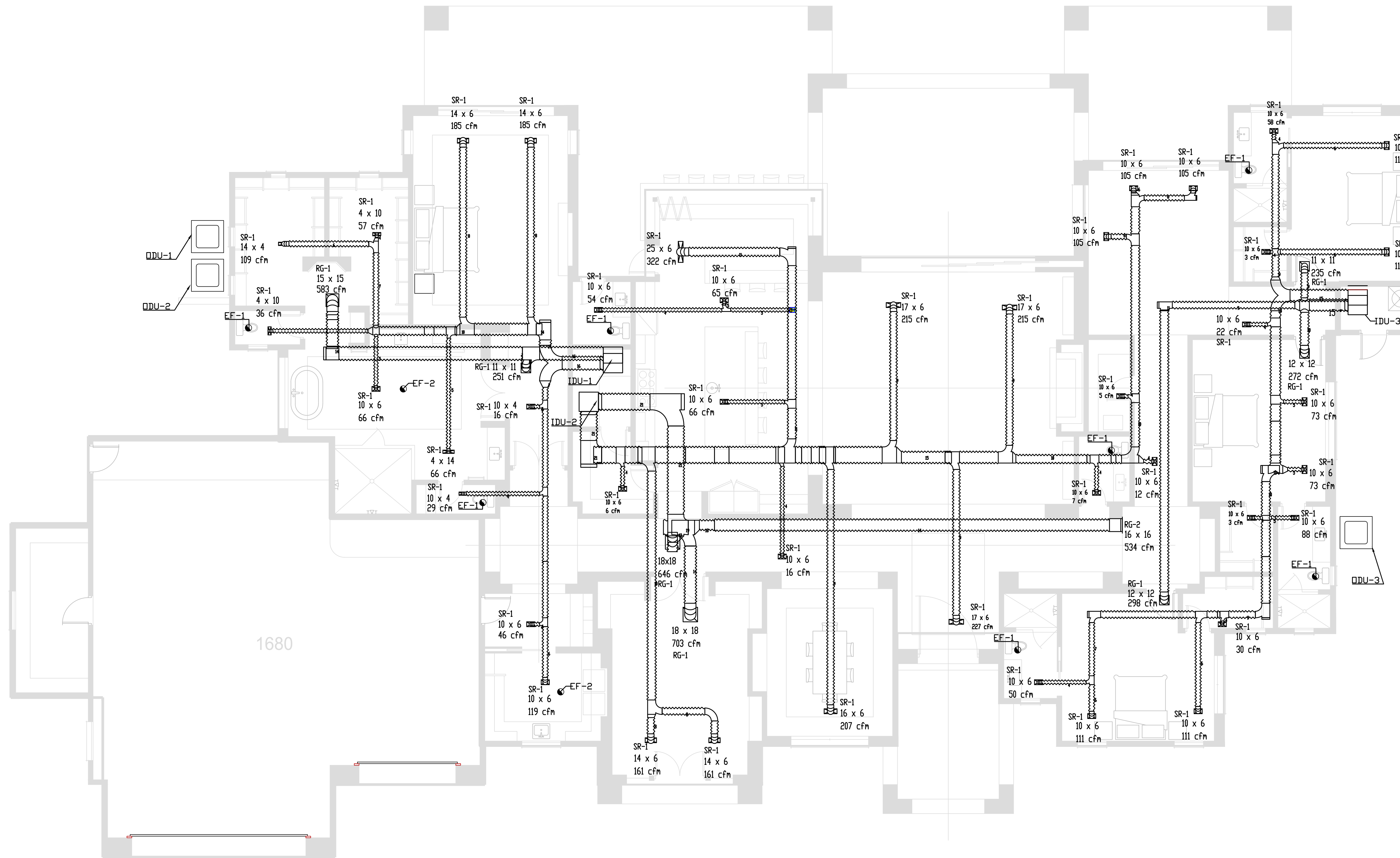


**GENERAL MECHANICAL NOTES:**

1. PROVIDE AND INSTALL ALL DUCTED INDOOR UNITS WITH FILTER RACK PER MANUFACTURER RECOMMENDATIONS. SEAL ALL OPENINGS IN RETURN AIR PLENUM AIR TIGHT. INSTALL FLEXIBLE DUCT CONNECTIONS AT SUPPLY AND RETURN DUCT CONNECTIONS. ENSURE CLEARANCES PER MANUFACTURER'S DIRECTIONS. SEE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS. COORDINATE VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT. SEE DETAIL AND SCHEDULE ON SHEETS M1.1. AIR HANDLER SHALL HAVE MANUFACTURER'S DESIGNER FOR AIR LEAKAGE OF NO MORE THAN 2% OF AIR FLOW WHEN TESTED TO ASHREA 193.
2. PROVIDE AND INSTALL CEILING EXHAUST FAN WITH DECORATIVE EXHAUST GRILL AND BACKDRAFT DAMPER. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. EXTEND EXHAUST DUCT THRU ROOF TO FACTORY FABRICATED ROOF CAP OR EXTERIOR WALL AT LEAST 10'-0" HORIZONTALLY FROM ANY/ALL FRESH AIR OPENINGS/WINDOWS.
3. EXTEND 4" DRYER VENT FROM APPLIANCE THRU SIDE WALL AND TERMINATE AT FACTORY WALL CAP. PROVIDE WITH A CLEANOUT IN THE VERTICAL DUCT AND SEAL WALL PENETRATION WEATHER TIGHT. THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE 35 FEET FROM THE CONNECTION TO THE FLEXIBLE TRACTION DUCT FROM THE DRYER TO THE OUTLET TERMINAL ( WALL CAP WITH BACKDRAFT DAMPER OR NON-SCREENED T-TOP). WHERE FITTINGS ARE USED, THE MAXIMUM DRYER DUCT LENGTH SHALL BE REDUCED AS FOLLOWS: 2.5 FEET FOR EVERY 45' ELBOW, AND 5 FEET FOR EVERY 90' ELBOW. DUCTS SHALL BE MECHANICALLY FASTENED. SCREWS OR SIMILAR FASTENERS SHALL NOT PROTRUDE MORE THAN 1/8" INTO THE INSIDE OF THE DUCT. 2" OVER-SIZED NAIL PLATES.
4. TERMINATING TO CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 PVC. PVC CONDENSATE LINES MUST BE INSTALLED WITH 1/8" PER FOOT MINIMUM FALL OVER ENTIRE LENGTH OF LINE, RUN DRAIN LINE FULL SIZE TO NEAREST PLANTER AREA, FLOOR DRAIN, OR P-TRAP. INSTALL LINE TRAPS AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE SPECIAL REQUIREMENTS FOR DRAIN AND WATER THAT MAY BE REQUIRED WITH SPECIAL EQUIPMENT WITH PLUMBING CONTRACTOR PRIOR TO COMPLETION OF ROUGH-IN. SECONDARY CONDENSATE DRAINS SHALL DISCHARGE TO A CONSPICUOUS POINT TO ALERT OCCUPANTS OF STOPPAGE.
