ABBREVIATIONS

Ø	ROUND
(F)	FUTURE
A/C	ABOVE CEILING
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
AC	AIR CONDITIONING
ACC	AIR COOLED CONDENSER
ACCH	AIR COOLED CHILLER
ACF	AIR CURTAIN FAN
AD	ACCESS DOOR
ADD	ADDENDUM
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AH	AIR HANDLER
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AP	ACCESS PANEL
ARCH	ARCHITECT/ARCHITECTURAL
AS	AIR SEPARATOR
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACKDRAFT DAMPER
BF	BOOSTER FAN
BFF	BELOW FINISHED FLOOR
BLW	BELOW
BOD	BOTTOM OF DUCT
BPD	BYPASS DAMPER
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
C	AIR COMPRESSOR
CAP	CAPACITY
CD	CONDENSATE DRAIN
CEH	CEILING HEATER
CF	CIRCULATION FAN
CFM	CUBIC- FEET PER MINUTE
CH	WATER-COOLED CHILLER
CH	CHILLER
CHP	CHILLED WATER PUMP
CLG	COOLING
CO	CLEAN OUT
COP	COEFFICIENT OF PERFORMANCE
CRD	CEILING RADIATION DAMPER
CRP	CONDENSATE RECEIVER & PUMP
CT	COOLING TOWER
CU	AIR COOLED CONDENSING UNIT
CUH	CABINET UNIT HEATER
CW	COLD WATER
CWP	CONDENSER WATER PUMP
D	DEGREE
DAD	DUCT ACCESS DOOR
DB	DRY BULB
DE	DISHWASHER EXHAUST
DIA	DIAMETER
DN	DOWN
DP	DEW POINT
DS	DUCT SILENCER
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBH	ELECTRIC BASEBOARD HEATER
EF	EXHAUST FAN
ELEC	ELECTRICAL
EPF	ELEVATOR PRESSURIZATION FAN
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WALL HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
EXIST	EXISTING
F	DEGREES FAHRENHEIT
FA	FREE AREA
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FL	FLOOR
FO	FUEL OIL
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOT	FLAT ON TOP
FOV	FUEL OIL VENT
FPM	FEET PER MINUTE
FSCP	FIREFIGHTERS SMOKE CONTROL PANEL
FSD	COMBINATION FIRE/SMOKE DAMPER
FT HD	H2O FEET OF WATER
FT	FOOT/FEET
GAL	GALLON
GC	GENERAL CONTRACTOR
GE	GREASE EXHAUST
GEF	GARAGE EXHAUST FAN
GPM	GALLONS PER MINUTE
GR	GRILLE (AIR DEVICE WITHOUT A BALANCING DAMPER)
GUH	GAS FIRED UNIT HEATER
GWP	GLYCOL WATER PUMP
H	HUMIDISTAT
HEX	HEAT EXCHANGER
HP	HEAT PUMP
HP	HORSE POWER
HSPF	HEATING SEASONAL PERF
HTG	HEATING
HV	HEATING AND VENTILATING UNIT
HVLS	HIGH VOLUME LOW SPEED
HW	HOT WATER
HWP	HOT WATER PUMP
ID	INSIDE DIAMETER
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IH	INTAKE HOOD
IN	INCH
IRH	INFRARED HEATER
KEF	KITCHEN HOOD EXHAUST FAN
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LB/HR	POUNDS PER HOUR
LP	LOW PRESSURE
LPG	LIQUEFIED PETROLEUM GAS
LSW	LOW SIDEWALL (12" AFF)
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	ONE THOUSAND BTU PER HOUR
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOV	MOTORIZED VALVE
MT	MOUNT
MTR	MOTOR
MUA	MAKE-UP/AIR
MVD	MANUAL VOLUME DAMPER
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED (FAIL CLOSED)
NIC	NOT IN CONTRACT
NO	NUMBER
NO	NORMALLY OPEN (FAIL OPEN)
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAU	OUTSIDE AIR UNIT
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OPG	OPENING
ORD	OVERFLOW ROOF DRAIN
PCHP	PRIMARY CHILLED WATER PUMP
PD	PRESSURE DROP
PDU	POOL DEHUMIDIFICATION UNIT
PER	POOL EQUIPMENT ROOM
PIU	FAN-POWERED INDUCTION UNIT
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PTHP	PACKAGED TERMINAL HEAT PUMP
R	RISE
RA	RETURN AIR
RCP	RADIANT CEILING PANEL
REC	RECESSED
RED	REDUCER
REG	REGISTER (AIR DEVICE WITH FACE OPERATED BALANCING DAMPER)
RLA	RELIEF AIR
RH	RELIEF HOOD
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RL/A	RELIEF AIR
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
S/A	SUPPLY AIR
SA	SUPPLY AIR
SCHP	SECONDARY CHILLED WATER PUMP
SCU	WATER-COOLED SELF-CONTAINED AIR CONDITIONING UNIT
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SEF	SMOKE EXHAUST FAN
SENS	SENSIBLE
SF	SUPPLY FAN
SF	SQUARE FOOT
SG	SUPPLY GRILLE
SM	SURFACE MOUNT
SPF	STAIR PRESSURIZATION FAN
SR	SUPPLY REGISTER
SS	STAINLESS STEEL (TYPE 316 UNO)
SSF	SOLIDS SEPARATION FILTRATION UNIT
STM	STEAM
T	THERMOSTAT
TD	TRANSFER DUCT
TD	TEMPERATURE DROP
TE	TOILET EXHAUST
TEMP	TEMPERATURE
TOD	TOP OF DUCT
TSTAT	THERMOSTAT
TWP	TEMPERED WATER PUMP
TXR	TRANSFER
TYP	TYPICAL
UCD	UNDER CUT DOOR
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VENT
VAV	VARIABLE AIR VOLUME
VENT	VENTILATION
VFD	VARIABLE FREQUENCY DRIVE
VRV/VRF	VARIABLE REFRIGERANT VOLUME VARIABLE REFRIGERANT FLOW
VTAC	VERTICAL PACKAGED TERMINAL AC UNIT
VVT	VARIABLE VOLUME/VARIABLE TEMPERATURE TERMINAL UNIT
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WL	WALL LOUVER
WMS	WIRE MESH SCREEN
WSHP	WATER SOURCE HEAT PUMP
ZD	ZONE DAMPER

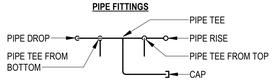
DEMOLITION ABBREVIATIONS

(E)	EXISTING TO REMAIN
(ER)	EXISTING TO REMAIN
(N)	NEW
(R)	REMOVE
(R/R)	REMOVE AND REPLACE

PIPING SYMBOLS

- CD — CONDENSATE DRAINAGE
- REF-L — REFRIGERANT-LIQUID
- REF-S — REFRIGERANT-SUCTION
- REF-HG — REFRIGERANT-HOT GAS
- FOV — FUEL OIL VENT
- FOF — FUEL OIL FILL
- FOS — FUEL OIL SUPPLY
- FOR — FUEL OIL RETURN
- 2" — PIPE SIZE TAG (DIAMETER)
- ABOVE GROUND PIPING (NEW)
- 1/8" / 12" SLOPE — PIPE SLOPE TAG
- BELOW GROUND PIPING
- (E) — EXISTING PIPE TAG
- PIPING BEING DEMOLISHED
- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- GWR — GEOTHERMAL WATER RETURN
- GWS — GEOTHERMAL WATER SUPPLY
- HWR — HEATING WATER RETURN
- HWS — HEATING WATER SUPPLY
- LPS — LOW PRESSURE STEAM (0-15 PSIG)
- MPS — MEDIUM PRESSURE STEAM (16 TO 100 PSIG)
- HPS — HIGH PRESSURE STEAM (ABOVE 100 PSIG)
- LPC — LOW PRESSURE STEAM CONDENSATE (0-15 PSIG)
- MPC — MEDIUM PRESSURE STEAM CONDENSATE (16 TO 100 PSIG)
- HPC — HIGH PRESSURE STEAM CONDENSATE (ABOVE 100 PSIG)
- TWS — TEMPERED WATER SUPPLY
- TWR — TEMPERED WATER RETURN
- GLS — GLYCOL WATER SUPPLY
- GLR — GLYCOL WATER RETURN

