MDX	OUTSIDE AIR DAMPER	SOLAR & PALAU	MD4-ES24VK	1 , 2

- NOTES:
- WIRE INTO FURNACE CONTROL PANEL.
 - BALANCE TO TABLE TABULATION ON SHEET M1.0.

INLINE FAN											
TAG	DESCRIPTION	MODEL	NOM. RPM	VOLTS	MAX. WATTS	SPEED	CFM @0.125"	MAX. OPERATING TEMP. (F)	WGT. (LBS)	DUCT DIA. INS.	NOTES
IF	INLINE FLOW DUCT FAN	TD-100	2516	120	26	-	100	140	4	4"	1

- NOTES:
- PROVIDE WITH SPEED CONTOLLER.



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

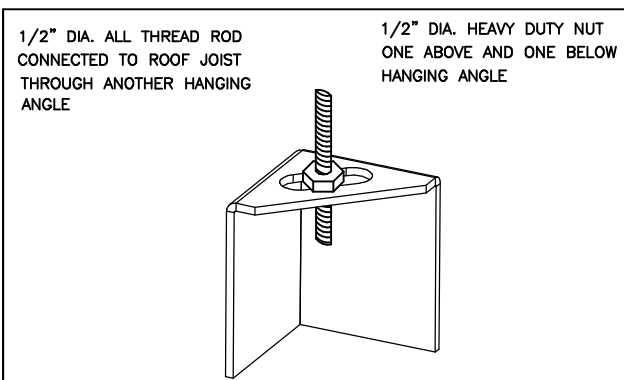
REVISION	REMARKS	BY	DATE																	



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:		MECHANICAL SCHEDULE	
DRAWN: RM		CHECKED: DM	
DATE: 07/31/2023		ARCHT:	
SCALE: N.T.S.			
SHEET NUMBER			
M6.1			



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE DETAILS

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY ND2	150	200	250
WITH END PANELS (15% reduction)	127.5	170	212.5
SLOPED SNO-2	228	294	—
ISLAND ND-2WI	269	300	350
NOI	346	422	475

ETL HOOD LISTING DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/IN/FT. (LOAD)
SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED
TOTAL DUCT AREA=144 X
DUCT LENGTH= TOTAL DUCT AREA
DUCT DEPTH

*CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 800 FPM

CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:



BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLES

INSTALLATION

- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
- ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
- HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
- ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
- COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
- EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
- ALL LIGHTS TO REMAIN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
- LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
- SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

BALANCE

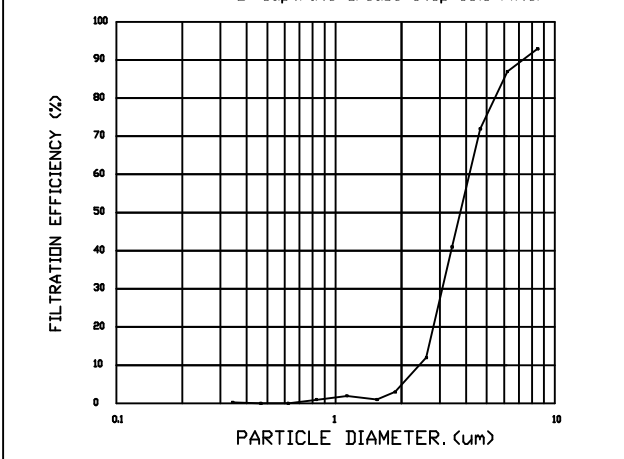
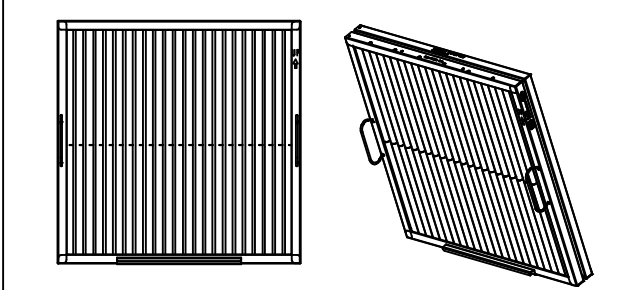
- KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
- KITCHEN SHALL BE NEGATIVE WITH RESPECT TO OUTDOOR AREA.
- RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

- WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
- SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE REVIEWED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

GENERAL NOTES

FILTER COLLECTION EFFICIENCY



CaptiveAir Grease-Stop 500 Filter
ETL Listed Grease Extracting Filter
Made From 430 Stainless Steel

FILTER DETAIL

HOOD INFORMATION — JOB#5303367

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	ROW
1		6030 ND-2-PSP-F	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	225	2250			4'	14"	2250	2105	-1.013'	1850	430 SS WHERE EXPOSED	LEFT	FRONT
2		6030 ND-2-PSP-F	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	225	2250			4'	14"	2250	2105	-1.013'	1850	430 SS WHERE EXPOSED	RIGHT	FRONT
3		6030 ND-2-PSP-F	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	225	2250			4'	14"	2250	2105	-1.013'	1850	430 SS WHERE EXPOSED	LEFT	BACK
4		6030 ND-2-PSP-F	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	225	2250			4'	14"	2250	2105	-1.013'	1850	430 SS WHERE EXPOSED	RIGHT	BACK
5		7230 ND-2-PSP-F	CAPTIVEAIRE	8' 1"	600 DEG	I	HEAVY	200	1617			4'	14"	1617	1513	-0.563'	1200	430 SS WHERE EXPOSED	LEFT	ALONE
6		7230 ND-2-PSP-F	CAPTIVEAIRE	8' 2"	600 DEG	I	HEAVY	200	1633			4'	14"	1633	1528	-0.573'	1325	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)					UTILITY CABINET(S)				FIRE SYSTEM	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	MODEL #	QUANTITY		
1		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	RECESSED ROUND	NO							YES	657 LBS
2		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	RECESSED ROUND	NO	RIGHT	12"x60"x30"	TANK FS	4.0/4.0/4.0			YES	1057 LBS
3		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	RECESSED ROUND	NO	LEFT	12"x60"x30"					YES	757 LBS
4		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	RECESSED ROUND	NO							YES	657 LBS
5		CAPTRATE SOLO FILTER	6	20"	16"	85% SEE FILTER SPEC	5	RECESSED ROUND	NO							YES	538 LBS
6		CAPTRATE SOLO FILTER	6	20"	16"	85% SEE FILTER SPEC	5	RECESSED ROUND	NO	RIGHT	12"x72"x30"	TANK FS	4.0	DCV-3222	2 LIGHT 2 FAN	YES	828 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 12.00" HIGH FRONT, LEFT. BALANCE DAMPERS. RISER SENSOR INSTALL 6IN PLEN. LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
2		FIELD WRAPPER 12.00" HIGH FRONT, RIGHT. BALANCE DAMPERS. RISER SENSOR INSTALL 6IN PLEN. RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
3		FIELD WRAPPER 12.00" HIGH FRONT, LEFT. BALANCE DAMPERS. RISER SENSOR INSTALL 6IN PLEN. LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
4		FIELD WRAPPER 12.00" HIGH FRONT, RIGHT. BALANCE DAMPERS. RISER SENSOR INSTALL 6IN PLEN. RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
5		FIELD WRAPPER 18.00" HIGH FRONT, LEFT. LEFT END STANDOFF (FINISHED) 1' WIDE 72" LONG INSULATED. BALANCE DAMPERS. RISER SENSOR INSTALL 6IN PLEN. LEFT WALL AS END PANEL.
6		FIELD WRAPPER 18.00" HIGH FRONT, RIGHT. BALANCE DAMPERS. RISER SENSOR INSTALL 6IN PLEN.

PERFORATED SUPPLY PLENUM(S)

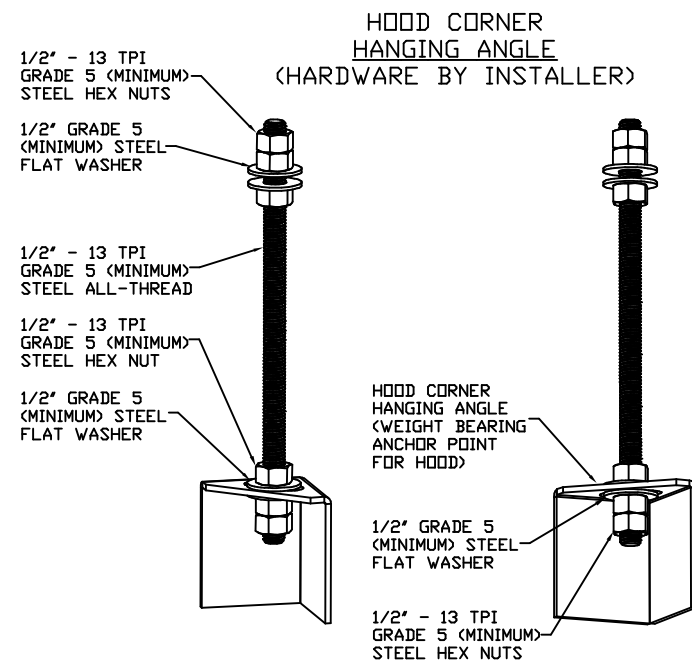
HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	120"	14"	6"	MUA	12"	24"		616	0.170"
2		Front	132"	14"	6"	MUA	12"	24"		616	0.170"
3		Front	132"	14"	6"	MUA	12"	24"		616	0.170"
4		Front	120"	14"	6"	MUA	12"	24"		616	0.170"
5		Front	98"	12"	6"	MUA	8"	36"		600	0.162"
6		Front	110"	12"	6"	MUA	8"	36"		662	0.167"

*** NOTE ***
ALL WALLS AND STRUCTURES THAT COME WITHIN 18" OF HOOD MUST BE METAL STUDS AND SHEETROCK. WOOD STUDS OR ANY OTHER COMBUSTIBLE MATERIAL WITHIN 18" OF HOOD NOT ALLOWED

*** NOTE ***
HOOD MANUFACTURER RECOMMENDS NO RETURNS OR 4-WAY DIFFUSERS WITHIN 10 FEET OF HOOD IN ALL DIRECTIONS.

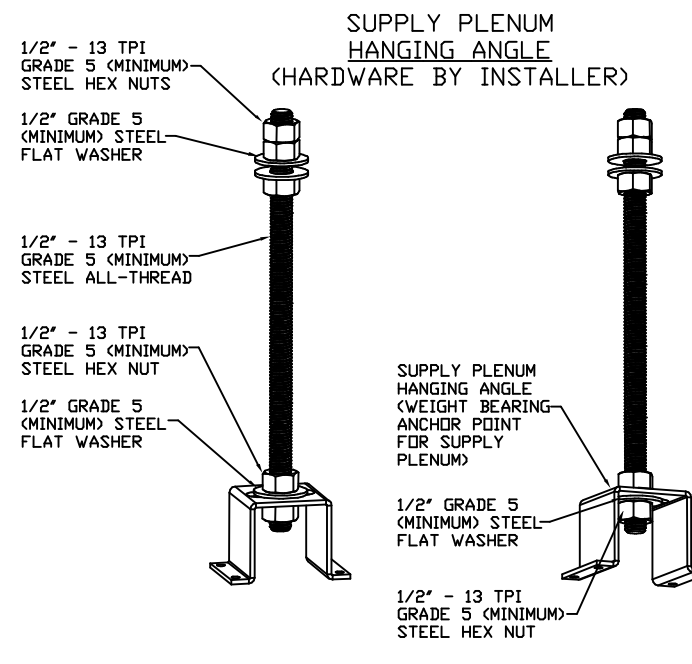
*** NOTE ***
MAKE-UP AIR SHALL BE DELIVERED INTO SPACE IN MANNER THAT WILL NOT DISRUPT HOODS ABILITY TO CAPTURE AND CONTAIN.

FOR QUESTIONS, CALL THE
Denver Office
REGION 42
PHONE: (720) 570-0981
EMAIL: reg42@captiveaire.com



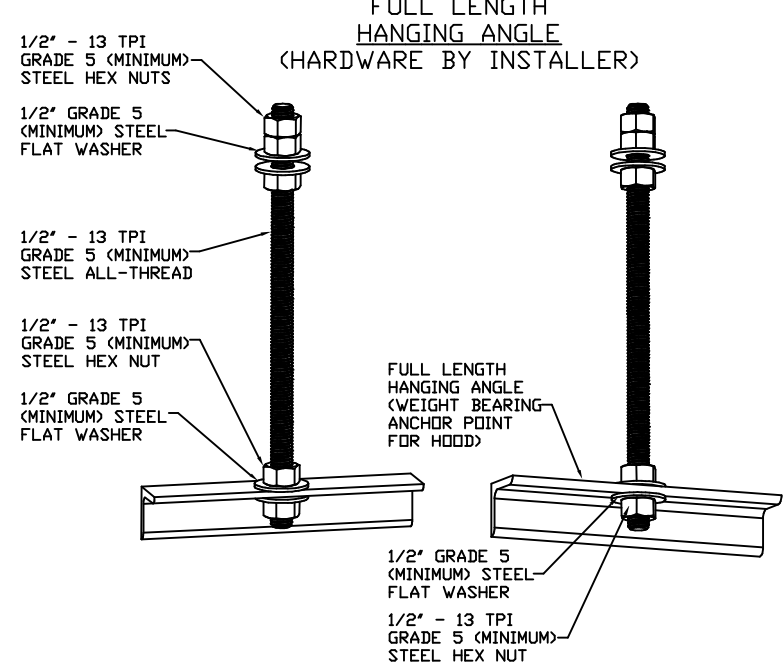
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

System Design Verification (SDV)

If ordered, CAS Service will perform a System Design Verification (SDV) once all equipment has had a complete start up per the Operation and Installation Manual. Typically, the SDV will be performed after all inspections are complete.

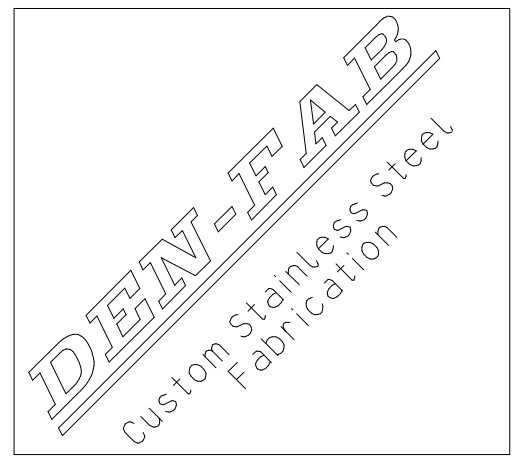
Any field related discrepancies that are discovered during the SDV will be brought to the attention of the general contractor and corresponding trades on site. These issues will be documented and forwarded to the appropriate sales office. If CAS Service has to resolve a discrepancy that is a field issue, the general contractor will be notified and billed for the work. Should a return trip be required due to any field related discrepancy that cannot be resolved during the SDV, there will be additional trip charges.

During the SDV, CAS Service will address any discrepancy that is the fault of the manufacturer. Should a return trip be required, the general contractor and appropriate sales office will be notified. There will be no additional charges for manufacturer discrepancies.



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:

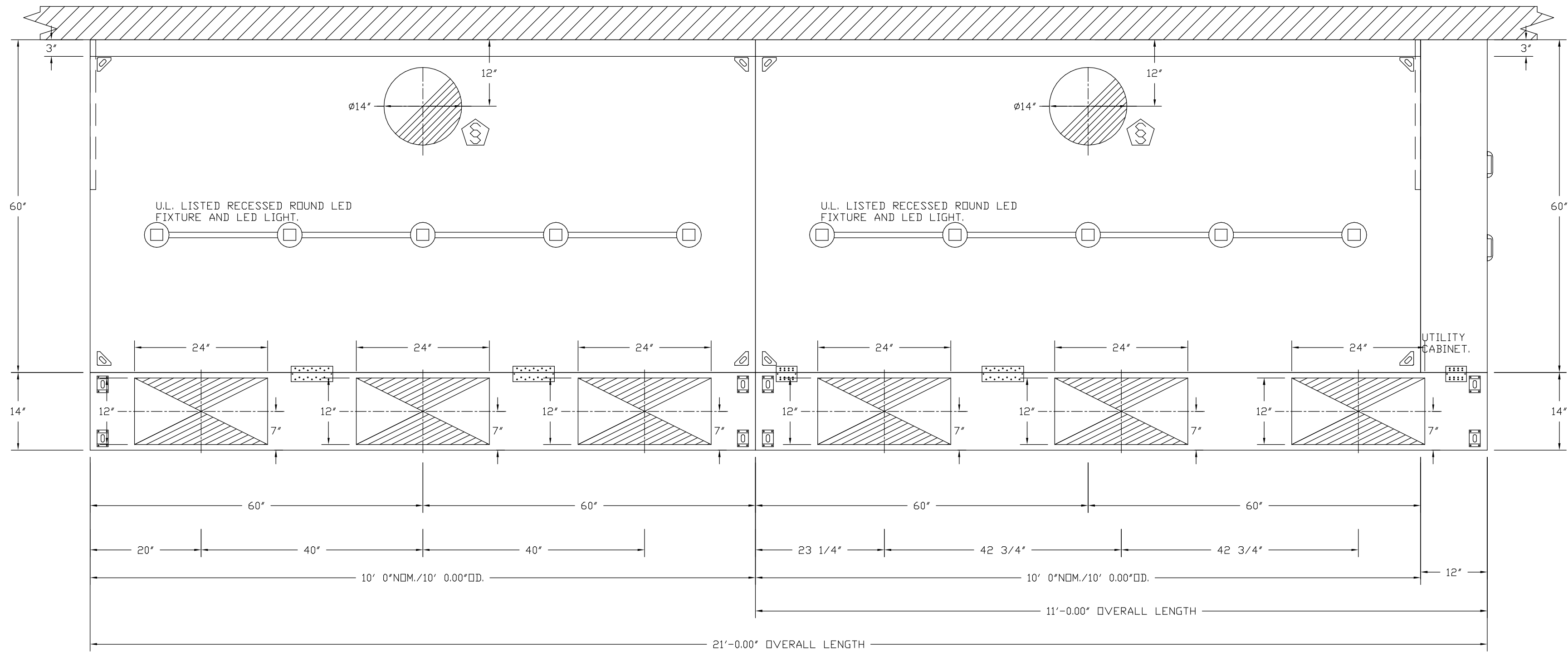
MECHANICAL DETAILS

Author	Checker
07/31/2023	ARCH

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

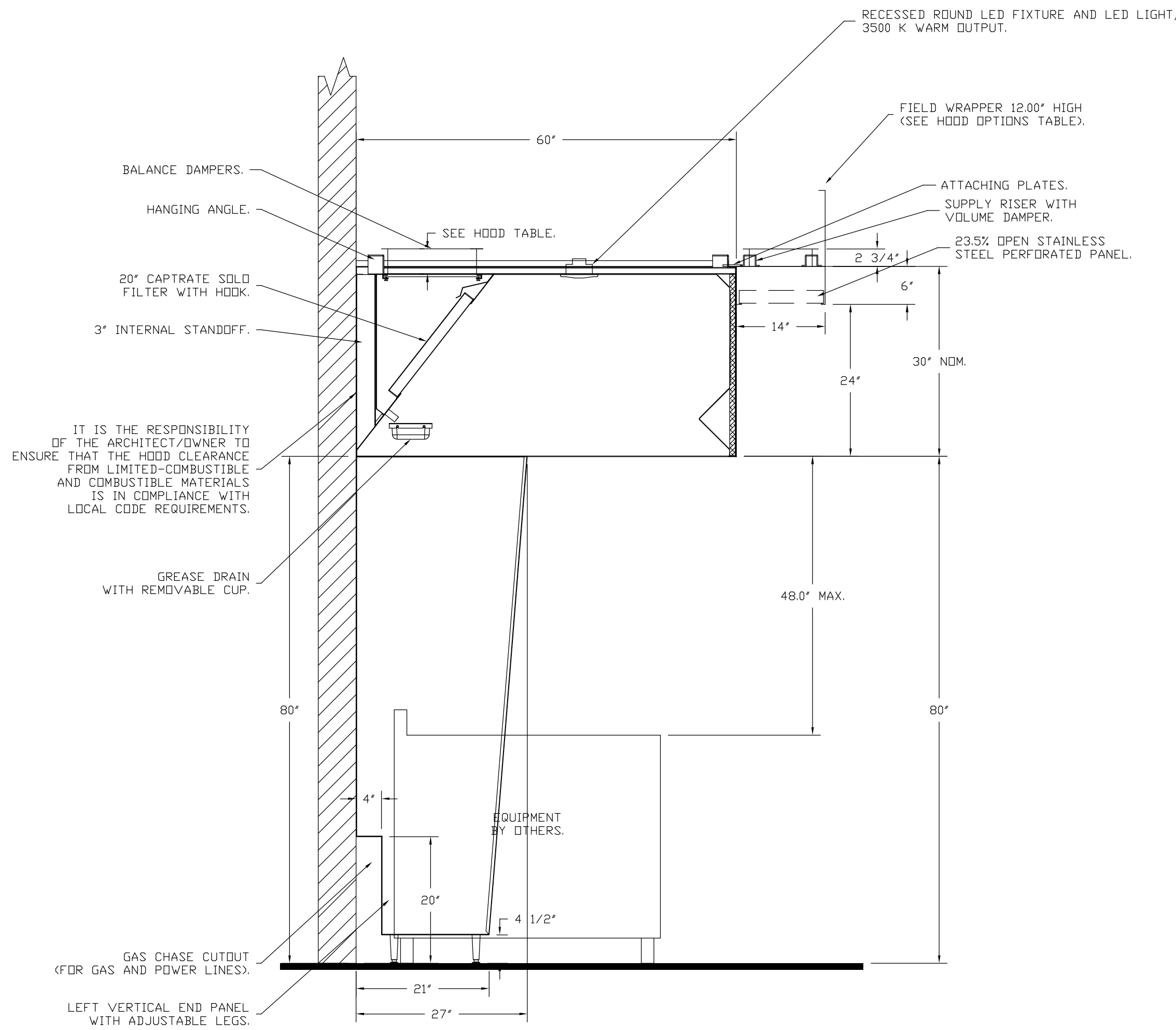
SHEET NUMBER

M7.1

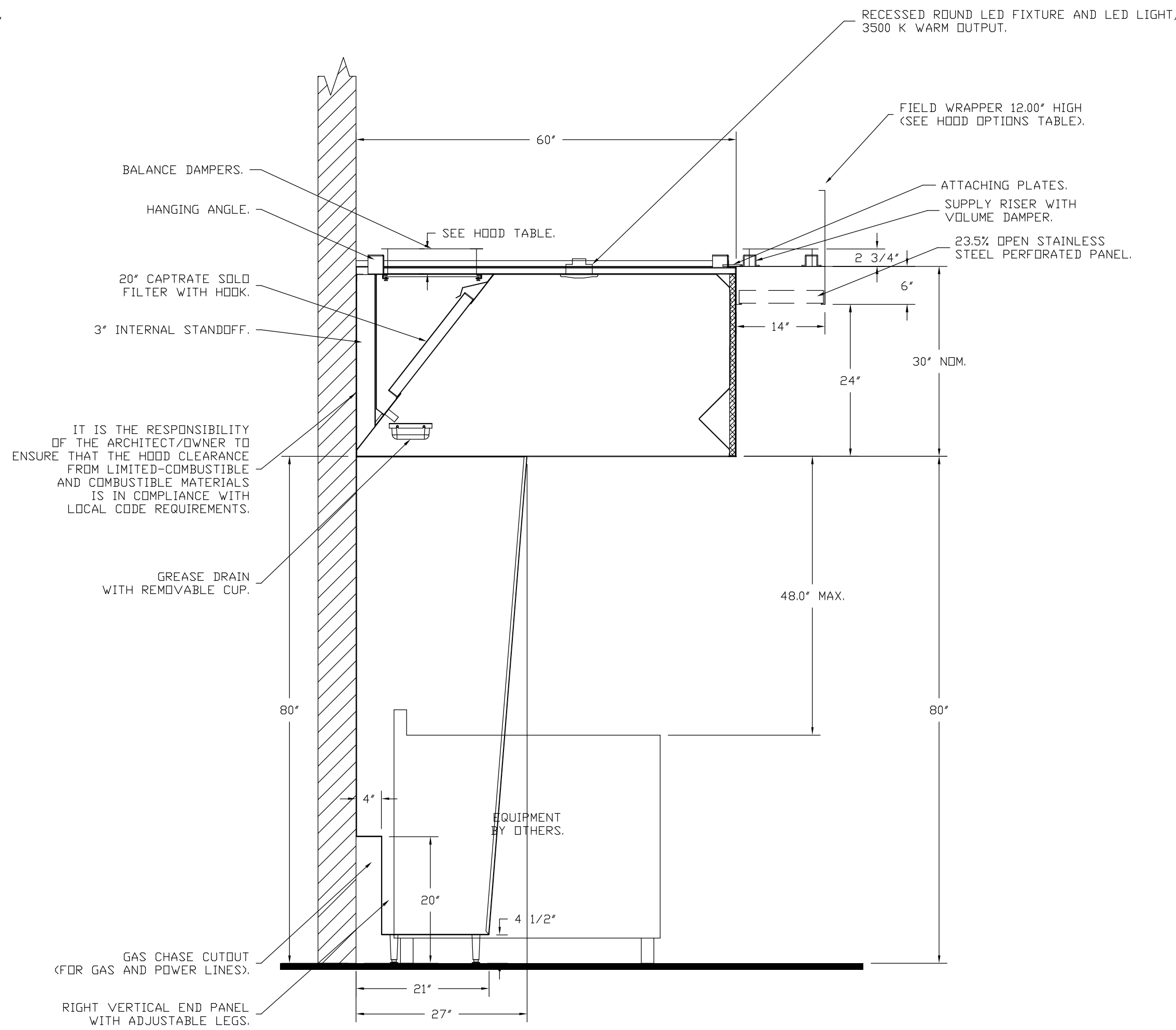


PLAN VIEW - HOOD #1
10' 0.00" LONG 6030ND-2-PSP-F

PLAN VIEW - HOOD #2
10' 0.00" LONG 6030ND-2-PSP-F



SECTION VIEW - MODEL 6030ND-2-PSP-F
HOOD - #1



SECTION VIEW - MODEL 6030ND-2-PSP-F
HOOD - #2



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

REVISION	REMARKS	BY	DATE



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



MECHANICAL DETAILS	
Author	Checker
07/31/2023	ARCH
SCALE: 1 : 75	
SHEET NUMBER	

M7.2

0.00' OVERALL LENGTH

11'-0.00' OVERALL LENGTH

10' 0" NDM./10' 0.00" DD.

12"

42 3/4"

42 3/4"

23 1/4"

60"

60"

7"

12"

7"

12"

7"

12"

14"

24"

24"

24"

UTILITY CABINET.

U.L. LISTED RECESSED ROUND LED FIXTURE AND LED LIGHT.