5. EACH AIR HANDLER MUST HAVE FRESH AIR VENTILATION SYSTEM INCLUDE CONTROLLER UNIT THAT OPERATES A FRESH AIR INTAKE DAMPER TO EFFICIENCY MEETS TABLE M1507.3.3(1).
6. PROVIDE AND INSTALL FULL SIZED KITCHEN HOOD EXHAUST DUCT, ROUTE THROUGH ROOF WITH NO OFFSETS AND TERMINATE AT ROOF CAP. PROVIDE BACKDRAFT DAMPER UNLESS LISTED OTHERWISE. EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM AS SPECIFIED ON SHEET M5.
7. EACH UNIT MUST HAVE PROGRAMMABLE THERMOSTAT MOUNTED 54" ABOVE FLOOR. VERIFY FINAL LOCATION WITH ARCHITECT.
8. PROVIDE 3/4TH PLYWOOD PLATFORM FROM ATTIC ACCESS TO SERVICE AIR HANDLERS PER M1305.1.3 TABLE R503.2.1.1(1)
9. ATTIC CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN OPENING AND PASSAGEWAY LARGE ENOUGH TO REMOVE THE LARGEST APPLIANCE NOT MORE THAN 20' IN LENGTH, A LEVEL SERVICE SPACE AT LEAST 30" DEEP AND 30" WIDE SHALL BE PRESENT ALONG THE ACCESS SIDE OF APPLIANCE.
10. OUTDOOR INTAKE AND EXHAUST SHALL HAVE EITHER GRAVITY OR AUTOMATIC DAMPERS THAT CLOSE WHEN THE SYSTEM IS NOT RUNNING PER IECC SECTION 403.6



**MECHANICAL PLAN**

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

SAMPLE

SAMPLE RESIDENCE  
LOT 10,  
Paradise Valley, Arizona, 85253

DRAWN BY: Oby

REVISIONS:

1 11/1/2020

2

3

MECHANICAL PLAN

**M1.0**

Printed: 11/24/2020

**MECHANICAL SPECIFICATIONS:**

**DRAWINGS AND DATA**

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE OF WORK AND TO INDICATE GENERAL ARRANGEMENT OF EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET OF FITTINGS OR EVERY STRUCTURAL DIFFICULTY THAT MAY BE ENCOUNTERED DURING INSTALLATION OF THE WORK. LOCATIONS OF ALL ITEMS NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. EXACT LOCATIONS NECESSARY TO SECURE BEST CONDITIONS AND RESULTS MUST BE DETERMINED AT PROJECT AND SHALL HAVE APPROVAL OF ARCHITECT BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS. IF SO DIRECTED BY ARCHITECT, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK. INCLUDE MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND OPERATION OF SYSTEM OR PIECE OF EQUIPMENT.