PIPE FITTINGS



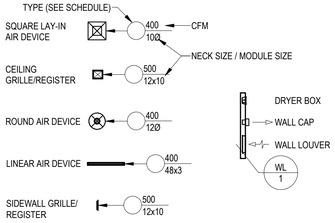
PIPE ACCESSORY TAGS

- GATE VALVE
- ANGLE GATE VALVE
- GLOBE VALVE
- CIRCUIT SETTER
- INDEXED BALANCING VALVE
- 1/4 TURN BALL VALVE
- CHECK VALVE
- NON SLAM (LIFT) CHECK VALVE
- TRIPLE DUTY VALVE
- SD — SUCTION DIFFUSER
- AUTOMATIC CONTROL VALVE
- RELIEF VALVE
- AUTOMATIC AIR VENT
- MANUAL AIR VENT
- HOSE END DRAIN VALVE
- COMBO PRESSURE/ TEMP TEST PORT
- UNION
- THERMOMETER
- 2" GAUGE COCK
- CO
- MOTORIZED CONTROL VALVE
- 3 WAY MOTORIZED CONTROL VALVE
- PRESSURE REDUCING VALVE
- S — REFRIGERANT SOLENOID VALVE
- BUTTERFLY VALVE
- FLEXIBLE CONNECTION
- AS — AIR SEPARATOR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- ANCHOR
- ALIGNMENT GUIDE
- FM — FLOW METER
- PRESSURE GAUGE
- PS — PRESSURE SWITCH
- FS — FLOW SWITCH
- PUMP
- Y-TYPE STRAINER W/BLOWDOWN VALVE & HOSE CONN.
- BASKET STRAINER W/BLOWDOWN VALVE & HOSE CONN.
- STEAM CONTROL VALVE
- STEAM TRAP

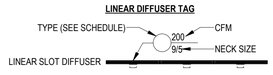
MECHANICAL SYMBOLS

- REVISION NUMBER - SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- POINT WHERE DEMO CONNECTS TO EXISTING
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS
- 1 — KEYNOTE
- CONTINUATION SYMBOL
- Room / 15 — ROOM NAME AND NUMBER
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT
- PLENUM RATED SOFFIT
- NON-PLENUM RATED SOFFIT
- 16x8 — NEW SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)
- 16/8 — NEW OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
- 16Ø — NEW ROUND DUCT SIZE TAG (DIAMETER)
- (E) — EXISTING DUCT TAG
- DUCT BEING DEMOLISHED
- 16x8 / 24x8 — DUCT TRANSITION
- FLEX DUCT
- LINED DUCT
- TURNING VANES
- GRD TAKEOFF (SEE DETAILS)
- SA — SUPPLY AIR
- COA — CONDITIONED OUTSIDE AIR
- OA — OUTSIDE AIR
- RA — RETURN AIR
- TA — TRANSFER AIR
- EA — EXHAUST AIR
- RLA — RELIEF AIR
- GE — GREASE EXHAUST AIR
- SE — SMOKE EXHAUST AIR
- FLUE — EXHAUST GAS FLUE
- CA — COMBUSTION AIR
- DROP — RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE
- DROP — ROUND SUPPLY/OUTSIDE AIR DUCT RISE
- DROP — RECTANGULAR RETURN/TRANSFER AIR DUCT RISE
- DROP — ROUND RETURN/TRANSFER AIR DUCT RISE
- DROP — RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE
- DROP — ROUND EXHAUST/RELIEF AIR DUCT RISE

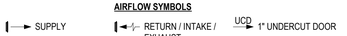
GRILLES, REGISTERS & DIFFUSERS TAG



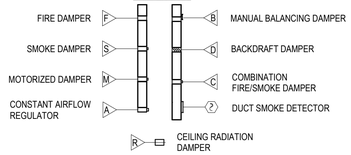
LINEAR DIFFUSER TAG



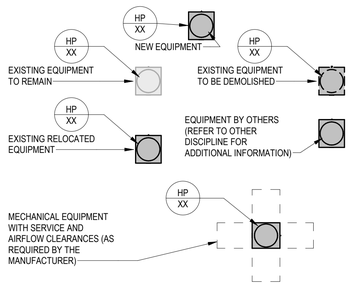
AIRFLOW SYMBOLS



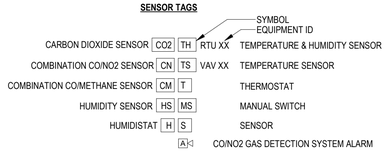
DAMPER TAGS



MECHANICAL EQUIPMENT TAGS



SENSOR TAGS



MECHANICAL SHEET INDEX

M0.00	MECHANICAL TITLE SHEET
M0.01	GENERAL NOTES
M0.02	SCHEDULES
M0.03	DETAILS
M0.04	DETAILS
M0.05	DETAILS
M2.01	BUILDING PLANS, TYPE I, FIRST & SECOND LEVEL PLANS
M2.02	BUILDING PLANS, TYPE I, THIRD LEVEL PLAN & ROOF PLAN
M2.03	BUILDING PLANS, TYPE II, FIRST & SECOND LEVEL PLANS
M2.04	BUILDING PLANS, TYPE II, THIRD LEVEL PLAN & ROOF PLAN
M2.05	BUILDING PLANS, TYPE III, FIRST & SECOND LEVEL PLANS
M2.06	BUILDING PLANS, TYPE III, THIRD LEVEL PLAN & ROOF PLAN
M2.07	BUILDING PLANS, TYPE IV, FIRST & SECOND LEVEL PLANS & ROOF PLAN
M2.08	BUILDING PLAN, TYPE V, FIRST LEVEL PLAN
M2.09	BUILDING PLAN, TYPE V, SECOND LEVEL PLAN
M2.10	BUILDING PLAN, TYPE V, THIRD LEVEL PLAN
M2.11	BUILDING PLAN, TYPE V, FOURTH LEVEL PLAN
M2.12	BUILDING PLAN, TYPE V, ROOF PLAN
M4.01	UNIT PLANS
M4.02	UNIT PLANS
M4.03	UNIT PLANS
M4.04	UNIT PLANS
M4.05	UNIT PLANS
M4.06	UNIT PLANS
M4.07	UNIT PLANS

Grand total: 25

* NOTE *
THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

DESIGN CONDITIONS

SITE LOCATION:	FT CLARKE, FL ALACHUA COUNTY 29.69 N LAT., 82.27 W LONG. 50 FEET ELEVATION ASHRAE 90.1-2013 CLIMATE ZONE 2A
DESIGN CONDITIONS:	29.6°F WINTER DESIGN DRY BULB (ASHRAE 99.6%) 93.4°F DRY BULB AND 76.4°F MEAN COINCIDENT WET BULB SUMMER DESIGN (ASHRAE 0.4%)

CALCULATIONS BASED ON ASHRAE DESIGN CRITERIA AND CALCULATION METHODOLOGY.

NO CAPACITY HAS BEEN INCLUDED IN THIS DESIGN FOR FUTURE ADDITIONS.

MECH/ELEC COORDINATION

THE MECHANICAL CONTRACTOR SHALL COORDINATE THE ELECTRICAL CHARACTERISTICS OF ALL HVAC EQUIPMENT (VOLTAGE, PHASE, MCA, MOCP, ETC.) WITH THE ELECTRICAL CONTRACTOR AND THE ELECTRICAL PLANS PRIOR TO SUBMITTING OR ORDERING ANY MECHANICAL EQUIPMENT. ANY SUBSEQUENT MISMATCH BETWEEN THE MECHANICAL EQUIPMENT ELECTRICAL REQUIREMENTS AND THE ELECTRICAL SERVICE, AS DESIGNED AND PROVIDED, SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR WITH NO ADDITIONS TO THE CONTRACT.

MECHANICAL/ELECTRICAL COORDINATION STATEMENTS REQUIRED BY HVAC GENERAL NOTES [AND SPECIFICATION SECTION 230000 , PARAGRAPH 1.06.E] SHALL BE INCLUDED WITH HVAC EQUIPMENT SUBMITTALS/SHOP DRAWINGS.

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No.	Description	Date

Revisions

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
MECHANICAL TITLE SHEET

Date:
September 30, 2022

Sheet Number:

M0.00

Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction

2' - 9"

HVAC GENERAL NOTES

1. ALL MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE 2020 FLORIDA MECHANICAL CODE, THE 2020 FLORIDA BUILDING CODE, THE 2020 FLORIDA ENERGY CONSERVATION CODE, STATE AND LOCAL AMENDMENTS, NFPA 90A, , 101, UNDERWRITERS LABORATORIES (OR ETL) AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.