Ø14"

12"

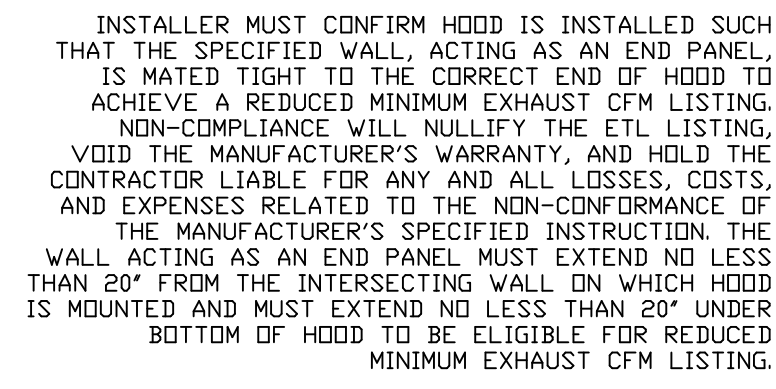
3"

DEN-FAB
Custom Stainless Steel
Fabrication

M7.3



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



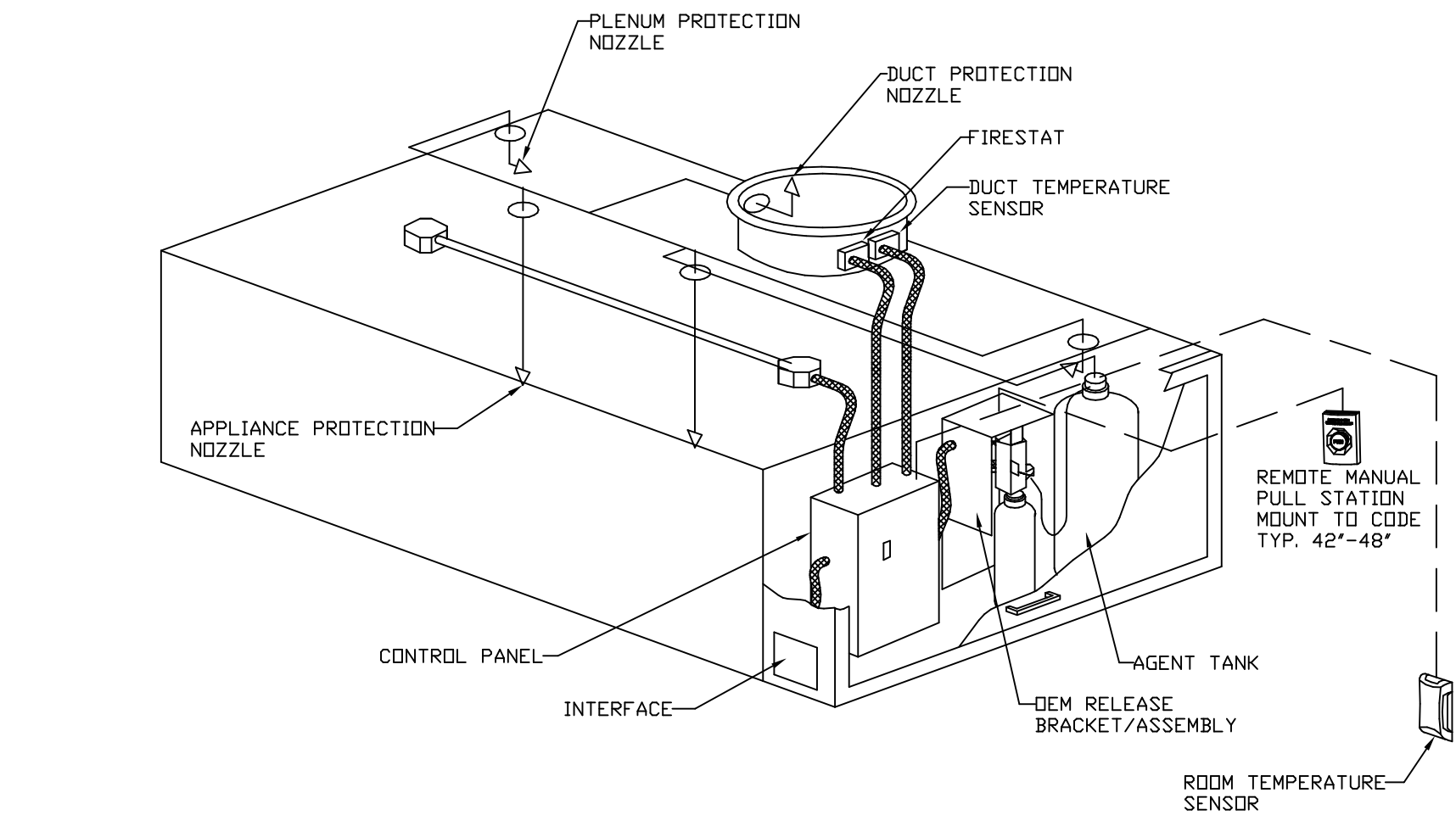
M7.4

FIRE SYSTEM INFORMATION – JOB#5303367

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0	100	FIRE CABINET RIGHT	RIGHT, HOOD 2
			4.0/4.0		FIRE CABINET LEFT	LEFT, HOOD 3
2		TANK FS	4.0	16	FIRE CABINET RIGHT	RIGHT, HOOD 6

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS
2		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS



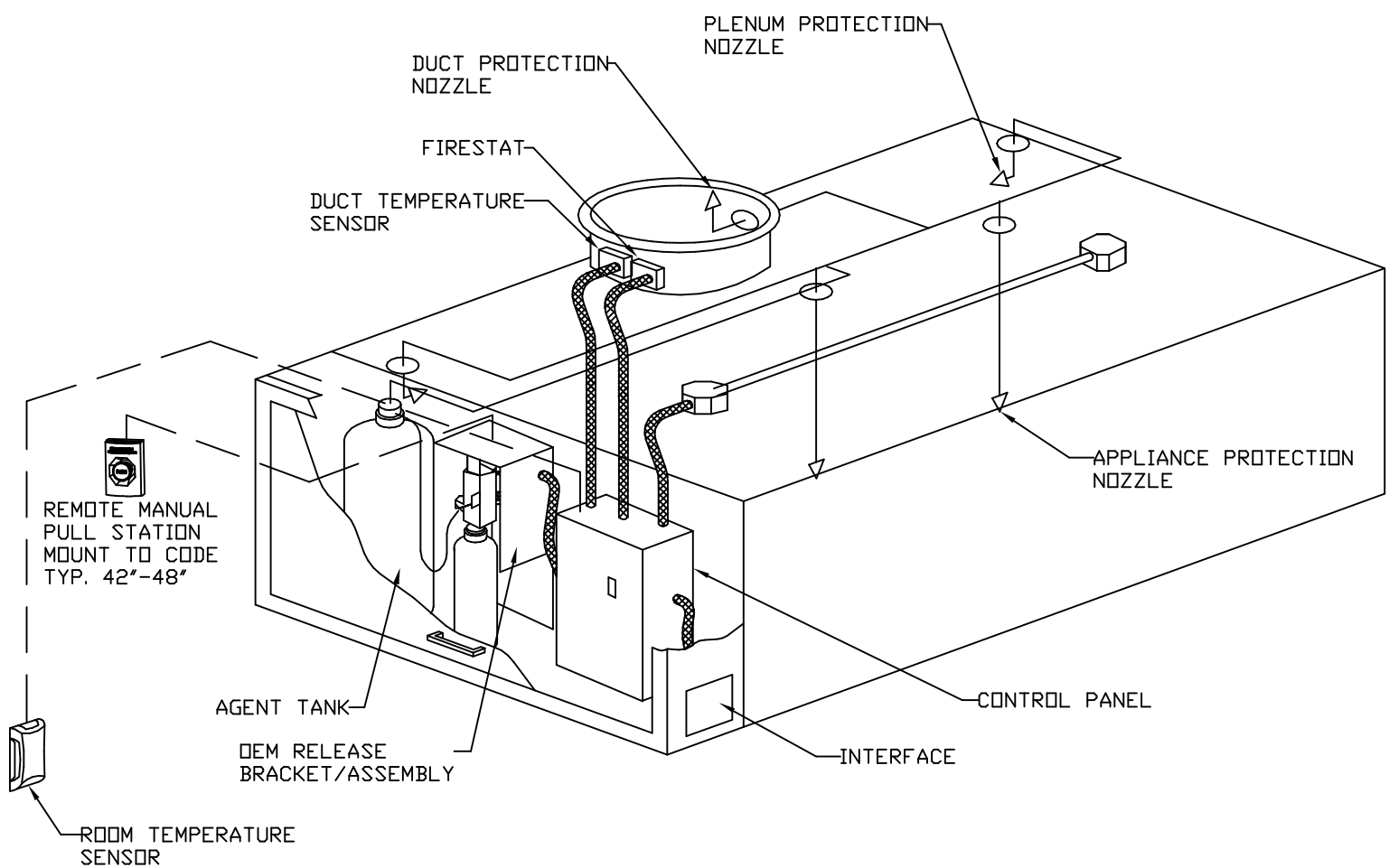
TYPICAL TANK SYSTEM LAYOUT

SPECIFICATIONS:

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM CONTROLS SHALL PROVIDE ALL NECESSARY MONITORING, TIMING AND SUPERVISION FUNCTIONS REQUIRED FOR THE RELIABLE OPERATION OF THE WET CHEMICAL FIRE SUPPRESSION SYSTEM. ALL DEVICES THAT ARE CRITICAL TO PROPER OPERATION SHALL BE SUPERVISED. THE SYSTEM SHALL INCLUDE A BATTERY BACK UP SYSTEM. IN THE EVENT OF A LOSS OF POWER TO THE BUILDING, THE BACKUP SYSTEM SHALL POWER ALL SYSTEMS NECESSARY FOR PROPER OPERATION.

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. THE DETECTION PORTION OF THE FIRE SUPPRESSION SYSTEM ALLOWS FOR AUTOMATIC DETECTION BY MEANS OF AN ELECTRIC THERMAL DETECTOR(S) LOCATED IN THE HOOD DUCT CONNECTION(S).



TYPICAL TANK SYSTEM LAYOUT

SPECIFICATIONS:

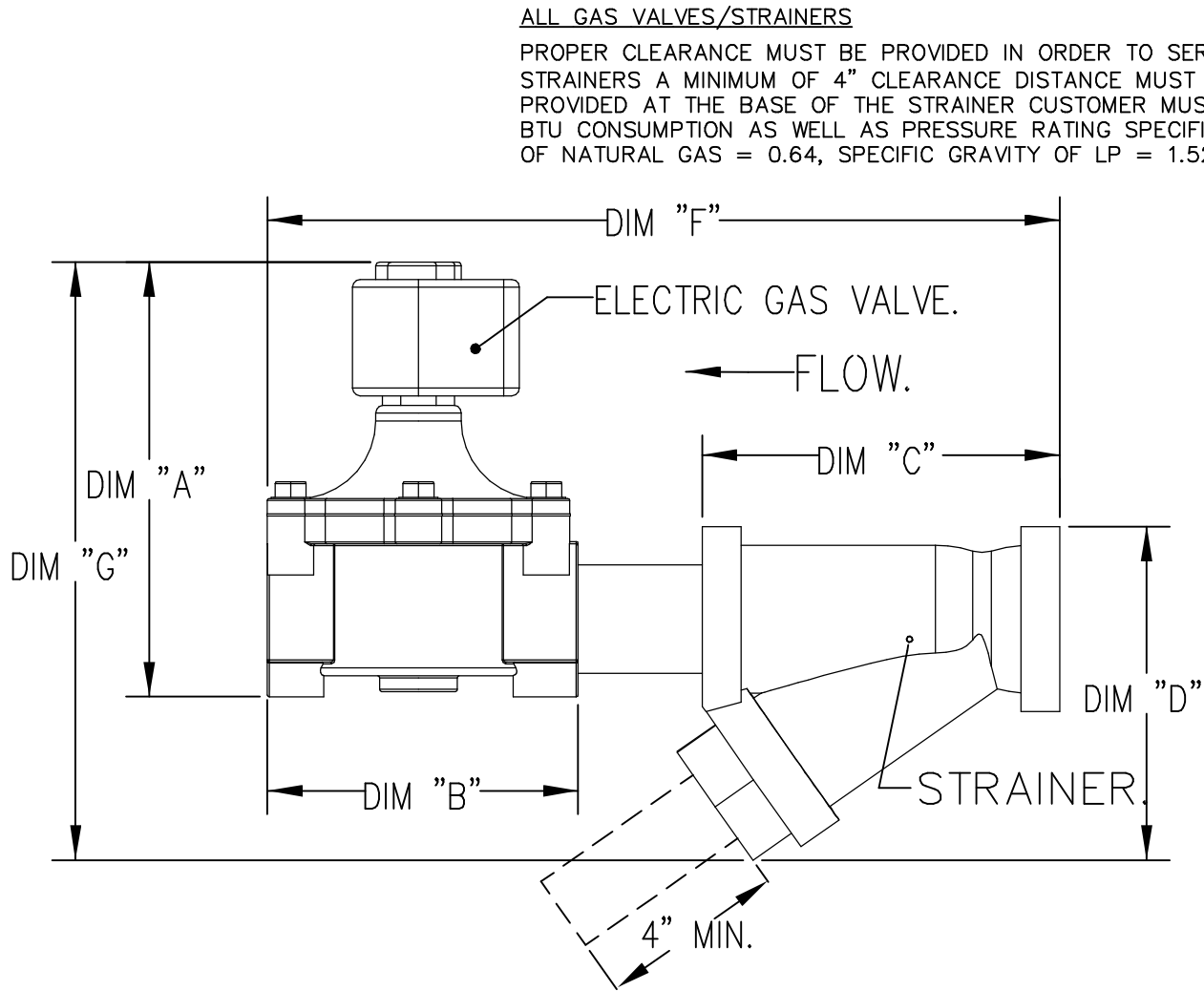
THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM CONTROLS SHALL PROVIDE ALL NECESSARY MONITORING, TIMING AND SUPERVISION FUNCTIONS REQUIRED FOR THE RELIABLE OPERATION OF THE WET CHEMICAL FIRE SUPPRESSION SYSTEM. ALL DEVICES THAT ARE CRITICAL TO PROPER OPERATION SHALL BE SUPERVISED. THE SYSTEM SHALL INCLUDE A BATTERY BACK UP SYSTEM. IN THE EVENT OF A LOSS OF POWER TO THE BUILDING, THE BACKUP SYSTEM SHALL POWER ALL SYSTEMS NECESSARY FOR PROPER OPERATION.

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. THE DETECTION PORTION OF THE FIRE SUPPRESSION SYSTEM ALLOWS FOR AUTOMATIC DETECTION BY MEANS OF AN ELECTRIC THERMAL DETECTOR(S) LOCATED IN THE HOOD DUCT CONNECTION(S).

GAS VALVE FOR FS#1, FS#2

GAS VALVES AND STRAINERS																
GAS VALVE SIZING							GAS VALVE DIMENSIONS						INSTALLATION	PART NUMBERS		
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	MOUNTING ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL/ VERTICAL	8214280	4417K68	(SC)EGVA2



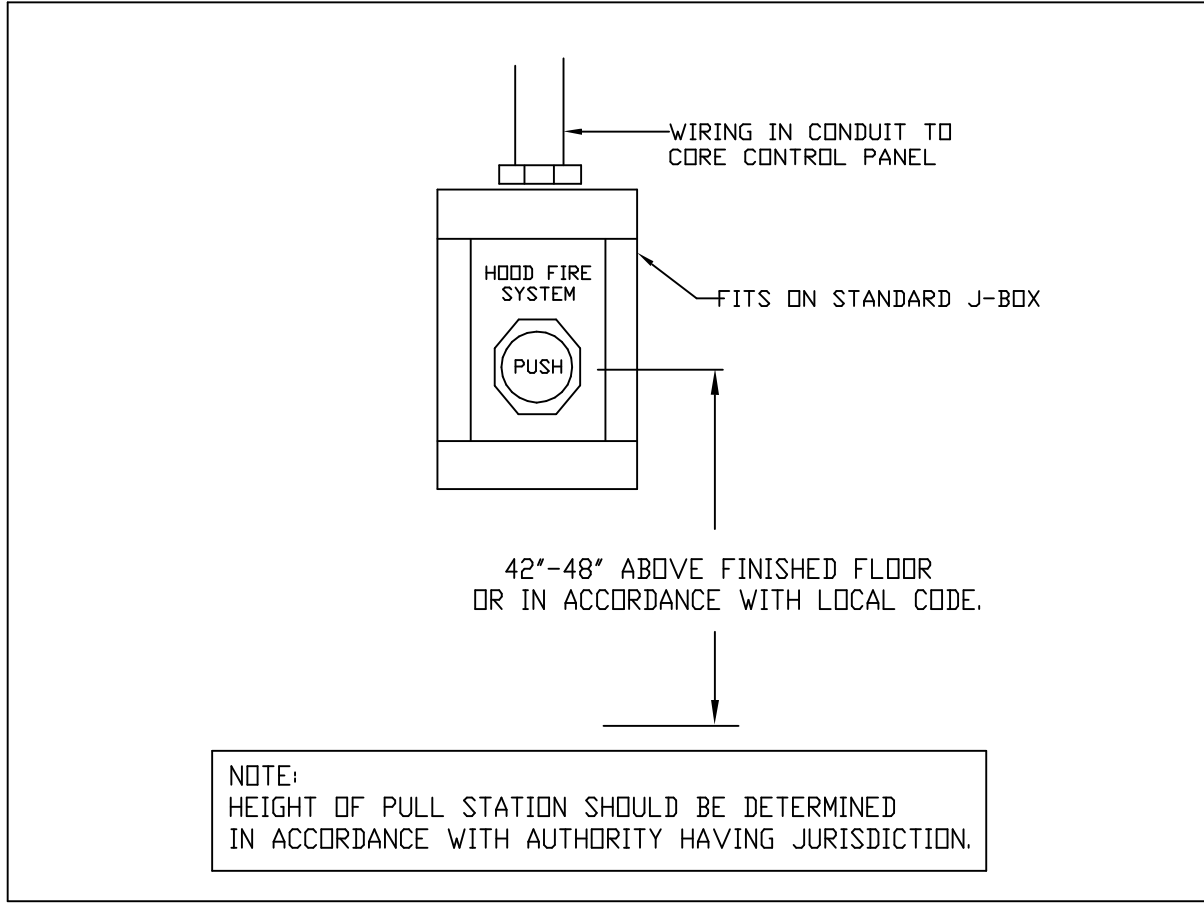
ALL GAS VALVES/STRAINERS

PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS

TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP^{0.85}
TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)^{0.85}.

TANK PULL STATION DETAIL



NOTE:
HEIGHT OF PULL STATION SHOULD BE DETERMINED
IN ACCORDANCE WITH AUTHORITY HAVING JURISDICTION.



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:

MECHANICAL
DETAILS

Author

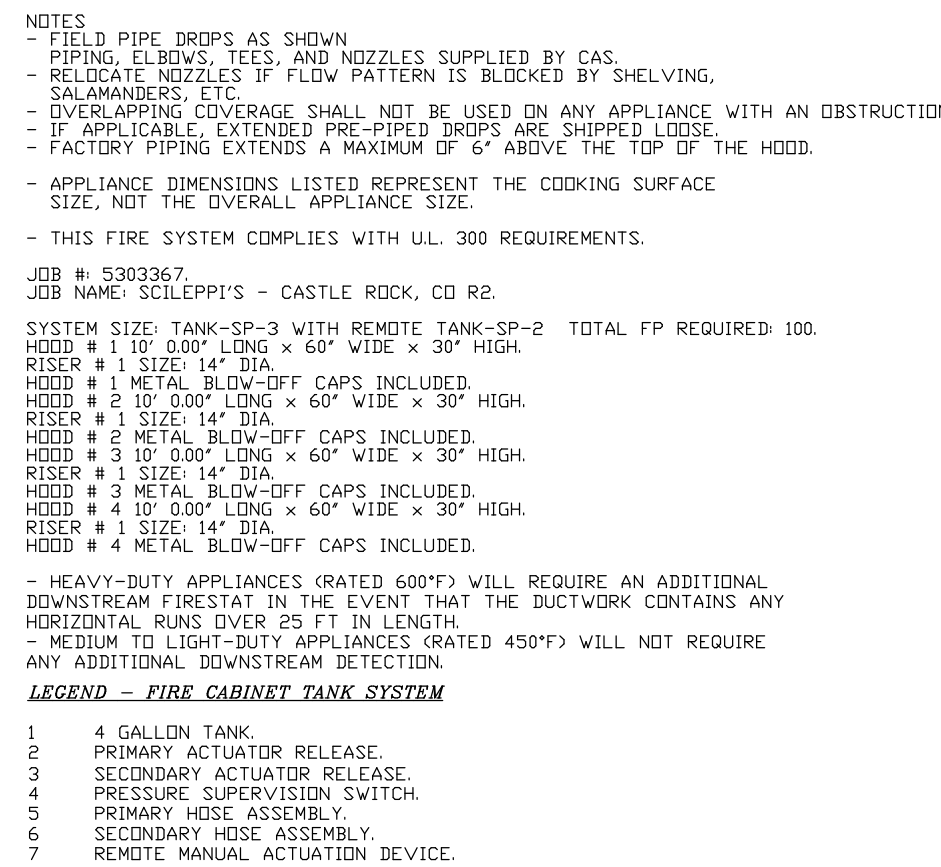
07/31/2023

SCALE:

1 : 40

SHEET NUMBER

M7.5



Scilleppis Remodel

210 THIRD STREET
CASTLE ROCK, COLORADO 80104

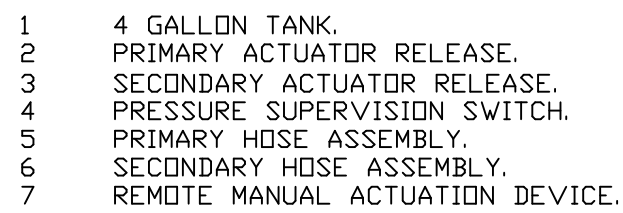
DEV-FA B
Custom Stainless Steel
Fabrication

MECHANICAL DETAILS

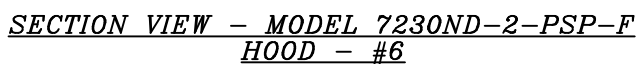
[illegible]

DRAWN: Author	CHECKED: Checker
DATE: 07/31/2023	ARCH:
SCALE: 1 : 80	

M7.6



- NOTES
- FIELD PIPE DROPS AS SHOWN
- SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, SALAMANDERS.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE.
- VERIFY A FRYER OR WOK TO REFLECT GENERAL PIPING REQUIREMENTS.
- IF APPLICABLE, PRE-PIPE CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6' ABOVE THE TOP OF THE HOOD.
- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.



```

JOB #: 5303367.
JOB NAME: SCILEPPI'S - CASTLE ROCK, CO R2.

SYSTEM SIZE: TANK-SP-3 WITH REMOTE TANK-SP-2      TOTAL FP REQUIRED: 100
HOOD # 1 10' 00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 1 SIZE: 0' x 0'.
HOOD # 2 10' 00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 1 SIZE: 0' x 0'.
HOOD # 3 10' 00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 1 SIZE: 0' x 0'.
HOOD # 4 10' 00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 1 SIZE: 0' x 0'.

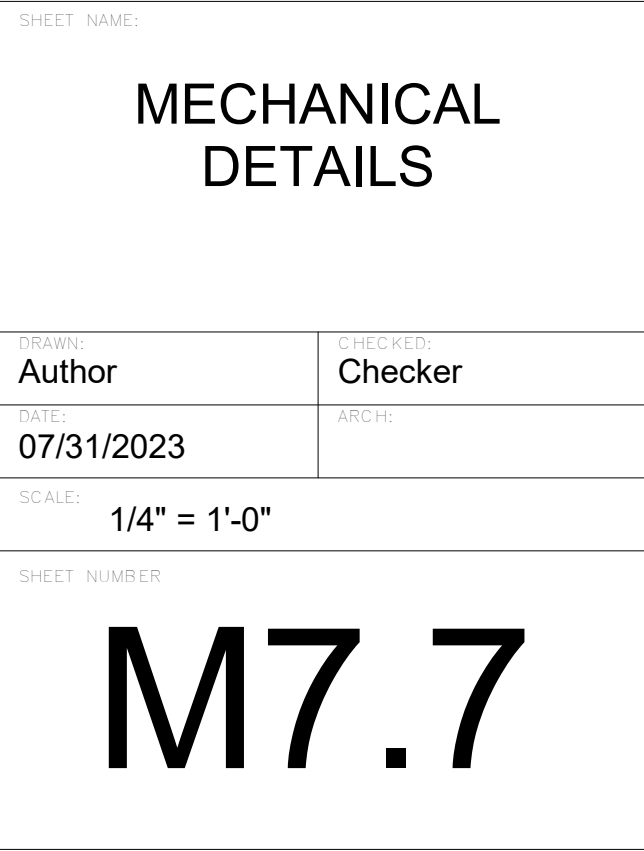
SYSTEM SIZE: TANK-SP-1      TOTAL FP REQUIRED: 16.
HOOD # 5 8' 100" LONG x 72" WIDE x 30" HIGH.
RISER # 1 1 SIZE: 0' x 0'.
HOOD # 6 8' 200" LONG x 72" WIDE x 30" HIGH.
RISER # 1 1 SIZE: 0' x 0'.