**CODES**

INCLUDE IN WORK, WITHOUT EXTRA COST TO OWNER, LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS) REQUIRED TO COMPLY WITH APPLICABLE LAWS, ORDINANCES, STANDARDS AND STATUTES TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH DRAWINGS OR SPECIFICATIONS. FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS AND CODES ARE MINIMUM REQUIREMENTS:

- APPLICABLE CITY, COUNTY, AND STATE MECHANICAL, ELECTRICAL, GAS, PLUMBING, HEALTH AND SANITARY CODES, LAWS AND ORDINANCES;
- UNDERWRITER'S LABORATORIES, INC., STANDARDS;
- 2018 INTERNATIONAL RESIDENTIAL CODE WITH LOCAL AMENDMENTS.
- 2018 INTERNATIONAL PLUMBING CODE WITH STATE AMENDMENTS.
- 2018 INTERNATIONAL MECHANICAL CODE WITH STATE AMENDMENTS.
- 2017 NEC
- 2018 INTERNATIONAL FUEL GAS CODE WITH STATE AMENDMENTS.

**GENERAL**

THE WORK INCLUDE UNDER THIS SECTION CONSISTS OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT TO PROVIDE A COMPLETE FUNCTIONING HVAC SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. THE SYSTEM SHALL INCLUDE REQUIRED UNITS, THERMOSTATS, DUCTWORK, FANS, CONDENSATE DRAIN, REFRIGERANT PIPING, INSULATION, CLEAN FILTERS, FLUES AND ALL APPURTENANCES AS REQUIRED. WHERE MORE THAN ONE UNIT IS REQUIRED OF ANY ITEM, FURNISHED BY THE SAME MANUFACTURER, EXCEPT WHERE SPECIFIED OTHERWISE. INSTALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSTRUCT THE OWNER AS TO PROPER OPERATION AND CARE OF THE EQUIPMENT AFTER START-UP AND CHECK-OUT. PROVIDE THE OWNER WITH ALL WARRANTY AND OPERATING INSTRUCTIONS AT THE COMPLETION OF THE PROJECT

**THERMOSTAT AND CONTROLS**

FURNISH AND INSTALL PROGRAMMABLE THERMOSTAT AS REQUIRED BY THE EQUIPMENT MANUFACTURER OR AS SPECIFIED ON THE EQUIPMENT SCHEDULES. FIELD VERIFY EXACT LOCATION AND MOUNTING HEIGHT FOR CONTROLS WITH ARCHITECT AND GENERAL CONTRACTOR

**VENTILATION**

MECHANICAL AND GRAVITY OUTDOOR AIR INTAKE OPENING SHALL BE LOCATED A MINIMUM OF 10' FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT, SUCH AS VENTS, CHIMNEYS, PLUMBING VENTS, STREETS, ALLEYS, PARKING LOTS, AND LOADING DOCKS, EXCEPT AS OTHERWISE SPECIFIED IN THIS CODE.

WHERE SOURCE OF CONTAMINANT IS LOCATED WITHIN 10' OF AN INTAKE OPENING, SUCH OPENING SHALL BE LOCATED A MINIMUM 3' BELOW THE CONTAMINANT SOURCE. EXHAUST FROM DWELLING UNIT TOILETS ROOMS, BATHROOMS, AND KITCHENS SHALL NOT BE CONSIDERED AS HAZARDOUS OR NOXIOUS.

INTAKE OPENINGS FOR OUTSIDE AIR AND OUTLET FOR AIR EXHAUST PROTECTED BY 1/4" TO 1/2" SCREEN.

**GRILLES AND DIFFUSERS**

ACCEPTABLE MANUFACTURERS ARE TITUS, ANEMOSTST, KRUEGER, CARNES, BARBERCOMAN, AGITAIR, E.A.P.C., METAL-AIROR HART AND COOLEY. CONFORM FINISHED AND COLOR WITH ARCHITECT. ALL GRILLES AND DIFFUSERS SHALL BE SUBMITTED TO ARCHITECT FOR FINAL APPROVAL.