2. THIS PROJECT HAS BEEN DESIGNED TO COMPLY WITH THE 2020 FLORIDA ENERGY CONSERVATION CODE COMPLIANCE PATH. THE OWNER/ARCHITECT/CONTRACTOR SHALL REFER TO THE APPLICABLE PROJECT DOCUMENTATION (SCORECARD/ CHECKLIST/ CODE) PRIOR TO PRESENTING VALUE ENGINEERING ALTERNATIVES OR OWNER/ARCHITECT REQUESTED REVISIONS THAT MAY IMPACT COMPLIANCE WITH THE APPLICABLE GREEN BUILDING PROGRAM OR ENERGY CODE

3. THIS PROJECT REQUIRES COMMISSIONING PER THE REQUIREMENTS OF THE CITY, CODE, AND/OR SPECIFIC ENERGY PROGRAM. COMMISSIONING SHALL BE BY APPLICABLE CONTRACTOR AND EITHER THE ENGINEERING FIRM OF RECORD OR A 3RD PARTY COMMISSIONING AGENT. REFER TO THE COMMISSIONING SPECIFICATIONS, PLAN, CHECKLISTS, AND/OR ADDITIONAL DRAWING NOTES FOR ADDITIONAL INFORMATION. FINAL DOCUMENTATION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF THE OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

4. THE LOCATIONS, ARRANGEMENT AND EXTENT OF EQUIPMENT, PIPING, SUPPORTS, DEVICES, CONDUIT, AND OTHER APPURTENANCES RELATED TO THE INSTALLATION OF THE MECHANICAL AND ELECTRICAL WORK SHOWN ARE APPROXIMATE. THE DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE THE DRAWINGS, BUT REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS OF BUILDING COMPONENTS. SHOULD A CONFLICT EXIST BETWEEN THE ARCHITECTURAL AND ENGINEERING DRAWINGS REGARDING DIMENSIONS, SCALE, ETC., NOTIFY THE ARCHITECT IMMEDIATELY.

5. MATERIALS, EQUIPMENT OR LABOR NOT INDICATED, BUT WHICH CAN BE REASONABLY INFERRED TO BE NECESSARY FOR A COMPLETE INSTALLATION SHALL BE PROVIDED. THE DRAWINGS AND SPECIFICATIONS DO NOT UNDERTAKE TO INDICATE EVERY ITEM OF MATERIAL, EQUIPMENT OR LABOR REQUIRED TO PRODUCE A SAFE, COMPLETE AND PROPERLY OPERATING SYSTEM.

6. PRIOR TO PURCHASING ANY MATERIALS OR STARTING ANY WORK, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DUCTWORK SIZES AND LOCATIONS, EQUIPMENT, ETC. SHOWN ON THE DRAWINGS OR AFFECTING THIS WORK AND SHALL REPORT ANY DEVIATIONS TO THE ARCHITECT.

7. SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ARCHITECT/ENGINEER PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY MECHANICAL EQUIPMENT. SHOP DRAWINGS SHALL INCLUDE: ALL EQUIPMENT SCHEDULED OR SPECIFIED ON THE DRAWINGS; DUCTWORK DRAWN TO 1/4" SCALE OR THE SCALE SHOWN ON THE DRAWINGS; PARKING GARAGE CO/NO2 MONITORING AND CONTROL SYSTEM LAYOUT PREPARED BY THE SYSTEM MANUFACTURER INCLUDING SENSOR LOCATIONS, SEQUENCE OF OPERATION AND PRODUCT DATA; MECHANICAL VENTILATION CONTROLLERS, WALL CAPS, REFRIGERANT PIPING AND CONTROL WIRING SCHEMATICS CERTIFIED BY THE AIR CONDITIONING EQUIPMENT MANUFACTURER.

   a. WHERE SPLIT SYSTEMS ARE USED IN A "LONG LINE APPLICATION," SUBMIT MANUFACTURER'S REFRIGERANT LINE SET ROUTING DRAWINGS AND ENGINEERED CALCULATIONS SUPPORTING INSTALLED LINE LENGTHS AND RECOMMENDED SUCTION AND LIQUID LINE SIZES (DEVIATIONS IN THE INSTALLED LENGTHS AND SIZES SHALL BE RECORDED ON THE AS-BUILT DRAWINGS AND COORDINATED WITH THE MANUFACTURER TO RECONFIRM THAT LONG LINE GUIDELINES ARE BEING MET). IDENTIFY AND PROVIDE CUT SHEETS OF ANY AND ALL ACCESSORIES REQUIRED TO MAKE THE SYSTEM COMPLETE, FUNCTIONAL AND RELIABLE.
   b. FAILURE TO SUBMIT CERTIFIED REFRIGERANT PIPING DRAWINGS SHALL BE CAUSE FOR REJECTION OF THE ENTIRE SUBMITTAL AND DOES NOT RELIEVE THE CONTRACTOR OF COMPLYING WITH MANUFACTURER'S RECOMMENDATIONS.
   c. LONG LINE REFRIGERANT PIPING APPLICATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT SPLIT SYSTEM LONG-LINE APPLICATION GUIDELINE.
   d. ANY SPLIT SYSTEM WITH 75 FEET OF SEPARATION BETWEEN THE OUTDOOR UNIT AND INDOOR UNIT REQUIRES THAT THE CONTRACTOR OBTAIN A WARRANTY APPROVAL LETTER FROM THE EQUIPMENT MANUFACTURER CERTIFYING THE LONG LINE LENGTH DISTANCES SHOWN ON THE SUBMITTED SHOP DRAWINGS ARE ACCEPTABLE.
   e. HVAC EQUIPMENT SUBMITTALS SHALL INCLUDE, BUT NOT BE LIMITED TO, DATA SHEETS FOR ALL SYSTEM COMPONENTS, FAN SELECTIONS WITH PERFORMANCE CURVES AT SITE CONDITIONS, ELECTRICAL CHARACTERISTICS (COORDINATED WITH ELECTRICAL SUBCONTRACTOR), WIRING DIAGRAMS, INSTALLATION, OPERATION AND MAINTENANCE MANUALS, AHRI RATING CERTIFICATES FOR ACTUAL EQUIPMENT TO BE INSTALLED. FAILURE TO SUBMIT AHRI CERTIFICATES IS CAUSE FOR REJECTION OF THE SUBMITTAL.

   SHOP DRAWINGS SHALL BE SUBMITTED SIMULTANEOUSLY IN ONE PACKAGE WITH EACH ITEM CLEARLY NOTED BY THE TAG USED ON THE DRAWINGS AND SPECIFICATION SECTION PERTAINING TO THE ITEM.

8. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED AND MAINTAINED PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.

9. ALL MECHANICAL EQUIPMENT AND SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.

10. ALL HVAC COMPRESSORS SHALL HAVE EXTENDED 4-YEAR MANUFACTURER'S WARRANTY FOR A 5-YEAR TOTAL WARRANTY.

11. FOR EXACT LOCATION OF OUTDOOR AIR CONDITIONING UNITS, SEE ARCHITECTURAL DRAWINGS.

12. INSTALL ROOF MOUNTED OUTDOOR AIR CONDITIONING EQUIPMENT LEVEL ON SUPPORTS AS INDICATED ON THE DETAIL SHEETS. MOUNT ALL EQUIPMENT ON 3/8" THICK NEOPRENE PADS (MINIMUM OF 4 PADS PER UNIT). ALL ROOFTOP MOUNTED EQUIPMENT SHALL BE INSTALLED PER DETAILS AND AS RECOMMENDED BY THE MANUFACTURER

13. SPLIT SYSTEM OUTDOOR UNIT EQUIPMENT HAS BEEN SHOWN ON THE PLANS INDICATING MATCHED SYSTEMS OF THE INDOOR UNIT WITH ITS ASSOCIATED OUTDOOR UNIT. WHILE THE LOCATION OF THE OUTDOOR UNITS ARE APPROXIMATE, THE IMPORTANCE OF UNIT LOCATIONS IN RELATION TO THE REFRIGERANT LINE SET LENGTH IS CRITICAL FOR THE PROJECT. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION AND OBSERVE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR LONG LINE APPLICATIONS. REFRIGERANT LINE SETS SHALL BE INSTALLED TO REDUCE THE SYSTEM TOTAL EQUIVALENT LENGTH AND MINIMIZE SYSTEM CAPACITY LOSSES DUE TO ELBOWS, FITTINGS, VALVES, ETC. THAT COMPRISE THE ENTIRE REFRIGERANT PIPING SYSTEM. AFTER RECEIPT OF THE APPROVED SUBMITTALS, THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE REFRIGERANT PIPING SCHEMATICS CERTIFIED BY THE EQUIPMENT MANUFACTURER AND SUBMITTING THE REFRIGERANT PIPING DRAWINGS AS OUTLINED IN THE SHOP DRAWING NOTE ABOVE.