```

1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



EXHAUST FAN INFORMATION – JOB#5303367

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1	KEF-1	1	DU240HFA	CAPTIVEAIRE	4500	2.000	1115	DDP,PREMIUM	5.000	3.0720	3	208	15.8	1023 FPM	312	26
2	KEF-2	1	DU240HFA	CAPTIVEAIRE	4500	2.000	1115	DDP,PREMIUM	5.000	3.0720	3	208	15.8	1023 FPM	312	26
3	KEF-3	1	DU240HFA	CAPTIVEAIRE	3250	1.500	948	DDP,PREMIUM	3.000	1.7890	3	208	10.2	739 FPM	309	18.6

MUA FAN INFORMATION – JOB#5303367

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MDCP	EVAP FLOW RATE (Gal/Hr)	EVAP COOLER ENTERING DB TEMP	EVAP COOLER ENTERING WB TEMP	EVAP COOLER LEAVING DB TEMP	EVAP COOLER LEAVING WB TEMP	WEIGHT (LBS)	SDNES
4	MUA-1	1	A3-D.750-24D	24MF-3-MDD	A3-D.750	3500	7400	0.500	1848	DDP,PREMIUM	10.000	9.8190	3	208	27.0	33.8A	60A	6.45	90.0°F	60.0°F	71.0°F	60.0°F	1408	22
5	MUA-2	1	A2-D.500-20D	20MF-2-MDD	A2-D.500	2000	2525	0.500	1233	DDP,PREMIUM	1.000	0.8110	3	208	3.8	4.8A	15A	3.63	90.0°F	60.0°F	70.0°F	60.0°F	936	10.6

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
4	MUA-1	485517	446676	71°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92
5	MUA-2	165666	152413	71°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF-1	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2	KEF-2	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
3	KEF-3	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
4	MUA-1	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	LOW FIRE START
		1	AC INTERLOCK RELAY – 24VAC COIL
		1	MOTORIZED BACKDRAFT DAMPER FOR A3-D HOUSING – MEETS AMCA CLASS 1A RATING
		1	IBT/MUA EVAP INTERLOCK
		1	FREEZE PROTECTION DRAIN KIT FOR EVAPORATIVE COOLERS
		1	CONTROL PANEL ENCLOSURE HEATER – RECOMMENDED FOR WINTER DESIGN TEMPERATURES LESS THAN 0°F
		1	CONVENIENCE OUTLET (GFCI), 15 AMP – REQUIRES SEPARATE 120V CONNECTION – INCLUDES RECEPTACLE AND J-BOX
		1	FREEZESTAT (10)
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) – THREE PHASE ONLY
		1	2 YEAR PARTS WARRANTY
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	LOW FIRE START
5	MUA-2	1	AC INTERLOCK RELAY – 24VAC COIL
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING – MEETS AMCA CLASS 1A RATING
		1	IBT/MUA EVAP INTERLOCK
		1	CONTROL PANEL ENCLOSURE HEATER – RECOMMENDED FOR WINTER DESIGN TEMPERATURES LESS THAN 0°F
		1	CONVENIENCE OUTLET (GFCI), 15 AMP – REQUIRES SEPARATE 120V CONNECTION – INCLUDES RECEPTACLE AND J-BOX
		1	FREEZE PROTECTION DRAIN KIT FOR EVAPORATIVE COOLERS
		1	FREEZESTAT (10)
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) – THREE PHASE ONLY
		1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE – USED ON HEATERS UNDER 2500 CFM
		1	2 YEAR PARTS WARRANTY

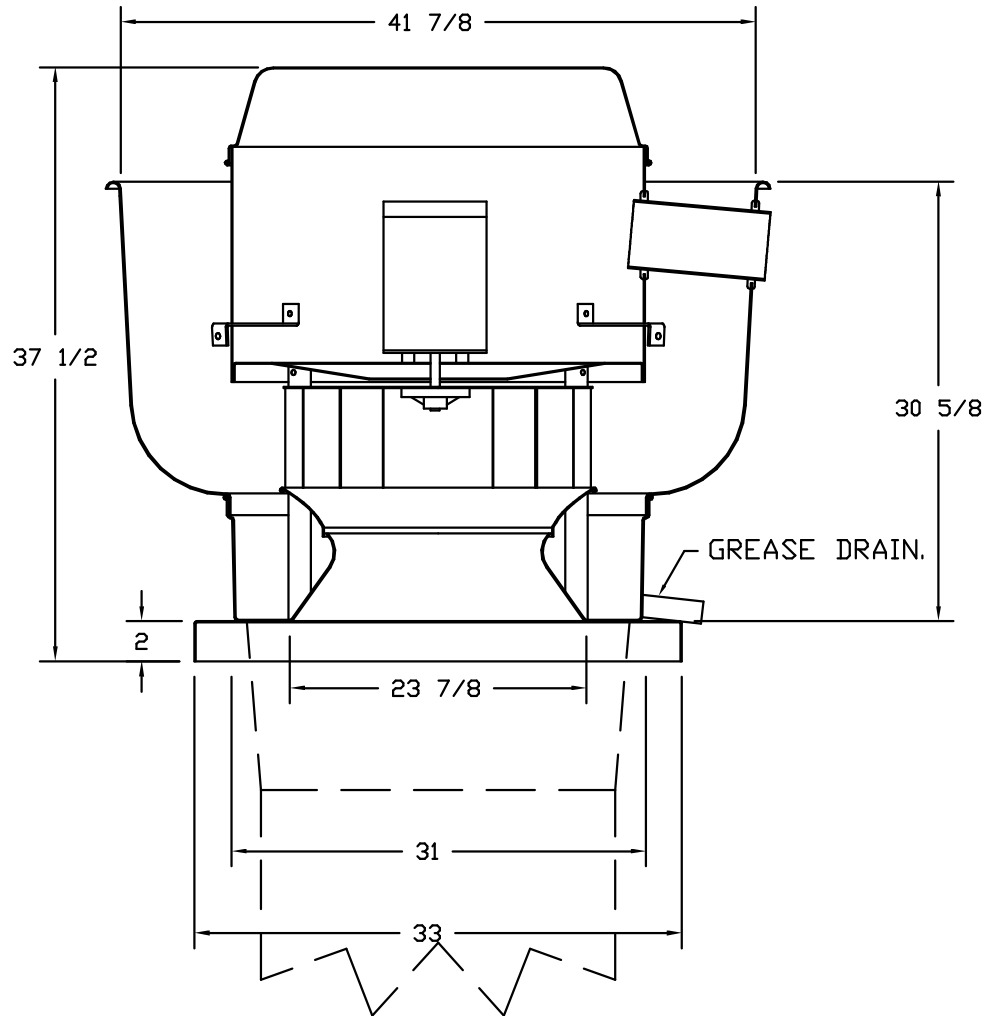
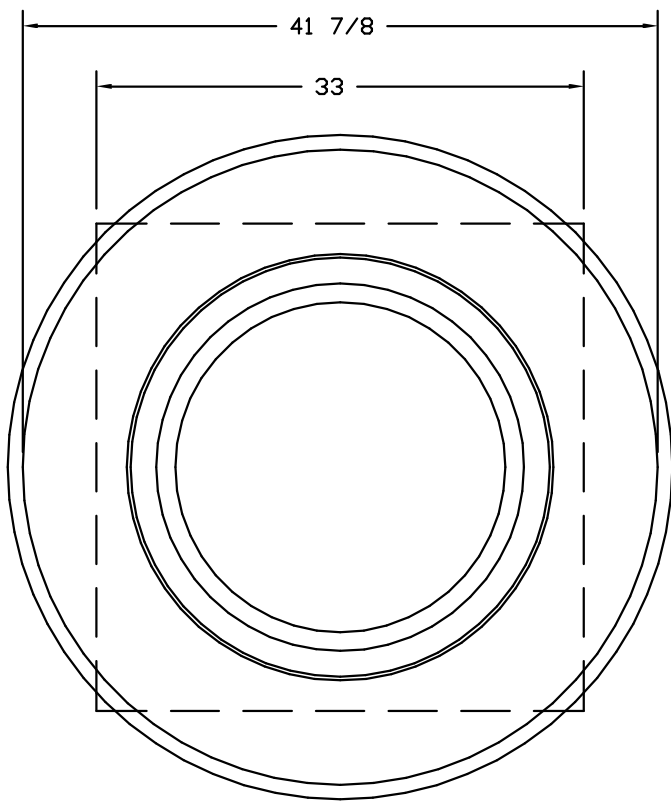
FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST				SUPPLY		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						
2	KEF-2	YES						
3	KEF-3	YES						
4	MUA-1						YES	
5	MUA-2						YES	

CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF-1	59 LBS	CURB	31.500"W X 31.500"L X 26.000"H ALONG LENGTH, RIGHT VENTED HINGED.
2	# 2	KEF-2	59 LBS	CURB	31.500"W X 31.500"L X 26.000"H ALONG LENGTH, RIGHT VENTED HINGED.
3	# 3	KEF-3	59 LBS	CURB	31.500"W X 31.500"L X 26.000"H ALONG LENGTH, RIGHT VENTED HINGED.
4	# 4	MUA-1	94 LBS	CURB	35.000"W X 84.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED.
	# 4			RAIL	4.000"W X 4.000"L X 36.000"H ALONG LENGTH, RIGHT.
5	# 5	MUA-2	90 LBS	CURB	31.000"W X 79.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED.
	# 5			RAIL	4.000"W X 4.000"L X 36.000"H RIGHT.

FANS #1 (KEF-1), #2 (KEF-2), #3 (KEF-3) – DU240HFA EXHAUST FAN



TOP VIEW

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST

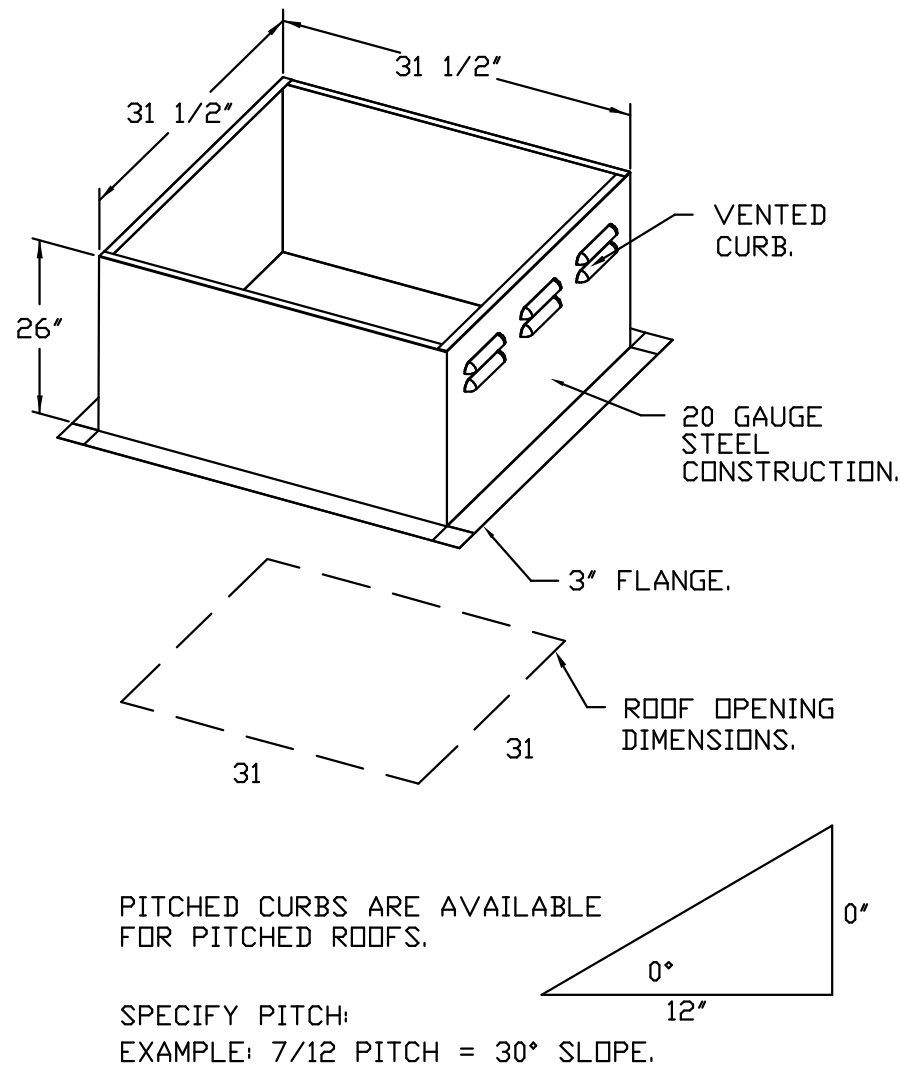
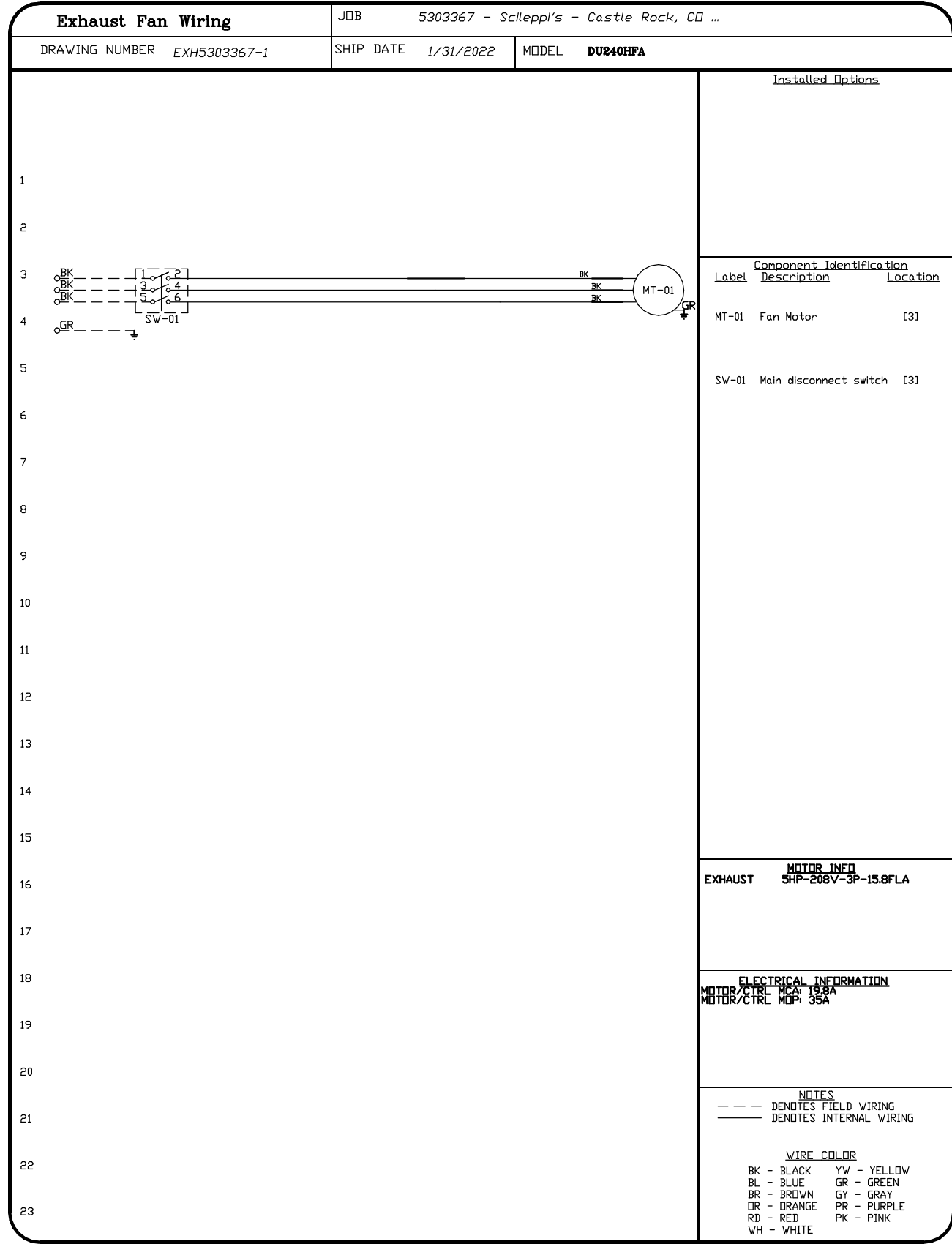
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST

EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

GREASE BOX.
FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS.
2 YEAR PARTS WARRANTY.



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



MECHANICAL DETAILS

Author

Checker

07/31/2023

SCALE: 1 : 35

SHEET NUMBER

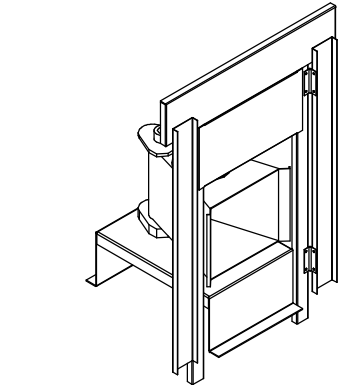
M7.8

KNOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANS. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD BE USED TO MINIMIZE PRESSURE LOSS. TURNING VANES SHOULD BE USED TO MINIMIZE PRESSURE LOSS. TURNING VANES SHOULD BE USED TO DRastically INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".

```

WINTER TEMPERATURE = 4°F.    TEMP. RISE = 71°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 191527.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 208181.
OUTPUT BTUs AT ALTITUDE OF 6186 FT. = 152413.
INPUT BTUs AT ALTITUDE OF 6186 FT. = 165666.

```



DIRECT FIRED PROFILE PLATE SPECIFICATIONS:

DESCRIPTION: BURNERS SHALL BE PATENTED (US PATENT NO. US5669523B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 100 PPM. BURNERS SHALL BE DESIGNED TO OPERATE AT 100% EFFICIENCY. NO DISCREET FIRE UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

APPLICATION: BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF SPRING-LOADED BURNER PROFILE PLATES. THERE IS NO NEED FOR MECHANICALLY ADJUST THEM WITH THIS FEATURE. ALL OF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

APPLICATION:
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

CERTIFICATIONS:
ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH CO SAFETY STANDARDS ANSI Z83.4 AND CSA 3.7 (NON-RECIRCULATING DF HEATERS) AND ANSI Z83.8 (RECIRCULATING DF HEATERS).

REQUIREMENTS:
ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DP UNIT'S ETL LISTING AND COMPLY WITH COMBINED LISTING STANDARDS ANSI Z83.4 AND CSA 37 (OWN-RECIRCULATING BF HEATERS) AND ANSI Z83.8 (RECIRCULATING OF HEATERS).

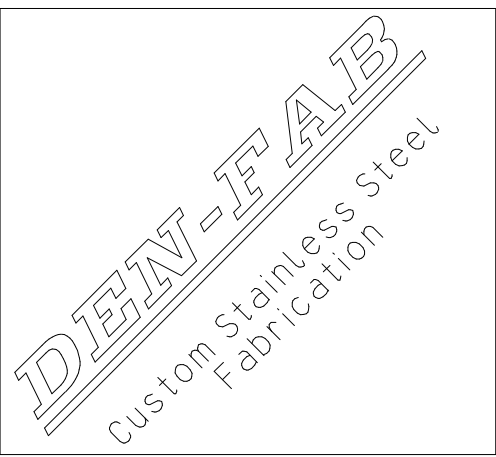
GENERAL CONSTRUCTION:
-PROFILE PLATES SHALL BE FORMED FROM 60 ALUMINUM STEEL.
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
-PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
-SPRING HINGES SHALL BE MADE FROM PLATE STEEL.

- PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
- PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER
- DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
- SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