**EXHAUST FANS**

FURNISH AND INSTALL EXHAUST FANS AS REQUIRED BY ARCHITECTURAL DRAWINGS. PROVIDE FANS WITH FACTORY ROOF OR WALL CAPS AS SHOWN. PROVIDE ALL EXHAUST FANS WITH BACKDRAFT DUMPER. MAXIMUM NOISE RATING 0.8 SONES. ACCEPTABLE MANUFACTURERS "BROAN", "MUTONE" OR "GREENHECK" OR AS APPROVED BY ARCHITECT. WHERE THE EXHAUST DUCT IS CONCEALED WITHIN THE BUILDING CONSTRUCTION, THE EQUIVALENT LENGTH OF THE EXHAUST SHALL BE IDENTIFIED ON A PERMANENT LABEL OR TAG. THE LABEL OR TAG SHALL BE LOCATED WITHIN 6 FEET OF THE EXHAUST DUCT CONNECTION.

**CONDENSATE AND FURNACE DRAIN LINES**

CONDENSATE AND FURNACE DRAIN PIPING SHALL BE SCHEDULE 40 PVC. RUN DRAIN LINE FULL SIZE TO NEAREST PLANTER AREA, FLOOR DRAIN, OR P-TRAP. INSTALL TRAPS I LINES AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE SPECIAL REQUIREMENTS FOR DRAIN AND WATER THAT MAY BE REQUIRED WITH SPECIAL EQUIPMENT WITH PLUMBING CONTRACTOR PRIOR TO COMPLETION OF ROUGH-IN

SECONDARY CONDENSATE DRAINS SHALL DISCHARGE TO A CONSPICUOUS POINT TO ALERT OCCUPANTS OF STOPPAGE.

**REFRIGERANT PIPING**

ABOVE GROUND, WITHIN BUILDING PIPING SHALL BE TYPE ACR DRAWN-TEMPER COOPER TUBE WITH WROUGHT COOPER UNIONS. PIPING BELOW GROUND SHALL BE TYPE L ANNEALED COOPER TUBING. EXPOSED SUCTION PIPING SHALL HAVE 1-1/2" INSULATION, CONCEALED SUCTION PIPING SHALL HAVE 1" INSULATION. INSULATION SHALL BE "ARMAFLEX" FLEXIBLE ELASOMERIC, OR EQUAL. REFRIGERANT CIRCUIT ACCESS PORT CAPS SHALL BE FITTED WITH LOCKING-TYPE TAMPER RESISTANT CAPS OR OTHERWISE SECURED TO PREVENT UNAUTHORIZED ACCESS. REFRIGERANT SUCTION PIPING SHALL BE INSULATED TO R-4 AND LIQUID LINE TO R-3.

**MAKEUP AIR**

EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM.

WHERE A CLOTHES DRYER IS EXHAUSTING MORE THAN 200 CFM, AN OPENING HAVING AN AREA OF NOT LESS THAN 100 SQUARE INCHES FOR MAKEUP AIR SHALL BE PROVIDED IN THE CLOSET ENCLOSURE, OR MAKEUP AIR SHALL BE PROVIDED WITH OTHER APPROVED MEANS.

**FIBROUS AND FACTORY-MADE DUCTS**

FIBROUS DUCT CONSTRUCTION SHALL CONFORM TO THE SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS OR NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS. FACTORY-MADE DUCTS SHALL BEAR A LISTING AND LABEL INDICATING COMPLIANCE WITH UL 181 AND UL 181A OR UL 181B.

**REGULATIONS, PERMITS & INSPECTIONS**

COMPLY WITH ALL APPLICABLE CODES, RULES AND REGULATIONS. ALL MATERIALS, EQUIPMENT AND WORK MUST CONFORM TO THE INTERNATIONAL RESIDENTIAL CODE. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES. WHEN REQUIRED BY CODE, ALL WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES.

**GUARANTEE**

EACH COMPLETE SYSTEM GUARANTEED BY CONTRACTOR FOR A PERIOD OF ONE YEAR, FROM DATE OF ACCEPTANCE OF WORK BY OWNER IN WRITING, TO BE FREE OF DEFECTS OF MATERIALS AND WORKMANSHIP, AND TO PERFORM SATISFACTORILY UNDER ALL CONDITIONS OF LOAD OR SERVICE. THE GUARANTEE PROVIDES THAT ANY ADDITIONAL CONTROLS, PROTECTIVE DEVICES, OR EQUIPMENT BE PROVIDED AS NECESSARY TO MAKE THE SYSTEM OF EQUIPMENT OPERATE SATISFACTORILY, AND THAT ANY FAULTY MATERIALS OR WORKMANSHIP BE REPLACED OR REPAIRED. LOSS OF REFRIGERANT IS CONSIDERED DEFECT IN WORKMANSHIP AND/OR EQUIPMENT, TO BE CORRECTED AS REQUIRED AT NO EXTRA COST TO THE OWNER.