14. PORTIONS OF DUCTWORK AND PIPE INSULATION VISIBLE THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.

15. MOUNT TOP OF THERMOSTATS AT 46" AFF UNLESS NOTED OTHERWISE. PROVIDE CLEAR LOCKING GUARD ASSEMBLIES FOR ALL PUBLIC AREA THERMOSTATS. COORDINATE THERMOSTAT LOCATIONS WITH ALL TRADES. COORDINATE FINAL LOCATIONS WITH THE GENERAL CONTRACTOR, INTERIOR DESIGNER AND THE OWNER PRIOR TO INSTALLATION. LOCATE ADJACENT TO LIGHT SWITCHES WHERE POSSIBLE. DO NOT LOCATE THERMOSTATS AT THE CENTER OR NEAR CENTER OF A WALL. THERMOSTATS SHALL BE MOUNTED NO CLOSER THAN 8" FROM THE CORNER OR END OF A WALL OR DOOR. ALL THERMOSTATS SHALL BE ADA COMPLIANT.

16. ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE OWNER TO SUIT HIS OPERATING CONDITIONS. WORK IN HAZARDOUS AREAS SHALL BE PERFORMED IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS.

17. ANY EXISTING WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE HVAC WORK SHALL BE REPAIRED TO MATCH NEW AND/OR EXISTING CONDITIONS.

18. CAREFULLY COORDINATE ALL PENETRATIONS THROUGH EXTERIOR WALLS WITH ARCHITECTURAL DRAWINGS AND FINISHES. THE PENETRATIONS SHALL NOT BE LOCATED WHERE THEY WILL CONFLICT WITH ARCHITECTURAL FEATURES, TRANSITIONS IN MATERIALS, OR COLOR CHANGES IN MATERIALS. HORIZONTALLY ALIGN PENETRATIONS WHEREVER POSSIBLE UNLESS NOTED OTHERWISE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ANY WORK BEING DONE.

19. CAREFULLY COORDINATE ALL PENETRATIONS THROUGH THE ROOF WITH ARCHITECTURAL DRAWINGS. THE PENETRATIONS SHALL NOT BE LOCATED WHERE THEY WILL CONFLICT WITH ARCHITECTURAL FEATURES, EXPANSION JOINTS OR STRUCTURE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ANY WORK BEING DONE.

20. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

21. SEAL THE ANNULAR SPACE AROUND ALL DUCT, PIPE, GRILLE, REGISTER, DIFFUSER, ETC. PENETRATIONS THROUGH WALLS, FLOORS AND CEILINGS AIRTIGHT WITH AN APPROVED MATERIAL (RE: ARCHITECTURAL DOCUMENTS FOR APPROVED MATERIALS).

22. AIR HANDLING UNITS, COOLING COILS, FAN COIL UNITS AND ANY OTHER EQUIPMENT THAT PRODUCES CONDENSATE AND IS LOCATED ABOVE A CEILING OR IN AN ATTIC SHALL BE INSTALLED WITH AN AUXILIARY DRAIN PAN BENEATH ANY COMPONENT THAT MAY PRODUCE CONDENSATE. INSTALL AN OVERFLOW SAFETY SWITCH IN THE COOLING COIL OVERFLOW DRAIN LINE OR A WATER LEVEL DETECTION DEVICE IN THE PRIMARY DRAIN PAN AND A WATER LEVEL DETECTION DEVICE IN THE AUXILIARY DRAIN PAN. ON DOWNFLOW UNITS OR OTHER EQUIPMENT WHERE AN AUXILIARY DRAIN PAN IS NOT POSSIBLE, INSTALL A WATER LEVEL DETECTION DEVICE IN THE PRIMARY DRAIN PAN OR AN OVERFLOW SAFETY SWITCH IN THE OVERFLOW DRAIN LINE CONNECTION. WATER LEVEL DETECTION DEVICES (CONFORMING TO UL508) SHALL BE WIRED TO SHUT DOWN THE AIR HANDLING UNIT.

23. EQUIPMENT INSTALLED IN ATTIC SPACES: INSTALL A MINIMUM 4' X 4' X 3/4" THICK LEVEL PLYWOOD SERVICE PLATFORM AT THE SERVICE SIDE OF ALL AIR HANDLING UNITS, FURNACES, FAN COIL UNITS, FANS, ETC. A MINIMUM 24" WIDE X 3/4" THICK LEVEL PLYWOOD WALKWAY SHALL ALSO BE INSTALLED FROM THE SERVICE PLATFORM TO THE ATTIC ACCESS OPENING.

24. THE GENERAL CONTRACTOR SHALL COORDINATE SERVICE ACCESS PATHS FOR ROOF AND ATTIC MOUNTED EQUIPMENT REQUIRING ROUTINE MAINTENANCE. PROVIDE CODE COMPLIANT GALVANIZED STEEL CROSSING STRUCTURE (E.G. STAIRS WITH HANDRAILS, LADDERS, ETC.) FOR ANY OBSTRUCTION (DUCTWORK, PIPING, ETC.) THAT EXCEEDS 1'-6" IN HEIGHT X 1'-6" IN WIDTH. ATTIC CROSSINGS MAY BE CONSTRUCTED OF WOOD IF ALLOWED BY LOCAL CODE. DETAILS OF SUCH CROSSINGS SHALL BE INCLUDED WITH PIPING AND DUCTWORK LAYOUT AND COORDINATION DRAWINGS. ALL DUCTWORK, PIPING AND EQUIPMENT INSTALLATION SHALL COMPLY WITH THE FOLLOWING:
   a. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED.
   b. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.
   c. INSTALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.
   d. INSTALL EQUIPMENT TO ALLOW RIGHT-OF-WAY FOR PIPING TO BE INSTALLED WITH THE REQUIRED SLOPE.
   e. FOR ROOF AND ATTIC MOUNTED EQUIPMENT REQUIRING ROUTINE MAINTENANCE, ALLOW FOR AN UNOBSTRUCTED PATH FROM THE ROOF/ATTIC SERVICE ENTRY POINT TO THE EQUIPMENT. THE PATH AREA SHALL BE A MINIMUM OF 6'-0" HIGH BY 3'-0" WIDE.

25. ALL PIPE AND DUCT PENETRATIONS OF FIRE AND/OR SMOKE-RATED ASSEMBLIES SHALL BE FIRE-STOPPED AS REQUIRED TO RESTORE THE ASSEMBLY TO ITS ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE AS MANUFACTURED BY TREMCO, HILTI, 3M, STI, NELSON OR APPROVED EQUAL.

26. MANUAL OVER-RIDE CONTROL (EMERGENCY SHUT-DOWN) SWITCHES FOR ALL HVAC UNITS SHALL BE LOCATED IN A LOCKING COVER, BREAK-GLASS STATION, ETC. ADJACENT TO FIRE ALARM ANNUNCIATOR PANEL OR OTHER LOCATION APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 90A.

27. ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND IN WALLS TO ALLOW ADEQUATE ROOM FOR MAINTENANCE OF EQUIPMENT AND BALANCING OF SYSTEMS SHALL BE INSTALLED UNDER THE ARCHITECTURAL DIVISION. ACCESS PANELS IN CEILING AND WALLS SHALL BE PROVIDED WHERE SHOWN ON THE DRAWINGS OR WHERE NECESSARY TO ACCESS DAMPERS, VALVES, ETC. COORDINATE EXACT LOCATION OF ALL ACCESS PANELS WITH THE ARCHITECT DURING THE SHOP DRAWING PROCESS.

28. ACCESS DOORS SHALL BE INSTALLED AT ALL FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, SMOKE DAMPERS AND WHERE INDICATED FOR CEILING RADIATION DAMPERS TO FACILITATE INSPECTION AND MAINTENANCE. PERMANENTLY IDENTIFY THE ACCESS DOOR BY A DIE-CUT LABEL WITH ½" HIGH RED BLOCK LETTERS ON A WHITE BACKGROUND. LABEL SHALL READ "FIRE DAMPER", "COMBINATION FIRE/SMOKE DAMPER", "SMOKE DAMPER" OR "CEILING RADIATION DAMPER".

29. ALL MECHANICAL EQUIPMENT SHALL BE LABELED WITH A 2" HIGH SEMI-RIGID PLASTIC LAMINATE NAMEPLATE WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND SECURELY AFFIXED TO THE EQUIPMENT. THE NAMEPLATE SHALL SHOW THE EQUIPMENT TAG USED ON THESE DRAWINGS. ON RESIDENTIAL PROJECTS, THE NAMEPLATE ON THE OUTDOOR EQUIPMENT SHALL INDICATE THE DWELLING UNIT NUMBER IT SERVES AS WELL AS THE EQUIPMENT ID TAG.