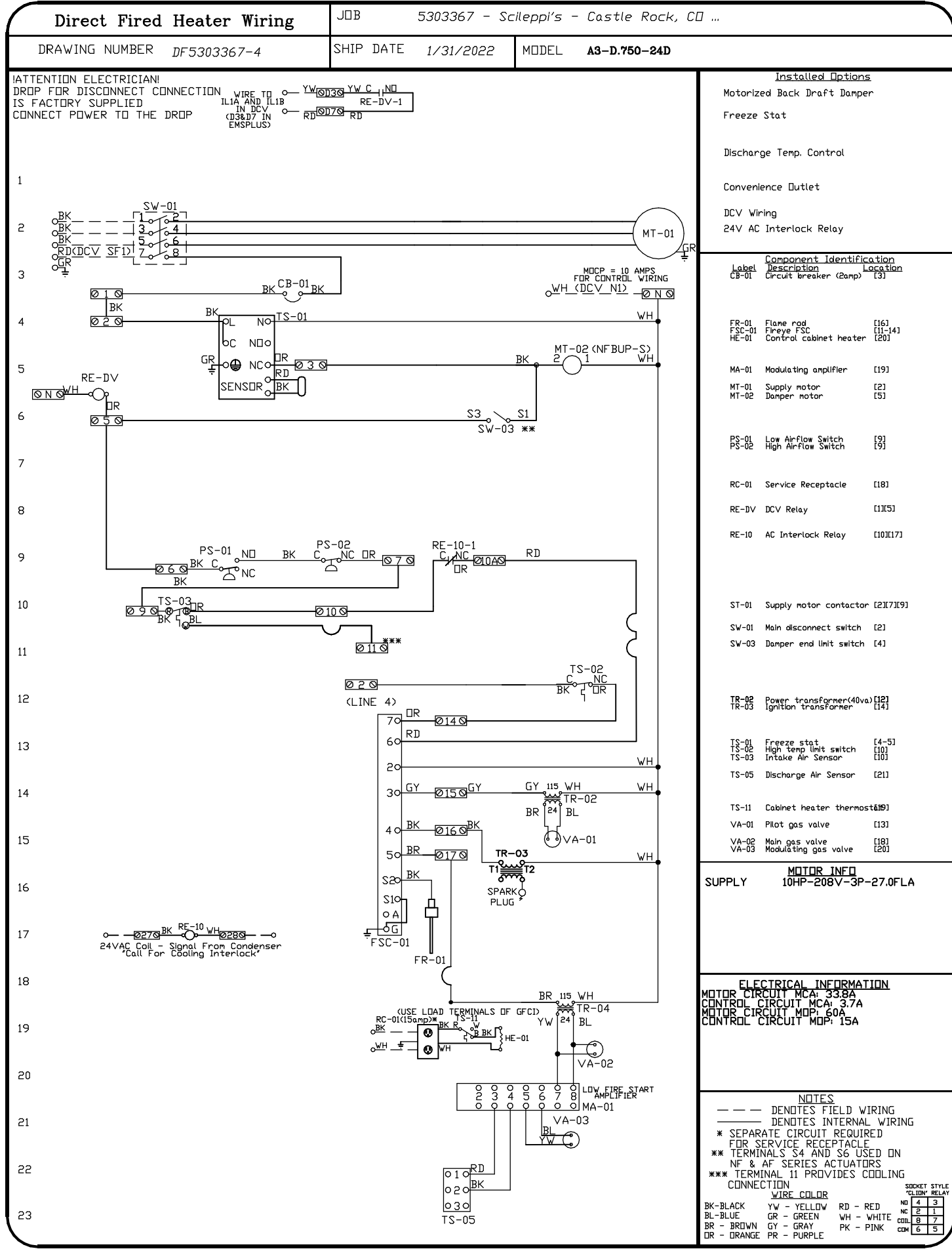
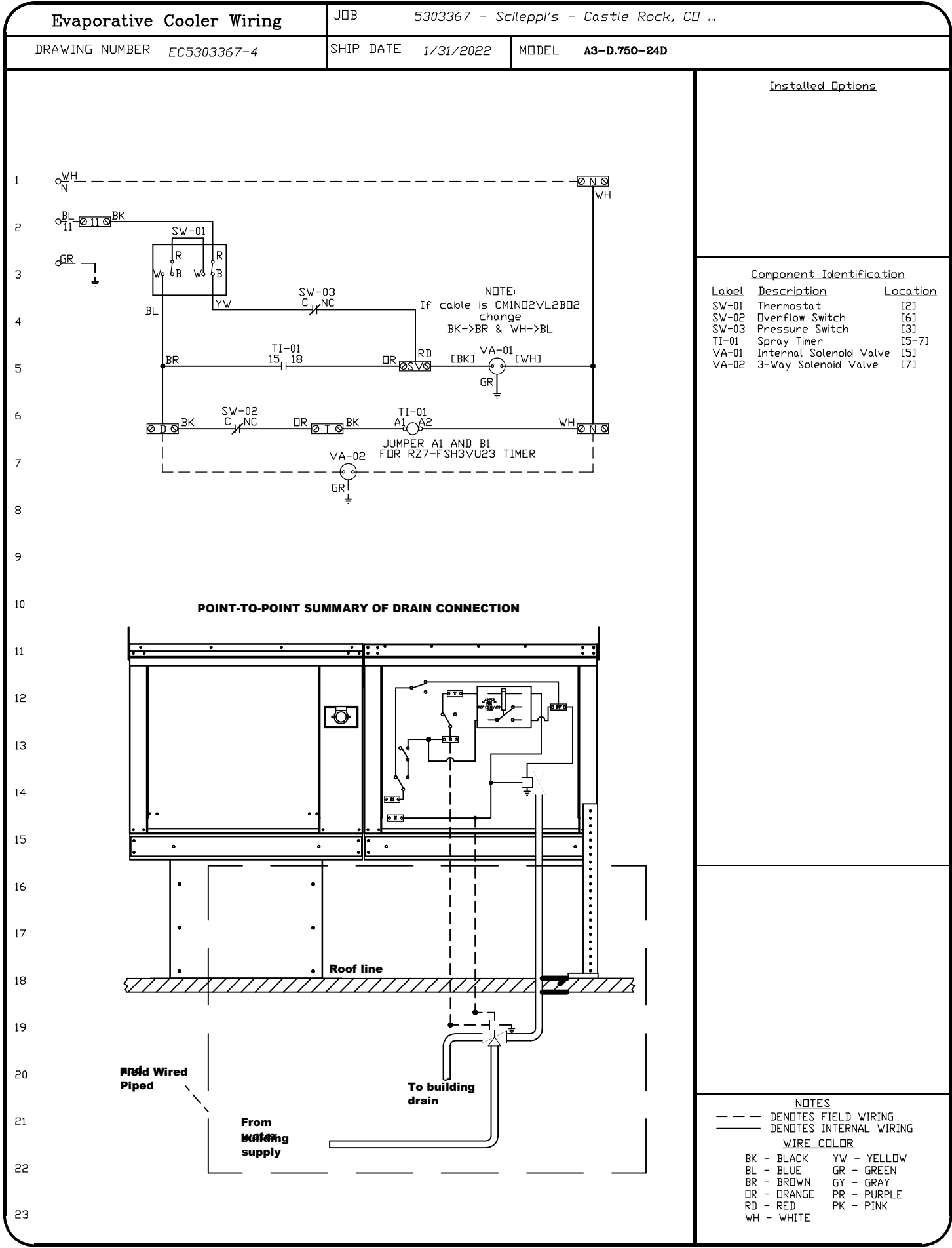
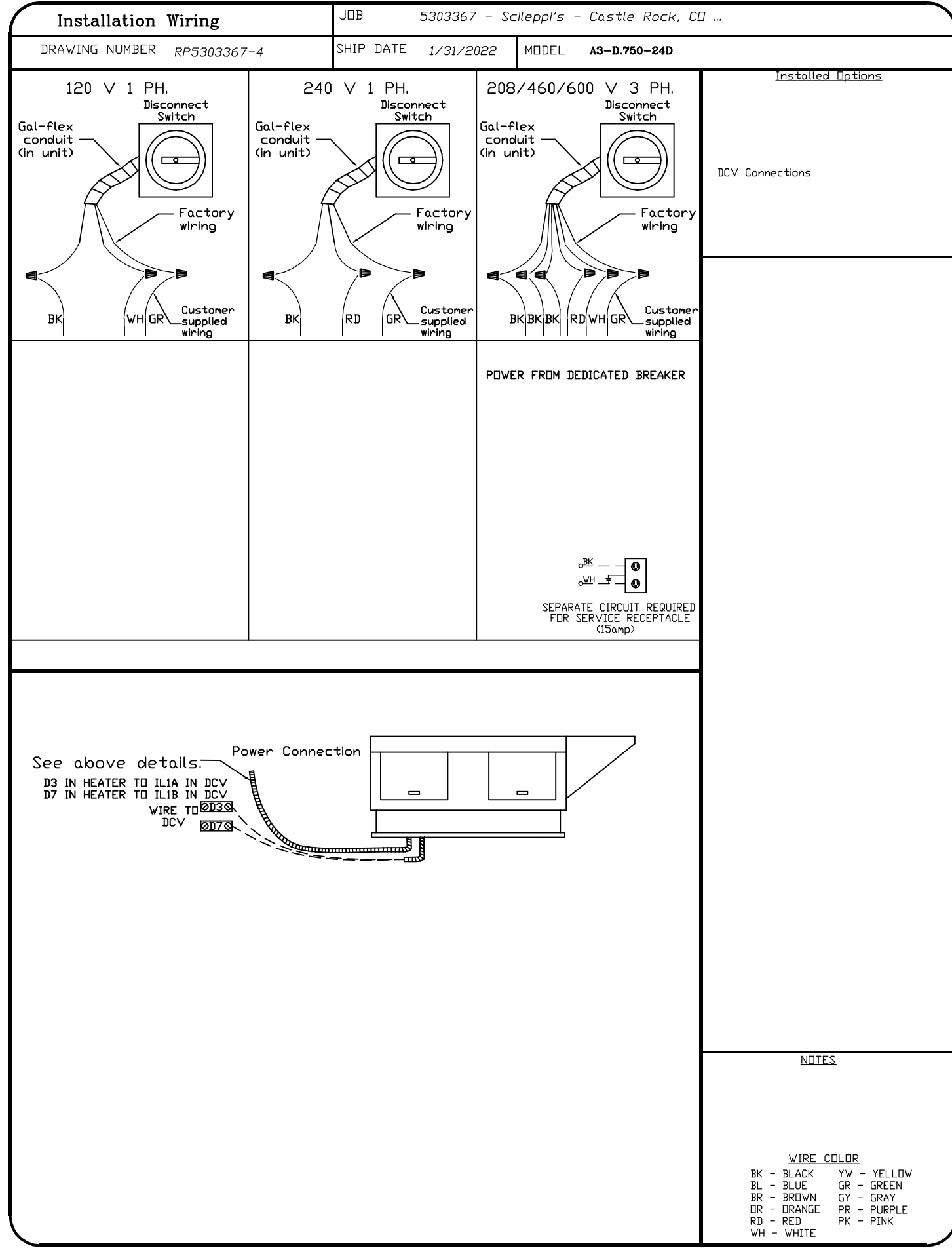
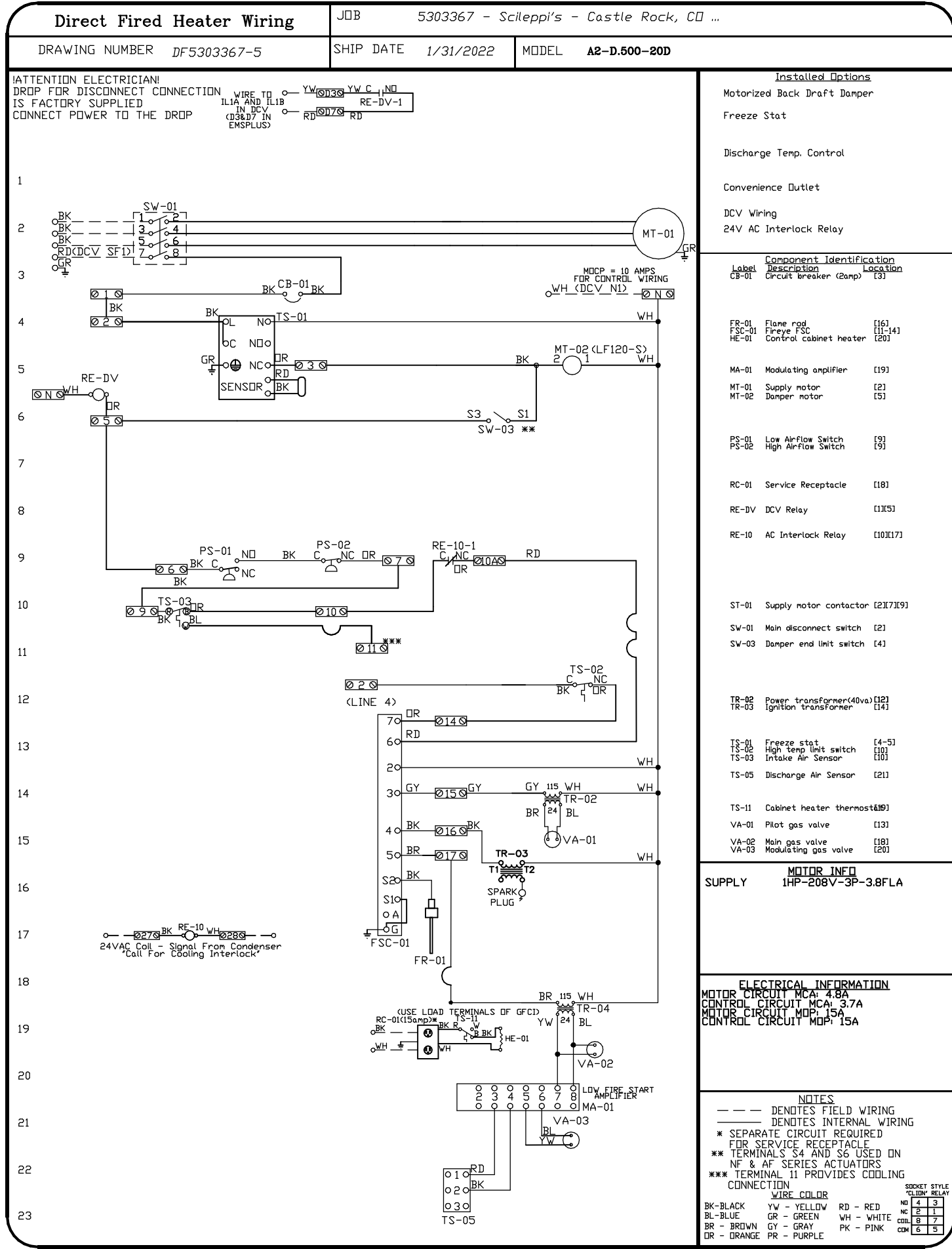
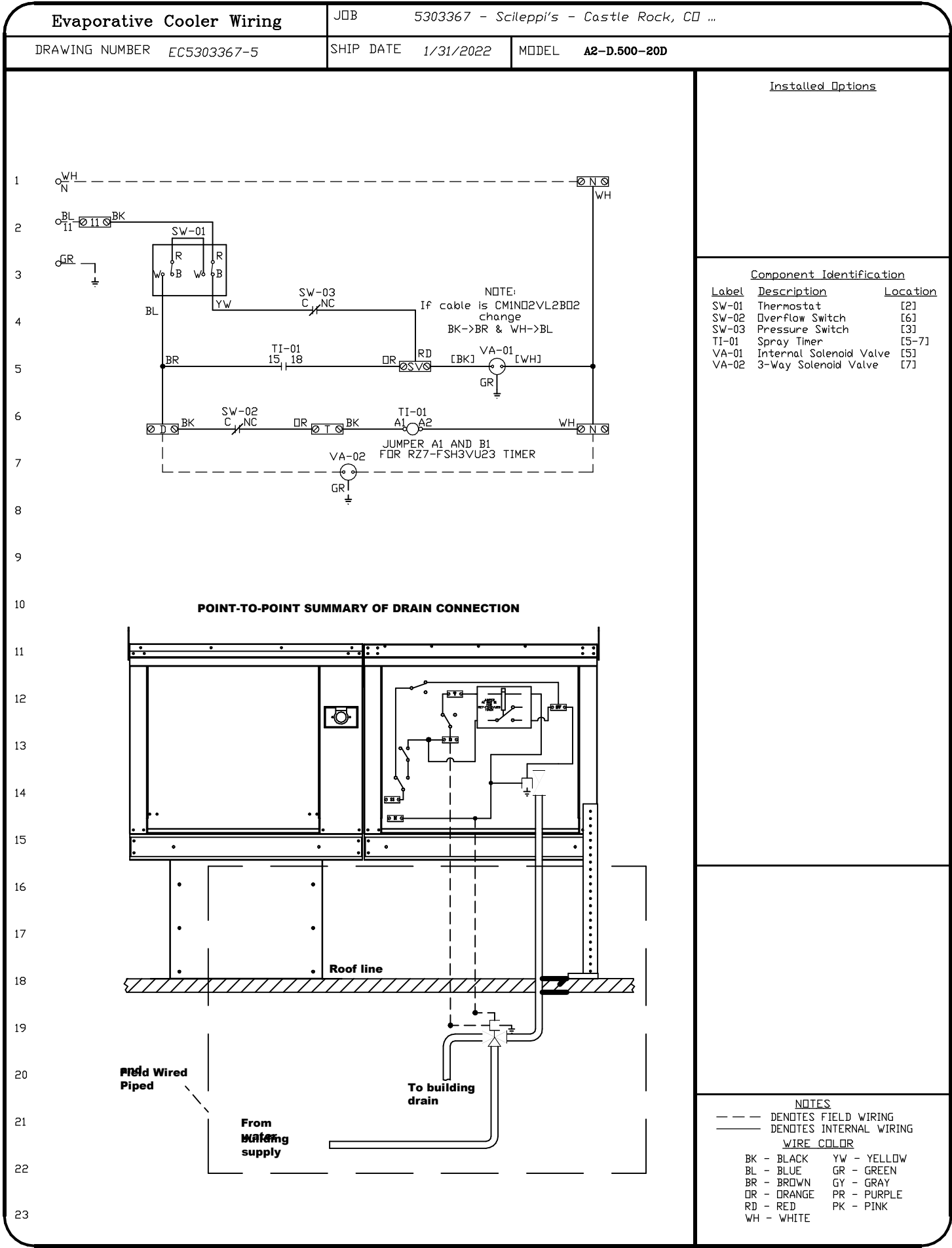
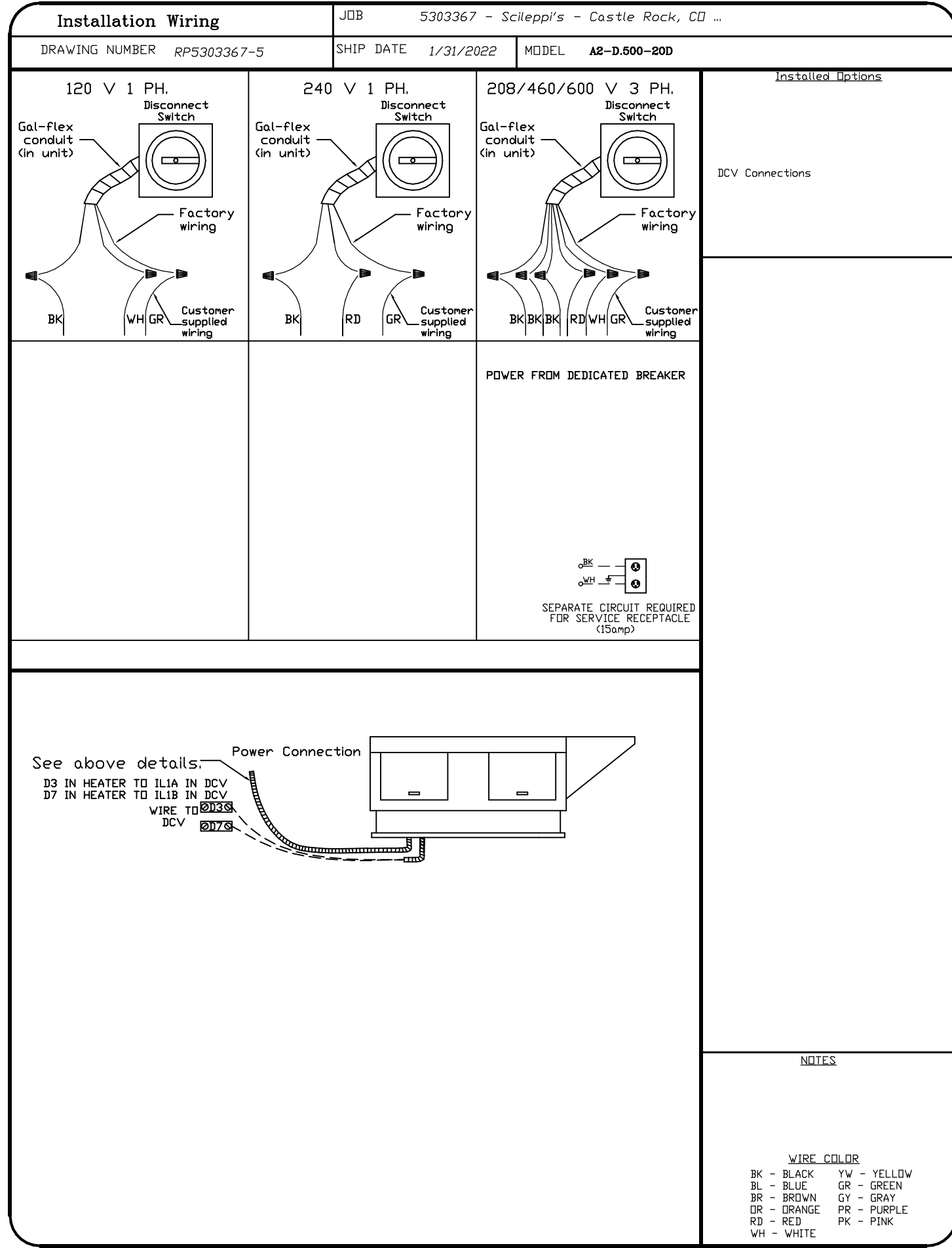
Scilleppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



MECHANICAL DETAILS

SCALE: 1 : 4

M7.10



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

REVISION

REMARKS

BY

DATE

8-2-2023

SCIEPPIS REMODEL

210 THIRD STREET
CASTLE ROCK, COLORADO 80104

MECHANICAL
DETAILS

Author

Checker

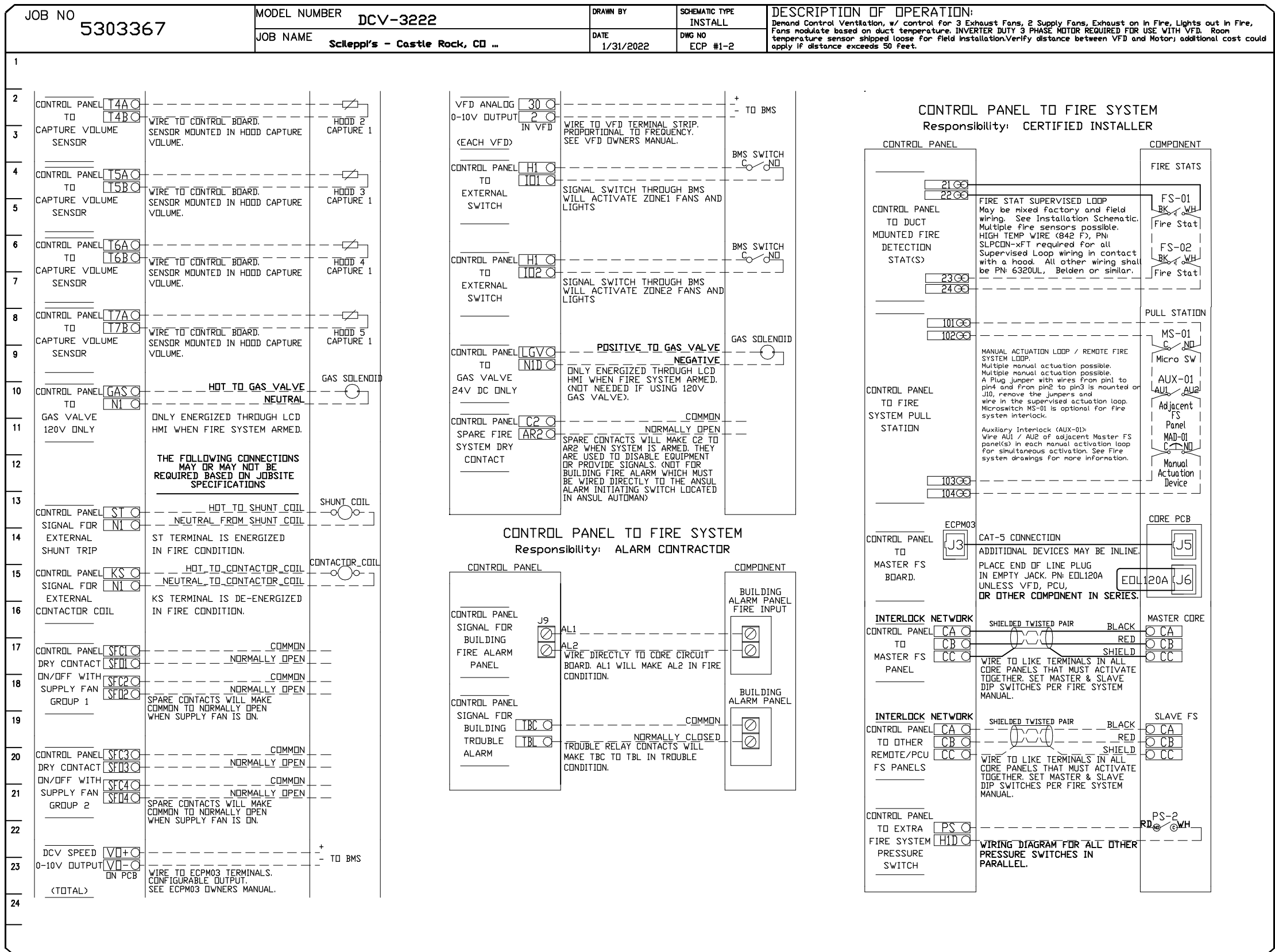
07/31/2023

SCALE: 1:50

SHEET NUMBER

M7.11

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	#	HP	VOLT	FLA
1		DCV-3222	UTILITY CABINET RIGHT	03 - UTILITY CABINET LEFT	2 LIGHT	SMART CONTROLS DCV	KEF-1	EXHAUST	3	5.000	208	15.8
							KEF-2	EXHAUST	3	5.000	208	15.8
							KEF-3	EXHAUST	3	3.000	208	10.2
							MUA-1	SUPPLY	3	10.000	208	27.0
							MUA-2	SUPPLY	3	1.000	208	3.0
			HOOD # 6	2 FAN								



DUCTWORK #1 PARTS – JOB#5303367 DOUBLE WALL										
TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1411DWLT-3R-S	2250				-0.007	16.18	2104.74	1	DOUBLE WALL DUCT – 14” INNER DUCT, 11’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P2	DW1445DWASY-3R-S	2250				-0.0718	21.78	2104.74	1	DOUBLE WALL DUCT – 14” INNER 45 DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P3	DW1490DWASY-3R-S	2250				-0.253	36.57	2104.74	1	DOUBLE WALL DUCT – 14” INNER 90 DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P4	DW1420DWFFSETKIT-3R-S	2250				-0.003	16.65	2104.74	1	DOUBLE WALL OFF SET KIT – USED ON 14” INNER RISER, 4’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P5	DW1418DWRNDADPEC3ASY-3R-S	2250				-0.06	20.41	2104.74	1	DOUBLE WALL DUCT – 14” X 18” RND&RND ECCENTRIC ADAPTER – 3 LAYERS REDUCED CLEARANCE – 20” X 24” STAINLESS STEEL OUTER SHELL.
P6	DW1822DWRNDADPEC3ASY-3R-S	2250				-0.013	27.84	1273.24	1	DOUBLE WALL DUCT – 18” X 22” RND&RND ECCENTRIC ADAPTER – 3 LAYERS REDUCED CLEARANCE – 24” X 28” STAINLESS STEEL OUTER SHELL.
P7	DW22DWTEASY-3R-S	4500		1		-0.3319	82.05	1704.67	1	DOUBLE WALL DUCT – 22” INNER TEE DUCT – 3 LAYERS REDUCED CLEARANCE – 28” STAINLESS STEEL OUTER SHELL.
P8	DW1822DWRNDADPEC3ASY-3R-S	2250				-0.013	27.84	1273.24	1	DOUBLE WALL DUCT – 18” X 22” RND&RND ECCENTRIC ADAPTER – 3 LAYERS REDUCED CLEARANCE – 24” X 28” STAINLESS STEEL OUTER SHELL.
P9	DW1418DWRNDADPEC3ASY-3R-S	2250				-0.06	20.41	2104.74	1	DOUBLE WALL DUCT – 14” X 18” RND&RND ECCENTRIC ADAPTER – 3 LAYERS REDUCED CLEARANCE – 20” X 24” STAINLESS STEEL OUTER SHELL.
P10	DW1420DWFFSETKIT-3R-S	2250				-0.003	16.65	2104.74	1	DOUBLE WALL OFF SET KIT – USED ON 14” INNER RISER, 4’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P11 ASSEMBLED W/P14	DW14DWTEASY-3R-S	2250		1		-0.253	44.25	2104.74	1	DOUBLE WALL DUCT – 14” INNER TEE DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P12	DW1445DWASY-3R-S	2250				-0.0718	21.78	2104.74	1	DOUBLE WALL DUCT – 14” INNER 45 DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P13	DW1411DWLT-3R-S	2250				-0.007	16.18	2104.74	1	DOUBLE WALL DUCT – 14” INNER DUCT, 11’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P14 ASSEMBLED W/P11 D=S	DW14DWACCDORCDV-3R-S						23.74		1	DOUBLE WALL DUCT – 14” INNER ACCESS DOOR & 20” ACCESS DOOR COVER WITH CLAMPS – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P15	DW2235DWLT-3R-S	4500				-0.0069	77.34	1704.67	1	DOUBLE WALL DUCT – 22” INNER DUCT, 35’ LONG – 3 LAYERS REDUCED CLEARANCE – 28” STAINLESS STEEL OUTER SHELL.
P16 ASSEMBLED W/P17	DW2227DWAJDTP-3R-S	4500				-0.0031	81.78	1704.67	1	DOUBLE WALL ADJUSTABLE DUCT TRANSITION PLATE – 22” INNER DUCT – 3 LAYERS REDUCED CLEARANCE – 28” STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11’ / MAX LENGTH = 24.5’ / ADJUSTMENT = 6.5’ / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL “V” CLAMPS.
P17 ASSEMBLED W/P16 SYSTEM AT P17	DW3122TPDBEX	4500					23.00	1704.67	1	DUCT TO CURB TRANSITION 3/4” DOWN TURN, 31-1/2” CURB TO 22” DUCT, 16 GA ALUMINIZED. NON-STANDARD PART. FOR USE WITH EXHAUST FANS.
						-1.7627	0.00			
	3M-2000PLUS						0.80		6	DUCT – 3M FIRE BARRIER 2000 PLUS SILICONE – USED AS SEALANT TO SEAL DUCT JOINTS.
	DW14DWCLASY-3R-S						8.75		8	DUCT – 14” DUCT – 20” DOUBLE “V” CLAMP – 3R INSULATION & SINGLE “V” CLAMP INCLUDED – REDUCED CLEARANCE.
	DW18DWCLASY-3R-S						10.44		2	DUCT – 18” DUCT – 24” DOUBLE “V” CLAMP – 3R INSULATION & SINGLE “V” CLAMP INCLUDED – REDUCED CLEARANCE.
	DW22DWCLASY-3R-S						12.79		3	DUCT – 22” DUCT – 28” DOUBLE “V” CLAMP – 3R INSULATION & SINGLE “V” CLAMP INCLUDED – REDUCED CLEARANCE.
TOTAL WEIGHT							708.50			

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16” PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16” PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5’	7’
6’	7’
7’	7’
8’	7’
10’	7’
12’	7’
14’	7’
16’	7’
18’	5’
20’	5’
22’	5’
24’	5’
26’	5’
28’	5’
30’	5’
32’	5’
34’	5’
36’	5’

VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5’-16’)	20’	24’	24’
2R (18’)	18’	24’	24’
3R & 3Z (5’-24’)	10’	24’	24’
3Z (26’ -36’)	10’	20’	20’

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

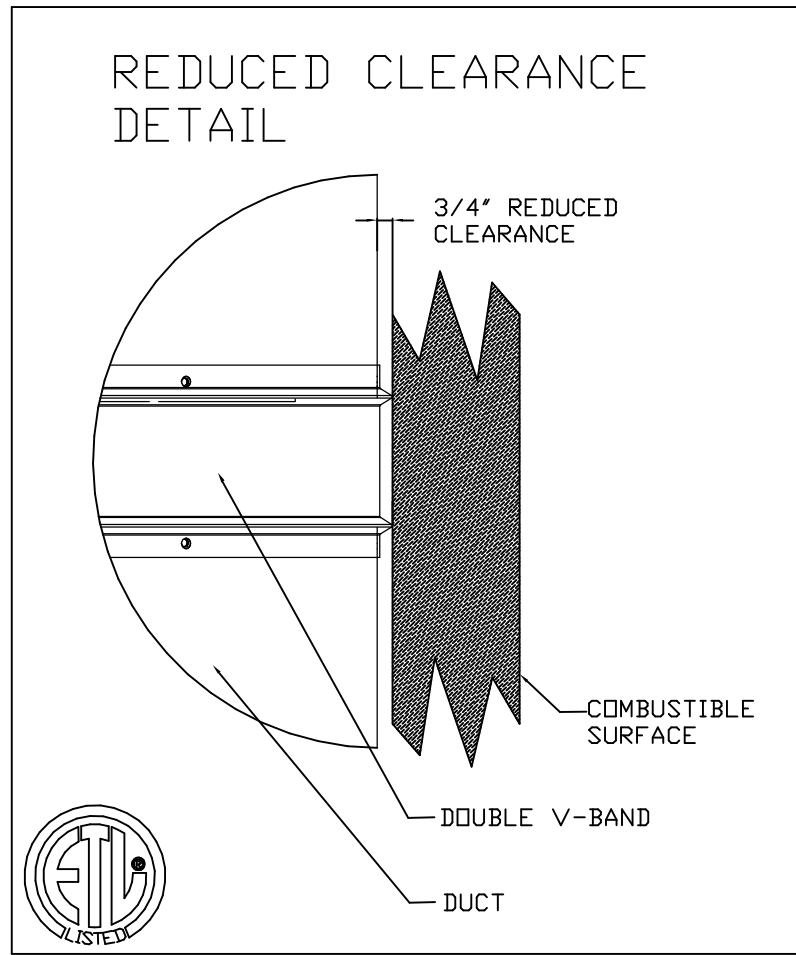
FACTORY BUILT DUCTWORK IS DESIGNED WITH LIMITED INFORMATION.
G.C. TO CONFIRM LENGTH OF RUN AND MAKE ADJUSTMENTS TO DESIGN BEFORE ORDERING. THIS INFORMATION IS NOT AVAILABLE AT TIME OF DESIGN.

Contact
colorado@captiveaire.com
for factory built grease duct pricing.

CAPTIVE-AIRE FACTORY BUILT GREASE DUCT IS BUILT IN COMPLIANCE WITH:



Listed under ETL File number 3114021, and complies with UL-1978.
Models 2R and 3R are listed in accordance with Condition B of UL Standard 2221 – installation within non-ventilated combustible enclosure.
Model 3Z is listed in accordance with Condition A and Condition B of UL Standard 2221 – Condition A represents all installation conditions except for installation within non-ventilated combustible enclosure. Condition B represents installation within a non-ventilated combustible structure.