**2018 IRC M1507 VENTILATION CALCULATIONS**

DWELLING UNIT FLOOR AREA (square feet)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
	Airflow in CFM				
< 1,500	30	45	60	75	90
1,501 - 3,000	45	60	75	90	105
3,001 - 4,500	60	75	90	105	120
4,501 - 6,000	75	90	105	120	135
6,001 - 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

**MAIN HOUSE**

DWELLING TOTAL FLOOR AREA = 5821 SF  
 NUMBER OF BEDROOMS = 4  
 EACH INTAKE SHALL BE BALANCED TO 100 CFM. SINCE PROVIDED AIR EXCEEDS THAT REQUIRED, HOURLY RUNTIME CAN BE REDUCED;  
 VENTILATION HOURLY RUNTIME  
 MECHANICAL VENTILATION REQUIRED (PER TABLE M1507.3.3(1))  
 SYSTEM 1: 1577 SF, 1 BEDROOM IDU 1 = 30 CFM / 100 CFM X 60 MINUTES = 18 MINUTES  
 SYSTEM 2: 3077 SF, 0 BEDROOM IDU 2 = 60 CFM / 100 CFM X 60 MINUTES = 36 MINUTES  
 SYSTEM 3: 1164 SF, 3 BEDROOM IDU 3 = 45 CFM / 100 CFM X 60 MINUTES = 27 MINUTES

**HEATING/COOLING LOAD CALCULATIONS:**

HEATING AND COOLING CALCULATION WERE DETERMINED USING HEATING COOLING LOAD CALCULATION SOFTWARE UTILIZING ACCA MANUAL J 8th EDITION.

EQUIPMENT SIZING				
UNIT	CALC'D COOLING	COOLING PROVIDED	+/- SIZING PERCENTAGE	COMPLY (YES/ND)
SYSTEM-1	1996.4	2120.3	6%	YES
SYSTEM-2	5082.0	5500.0	8%	YES
SYSTEM-3	1682.2	2109.6	25%	YES

**DUCT SIZING:**

SUPPLY AND RETURN DUCTWORK HAS BEEN SIZED AND DESIGNED IN ACCORDANCE WITH ACCA MANUAL D

**DUCT INSULATION:**

SUPPLY AND RETURN DUCTWORK LOCATED IN UNCONDITIONED SPACE OR ATTIC SHALL BE INSULATED TO A MINIMUM R-8. DUCTS LOCATED WITHIN CONDITIONED SPACE (I.E. FLOOR TRUSSES) SHALL BE INSULATED TO A MINIMUM R-6

**HVAC EQUIPMENT:**

**SYSTEM 1: DAIKIN 2 TON 16 SEER, AHRI ref : 8996301**  
**ODU-1:** DZ16SA0241 208/230 V; 1 PH; 60 HZ; MCA = 14.7 AMPS; MOCP = 25 AMPS  
**IDU-1:** DV29PTCB14A, 208/240 V; 1 PH; 60 HZ; MCA = 6.5 AMPS; MOCP = 15 AMPS

**SYSTEM 2: DAIKIN 5 TON 16 SEER, AHRI ref : 8996310**  
**ODU-2:** DZ16SA0601B 208/230 V; 1 PH; 60 HZ; MCA = 37 AMPS; MOCP = 60 AMPS  
**IDU-2:** DV61PTCD14A, 208/240 V; 1 PH; 60 HZ; MCA = 8.6 AMPS; MOCP = 15 AMPS

**SYSTEM 3: DAIKIN 2 TON 16 SEER, AHRI ref : 8996300**

**ODU-3:** DZ16SA0241 208/230 V; 1 PH; 60 HZ; MCA = 14.7 AMPS; MOCP = 25 AMPS  
**IDU-3:** DV25PTCB14A, 208/240 V; 1 PH; 60 HZ; MCA = 4.9 AMPS; MOCP = 15 AMPS

**ENERGY REQUIREMENTS NOTES:**

THE BUILDING SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF SECTION M1507 OR WITH OTHER APPROVED MEANS OF VENTILATION. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN VENTILATION SYSTEMS IS NOT OPERATING (N11103.5)