30. REFER TO ARCHITECTURAL PLANS FOR ALL DROPPED CEILINGS AND SOFFITS. CONTRACTOR SHALL ADVISE ARCHITECT AND ENGINEER OF ANY CONFLICTS BETWEEN ARCHITECTURAL AND MECHANICAL DRAWINGS.

31. REFER TO ARCHITECTURAL PLANS FOR FLOOR AND CEILING ASSEMBLY UL RATINGS AND DETAILS.

32. ALL MATERIALS EXPOSED WITHIN HVAC PLENUMS SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING INDEX OF NOT MORE THAN 50 UNLESS OTHERWISE ALLOWED BY CODE.

33. THE FIRE SPRINKLER CONTRACTOR SHALL INSTALL AND LOCATE ALL FIRE SPRINKLER PIPING TO PREVENT PIPING FROM THE POTENTIAL OF FREEZING. THE FIRE SPRINKLER CONTRACTOR IS REQUIRED TO NOTIFY THE ARCHITECT AND COORDINATE WITH THE MECHANICAL AND ELECTRICAL CONTRACTORS IF HEATING IS REQUIRED.

34. COORDINATE ALL DUCTWORK WITH WOOD TRUSS SHOP DRAWINGS PRIOR TO INSTALLATION.

35. GENERAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF WOOD TRUSS SHOP DRAWINGS AND FIELD TRUSSES TO AVOID WOOD TRUSSES CONFLICTING WITH VERTICAL SHAFTS AND INDIVIDUAL AIR HANDLING UNIT DISCHARGE PLENUMS.

36. ALL AHUs WITH SUPPLY AIR DUCTED VERTICALLY THROUGH A CEILING RADIATION DAMPER SHALL BE PROVIDED WITH A MEANS TO SHUTDOWN THE AHU UPON DETECTION OF SMOKE IN THE DWELLING UNIT. REFER TO DETAILS FOR ADDITIONAL INFORMATION.

37. UNLESS NOTED OTHERWISE, THE ROOF CURB SHALL BE FURNISHED WITH THE EQUIPMENT IT SUPPORTS (SUBMIT WITH SHOP DRAWINGS). COORDINATE WITH THE ROOF SYSTEM USED SO THAT A MINIMUM OF 8" OF THE CURB IS ABOVE THE FINISHED ROOF FOR FLASHING PURPOSES. THE TOP OF THE CURB SHALL BE LEVEL AND THE SLOPE OF THE ROOF SHALL BE COMPENSATED FOR BY THE CURB.

38. VIBRATION/SOUND ATTENUATING ROOF CURBS (WHERE SCHEDULED OR NOTED) SHALL BE MASON RSC (2½" DEFLECTION) OR EQUAL WITH ACOUSTICAL PACKAGE. REFER TO SPECIFICATION SECTION 23 05 48 FOR ADDITIONAL REQUIREMENTS. LOCK DOWN INTERNAL ISOLATORS AS REQUIRED BY ISOLATION MANUFACTURER.

39. DUCTWORK AND PIPING SHALL NOT BE INSTALLED IN ELECTRICAL ROOMS, TELECOM ROOMS, OR ELEVATOR EQUIPMENT ROOMS EXCEPT FOR DUCTWORK AND PIPING SERVING THAT SPECIFIC ROOM. DUCTWORK AND PIPING SHALL NOT BE ROUTED ABOVE ELECTRICAL EQUIPMENT PER THE NATIONAL ELECTRICAL CODE ARTICLE 110.

40. ROOFING: ROOF OPENINGS, PENETRATIONS AND CURBS SHALL BE AT LEAST 12 INCHES APART FROM OTHER ROOF PENETRATIONS, CURBS, WALL, AND DRAIN SUMP TO ALLOW FOR PROPER ROOFING SYSTEM FLASHING AND DETAILING. ROOF OPENINGS SHALL BE A MINIMUM OF 3'-0" FROM A PARAPET WALL AND A MINIMUM OF 5'-0" FROM A FIRE WALL EXTENDING THRU THE ROOF.

41. ROOFTOP MOUNTED EQUIPMENT SHALL BE LOCATED A MINIMUM OF 10'-0" FROM THE EDGE OF THE ROOF OR PARAPET.

42. ROOFTOP EQUIPMENT WIND RESISTANCE: THE CONTRACTOR SHALL PROVIDE SUPPORT FOR MECHANICAL ROOFTOP EQUIPMENT IN ORDER TO MEET CODE REQUIRED WIND RESISTANCE (RE: 2015 AND 2018 IMC "301.15 WIND RESISTANCE. MECHANICAL EQUIPMENT, APPLIANCES AND SUPPORTS THAT ARE EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURE DETERMINED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE."

43. HURRICANE AND HIGH WIND REGIONS - EQUIPMENT THAT IS LOCATED ON THE ROOF SHALL BE SECURED TO THE ROOF STRUCTURE PER DETAILS ON THE DRAWINGS, MANUFACTURER'S RECOMMENDATIONS AND, AS A MINIMUM, FEMA 549, APPENDIX E, ATTACHMENT OF ROOFTOP EQUIPMENT IN HIGH-WIND REGIONS.

44. STORAGE AND PROTECTION OF STORED MATERIALS:

   a. DURING CONSTRUCTION, ALL EQUIPMENT SHALL BE PROPERLY PROTECTED AGAINST DAMAGE, DEFACING AND FREEZING WITH SHIPPING CARTONS, PLASTIC SHEETING, SHIPPING COVERS, ETC.
   b. ALL OPEN ENDS OF PIPING AND EQUIPMENT SHALL BE SEALED WITH NIPPLES AND CAPS, PLUGS, AND TEST PLUGS UNTIL FINAL CONNECTION TO SYSTEM IS MADE.
   c. ALL EQUIPMENT, PIPING AND DUCTWORK SHALL BE PROTECTED TO PREVENT ENTRANCE OF FOREIGN MATTER AND DEBRIS BY COVERING EXPOSED OPENINGS DURING CONSTRUCTION.
   d. HANDLE AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S AND SUPPLIER'S RECOMMENDATIONS AND IN A MANNER TO PREVENT DAMAGE TO MATERIALS DURING STORAGE AND HANDLING. REPLACE DAMAGED MATERIALS.
   e. EQUIPMENT AND MATERIALS SHALL NOT BE INSTALLED UNTIL SUCH TIME AS THE ENVIRONMENTAL CONDITIONS OF THE JOB SITE ARE SUITABLE TO PROTECT THE EQUIPMENT OR MATERIALS. EQUIPMENT OR MATERIALS DAMAGED, OR WHICH ARE SUBJECTED TO THESE ELEMENTS, ARE UNACCEPTABLE AND SHALL BE REMOVED FROM THE PREMISES AND REPLACED.
   f. PROTECT EQUIPMENT AND AIR DISTRIBUTION SYSTEMS AS OUTLINED IN SMACNA'S IAQ GUIDELINES FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION, LATEST EDITION.

TESTING, ADJUSTING AND BALANCING (RESIDENTIAL PROJECTS)

1. AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM SHALL BE CLEANED, TESTED AND ADJUSTED TO SATISFY THE EQUIPMENT SCHEDULES AND AIR QUANTITIES SHOWN ON THE DRAWINGS. EXCEPT FOR OAFS (RE: NOTE 6 BELOW), INDIVIDUAL AIR DEVICES IN DWELLING LIVING UNITS DO NOT REQUIRE AN AIR TEST AND BALANCE BE PERFORMED.

2. ALL AMENITY AREAS SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED TO SATISFY THE EQUIPMENT SCHEDULES AND AIR QUANTITIES SHOWN ON THE DRAWINGS. REGISTERS AND/OR DIFFUSERS SERVED FROM ROOFTOP UNITS AND DEDICATED OUTSIDE AIR SYSTEMS SHALL BE INDIVIDUALLY TESTED AND BALANCED AND AIR QUANTITIES RECORDED IN THE TAB REPORT.

3. ALL DWELLING LIVING UNIT (AND COMMON AREA) SYSTEMS SHALL BE AIR BALANCED (AND TESTED TO MEET ALL ADDITIONAL SPECIFIC AHJ REQUIREMENTS) PER (CITY, CODE, AND/OR SPECIFIC ENERGY PROGRAM) REQUIREMENTS.

4. DWELLING UNIT OUTSIDE AIR VENTILATION FANS (OAF) SHALL HAVE THEIR FAN SPEED ADJUSTED TO PROVIDE THE OA CFM SCHEDULED. THE CONTROLLER SHALL BE PROGRAMMED PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE SEQUENCE OF OPERATION.