3R

FACTORY BUILT DOUBLE WALL GREASE DUCT MODEL DW-3R SPECIFICATION
FURNISH DOUBLE WALL FACTORY BUILT GREASE DUCT FOR USE WITH TYPE I KITCHEN HOODS, WHICH CONFORMS TO THE REQUIREMENTS OF NFPA-96. PRODUCTS SHALL BE ETL LISTED TO UL-1978 AND UL-2221 FOR VENTING AIR AND GREASE VAPORS FROM COMMERCIAL COOKING OPERATION. TESTING HAS BEEN EXTENDED TO RECOGNIZE ASTM E936 AND ASTM E1192 TO SIMILAR TESTING CRITERIA. MODELS DW-2R, 3R AND 3Z ARE USED FOR GREASE DUCT APPLICATIONS WHEN INSTALLED IN ACCORDANCE WITH THESE INSTRUCTIONS.
COOKING OPERATIONS: DOUBLE WALL GREASE DUCTS ARE LISTED FOR A CONTINUOUS INTERNAL TEMPERATURE OF 500 DEGREES F AND INTERMITTENT TEMPERATURES OF 2000 DEGREES F.
THE DUCT SECTIONS SHALL BE CONSTRUCTED OF AN INNER DUCT WALL AND AN OUTER WALL WITH INSULATION IN BETWEEN. THE INNER DUCT WALL SHALL BE CONSTRUCTED OF 1/16 INCH THICK, 430 TYPE STAINLESS STEEL AND BE AVAILABLE IN DIAMETERS 6" THROUGH 36". THE OUTER WALL SHALL BE CONSTRUCTED OF STAINLESS STEEL AT A MINIMUM OF 1/16 INCH THICKNESS. THE DUCT, BASED ON MODEL NUMBER, SHALL INCLUDE LAYERS OF SUPER WOOL 607 PLUS INSULATION BETWEEN THE INNER AND OUTER WALL. GREASE DUCT JOINTS SHALL BE HELD TOGETHER BY MEANS OF FORMED V CLAMPS AND SEALED WITH 3M FIRE BARRIER 2000+. THE DUCT WALL ASSEMBLY SHALL BE TESTED AT 3/4" OR ZERO INCH CLEARANCE, ACCORDING TO CLASSIFICATIONS.
CLASSIFICATIONS AND CLEARANCES
UL 2220, STANDARD FOR FIRE RESISTIVE GREASE DUCT ENCLOSURE ASSEMBLIES, CHAPTER 7 OF THIS STANDARD REFERENCES A TEST LABELED INTERNAL FIRE TEST, SECTION 7.1.1. REFERENCES TWO INSTALLATION CONDITIONS: CONDITION A AND CONDITION B. CONDITION A REPRESENTS ALL INSTALLATION CONDITION EXCEPT FOR INSTALLATION WITHIN NON-VENTILATED COMBUSTIBLE ENCLOSURES. CONDITION B REPRESENTS INSTALLATION WITHIN A NON-VENTILATED COMBUSTIBLE ENCLOSURE.
MODEL DW-3R IS CLASSIFIED UNDER UL2221 AS AN ALTERNATE TO 2-HR FIRE RESISTIVE CHART ENCLOSURES WITH A REDUCED CLEARANCE TO COMBUSTIBLES (SIZES UP TO 24" DIAMETER). MODEL 3R IS LISTED IN ACCORDANCE WITH THE REQUIREMENTS FOR DUCT ENCLOSURE CONDITION B.
MODEL DW-3R 3/4" CLEARANCE TO COMBUSTIBLES FROM THE SURFACE OF THE DUCT OUTER SHELL; ZERO INCH CLEARANCE FROM COMBUSTIBLES FROM THE TOP OF THE OUTER V BAND.
DOUBLE WALL GREASE DUCT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION, OPERATION AND MAINTENANCE MANUAL, ETL LISTING, STATE AND LOCAL CODES. FANS SHALL BE SUPPORTED INDEPENDENTLY FROM THE GREASE DUCT SECTIONS. PROTECT GREASE DUCT FROM TWISTING OR MOVEMENT CAUSED BY FAN TORQUE OR VIBRATION.
CERTIFICATIONS
THE DW-3R SERIES HAS BEEN CERTIFIED BY ITS. THIS CERTIFICATION MARK INDICATES THAT THE PRODUCT HAS BEEN TESTED TO AND HAS MET THE MINIMUM REQUIREMENTS OF A WIDELY RECOGNIZED CONSENSUS U.S. AND CANADIAN PRODUCTS SAFETY STANDARD. THAT THE MANUFACTURING SITE HAS BEEN AUDITED, AND THAT THE APPLICANT HAS AGREED TO A PROGRAM OF PERIODIC FACTORY FOLLOW-UP INSPECTIONS TO VERIFY CONTINUED PERFORMANCE.

Scileppis Remodel

210 THIRD STREET
CASTLE ROCK, COLORADO 80104



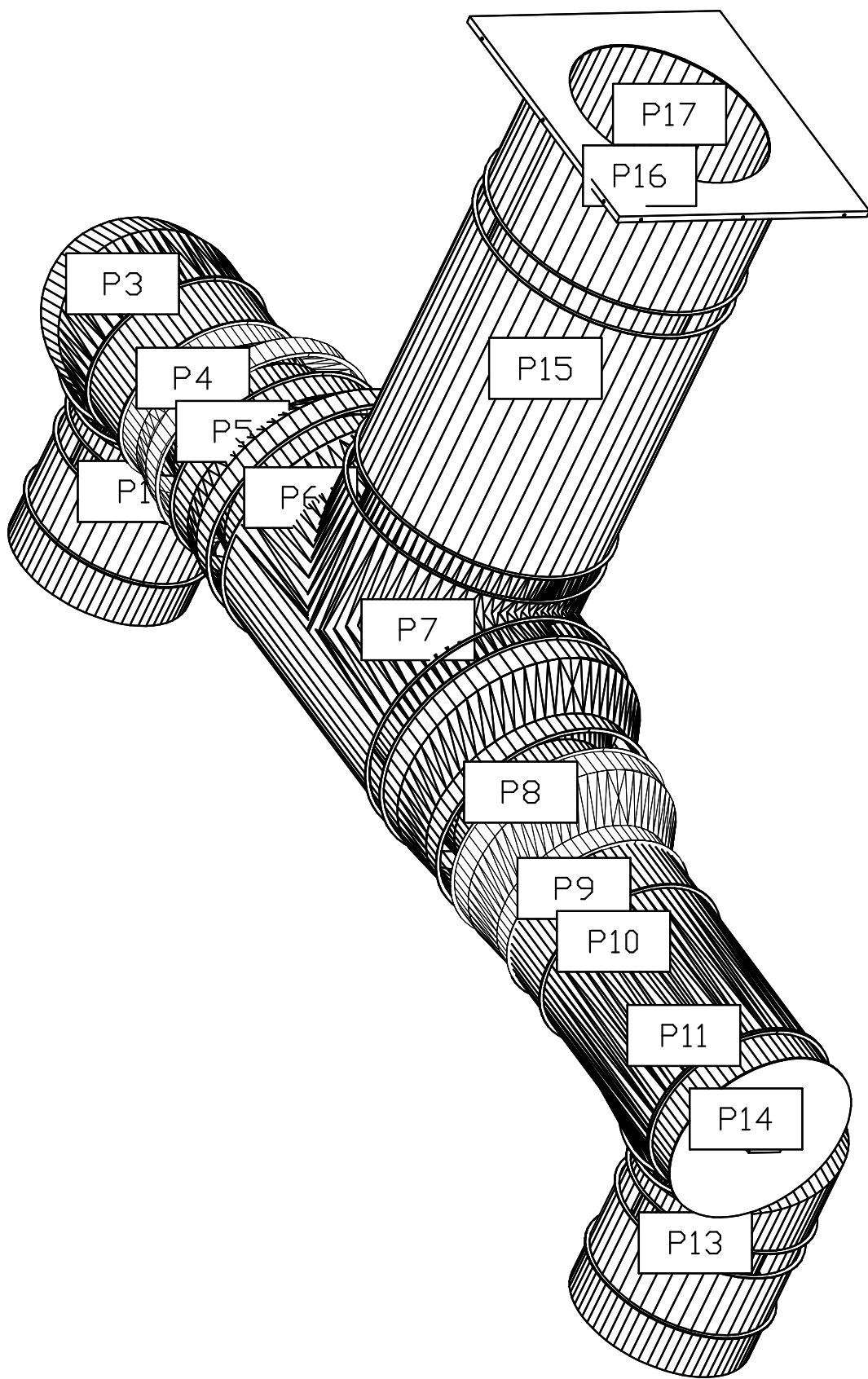
MECHANICAL
DETAILS



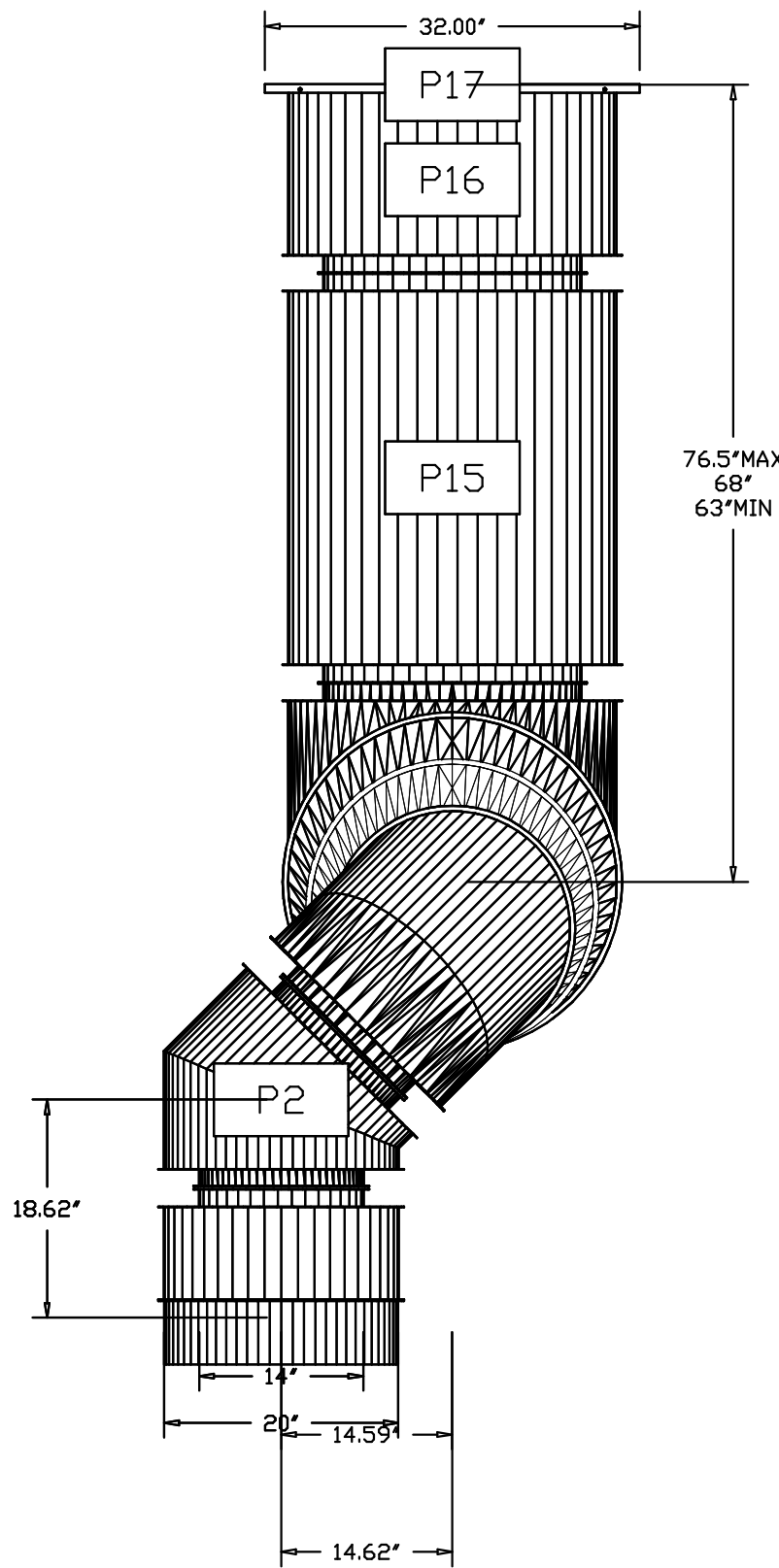
1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

M7.13

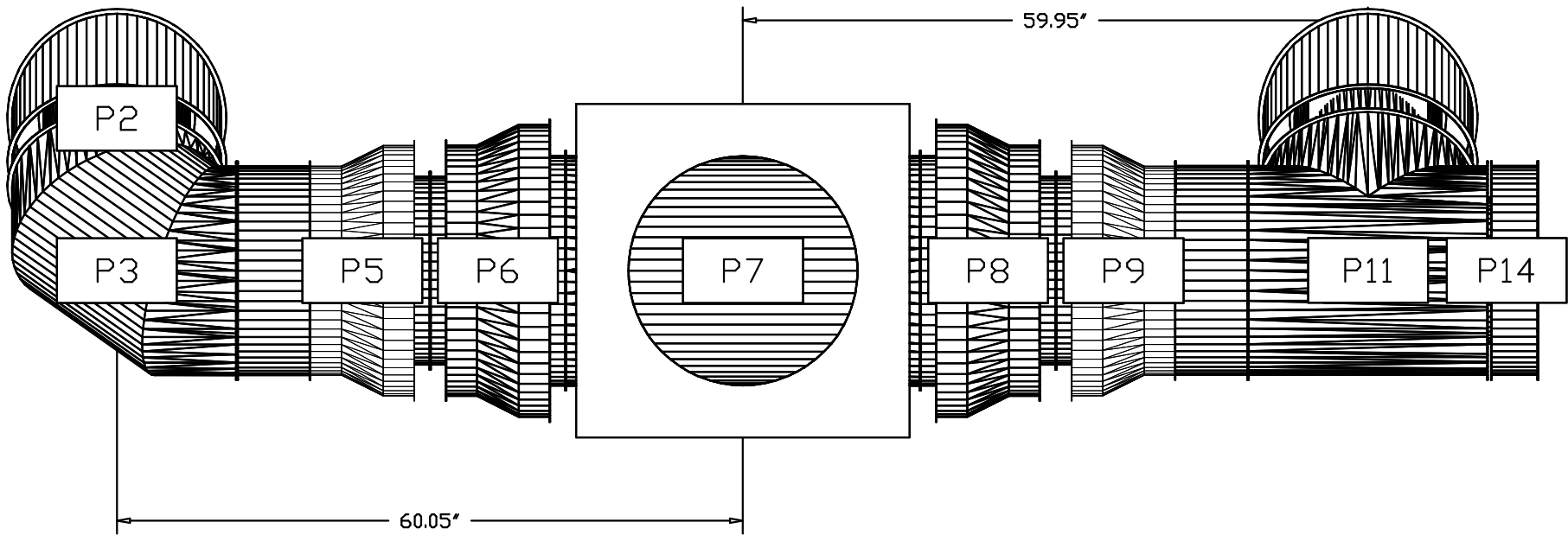
DUCTWORK #1 SE VIEW



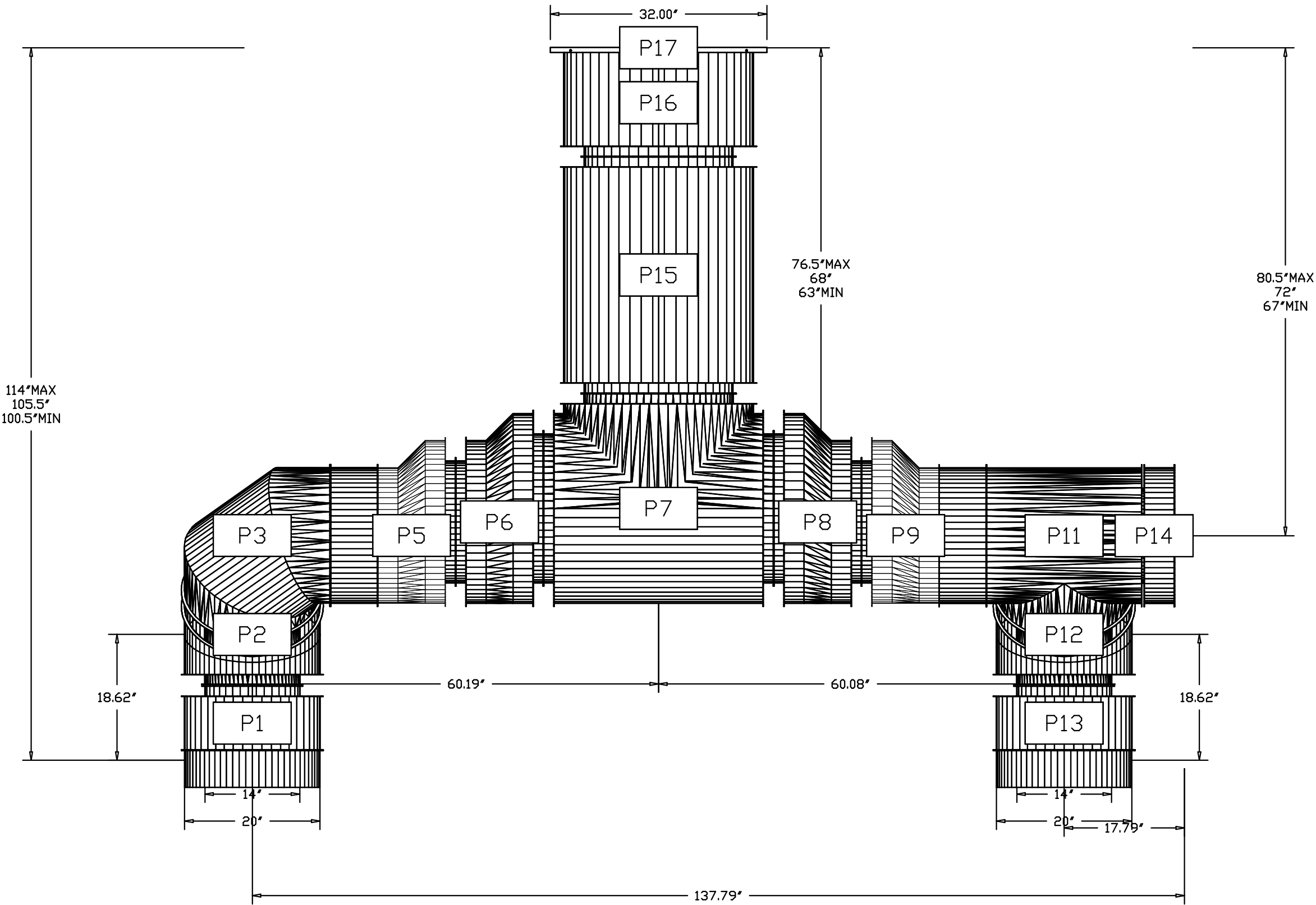
DUCTWORK #1 SIDE VIEW



DUCTWORK #1 TOP VIEW



DUCTWORK #1 FRONT VIEW



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

REVISION	REMARKS	BY	DATE



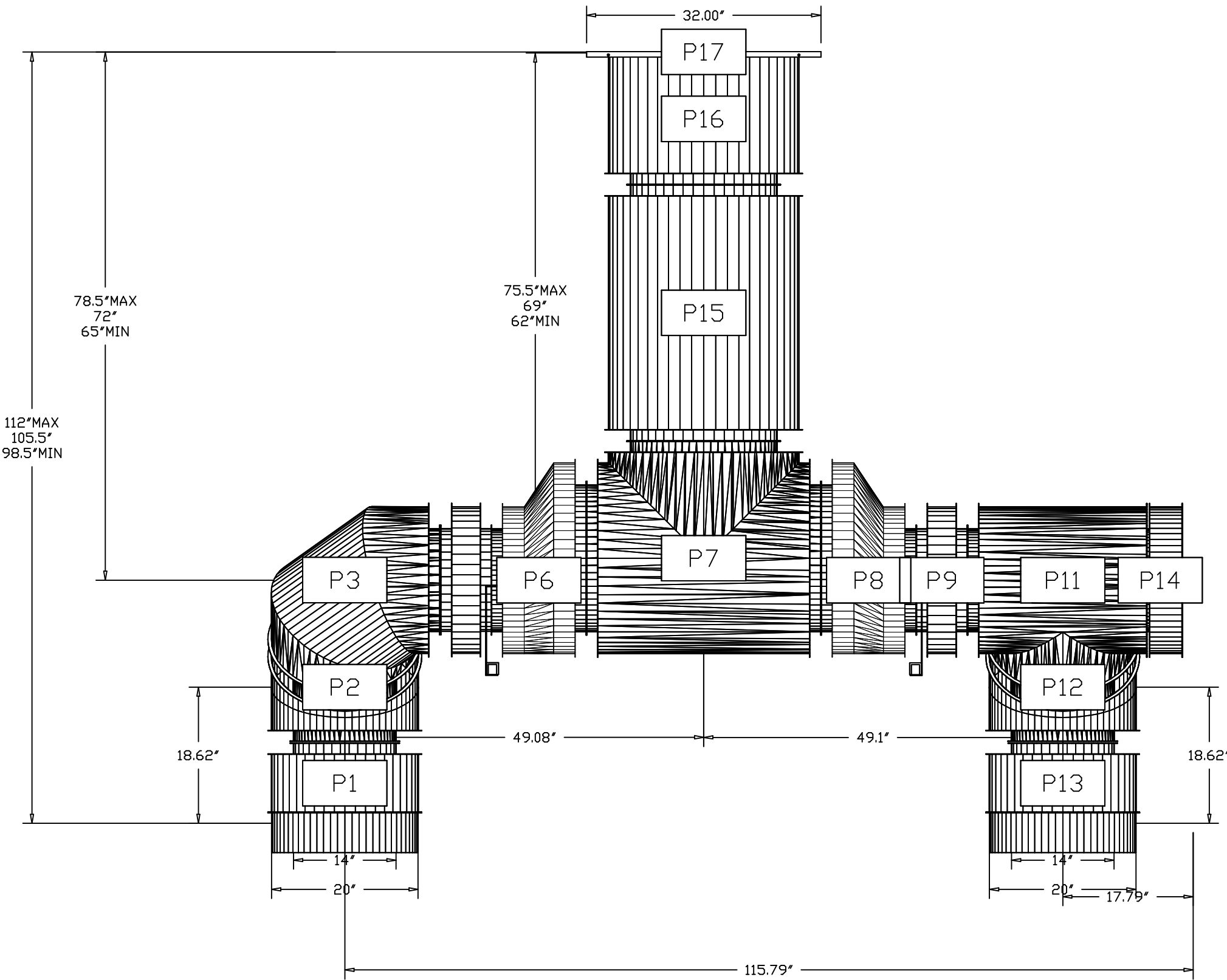
Scilleppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



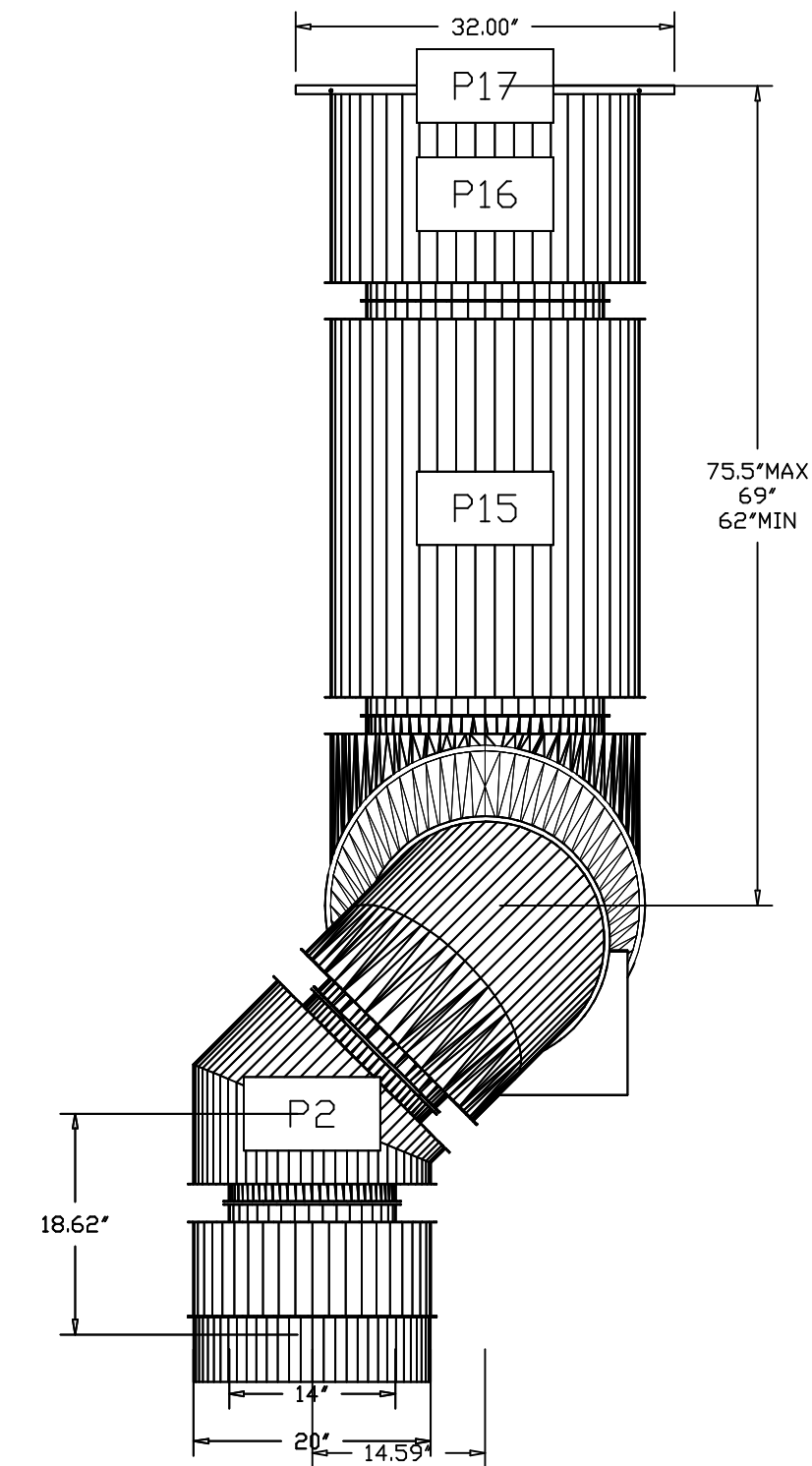
MECHANICAL DETAILS	
Author	Checker
07/31/2023	ARCH
SCALE: 1/2" = 1'-0"	
SHEET NUMBER	
M7.14	