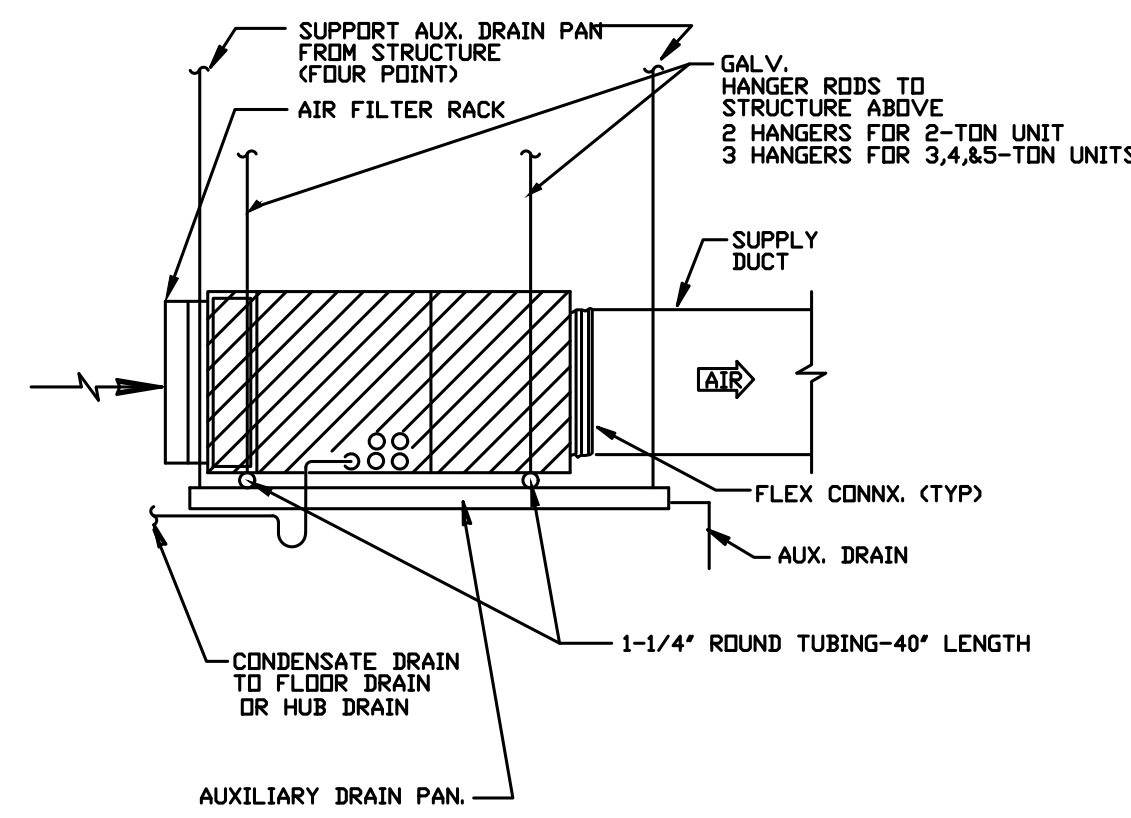
THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGE PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. \*50 PASCAL'S). TESTED SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY, (BPI OR RESNET CERTIFIED). A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE.

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1 PROVIDE DUCT TIGHTNESS TESTING CONDUCTED BY APPROVED THIRD PARTY TESTING AGENCY (BPI Or RESNET CERTIFIED) AND THE SIGNED WRITTEN RESULTS SHALL BE SUBMITTED TO THE CODE OFFICIAL PRIOR TO THE BUILDING FINAL. (N1103.2.2). DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING.

POST-CONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTING AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. (25 PA) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.

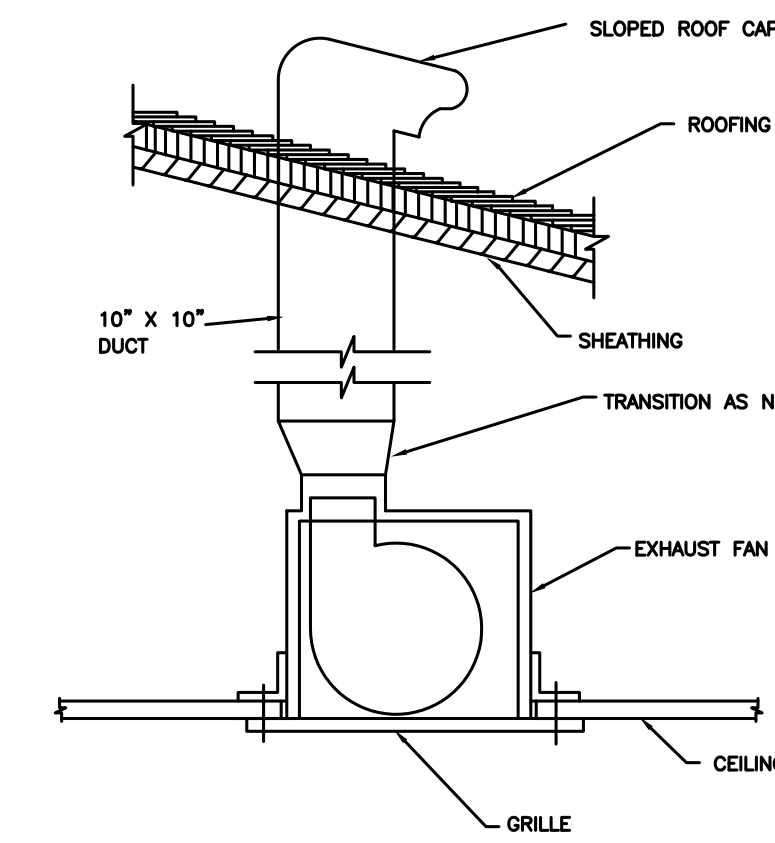
ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. (25 PA) ACROSS THE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLERS ENCLOSURE. ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA.