4. COMMON AREAS - VENTILATION AIR DISTRIBUTION SYSTEMS (OUTDOOR AIR AND EXHAUST AIR) SHALL BE BALANCED TO ACHIEVE THE AIRFLOW RATES INDICATED ON THE DRAWINGS. DWELLING UNITS - OUTDOOR AIR AND EXHAUST AIR SHALL BE BALANCED TO ACHIEVE THE AIRFLOW RATES INDICATED ON THE DRAWINGS. TEST AND BALANCE THE AIR HANDLING UNIT AND RECORD CFM AND STATIC PRESSURE IN THE TAB REPORT.

   THESE AIRFLOW RATES SHALL BE CONSIDERED MINIMUM RATES. THE MEASURED AIR BALANCE TOLERANCE FOR BOTH OUTDOOR AIR AND EXHAUST AIR RATES SHALL BE 0% TO +10%.

5. AFTER CONSTRUCTION, ALL HVAC FANS WITH MOTORS GREATER THAN 1 HP IN SIZE SHALL BE TESTED, ADJUSTED, AND BALANCED TO DELIVER THE AIR QUANTITIES SHOWN ON THE DRAWINGS.

6. WHEN TESTING AND BALANCING IS REQUIRED IN DWELLING UNITS, IT MUST BE COMPLETED AND THE TAB REPORT SUBMITTED PRIOR TO OCCUPANCY. COORDINATE WITH THE GENERAL CONTRACTOR, OWNER'S REPRESENTATIVE, AND MECHANICAL SUBCONTRACTOR TO SCHEDULE TAB WELL IN ADVANCE OF OCCUPANCY.

7. SUBMIT THE CERTIFIED (AABC OR NEBB) TEST AND BALANCE REPORT TO THE ARCHITECT FOR APPROVAL. REPORTS SHALL INCLUDE AIRFLOW, STATIC PRESSURE, AND TEMPERATURE TEST DATA.

MECHANICAL/ELECTRICAL COORDINATION:

1. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT OR SUBMITTING SHOP DRAWINGS AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN THEREIN. SHOP DRAWING SUBMITTALS SHALL CLEARLY STATE THAT THE ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT HAS BEEN COORDINATED WITH THE ELECTRICAL CONTRACT DOCUMENTS AND THE ELECTRICAL CONTRACTOR.

2. ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH A DISCONNECT SWITCH AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS AND THE ELECTRICAL DRAWINGS. DISCONNECT SWITCH SHALL BE FURNISHED BY MECHANICAL FOR INSTALLATION BY ELECTRICAL. DISCONNECT SWITCHES SHALL NOT BE MOUNTED ON THE EQUIPMENT IT SERVES UNLESS INTEGRAL TO THE UNIT.

3. PROVIDE ALL SYSTEM CONTROLS AND ASSOCIATED CONTROL AND INTERLOCK WIRING FOR COMPLETE AND OPERABLE SYSTEMS. 120 VOLT AND HIGHER WIRING SHALL BE MC CABLE OR IN CONDUIT IN ACCORDANCE WITH LOCAL CODES AND THE MATERIALS AND INSTALLATION REQUIREMENTS OF DIVISION 26 - ELECTRICAL.

4. COORDINATE POWER AND FIRE ALARM REQUIREMENTS OF ALL COMBINATION FIRE/SMOKE DAMPERS AND SMOKE DAMPERS WITH THE ELECTRICAL CONTRACTOR.

5. ALL REQUIRED CONTROL WIRING (INCLUDING POWER WIRING REQUIRED FOR CONTROL PANELS, DEVICES, ETC.) NOT INDICATED ON THE ELECTRICAL DRAWINGS SHALL BE INCLUDED AS PART OF THE MECHANICAL WORK. WIRING IN HVAC PLENUM SPACES SHALL BE INSTALLED ACCORDING TO CODE REQUIREMENTS.

6. UNLESS NOTED OTHERWISE, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED WITH THE EQUIPMENT IT SERVES AND INSTALLED BY THE MECHANICAL CONTRACTOR. MOTOR STARTERS FOR HVAC EQUIPMENT SHALL BE FURNISHED WITH THE MOTOR OR APPARATUS WHICH IT OPERATES. MOTOR STARTER INSTALLATION SHALL BE BY THE DIVISION 26 CONTRACTOR.

7. MAINTAIN REQUIRED NEC CLEARANCES FOR ALL POWERED MECHANICAL EQUIPMENT. THE CLEAR WIDTH SHALL BE THE WIDTH OF THE EQUIPMENT OR 2'-6" (MINIMUM). THE FOLLOWING CLEARANCE IN FRONT OF THE EQUIPMENT SHALL BE:

   a. FOR 208/240V EQUIPMENT: 3'-0" CLEARANCE
   b. FOR 480V EQUIPMENT: 3'-0" CLEARANCE: CONDITION 1 – OPEN AREA, NO OBSTRUCTIONS; 3'-6" CLEARANCE – CONDITION 2 – GROUNDED EQUIPMENT, OR CONCRETE/STEEL WALL ON OPPOSING SIDE; 4' CLEARANCE – CONDITION 3 – LIVE PARTS TO LIVE PARTS.

8. CLEARANCES FOR ELECTRIC DUCT HEATERS AND LOW VOLTAGE CONTROL PANELS LOCATED ABOVE CEILINGS: THE CONTRACTOR SHALL COORDINATE AND PLAN THE WORK TO ALLOW FOR A CLEAR SPACE IN FRONT OF ALL ELECTRIC DUCT HEATER CONTROL PANELS (INCLUDING, BUT NOT LIMITED TO AHUS, FCUS, VAVs, PIUs, UHs, ETC.) OF 42" X 30" WIDE (OR THE WIDTH OF THE PANEL WHICHEVER IS GREATER). THE CONTROL PANEL DOOR SHALL BE ALLOWED TO OPEN AT LEAST 90 DEGREES. EQUIPMENT WITHOUT DUCT HEATERS THAT HAVE LOW VOLTAGE CONTROL PANELS SHALL HAVE A MINIMUM CLEAR SPACE IN FRONT OF THE PANEL OF 24" X 24" WIDE (OR THE WIDTH OF THE PANEL WHICHEVER IS GREATER).

9. ROUTING OF DUCTWORK SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR AND ALL OTHER TRADES DURING THE SUBMITTAL AND LAYOUT PHASE. DUCTWORK SHALL NOT BE ROUTED THROUGH THE DEDICATED ELECTRICAL SPACE ABOVE EACH LOAD CENTER.

10. MOTORS CONTROLLED BY A VARIABLE FREQUENCY DRIVE (VFD) SHALL BE INVERTER DUTY MOTORS DESIGNED ACCORDING TO THE REQUIREMENTS OF NEMA MG 1, PART 31, "DEFINITE PURPOSE, INVERTER FED MOTORS" AND SHALL BE COMPATIBLE WITH THE PARTICULAR MANUFACTURER'S DRIVE THAT IS USED.

11. COORDINATE WITH THE ELECTRICAL DRAWINGS FOR THE REQUIRED SHORT CIRCUIT CURRENT RATING OF THE PANELBOARD SERVING THE EQUIPMENT. THE EQUIPMENT NAMEPLATE SHALL BEAR A RATING OF NO LESS THAN THE PANELBOARD RATING.

AIR DISTRIBUTION:

1. SUPPLY, RETURN AND O.A. DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEETMETAL IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE, LATEST EDITION. AND IMC CHAPTER 6 AS REQUIRED.

   a. SNAP-LOCK LONGITUDINAL SEAMS ARE NOT ALLOWED UNLESS SECURED WITH SHEET METAL FASTENING SCREWS AS RECOMMENDED BY SMACNA.
   b. LEASING, AMENITY AND COMMON AREA DUCTWORK IN MULTIFAMILY PROJECTS SHALL HAVE SHEET METAL DUCTWORK.

2. TAPES, SEALANTS AND MASTICS USED TO SEAL METALLIC AND FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181 B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181 B-M" FOR MASTIC/SEALANT.

3. SEAL THE ANNULAR SPACE AROUND ALL DUCT PENETRATIONS THROUGH WALLS, CEILINGS AND FLOORS AIRTIGHT WITH AN APPROVED MATERIAL (RE: ARCHITECTURAL DRAWINGS FOR APPROVED MATERIALS).

4. MECHANICAL FASTENERS FOR USE WITH FLEXIBLE NONMETALLIC AIR DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181 B-C".