DUCTWORK #3 PARTS – JOB#5303367 DOUBLE WALL										
TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1411DWLT-3R-S	1617				-0.004	16.18	1512.61	1	DOUBLE WALL DUCT – 14” INNER DUCT, 11’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P2	DW1445DWASY-3R-S	1617				-0.0368	21.78	1512.61	1	DOUBLE WALL DUCT – 14” INNER 45 DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P3	DW1490DWASY-3R-S	1617				-0.1313	36.57	1512.61	1	DOUBLE WALL DUCT – 14” INNER 90 DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P4	DW1407DWLT-3R-S	1617				-0.002	12.03	1512.61	1	DOUBLE WALL DUCT – 14” INNER DUCT, 7’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P5	DW2024SADKIT						8.01		1	DUCT – HORIZONTAL SADDLE SUPPORT KIT, USED WITH 20” OD – INCLUDES UNI-STRUT CUT TO LENGTH, DW2024SAD, & HARDWARE BAG 4.
P6	DW1420DWRNDADPEC3ASY-3R-S	1617				-0.079	22.28	1512.61	1	DOUBLE WALL DUCT – 14” X 20” RND2RND ECCENTRIC ADAPTER – 3 LAYERS REDUCED CLEARANCE – 20” X 26” STAINLESS STEEL OUTER SHELL.
P7	DW20DWTEASY-3R-S	3250		1		-0.293	71.05	1489.69	1	DOUBLE WALL DUCT – 20” INNER TEE DUCT – 3 LAYERS REDUCED CLEARANCE – 26” STAINLESS STEEL OUTER SHELL.
P8	DW1420DWRNDADPEC3ASY-3R-S	1633				-0.08	22.28	1527.58	1	DOUBLE WALL DUCT – 14” X 20” RND2RND ECCENTRIC ADAPTER – 3 LAYERS REDUCED CLEARANCE – 20” X 26” STAINLESS STEEL OUTER SHELL.
P9	DW1407DWLT-3R-S	1633				-0.002	12.03	1527.58	1	DOUBLE WALL DUCT – 14” INNER DUCT, 7’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P10	DW2024SADKIT						8.01		1	DUCT – HORIZONTAL SADDLE SUPPORT KIT, USED WITH 20” OD – INCLUDES UNI-STRUT CUT TO LENGTH, DW2024SAD, & HARDWARE BAG 4.
P11 ASSEMBLED W/P14	DW14DWTEASY-3R-S	1633		1		-0.1337	44.25	1527.58	1	DOUBLE WALL DUCT – 14” INNER TEE DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P12	DW1445DWASY-3R-S	1633				-0.0385	21.78	1527.58	1	DOUBLE WALL DUCT – 14” INNER 45 DUCT – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P13	DW1411DWLT-3R-S	1633				-0.004	16.18	1527.58	1	DOUBLE WALL DUCT – 14” INNER DUCT, 11’ LONG – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P14 ASSEMBLED W/P11 & S	DW14DWACCDORCOV-3R-S						23.74		1	DOUBLE WALL DUCT – 14” INNER ACCESS DOOR & 20” ACCESS DOOR COVER WITH CLAMPS – 3 LAYERS REDUCED CLEARANCE – 20” STAINLESS STEEL OUTER SHELL.
P15	DW2035DWLT-3R-S	3250				-0.0059	69.78	1489.69	1	DOUBLE WALL DUCT – 20” INNER DUCT, 35’ LONG – 3 LAYERS REDUCED CLEARANCE – 26” STAINLESS STEEL OUTER SHELL.
P16 ASSEMBLED W/P17	DW2027DWAJDTP-3R-S	3250				-0.0031	75.18	1489.69	1	DOUBLE WALL ADJUSTABLE DUCT TRANSITION PLATE – 20” INNER DUCT – 3 LAYERS REDUCED CLEARANCE – 26” STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11’ / MAX LENGTH = 24.5’ / ADJUSTMENT = 6.5’ / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL “V” CLAMPS.
P17 ASSEMBLED W/P16 SYSTEM AT P17	DW3120TPDBEX	3250				-1.1332	0.00		1	DUCT TO CURB TRANSITION 3/4” DOWN TURN, 31-1/2” CURB TO 20” DUCT, 16 GA ALUMINIZED. NON-STANDARD PART. FOR USE WITH EXHAUST FANS.
	3M-2000PLUS						0.80		5	DUCT – 3M FIRE BARRIER 2000 PLUS SILICONE – USED AS SEALANT TO SEAL DUCT JOINTS.
	DW14DWCLASY-3R-S						8.75		8	DUCT – 14” DUCT – 20” DOUBLE “V” CLAMP – 3R INSULATION & SINGLE “V” CLAMP INCLUDED – REDUCED CLEARANCE.
	DW20DWCLASY-3R-S						11.34		3	DUCT – 20” DUCT – 26” DOUBLE “V” CLAMP – 3R INSULATION & SINGLE “V” CLAMP INCLUDED – REDUCED CLEARANCE.
TOTAL WEIGHT							600.65			

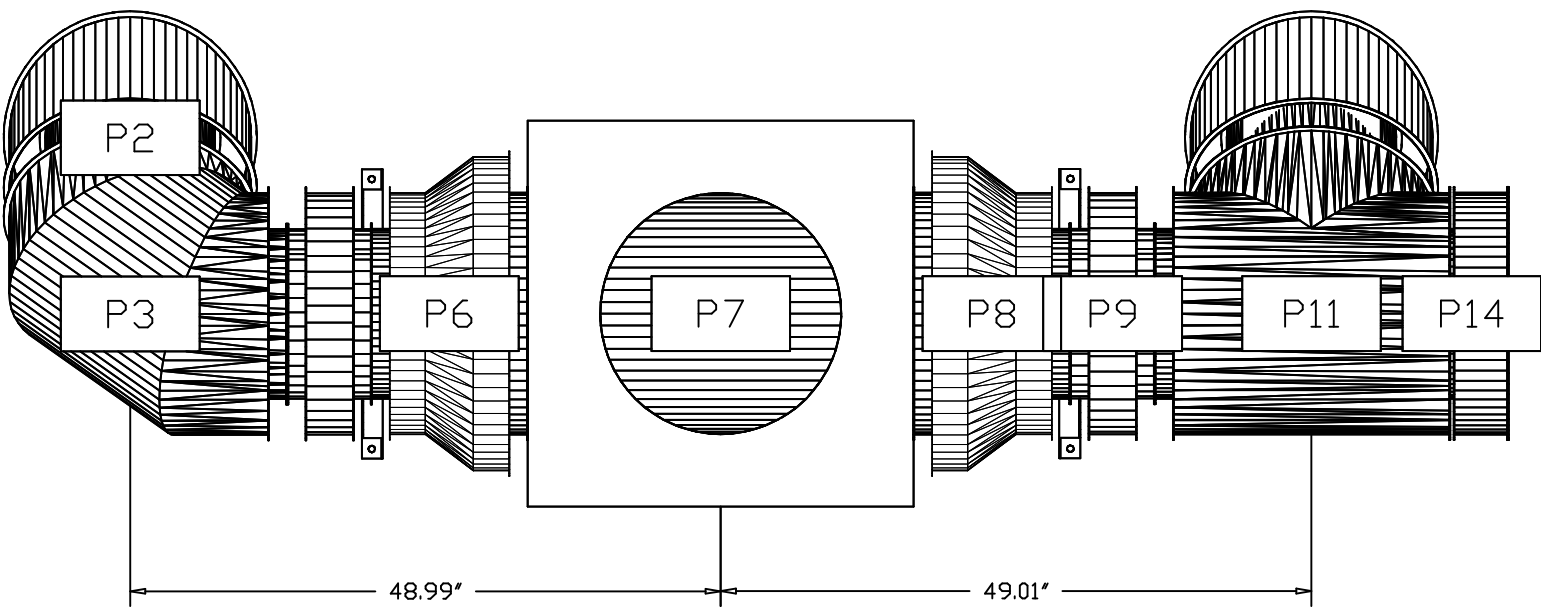
DUCTWORK #3 FRONT VIEW



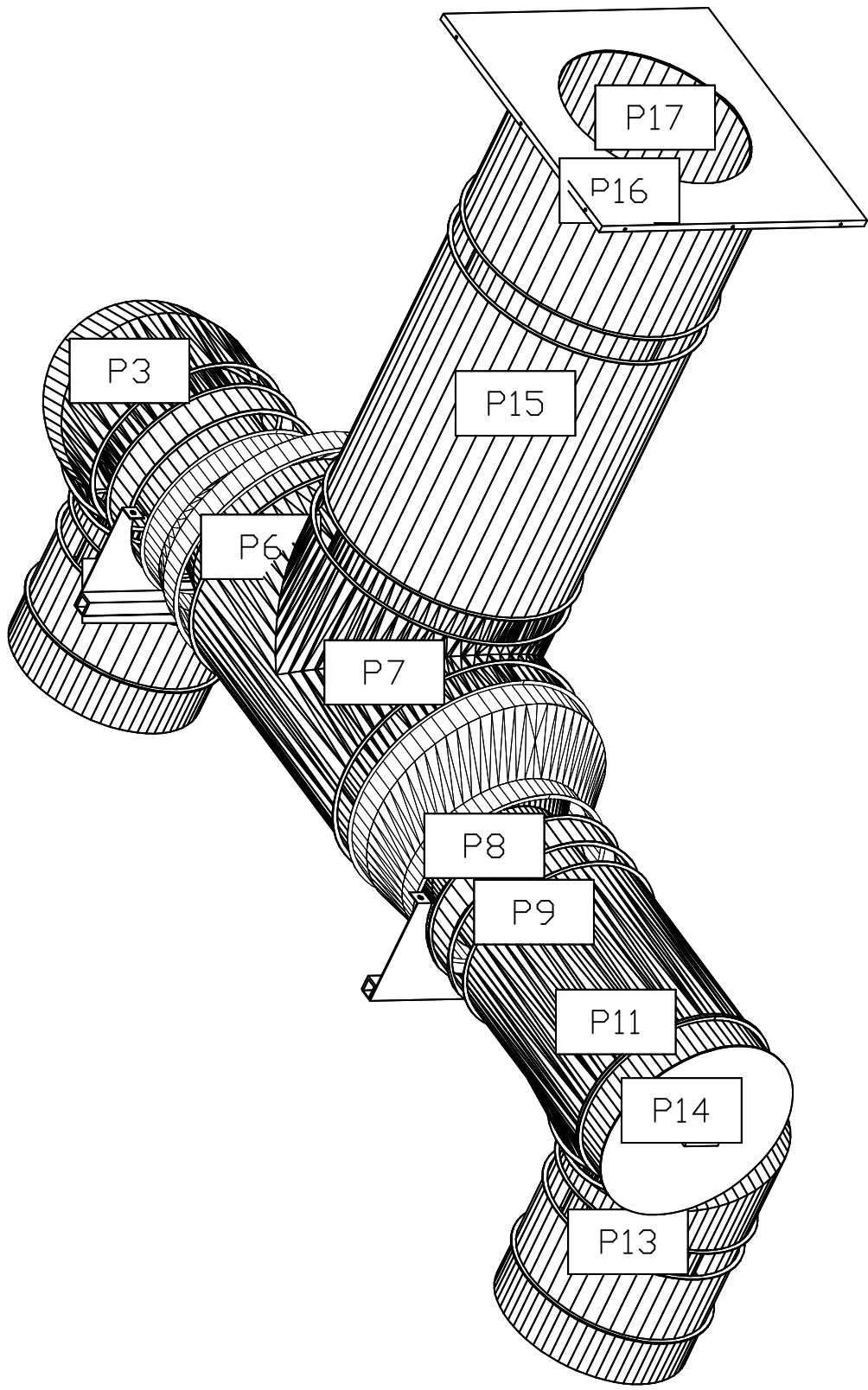
DUCTWORK #3 SIDE VIEW



DUCTWORK #3 TOP VIEW



DUCTWORK #3 SE VIEW



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:

MECHANICAL
DETAILS

Author

Checker

07/31/2023

ARCH

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

SHEET NUMBER

M7.16

PLUMBING SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL INTENT

- A. THE INTENTION OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS, AND EQUIPMENT, NECESSARY, OR REASONABLY INTERFERABLE, FOR FURNISHING, INSTALLATION AND TESTING, COMPLETION AND READY FOR SAFE OPERATION OF THE SYSTEMS DESCRIBED HEREIN.
- B. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS MADE A THOROUGH EXAMINATION OF THE SITE, AND ALL EXISTING CONDITIONS AND LIMITATIONS WHICH AFFECT THIS WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION.
- C. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT, GENERAL CHARACTER, AND LOCATION OF THE WORK TO BE PERFORMED. WHERE MINOR ADJUSTMENT OF THE WORK ARE NECESSARY FOR PURPOSES OF FABRICATION OR INSTALLATION OF ITEMS, THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENT WITH NO ADDED COMPENSATION, WHERE SUCH ADJUSTMENTS AFFECT FUNCTIONAL OR AESTHETIC DESIGN OF THE WORK, THEY SHALL FIRST BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL.
- D. SITE UTILITIES: THE MECHANICAL DOCUMENTS INDICATE CONNECTION LOCATION OF VARIOUS BUILDING SERVICES COORDINATE WORK WITH THE SITE UTILITIES CONTRACTOR TO INSURE PROPER INVERT ELEVATION, PIPE SLOPE GRADIENT, PIPE SIZE AND SEPARATION WITHIN TRENCH WORK. NOTIFY ARCHITECT OR ENGINEER OF ANY DISCREPANCY BETWEEN DRAWINGS AND FIELD CONDITIONS.
- E. COMPLY WITH ALL LOCAL AND STATE CODES REGARDING SEISMIC SUPPORT AND ISOLATION. NOT ALL SEISMIC REQUIREMENTS ARE SHOWN ON THESE DRAWING. CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION FOR SEISMIC SUPPORT/ISOLATION OF HIS WORK.

1.2 GENERAL COORDINATION

- A. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF A SATISFACTORY, COMPLETE, FULLY OPERATIONAL PIECE OF WORK IN ACCORDANCE WITH TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- B. CONTRACTOR SHALL CONSULT ALL DRAWINGS FOR THE PROJECT TO DETERMINE THAT THE WORK AND EQUIPMENT WILL FIT AS PLANNED.
- C. THE LOCATION OF PIPING, DUCTS, EQUIPMENTS, ETC. SHALL BE CHECKED TO EN CLEARANCE FROM OPENINGS, STRUCTURAL MEMBERS, CABINETS, LIGHTS, OUTLETS AND EQUIPMENT HAVING FIXED LOCATIONS THIS SHALL BE ACCOMPLISHED PRIOR TO FABRICATION OF PIPE OR DUCTS.
- D. AT ANY TIME, AND IN ANY CASE, CHANGES IN LOCATION OF PIPING, DUCTS, EQUIPMENT, ETC., BECOMES NECESSARY DUE TO EXISTING OBSTACLES OR INSTALLATION OF OTHER TRADES SHOWN ON ANY OF THE PROJECT DRAWINGS AND SUCH CONFLICT COULD HAVE BEEN AVOIDED BY PROPER COORDINATION BETWEEN TRADES OR PROPER PRE-PLANNING OF WORK. SUCH REQUIRED CHANGES SHALL BE MADE BY THE CONTRACTOR AT NO EXTRA COST. THESE CHANGES ARE TO BE RECORDED ON THE RECORD DRAWINGS.
- E. THIS CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL INCIDENTAL ELECTRICAL INTERCONNECTIONS, CONTROL WIRING, ETC., WHICH ARE NECESSARY FOR SYSTEM COMPLETION AND WHICH ARE NOT SPECIFICALLY SHOWN OR OTHERWISE INDICATE ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN DIVISION 26.
- F. ALL ELECTRICAL WORK INCIDENTAL TO OR ACCOMPLISHED UNDER THIS DIVISION SHALL COMPLY WITH ALL REQUIREMENTS OF DIVISION 26.
- G. PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR REFERRING TO THE DIVISION DOCUMENTS FOR ALL OTHER DISCIPLINES FOR PROJECT CONSTRUCTION AND OTHER DETAILS WHICH AFFECT THE MECHANICAL INSTALLATION. CONTRACTOR SHALL COOPER WITH ALL OTHER TRADES FOR FINISHING ADJACENT TO ITS WORK AREAS TO HAVE VISIBLE PORTIONS OF THIS WORK COORDINATED WITH OTHERS, VALVES, SPRINKLER HEADS, ESCUTCHEONS, ETC.) MERGE WITH THE FINISH IN A MANNER SATISFACTORY TO THE ARCHITECT.
- H. CONTRACTOR SHALL IDENTIFY ALL SERVICEABLE ITEMS (VALVES, CLEANOUTS, COILS, ETC.) SO THAT THE CEILING SUBCONTRACTOR MAY KNOW WHERE TO INSTALL ACCESS-TYPE PANELS SHOULD A LIFT-UP TYPE CEILING NOT BE INSTALLED. THIS CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR HIS WORK UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. ARCHITECT SHALL APPROVE LOCATIONS OF ACCESS PANELS PRIOR TO INSTALLATION.
- I. CEILING HEIGHTS: ARCHITECTURAL DRAWINGS SHALL BE CHECKED FOR CEILING HEIGHTS, WALLS, AND CABINETS THAT ARE INTENDED TO CONCEAL WORK OF THIS SECTION, WHERE CONFLICTS OCCUR, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO INSTALL OF THE WORK. LOCATION OF EXPOSED WORK SUCH AS PIPING, VALVES, SPEAKERS, SPRINKLER HEADS TAKE PRECEDENCE OVER CONCEALED WORK.
- J. CONTRACTOR SHALL EXERCISE CARE TO MINIMIZE ANY DISTURBANCE TO ADJACENT AREA OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY TEMPORARY PARTITIONS, TAPPS, ETC., TO KEEP DUST AND DIRT IN THE CONSTRUCTION AREA.
- K. PROVIDE ALL NECESSARY FLASHING, SEALING, ETC., TO MAINTAIN THE WATERPROOF INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF ITEMS AS REQUIRED BY THIS SCOPE OF WORK.
- L. INSTALL ALL WORK OF THIS SCOPE TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE, AND REPAIR. MINOR DEVIATION FROM THE DRAWING MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES INVOLVING OTHER TRADES MAY NOT BE MADE WITHOUT PRIOR APPROVAL.
- M. ALL PENETRATIONS MADE THROUGH RATED ASSEMBLIES TO ACCOMMODATE WORK OF THIS SECTION, MUST BE SEALED TO MAINTAIN THE RATING OF SUCH ASSEMBLY BY A U.L. RECOGNIZED SEALING METHOD.
- N. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF THIS WORK. COORDINATE ALL BLOCKING, SUPPORT, ETC., NECESSARY FOR THE INSTALLATION OF THIS WORK WITH THE GENERAL CONTRACTOR.

1.3 CODES, STANDARDS, PERMITS, AND FEES

- A. ALL APPLICABLE CODES LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS. THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR, WHO SHALL INFORM THE ARCHITECT IN WRITING PRIOR TO SUBMITTING A BID, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ENFORCED LAW, ORDINANCES, RULES AND REGULATIONS. HE SHALL ASSUME FULL RESPONSIBILITY, AND SHALL BEAR ALL COSTS ASSOCIATED WITH BRINGING WORK INTO COMPLIANCE.
- B. WHERE DRAWINGS AND SPECIFICATIONS CALL FOR MATERIAL, OR CONSTRUCTION OF A BETTER QUALITY OR HIGHER CAPACITY THEN REQUIRED BY THE ABOVE-MENTIONED CODES AND STANDARDS, THE PROVISIONS OF THE DRAWINGS OR SPECIFICATIONS SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS OF THE CODES AND STANDARDS.
- C. THE RESPECTIVE SUB-CONTRACTOR, AT HIS EXPENSE, SHALL OBTAIN ALL PERMITS AND FEES REQUIRED FOR THIS SCOPE OF WORK ON THIS PROJECT. THE SUB-CONTRACTOR SHALL ALSO SCHEDULE ALL REQUIRED INSPECTION AND OBTAIN CERTIFICATES FOR HIS WORK, AT HIS EXPENSE.

1.4 SUBMITTALS AND SUBSTITUTIONS

- A. SUBMITTAL MATERIALS SHALL BE COMPLETE IN EVERY RESPECT AND SHALL CLEARLY INDICATE EQUIPMENT FEATURES, DIMENSIONS, WEIGHTS, PERFORMANCE CHARACTERISTICS, AND CAPACITIES. CAPACITY AND PERFORMANCE CALCULATION SHALL BE ADJUSTED TO INDICATE ACTUAL EQUIPMENT PERFORMANCE AT THE PROJECT ELEVATION. LITERATURE OR DRAWINGS THAT DESCRIBE MORE THAN ONE MODEL OR SIZE OF EQUIPMENT SHALL BE MARKED WITH ARROWS OR OTHERWISE CLEARLY INDICATED TO IDENTIFY THE ACTUAL EQUIPMENT THAT WILL BE FURNISHED. ALL OPTIONS AND SPECIAL PARTS OF FEATURES SHALL ALSO BE CLEARLY IDENTIFY. ALL SUBMITTED MATERIALS MUST BE CLEAR, COMPLETE, AND LEGIBLE. ALL SUBMITTALS OF THIS SCOPE MUST BE SUBMITTED AT ONE TIME. MULTIPLE AND VARYING SUBMITTALS WILL BE REJECTED.
- B. SUBMITTALS FOR ALL EQUIPMENT SHALL BE ROUTED THROUGH AND REVIEWED BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK EACH SUBMITTAL FOR ADEQUATE IDENTIFICATION, CORRECTNESS, AND COMPLIANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS AND APPROVE A STATE OF APPROVAL. FOR SUBMITTALS THAT ARE REQUIRED TO BE REVIEWED BY THE ENGINEER, A DIGITAL COPY SHALL BE FORWARDED FOR REVIEW AFTER REVIEW AND APPROVAL BY THE CONTRACTOR. THESE SHALL BE REVIEWED AND SHALL BE REVIEWED AND RE-SUBMITTED UNTIL ACCEPTED BY THE ENGINEER. PROVIDE PRODUCT DATA FOR EACH PIECE OF EQUIPMENT/COMPONENT LISTED BELOW.

1. FLOOR AND ROOF DRAINS, FLOOR SINKS, CLEANOUTS.

2. ALL PLUMBING FIXTURES AND ACCESSORIES.

3. PUMPS.

4. WATER HEATERS.

5. VALVES AND PIPE ACCESSORIES.

6. PIPE INSULATION AND LOCATION NOTES.
- A. APPROVED MANUFACTURERS, WHICH MAY SUBMIT EQUAL PRODUCT TO THOSE SPECIFIED, ARE LISTED IN THE EQUIPMENT SCHEDULES. ANY SUBMITTAL FOR CONSIDERATION AS AN EQUAL, TO THAT SCHEDULED MUST CONTAIN ALL INFORMATION REQUIRED TO EVALUATE THIS CLAIM. MANUFACTURERS NOT LISTED AS EQUAL MUST SUBMIT IN WRITING FOR REVIEW FIVE DAYS PRIOR TO BID CLOSING. CONTRACTOR IS RESPONSIBLE TO ASSURE ANY SUBMITTED ITEM MEETS ALL PERFORMANCE REQUIREMENTS AS INTENDED IN THE DESIGN DOCUMENTS.
- D. APPROVAL OF SUBMITTALS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN SHOP DRAWINGS OR OTHER SUBMITTAL LITERATURE.
- E. CONTRACTOR HAS THE SOLE RESPONSIBILITY TO COORDINATE ANY SUBSTITUTIONS WITH ALL OTHER DISCIPLINES. EQUIPMENT OF GREATER POWER, DIMENSIONS, CAPACITIES, AND RATINGS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING MECHANICAL AND ELECTRICAL SERVICES, CIRCUIT BREAKERS, CONDUITS, MOTORS, BASES, AND EQUIPMENT SPACES ARE INCREASED. NO ADDITIONAL COSTS WILL BE ACCEPTED FOR THESE INCREASES. IF LARGER EQUIPMENT IS PROVIDED, IF MINIMUM ENERGY RATINGS OR EFFICIENCIES OF THE EQUIPMENT ARE SPECIFIED, THE EQUIPMENT MUST MEET THE DESIGN REQUIREMENTS AND COMMISSIONING REQUIREMENTS.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. DELIVER PRODUCTS TO THE PROJECT PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS, AND OTHER INFORMATION NEEDED FOR IDENTIFICATION.
- B. ALL MECHANICAL EQUIPMENT AND MATERIAL, ITEMS SHALL BE PROTECTED FROM WEATHER AND VANDALISM PRIOR TO ACTUAL INSTALLATION. FAN WHEELS, PUMPS AND OTHER ROTATING MACHINERY SHALL BE PERIODICALLY ROTATED DURING STORAGE. ANY FACTORY PAINTED EQUIPMENT SCRATCHED OR MARKED DURING SHIPMENT OR CONSTRUCTION SHALL BE RESTORED TO ORIGINAL, "NEW" CONDITION. THIS INCLUDES COMPLETE REPAINTING OF THE EQUIPMENT IF NECESSARY TO PROVIDE EXACT PAINT MATCH.
- C. CONTRACTOR IS RESPONSIBLE FOR RECEIVING AND OFF-LOADING EQUIPMENT OF HIS SCOPE. IMMEDIATELY UPON RECEIPT, CONTRACTOR SHALL INSPECT ALL EQUIPMENT AND MATERIAL FOR SHIPPING DAMAGE AND REPLACE ANY DEFECTIVE ITEMS AT NO INCREASE TO CONTRACT AMOUNT.

1.6 SEQUENCING AND SCHEDULING

- A. COORDINATE PLUMBING EQUIPMENT INSTALLATION WITH OTHER BUILDING COMPONENTS PRIOR TO ORDERING OR FABRICATION OF ADDING WORK.
- B. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED. ARRANGE FOR CHASIS, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION TO ALLOW FOR MECHANICAL INSTALLATIONS.
- C. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. COORDINATE INSTALLATION OF LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING.
- D. COORDINATE CONNECTION OF MECHANICAL SYSTEMS WITH EXTERIOR UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. COORDINATE CONNECTION OF ELECTRICAL SERVICES.
- E. PROVIDE IDENTIFICATION OF ALL EQUIPMENT. COORDINATE INSTALLATION OF IDENTIFYING DEVICES AFTER COMPLETING COVERAGE AND PAINTING WHERE DEVICES ARE APPLIED TO SURFACES. INSTALL IDENTIFYING DEVICES PRIOR TO INSTALLING ACoustICAL CEILINGS AND SIMILAR CONCENTRATIONS.