EXCEPTION: THE TOTAL LEAKAGE TEST IS NOT REQUIRED FOR DUCTS AND AIR HANDLERS LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE



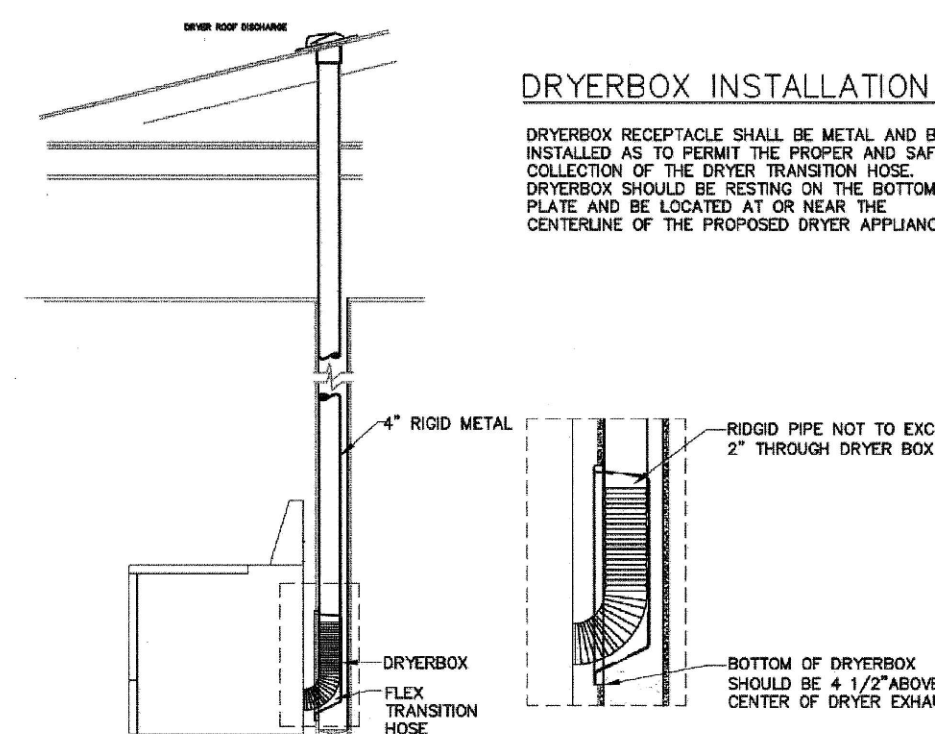
**ATTIC AIR HANDLER INSTALLATION DETAIL**