5. SHEETMETAL DUCT SEALING:

   a. ALL JOINTS AND SEAMS IN ALL SHEETMETAL DUCTWORK SHALL BE SEALED WITH DUCT SEALER.
   b. SEAL, INSPECT AND TEST SHEETMETAL DUCTWORK PRIOR TO INSULATING OR CONCEALING. SEAL ALL DUCTWORK AND PLENUMS TO MEET SMACNA SEAL CLASS A.
   c. SEAL ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS.
   d. PRESSURE-SENSITIVE TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT, UNLESS IT HAS BEEN CERTIFIED TO COMPLY WITH UL-181A OR UL-181B BY AN INDEPENDENT TESTING LABORATORY AND THE TAPE IS USED IN ACCORDANCE WITH THAT CERTIFICATION.
   e. ALL CONNECTIONS SHALL BE SEALED, INCLUDING BUT NOT LIMITED TO SPIN-IN FITTINGS, TAPS, OTHER BRANCH CONNECTIONS, ACCESS DOORS, AND DUCT CONNECTIONS TO EQUIPMENT.
   f. SEALING THAT WOULD VOID PRODUCT LISTINGS IS NOT REQUIRED.
   g. SPIRAL LOCK SEAMS NEED NOT BE SEALED.

6. ALTERNATE SUPPLY AND RETURN AIR DUCTWORK FOR DWELLING UNITS - FIBERGLASS DUCT BOARD (MINIMUM INSULATION VALUE R-4.2 WHERE LOCATED WITHIN THE THERMAL ENVELOPE AND A MINIMUM INSULATION VALUE OF R-8 WHEN LOCATED IN AN ATTIC OR OUTSIDE THE THERMAL ENVELOPE OF THE BUILDING, OR GREATER WHERE REQUIRED BY APPLICABLE ENERGY CODE) WITH GLASS FABRIC REINFORCED VAPOR BARRIER. DUCT CONSTRUCTION SHALL CONFORM TO SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS, LATEST EDITION. FIBERGLASS DUCTBOARD SHALL BE UL 181 LISTED AS A CLASS 1 RIGID AIR DUCT. ALL FIBERGLASS DUCTWORK AND ACCESSORIES SHALL BE FABRICATED BY A MANUFACTURER'S AUTHORIZED FABRICATOR, SHALL BE INSTALLED WITH THE FABRICATOR'S SUPERVISION AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FIBERGLASS DUCTWORK SHALL NOT BE USED OUTDOORS. DUCT BOARD SHALL BE JOHNS MANVILLE MICRO-AIRE OR EQUAL.

   a. TAPES AND MASTICS USED TO SEAL FIBROUS GLASS DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED "181 A-P" FOR PRESSURE-SENSITIVE TAPE, "181 A-M" FOR MASTIC OR "181 A-H" FOR HEAT-SENSITIVE TAPE.

7. ALL OPEN-ENDED DUCTS AND FAN OUTLETS SHALL HAVE ½" X ½" HARDWARE CLOTH (WMS) AFFIXED TO THE OPENING.

8. EXHAUST DUCTWORK SHALL BE GALVANIZED SHEET METAL (G 90 MINIMUM) CONSTRUCTED TO SMACNA STANDARDS AND SHALL NOT BE INSULATED UNLESS NOTED OTHERWISE.

9. ALL DUCTWORK SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENT TO STRUCTURE SHALL BE PER SMACNA STANDARDS.

10. FLEXIBLE DUCTWORK SHALL BE THERMAFLEX M-KE (U.L. 181 LISTED, CLASS 1 FLEXIBLE AIR DUCT) OR EQUAL. PROVIDE MINIMUM INSULATION VALUE OF R-6; R-8 WHEN LOCATED OUTSIDE THE THERMAL ENVELOPE OF THE BUILDING, OR GREATER WHERE REQUIRED BY APPLICABLE ENERGY CODE. AIR CONNECTORS ARE NOT ACCEPTABLE. FLEX DUCT DIAMETER SHALL MATCH DEVICE NECK DIAMETER. PROVIDE ROUND GALVANIZED STEEL DUCT RUNOUTS TO MAINTAIN A MAXIMUM FLEXIBLE DUCT LENGTH OF 8'-0" (EXCEPT IN DWELLING UNITS, LENGTH SHALL BE AS INDICATED). LEASING, AMENITY AND COMMON AREAS IN MULTIFAMILY PROJECTS SHALL BE LIMITED TO 8'-0" MAXIMUM FLEXIBLE DUCT LENGTH. FLEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE AND SHALL BE ROUTED AND SUPPORTED WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICE NECK WHEN REQUIRED.

11. COMMON/AMENITY SPACES: ROUND AND FLEXIBLE SUPPLY AIR DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH A CONICAL TYPE SPIN-IN FITTING WITH MANUAL VOLUME DAMPER (EXCEPT WHERE INSTALLED ABOVE INACCESSIBLE CEILINGS, THE DAMPER SHALL BE OMITTED AND PROVIDED IN THE AIR DEVICE NECK).

12. RESIDENTIAL: ROUND AND FLEXIBLE SUPPLY AIR DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH A TAB TYPE FITTING.

13. TAPE, BED AND SEAL AIR-TIGHT ALL PENETRATIONS FROM RETURN AIR PLENUMS TO NON-RETURN AIR PLENUMS THAT ARE REQUIRED DUE TO DUCTWORK, PIPING OR OTHER ITEMS.

14. DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

15. EXTERNAL STATIC PRESSURE (ESP) DOES NOT INCLUDE COIL, CASING OR FILTER PRESSURE DROP.

16. INSTALL FIRE, SMOKE, COMBINATION FIRE/SMOKE, AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH MANUFACTURER'S UL INSTALLATION INSTRUCTIONS AND SMACNA'S FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS.

17. INSTALL FIRE DAMPERS IN ALL RATED WALLS AND FLOOR PENETRATIONS. FIRE DAMPERS SHALL BE THE DYNAMIC TYPE WITH BLADES OUT OF THE AIRSTREAM WHERE POSSIBLE. ALL FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF U.L. 555. REFER TO THE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED ASSEMBLIES.

18. INSTALL SMOKE DAMPERS IN ALL DUCT PENETRATIONS THROUGH SMOKE RATED WALLS. WHERE DUCTS PENETRATE WALLS THAT CARRY BOTH FIRE AND SMOKE RATINGS OR ARCHITECTURAL SHAFTS, THE DAMPERS INSTALLED SHALL BE COMBINATION FIRE AND SMOKE DAMPERS. ALL SMOKE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF U.L. 555S. ALL COMBINATION FIRE AND SMOKE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF U.L. 555 AND U.L. 555S. POWER WIRING TO TEST SWITCH AND ACTUATOR SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

19. INSTALL CEILING RADIATION DAMPERS IN ALL MEMBRANE PENETRATIONS OF FIRE RATED FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES WHERE NOT OTHERWISE PROTECTED WITH A RATED SHAFT. ALL CEILING RADIATION DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF U.L. 555C. REFER TO THE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED ASSEMBLIES. WHERE NECESSARY, PROVIDE DUCT ACCESS DOOR AND CEILING ACCESS PANEL (RE: ARCH. DWGS. FOR RATED ACCESS PANEL SPECIFICATION),

20. DUCT ACCESS DOORS: PROVIDE ACCESS DOORS IN DUCTWORK AT EACH FIRE, COMBINATION FIRE/SMOKE AND SMOKE DAMPER LOCATION.

21. PROVIDE ALL OUTDOOR AIR INTAKES AND EXHAUST OPENINGS WITH MOTORIZED OR GRAVITY DAMPERS IN ACCORDANCE WITH THE LOCAL ENERGY CODE. DAMPERS SHALL CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.

22. LOCATIONS OF GRILLES, REGISTERS, AND DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC. AND ARCHITECTURAL REFLECTED CEILING PLAN.

23. WHERE BALANCING DAMPERS CANNOT BE ACCESSED FROM BELOW THE CEILING, PROVIDE A REMOTE OPERATED ELECTRONIC DAMPER; YOUNG REGULATOR OR EQUAL.

24. SUPPLY AND EXHAUST DUCTWORK SERVING SWIMMING POOLS AND POOL EQUIPMENT/CHEMICAL STORAGE ROOMS SHALL BE 16-GAUGE ALUMINUM (ALLOY 3003 - H14 TEMPER PER ASTM B209). SLOPE DUCTWORK AT 1/8" PER FOOT TOWARDS DRAIN.

25. DUCTWORK INSTALLED WITHIN OPEN ATTIC SPACES SHALL BE GALVANIZED STEEL. DUCTBOARD AND FLEX DUCT IS ALLOWABLE WHERE SERVING DWELLING UNIT SUPPLY AIR SYSTEMS.