1.7 PROJECT CLOSE-OUT

- A. CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR ANY DEFECTS IN WORKMANSHIP OR EQUIPMENT, WHICH DEVELOP WITHIN ONE YEAR FROM ACCEPTANCE BY THE OWNER. CONTRACTOR MUST ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED TO REPAIR OR REPLACE HIS WORK AS WELL AS WORK OF OTHER TRADES THAT MAY BE AFFECTED BY THIS REPLACEMENT.
- B. CONTRACTOR SHALL MAINTAIN A REDLINED SET OF CONSTRUCTION DRAWINGS SHOWING DEVIATIONS BETWEEN THE DRAWINGS AND INSTALLED CONDITIONS. THESE SHALL BE TURNED OVER TO THE OWNER AT ACCEPTANCE OF THE WORK.
- C. PROVIDE THREE (3) COMPLETE SETS OF OPERATION AND MAINTENANCE MANUALS. THESE ARE TO INCLUDE ALL EQUIPMENT OUT SHEETS, MANUFACTURERS WARRANTY INFORMATION, AND CONTRACTORS WARRANTY LETTER AND CONTACT INFORMATION.
- D. PROVIDE THREE (3) REVIEWED BALANCE REPORTS OF WATER AND AIR SYSTEMS AS APPLICABLE.

PART 2 - PRODUCTS

2.1 GENERAL PIPE MATERIALS AND FITTINGS

- A. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE ANY OF THE FOLLOWING:-

1. ALL SIZES: HARD COPPER TUBE CONFORMING TO ASTM B-88, TYPE L, COPPER PRESSURE FITTINGS PER ASME B16.18, AND ALLOY 506S SOLDER WITH WATER SOLUBLE FLUX.
2. NPS 1" AND SMALLER: FCX PER ASTM F877, SDR 9 DRN BUTING, DISTRIBUTION MANIFOLD, INSERT FITTINGS, AND CRIMPED JOINTS.

- B. BELOW GRADE DOMESTIC WATER PIPING SHALL BE ANY OF THE FOLLOWING:-

1. SOFT COPPER TUBE, TYPE K OR L, CONFORMING TO ASTM B-88, COPPER PRESSURE FITTINGS AND SOLDERED JOINTS.
2. WROUGHT METALLIC PIPE PER ASTM A 874 OR AWWA C105, HDPE, CROSS LAMINATED PE FILM OF 0.004 INCH (0.10 MM) OR LLDPE, CROSS LAMINATED PE FILM OF 0.008 INCH (0.20 MM) MINIMUM THICKNESS.
3. HDPE (HIGH DENSITY POLYETHYLENE) PLASTIC PIPE AND FITTING FOR WATER SERVICE ENTRY PIPING.
- a. PIPE CONFORMING TO ASTM D 2239, ASTM D 2737, AWWA C201, MINIMUM 180 PSI PRESSURE CLASS SDR 30.5, TO 8.
- b. FITTINGS CONFORMING TO ASTM D 2609, METAL INSERT FITTING AND TWO STAINLESS STEEL CLAMPS; FOR OVER 1-1/2 INCH SPECIAL, HEAVY DUTY TIGHTENING CLAMPS.

- C. ABOVE GRADE SANITARY WASTE & VENT SHALL BE ANY OF THE FOLLOWING:

1. PVC SOIL PIPE AND FITTINGS, STANDARD AND HEAVY-DUTY, SHIELDED, STAINLESS STEEL COUPLINGS, AND HUBLESS COUPLING JOINTS.
2. SOLID WALL ABS PIPE PER ASTM D 2681, SCHEDULE 40, ABS SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
3. SOLID WALL PVC PIPE PER ASTM D2685, SCHEDULE 40 DRAIN, WASTE & VENT, PVC SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
4. CELLULAR-CORE ABS PIPE PER ASTM F 628, SCHEDULE 40.
5. CELLULAR-CORE PVC PIPE PER ASTM F 891, SCHEDULE 40.

- D. BELOW GRADE SANITARY WASTE AND VENT SHALL BE ANY OF THE FOLLOWING:

1. PVC SOIL PIPE AND FITTINGS PER CSDP 301, HEAVY DUTY, SHIELDED, STAINLESS STEEL COUPLINGS, AND HUBLESS-COUPLING JOINTS.
2. SOLID WALL ABS PIPE PER ASTM D 2681, SCHEDULE 40, ABS SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
3. SOLID WALL PVC PIPE AS PER ASTM D 2685, SCHEDULE 40 DRAIN, WASTE AND VENT, PVC SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
4. CELLULAR-CORE ABS PIPE PER ASTM F 628, SCHEDULE 40.
5. CELLULAR-CORE PVC PIPE PER ASTM F 891, SCHEDULE 40.

- E. STORM DRAINAGE PIPING SHALL BE ANY OF THE FOLLOWING:

1. PVC SOIL PIPE AND FITTINGS PER CSDP 301.
2. SOLID WALL ABS PIPE PER ASTM D 2681, SCHEDULE 40, ABS SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
3. SOLID WALL PVC PIPE PER ASTM D2685, SCHEDULE 40 DRAIN, WASTE AND VENT, PVC SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
4. CELLULAR-CORE ABS PIPE PER ASTM F 628, SCHEDULE 40.
5. CELLULAR-CORE PVC PIPE PER ASTM F 891, SCHEDULE 40.

- F. FUEL GAS PIPING SHALL BE ANY OF THE FOLLOWING:

1. ALL SIZES: STEEL PIPE PER ASTM A53A 53M, TYPE E OR L, GRADE B, BLACK, WALL THICKNESS OF WROUGHT-STEEL PIPE SHALL COMPLY WITH ASME B36.10M.
- a. MALLEABLE IRON OR STEEL WITH PROTECTIVE COATING, INCLUDE THREADED CONNECTIONS ACCORDING TO ASME B1.20.1 FOR PIPE INLET AND STANDARD PATTERN, WITH THREADED ENDS ACCORDING TO ASME B1.20.1.
- b. ACCEPTABLE MANUFACTURERS: OMEGAFLEX, INC., TITELFLEX CORP., TRU-FLEX METAL HOSE CORP., WARD INDUSTRIES, INC.
2. NPS 1" AND SMALLER MAY BE CORRUGATED STAINLESS STEEL TUBING SYSTEMS.
- a. DESCRIPTION: COMPLY WITH AGA L C 1 AND INCLUDE THE FOLLOWING:
- 1) TUBING: CORRUGATED STAINLESS STEEL WITH PLASTIC JACKET OR COATING.
- 2) FITTINGS: COPPER ALLOY WITH ENDS MADE TO FIT CORRUGATED TUBING. INCLUDE ENDS WITH THREADS ACCORDING TO ASME B1.20.1. IF CONNECTION TO THREADED PIPE OR FITTINGS IS REQUIRED.
- 3) STRIKER PLATES: STEEL, DESIGNED TO PROTECT TUBING FROM PENETRATIONS.
- 4) MANIFOLDS: MALLEABLE IRON OR STEEL WITH PROTECTIVE COATING, INCLUDE THREADED CONNECTIONS ACCORDING TO ASME B1.20.1 FOR PIPE INLET AND CORRUGATED TUBING OUTLETS.
- b. ACCEPTABLE MANUFACTURERS: OMEGAFLEX, INC., TITELFLEX CORP., TRU-FLEX METAL HOSE CORP., WARD INDUSTRIES, INC.
3. INDIRECT WASTE PIPING SHALL BE ANY OF THE FOLLOWING:
1. SOLID WALL, PVC PIPE PER ASTM D 2685, SCHEDULE 40 DRAIN, WASTE AND VENT, PVC SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS.
2. HARD COPPER TUBE CONFORMING TO ASTM B-88, TYPE M WATER TUBE, DRAWN AND TEMPER, COPPER PRESSURE FITTINGS PER ASME B16.18, AND ALLOY 506S SOLDER WITH WATER SOLUBLE FLUX.

- H. VALVES AND PLUMBING SPECIALTIES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- I. DIELECTRIC FITTINGS:

1. COMBINATION FITTING OF COPPER ALLOY AND FERROUS MATERIALS WITH THREADED, SOLDER-JOINT, PLAIN, OR WELD-NECK END CONNECTIONS THAT MATCH PIPING SYSTEM MATERIALS.
2. DIELECTRIC UNIONS: FACTORY-FABRICATED, UNION ASSEMBLY, FOR 250-PSIG MINIMUM WORKING PRESSURE AT 180 DEG F.
3. DIELECTRIC COUPLINGS: GALVANIZED STEEL COUPLING WITH INERT AND NON-CORROSIVE, THERMOPLASTIC LINING, THREADED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F.

- J. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- K. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- L. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- M. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- N. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- O. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- P. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- Q. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- R. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- S. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- T. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- U. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- V. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

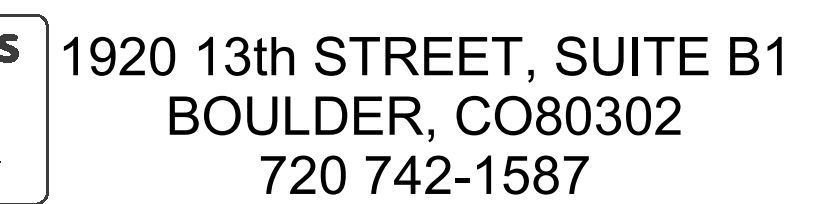
- W. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- X. BUTTERFLY VALVES:

1. ACCEPTABLE MANUFACTURERS: WATTS, APOLLO, RED & WHITE, NIBCO, MILWAUKEE, ARMSTRONG.
2. GENERAL USE VALVES:
- a. BALL VALVE/FULL PORT THRU 3" - WATTS F8V5-1 SERIES
- b. CHECK (THRU 3") - WATTS WCV1 SERIES
- c. GATE (THRU 1") - WATTS GBV SERIES
- d. GLOBE (THRU 3") - WATTS GLV SERIES
- e. CHECK (THRU 3") - WATTS WCV2 SERIES
- f. STRAINER (THRU 2") - WATTS S7751 SERIES
- g. BALANCE (THRU 3") - WATTS CSM-61-M1 SERIES
- h. BUTTERFLY (2" AND LARGER)
3. WATER HAMMER ARRESTERS (SOLX CHIEF, PFP, SMITH) METAL BELLOWS OR COPPER TUBE WITH PISTON PER ASSE 1010 OR FDM HW 201. PROVIDE ACCESS PANELS AS REQUIRED.

- Y. BUTTERFLY VALVES:

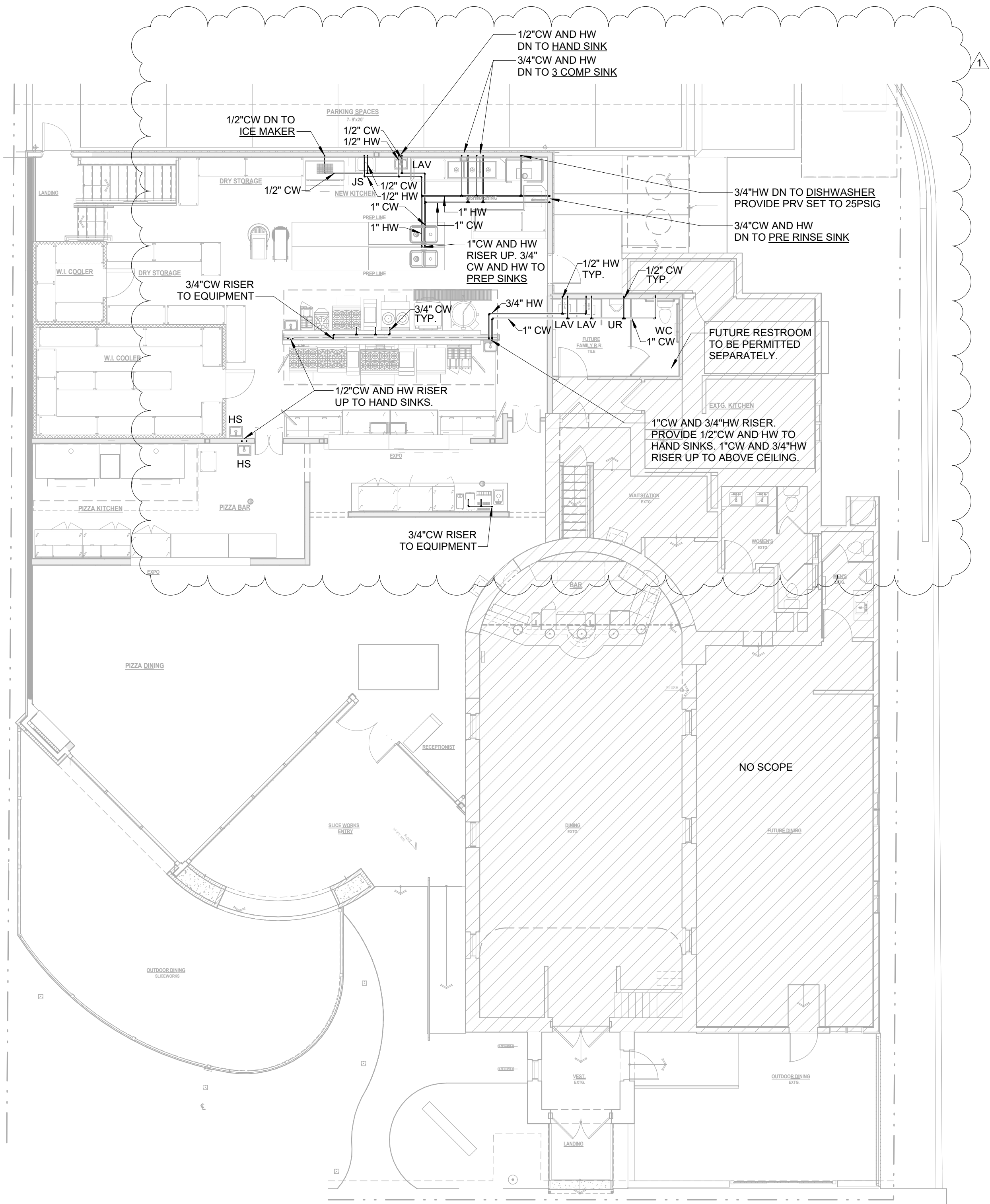


Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104

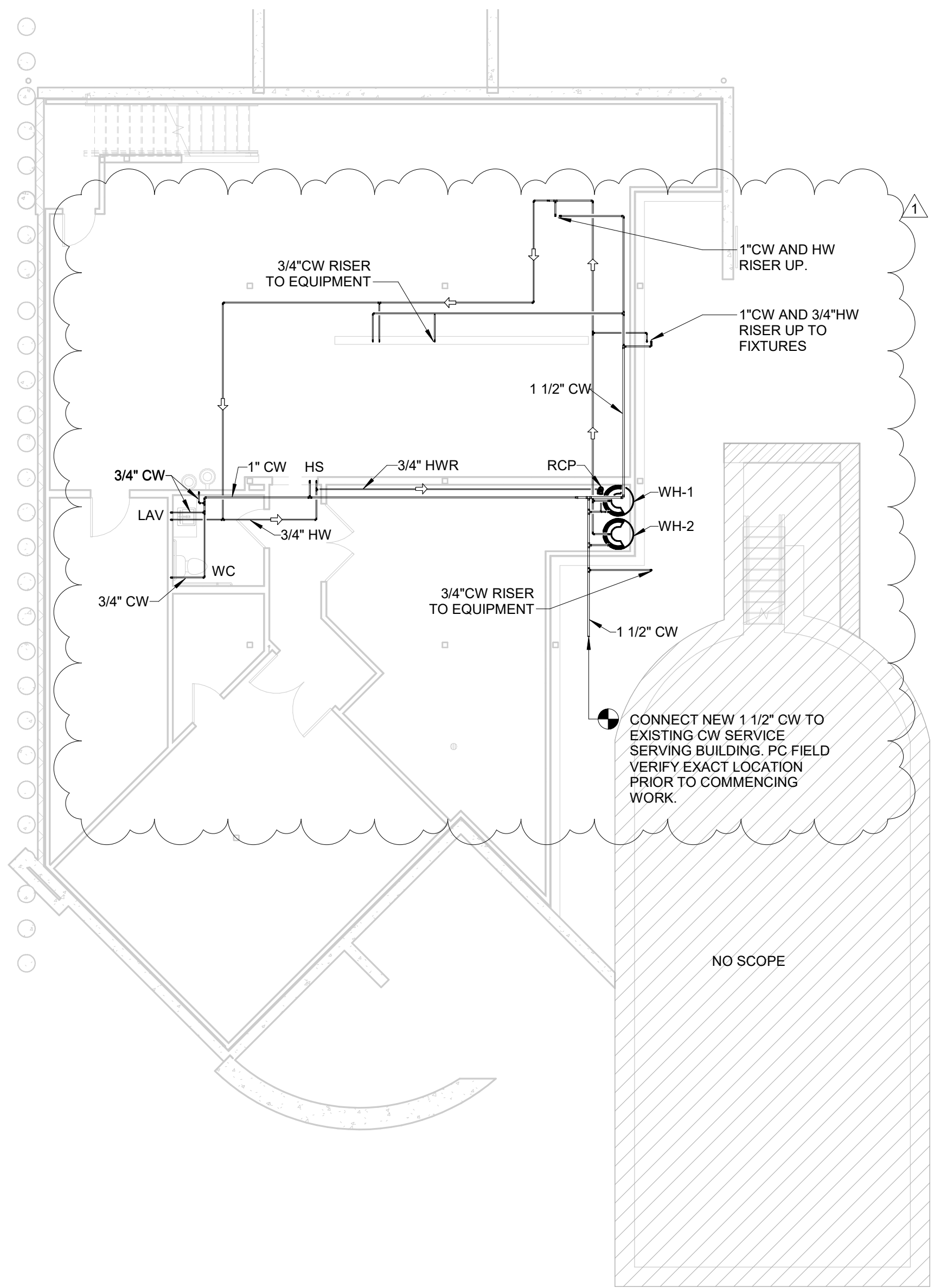


WASTE & VENT PLAN

P1.1



① DOMESTIC WATER SUPPLY PLAN - MAIN FLOOR
1/8" = 1'-0"



② WATER SUPPLY PLAN - LOWER FLOOR
1/8" = 1'-0"



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

REVISION	REMARKS	BY	DATE
1	1ST REVIEW	DM	08/02/2023

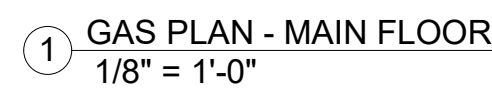
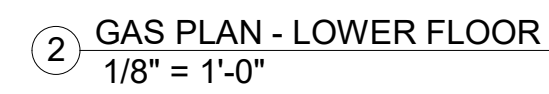


Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:	
DOMESTIC WATER SUPPLY PLAN	
Author	Checker
08/02/2023	ARCH:
SCALE: 1/8" = 1'-0"	
SHEET NUMBER	

P1.2

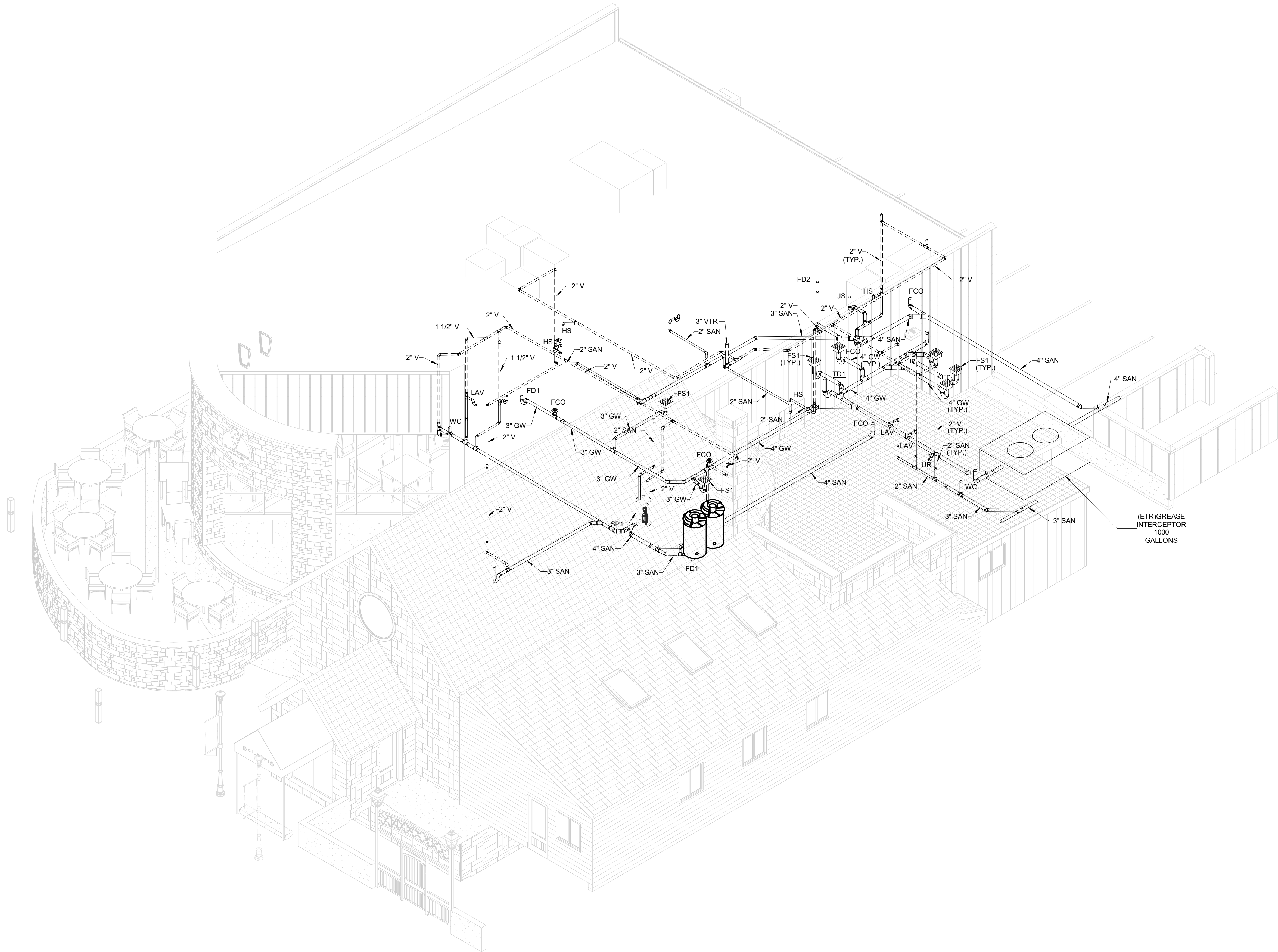


Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



GAS MAIN FLOOR PLAN

P2.1



① WASTE & VENT ISOMETRIC PLAN



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

PROJECT NAME:
ADDRESS:

Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:

**WASTE & VENT
ISOMETRIC PLAN**

DESIGNER:

Scott Baker

ARCHITECT:

Tom Eaton

DATE:

08/02/2023

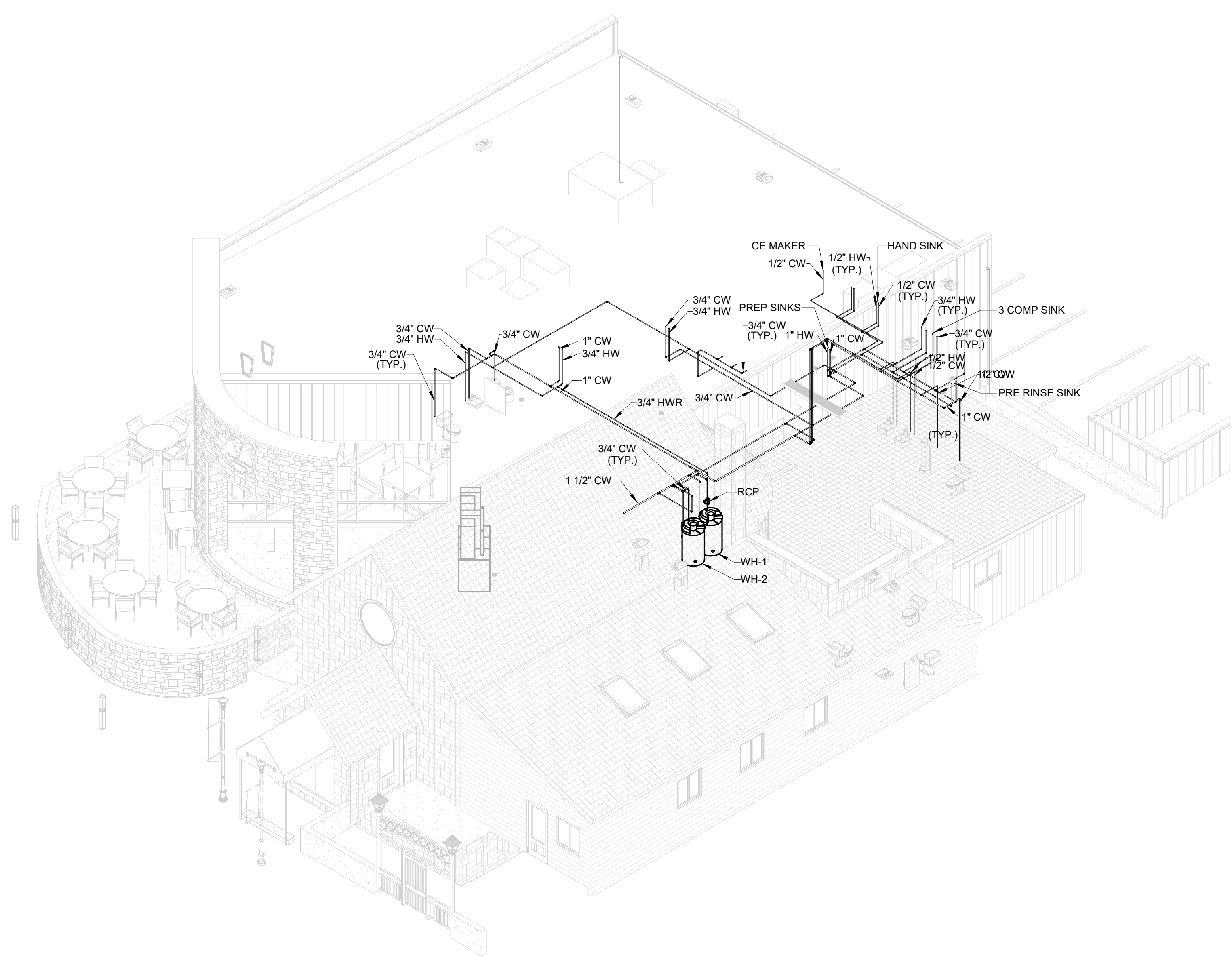
SCALE:

SHEET NUMBER:

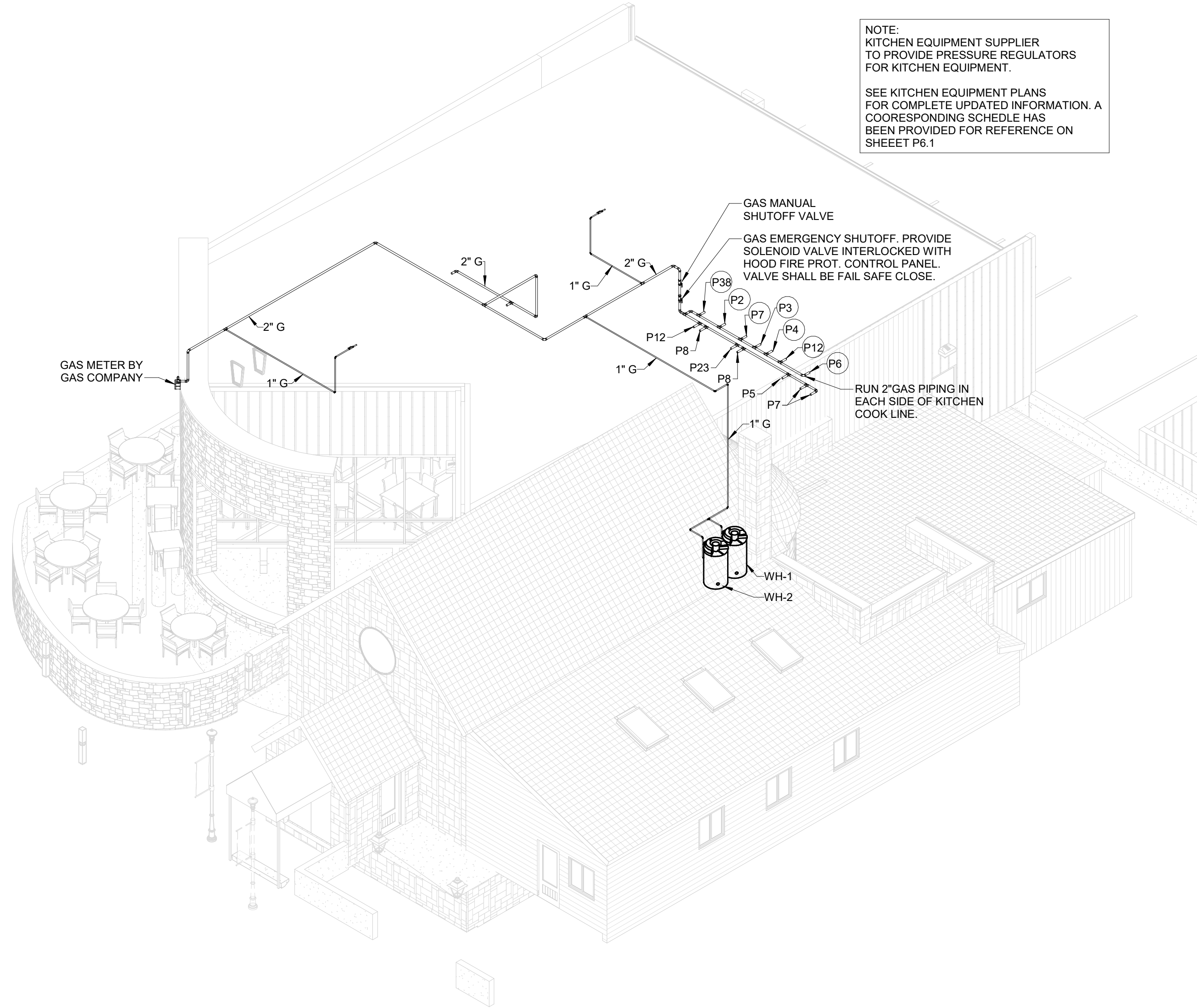
P3.1

REVISION	REMARKS	BY	DATE
1	1ST REVIEW	DM	08/02/2023





1 DOMESTIC WATER SUPPLY ISOMETRIC PLAN



2 GAS ISOMETRIC PLAN

NOTE:
KITCHEN EQUIPMENT SUPPLIER
TO PROVIDE PRESSURE REGULATORS
FOR KITCHEN EQUIPMENT.