NOT TO SCALE



**CEILING EXHAUST FAN DETAIL**

NOT TO SCALE

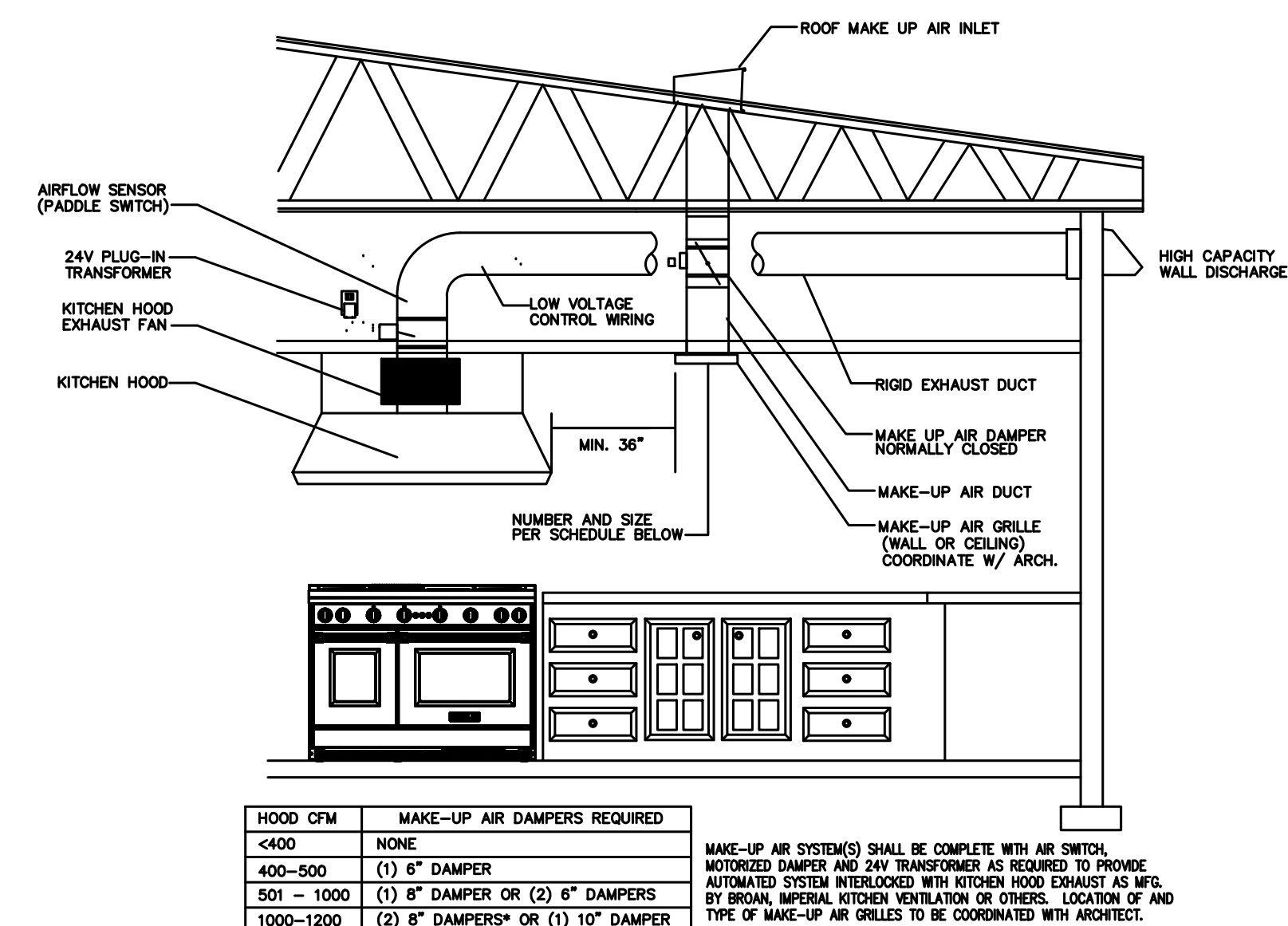


**DRYER BOX DETAIL**

NOT TO SCALE

**DRYER BOX DETAIL**

NOT TO SCALE



**KITCHEN HOOD MAKE-UP AIR DETAIL**

NOT TO SCALE

**EXHAUST FANS:**

**EF-1: PANASONIC MODEL FV-05-11VKS2 VENTILATION FAN, 80 CFM, 0.3 SONES AT 0.10" PS, 120V, 0.06 AMPS (ENERGY STAR RATED)**

**EF-2: PANASONIC MODEL FV-05-11VKS2 VENTILATION FAN, 110 CFM, 0.3 SONES AT 0.10" PS, 120V, 0.06 AMPS (ENERGY STAR RATED)**

**GRILLS AND REGISTER SCHEDULE: HART AND COOLEY OR EQUAL**

NO.	MANUFACTURER	MODEL NO	SIZE	REMARKS
SR-1	HART AND COOLEY	821	AS SHOWN	CEILING DIFFUSER
RG-1	HART AND COOLEY	650	AS SHOWN	CEILING RETURN GRILL
RG-2	HART AND COOLEY	672	AS SHOWN	HIGH WALL RETURN GRILL

**DESIGN CONDITION SCHEDULE**

OUTDOOR DRY BULB TEMPERATURE (°F)	INDOOR DRY BULB TEMPERATURE (°F)	INDOOR WET BULB TEMPERATURE (°F)
108	75	63

SAMPLE

SAMPLE RESIDENCE  
 LOT 10  
 Paradise Valley, Arizona,  
 85253

DRAWN BY: Oby

REVISIONS:

- 1 11/1/2020
- 2
- 3

MECHANICAL PLAN

**M1.1**