SEE KITCHEN EQUIPMENT PLANS
FOR COMPLETE UPDATED INFORMATION. A
COORESPONDING SCHEDLE HAS
BEEN PROVIDED FOR REFERENCE ON
SHEET P6.1

GAS MANUAL
SHUTOFF VALVE

GAS EMERGENCY SHUTOFF. PROVIDE
SOLENOID VALVE INTERLOCKED WITH
HOOD FIRE PROT. CONTROL PANEL.
VALVE SHALL BE FAIL SAFE CLOSE.

RUN 2" GAS PIPING IN
EACH SIDE OF KITCHEN
COOK LINE.



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



DOMESTIC WATER
SUPPLY AND GAS
ISOMETRIC PLAN

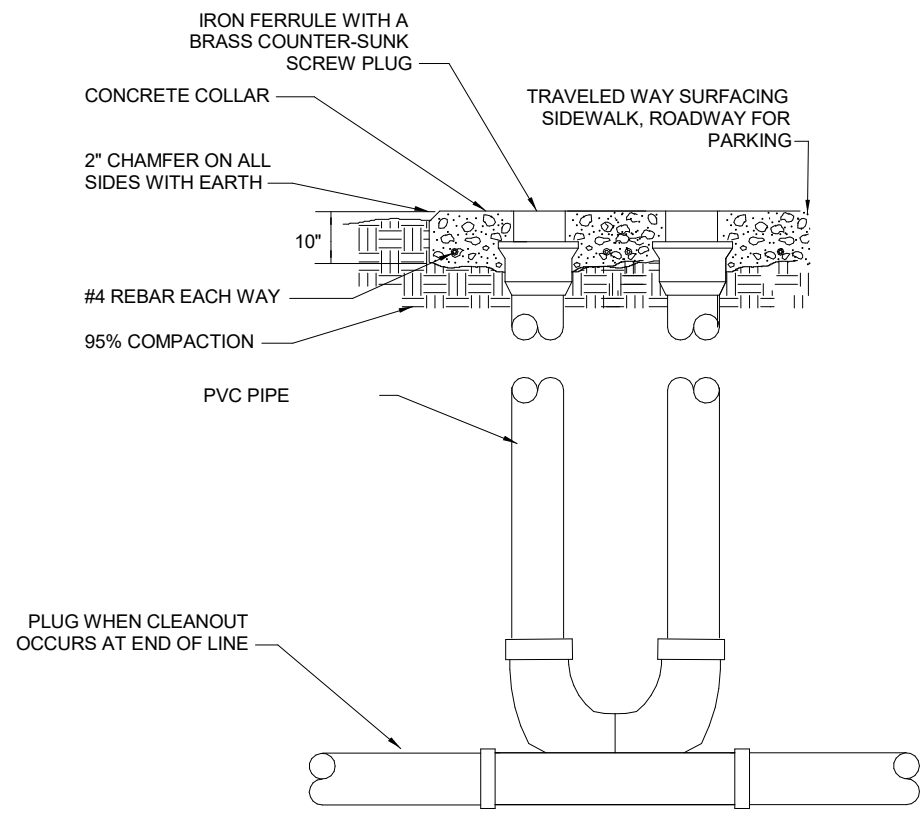
Scott Baker Tom Eaton
08/02/2023

SHEET NUMBER

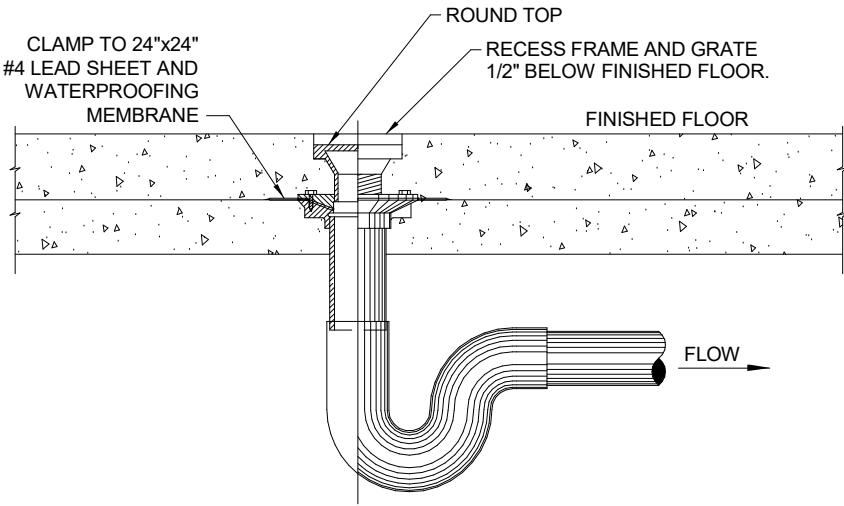
P3.2



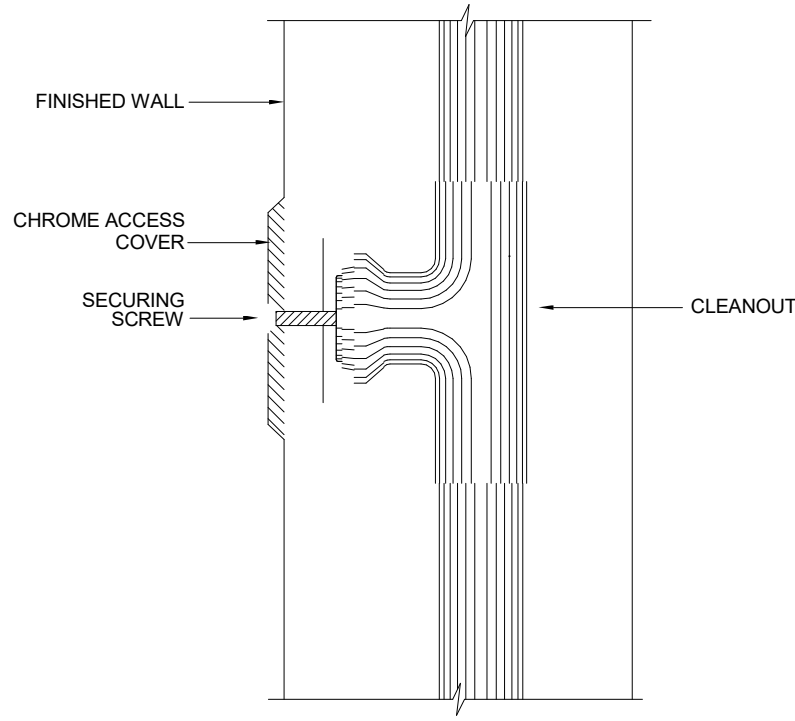
1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587



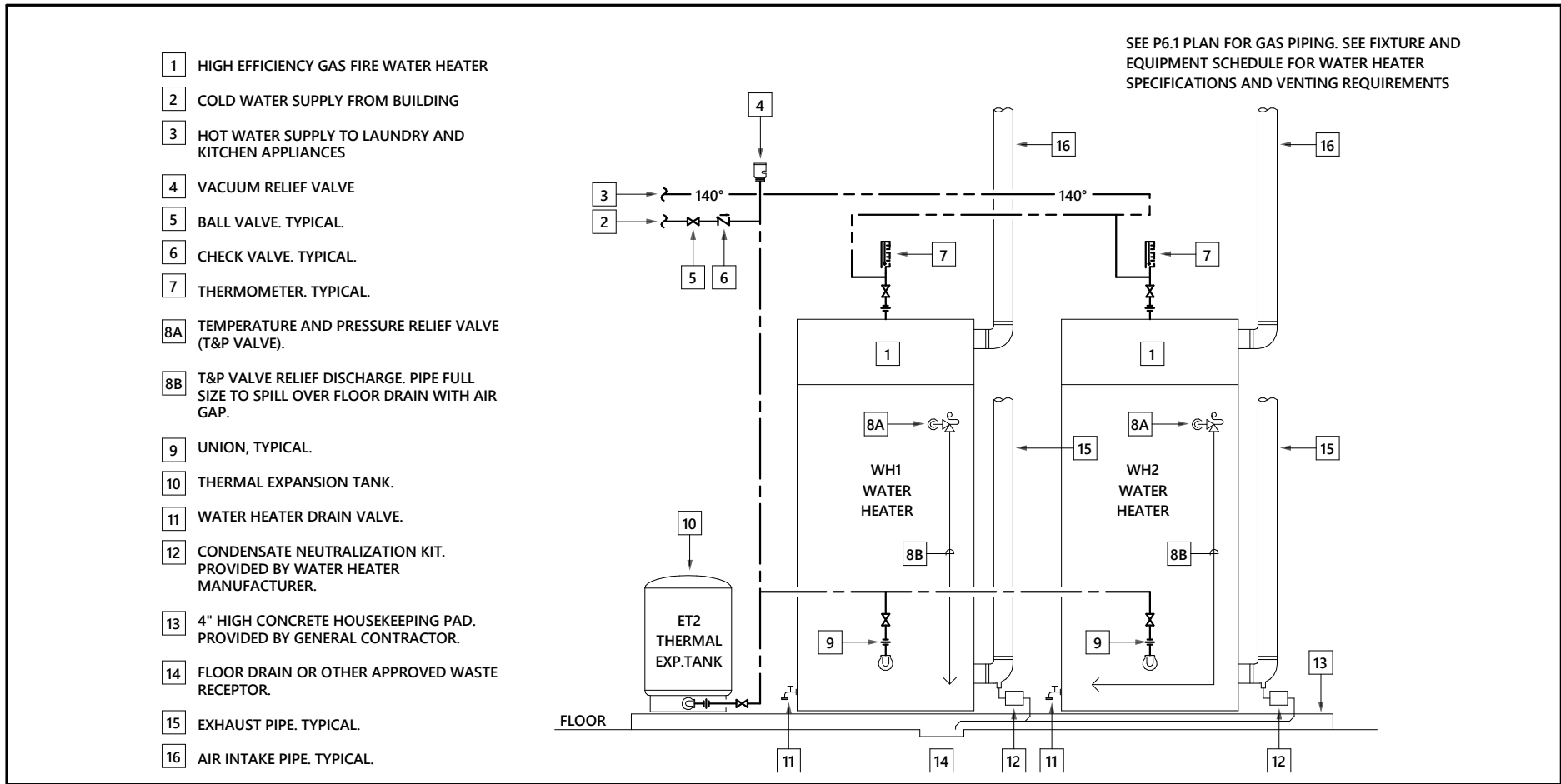
1 DOUBLE CLEANOUT DETAIL
NOT TO SCALE



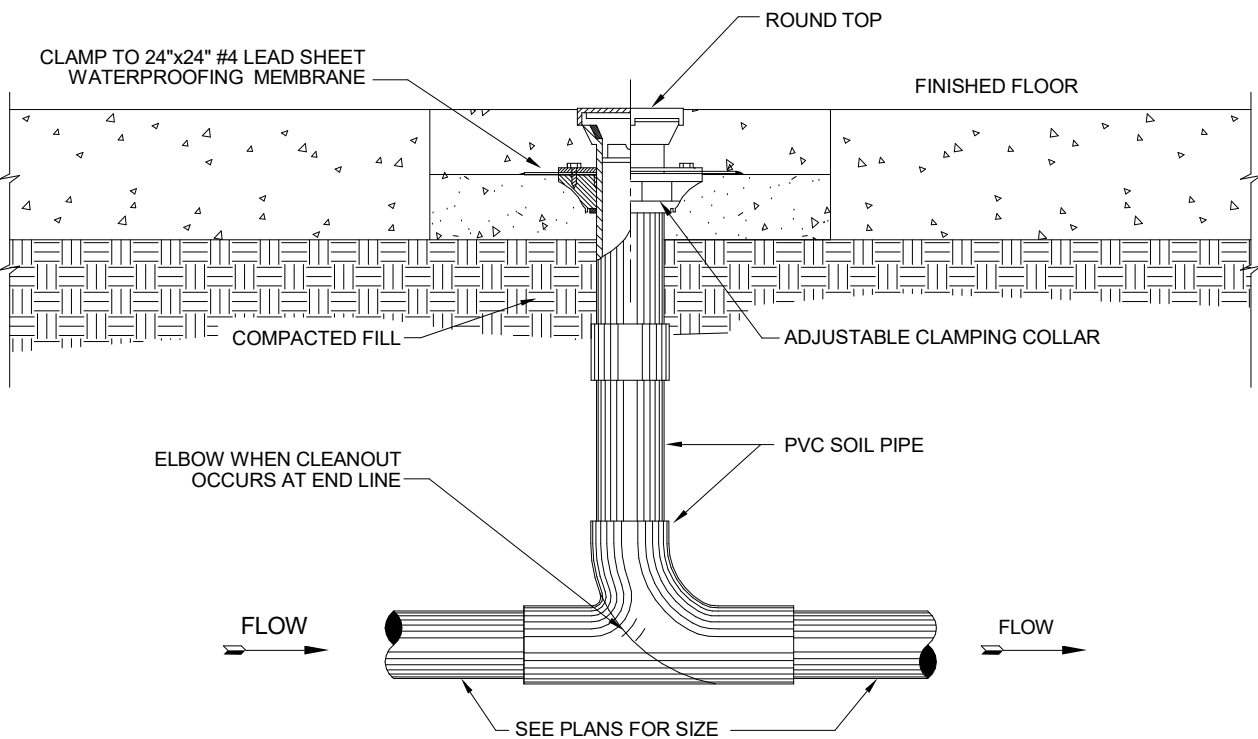
2 FLOOR DRAIN DETAIL
NOT TO SCALE



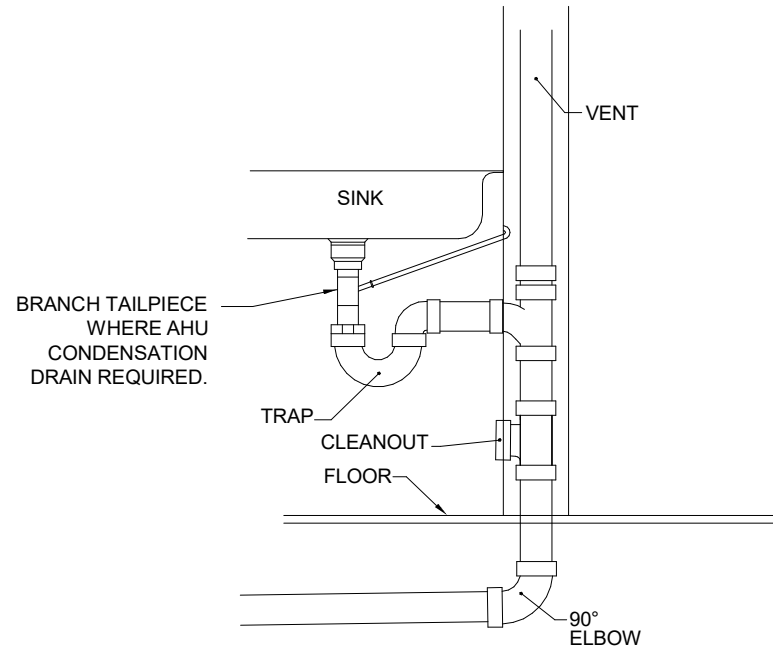
3 WALL CLEANOUT DETAIL
NOT TO SCALE



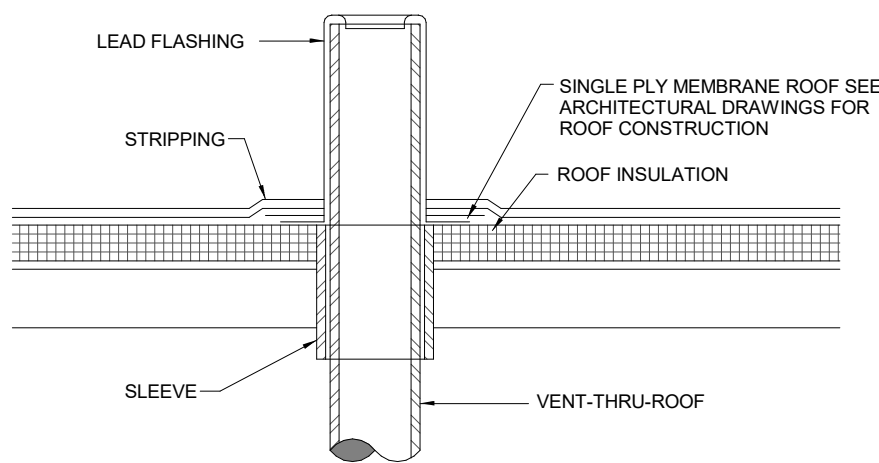
4 GAS FIRED WATER HEATER PIPING SCHEMATIC - 2 HEATER SYSTEM
NOT TO SCALE



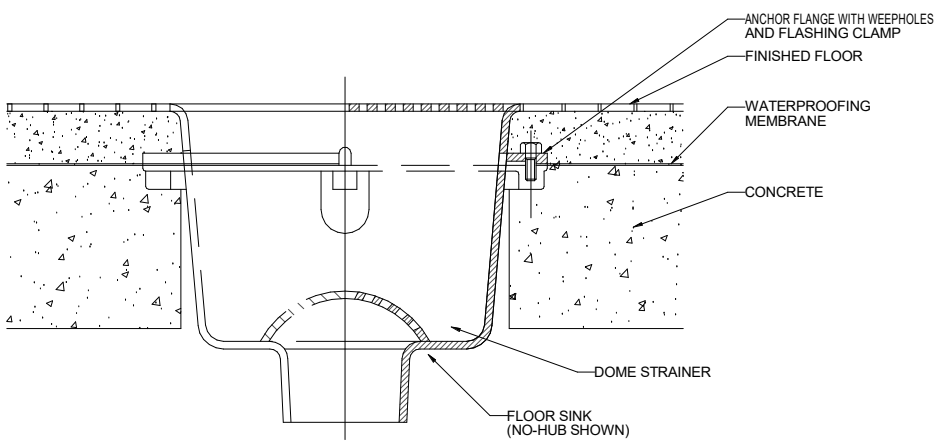
5 FLOOR CLEANOUT DETAIL
NOT TO SCALE



6 STANDARD PIPING DIAGRAM
NOT TO SCALE



7 VENT THRU ROOF DETAIL
NOT TO SCALE



8 FLOOR SINK DETAIL
NOT TO SCALE



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:

PLUMBING DETAILS

DESIGNER:

Scott Baker

ARCHITECT:

Tom Eaton

DATE:

08/02/2023

SCALE:

3/32" = 1'-0"

SHEET NUMBER:

P5.1



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587

PLUMBING DRAIN AND CLEANOUT SCHEDULE							
DESIGNATION	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	CONNECTION SCHEDULE			
				WASTE	VENT	CW	HW
<u>WC</u>	AMERICAN STANDARD	"MADERA" 3043.102	17" HIGH VITREOUS CHINA WATER CLOSET W/ ELONGATED BOWL (ADA) FLUSH VALVE - SLOAN NO. 111 SEAT - (NO LID) - CHURCH MODEL 9500-SSC LOW WATER CONSUMPTION (1.6 GALLONS PER FLUSH) LOCATE FLUSH CONTROL ON WIDE SIDE OF STALL	3"	2"	1"	--
<u>LAV</u>	AMERICAN STANDARD	"LUCERNE" 0355.012	VITREOUS CHINA WALL-HUNG LAVATORY (ADA) FAUCET - SPEAKMAN NO. SC-3075-BOCA/FLO W/ 4" LEVER HANDLES TRAP - 1 1/4" CAST BRASS WITH C.O. PLUG SUPPLY - 3/8" ANGLE-TYPE WITH STOPS PROVIDE OFFSET TAILPIECE INSULATE TRAP OUTLET & HW SUPPLY TO MEET A.D.A. PROVIDE CASH ACME HG135 POINT OF USE MIXING VALVE. SET TEMP TO 105°F	2"	1 1/4"	1/2"	1/2"
<u>EW</u> C	ELKAY	EZSTL8C	ELECTRIC WATER COOLER W/DUAL SPLIT LEVEL BASINS (BARRIER FREE) 8.0 GPH CAPACITY, 4.5 F.L.A., 120-1-60.	2"	1 1/4"	1/2"	--
<u>FD1</u>	ZURN	Z-415 W/ TYPE "E" STRAINER	FLOOR DRAIN W/ 5" NICKALOY STRAINER TOP SEE FLOOR PLANS FOR DRAIN SIZES. PROVIDE AUXILLARY INLET FITTING FOR TRAP PRIMER CONNECTION PROVIDE MIFAB "MI-GUARD" TRAP GUARD DEVICE IN LIEU OF TRAP PRIMER	--	--	--	--
<u>FD2</u>	ZURN	Z-415 W/ TYPE "I" STRAINER	FLOOR DRAIN W/ 5" NICKALOY STRAINER TOP W/ FUNNEL SEE FLOOR PLANS FOR DRAIN SIZES. PROVIDE AUXILLARY INLET FITTING FOR TRAP PRIMER CONNECTION PROVIDE MIFAB "MI-GUARD" TRAP GUARD DEVICE IN LIEU OF TRAP PRIMER	--	--	--	--
<u>FS1</u>	ZURN	Z-1750	STAINLESS STEEL FLOOR SINK, 12"X12"X6", PROVIDE FULL SIZE SS GRATE SEE FLOOR PLANS FOR DRAIN SIZES.	--	--	--	--
<u>TD1</u>	600FT1254SS	REGENCY	STAINLESS STEEL FLOOR TROUGH, REMOVEABLE STRAINER. PC SHALL COORDINATE INSTALLATION OF DRAIN WITH STRUCTURAL SLAB AND COMPONENTS.	--	--	--	--
WCO	ZURN	Z-1446	WALL CLEANOUT - PROVIDE SCREW COVER MATCH SIZE OF PIPE.	--	--	--	--
FCO	ZURN	Z-1400	FLOOR CLEANOUT - PROVIDE SCREW COVER MATCH SIZE OF PIPE.	--	--	--	--
YCO	ZURN	Z-1402	YARD CLEANOUT - PROVIDE SCREW COVER MATCH SIZE OF PIPE. PROVIDE 18"X18"X6" CONCRETE PAD	--	--	--	--
<u>WH</u>	A.O. SMITH	BTH-199	DIRECT VENT GAS WATER HEATER INPUT - 199,000 BTH EFFICIENCY - .94% RECOVERY - 223 GAL/HR @ 100° F	--	--	1 11/4"	1 1/4"
<u>SP1</u>	ZOELLER	910-0024	SIMPLEX EJECTOR BASIN PACKAGE, POLYETHYLENE BASIN, PUMP, CHECK, FLOATS, ETC. ALARM: APAK Z CONTROL INDOOR ALARM 1/2HP, 115 VOLTS, 9.4 FULL LOAD AMPS	--	--	2"	2"
<u>GP</u>	TACO	009	DOMESTIC HOT WATER RECIRCULATION PUMP 11 GPM AT 1 FT. HD. 1/8 HP, 115 VOLTS, 1.4 FULL LOAD AMPS	--	--	--	3/4"

REVISION	DATE	BY	REMARKS
	08/02/2023	DM	
1			1ST REVIEW



Scileppis Remodel
210 THIRD STREET
CASTLE ROCK, COLORADO 80104



SHEET NAME:	
PLUMBING SCHEDULE	
DESIGNED BY	SCOTT BAKER
DATE	08/02/2023
SCALE	1 : 30
SHEET NUMBER	

P6.1



1920 13th STREET, SUITE B1
BOULDER, CO80302
720 742-1587