26. FLEXIBLE DUCT CONNECTORS SHALL BE USED TO CONNECT DUCTWORK AND PLENUMS TO FAN-ROTATING EQUIPMENT; PROFLEX BY DUCTMATE OR APPROVED EQUAL. INDOOR FLEXIBLE CONNECTORS SHALL BE 26 OZ/SQ. YD. GLASS FABRIC DOUBLE COATED WITH NEOPRENE. OUTDOOR FLEXIBLE CONNECTORS SHALL BE 24 OZ/SQ. YD. GLASS FABRIC DOUBLE COATED WITH WEATHERPROOF SYNTHETIC RUBBER RESISTANT TO UV RAYS AND OZONE. FABRICS, COATINGS AND ADHESIVES SHALL BE TESTED IN ACCORDANCE WITH UL 701 AND HAVE A FLAME SPREAD/ SMOKE DEVELOPED RATING OF 25/50. FLEXIBLE DUCT CONNECTORS SHALL ALSO BE PROVIDED WHERE DUCTWORK CROSSES BUILDING EXPANSION JOINTS.

27. INSTALL DUCTWORK SUCH THAT LINE-OF-SIGHT IS ELIMINATED BETWEEN RETURN AIR REGISTERS/GRILLES AND AIR HANDLING UNITS, FAN COIL UNITS AND ROOFTOP UNITS.

INSULATION:

1. DUCT INSULATION:

   a. DUCT WRAP SHALL BE UL LISTED FIBERGLASS BLANKET INSULATION WITH FOIL VAPOR BARRIER, JOHNS MANVILLE MICROLITE EQ FSK OR APPROVED EQUAL. PUNCTURES AND TEARS IN THE FOIL JACKET SHALL BE PATCHED WITH FOIL TAPE TO MAINTAIN THE INTEGRITY OF THE VAPOR BARRIER. INSULATE SHEET METAL DUCTWORK IN THE THICKNESSES AND DENSITIES LISTED BELOW:
      1. SHEET METAL SUPPLY AND OUTSIDE AIR DUCTWORK: 2" THICK, 1 LB/FT^3 DENSITY, R-6 MINIMUM INSTALLED.
      2. SHEET METAL RETURN DUCTWORK IN NON-AIR-CONDITIONED AREAS (SUCH AS INTERSTITIAL SPACES AND FLOOR/CEILING ASSEMBLIES): 2" THICK, 1 LB/FT^3 DENSITY, R-6 MINIMUM INSTALLED.
      3. ALL SHEET METAL DUCTWORK LOCATED OUTSIDE OF THE THERMAL ENVELOPE OF THE BUILDING (INCLUDING CRAWL SPACES AND ATTIC SPACES): 3" THICK, ¾" LB/FT^3 DENSITY, R-8 MINIMUM INSTALLED.
   b. DUCT LINER FOR ACOUSTICS: LINE ALL SUPPLY AND RETURN SHEETMETAL DUCTWORK A MINIMUM OF 15'-0" (OR AS INDICATED OR SPECIFIED HEREIN) UPSTREAM AND DOWNSTREAM OF ALL AIR HANDLING UNITS. DUCT LINER FOR RECTANGULAR DUCTS SHALL BE 1½" THICK, (MINIMUM R-6 OR GREATER WHERE REQUIRED BY APPLICABLE ENERGY CODE); JOHNS MANVILLE LINACOUSTIC RC OR EQUAL.
      1. THE LEADING EDGE OF THE DUCT LINER SHALL HAVE A SHEETMETAL NOSING.
      2. EXPOSED EDGES AND BUTT JOINTS SHALL BE "BUTTERED" WITH DUCT SEALER.
      3. LINED DUCTWORK DOES NOT REQUIRE ADDITIONAL EXTERIOR INSULATION WHERE LINER MEETS REQUIRED R-VALUES.
      4. RETURN AIR TRANSFER DUCTS, ELBOWS AND SOUND BOOTS SHALL BE LINED WITH 1" THICK LINER UNLESS OTHERWISE NOTED.
      5. DUCT LINER SHALL BE INTERRUPTED AT ALL FIRE, SMOKE, COMBINATION FIRE/SMOKE AND RADIATION DAMPERS.
      6. DUCT LINER SHALL BE INTERRUPTED NOT LESS THAN 6" UPSTREAM AND 6" DOWNSTREAM OF ELECTRIC-RESISTANCE AND FUEL-BURNING HEATERS IN A DUCT SYSTEM.
   c. DUCTWORK PENETRATING SMOKEPROOF ENCLOSURES SHALL BE WRAPPED USING A U.L. LISTED AND APPROVED 2-HOUR RATED FIRE WRAP INSULATING SYSTEM OR ENCLOSED IN AN APPROVED FIRE RATED ASSEMBLY,

2. PIPE INSULATION:

   a. CONVENTIONAL SPLIT SYSTEMS – REFRIGERANT PIPING INSTALLED OUTDOORS SHALL BE INSULATED WITH FLEXIBLE ELASTOMERIC TUBING, (K FACTOR NOT TO EXCEED 0.245 BTU·IN/HR·FT^2·°F) WITH FACTORY APPLIED UV RESISTANT DURABLE PROTECTIVE JACKET, ARMAFLEX SHIELD™ CONTINUOUS COIL PIPE INSULATION AS MANUFACTURED BY ARMACELL, LLC OR ALTERNATES LISTED BELOW, WHEN THE PRODUCT IS AVAILABLE IN THE REQUIRED PIPE SIZE AND INSULATION WALL THICKNESS. NO FIELD APPLIED PROTECTIVE COATING OR FINISH SHALL BE USED WITH THIS INSULATION. LONGITUDINAL AND BUTT JOINTS SHALL BE SEALED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. POLYETHYLENE FOAM INSULATION IS NOT ACCEPTABLE.
      ACCEPTABLE ALTERNATE ELASTOMERIC PRODUCT:

1) K-FLEX USA; K-FLEX TITAN™
   b. REFRIGERANT PIPING INSTALLED INDOORS: SHALL BE INSULATED WITH FLEXIBLE ELASTOMERIC TUBING INSULATION, AP/ARMAFLEX BLACK LAPSEAL™ PIPE INSULATION AS MANUFACTURED BY ARMACELL, LLC OR ALTERNATES LISTED BELOW. ALL JOINTS AND SEAMS SHALL BE SEALED WEATHERTIGHT WITH ARMAFLEX BLACK LAPSEAL™ TAPE. BLACK LAPSEAL™ TAPE SHALL ALSO BE USED TO SECURE THE THERMOSTAT CABLE TO THE PIPE INSULATION. AS AN ALTERNATE TO INSULATION PRODUCTS WITH THE UV RESISTANT DURABLE PROTECTIVE JACKET NOTED ABOVE, ARMAFLEX BLACK LAPSEAL INSULATION MAY BE USED OUTDOORS WITH A FIELD APPLIED UV RESISTANT FINISH COAT. THE FINISH COAT SHALL BE TWO COATS OF A WATER-BASED LATEX PAINT DESIGNED FOR USE OVER ALL FORMS OF FLEXIBLE ELASTOMERIC INSULATION. FINISH COAT SHALL PROVIDE A PROTECTIVE FINISH SUITABLE FOR OUTDOOR APPLICATIONS, FORMULATED FOR COLD WEATHER FLEXIBILITY TO RESIST CRACKING AND WEATHER-RESISTANT TO ULTRAVIOLET (UV) AND OZONE. COATING SHALL BE ARMAFLEX WB FINISH OR EQUIVALENT PRODUCT COMPATIBLE WITH THE INSULATION. POLYETHYLENE FOAM INSULATION IS NOT ACCEPTABLE.
      ACCEPTABLE ALTERNATE PRODUCTS:

1) AEROFLEX, USA, INC.; AEROCELL-SSPT™ WITH PROTAPE AND TWO COATS OF FIELD APPLIED AEROCEL AEROCOAT. (AEROCEL AEROCOAT REQUIRED FOR OUTDOOR INSTALLATION ONLY).
2) K-FLEX USA, LLC., K-FLEX INSUL-LOCK DS (INDOOR USE ONLY).
   c. INSULATION THICKNESS SHALL BE PER SPECIFICATION SECTION 23 23 00.
   d. INSULATE ALL CONDENSATE DRAIN PIPING AND FITTINGS WITHIN THE BUILDING'S THERMAL ENVELOPE WITH SECTIONAL PREFORMED FIBERGLASS PIPE INSULATION (K FACTOR NOT TO EXCEED 0.23 BTU·IN/HR·FT^2·°F) WITH VAPOR BARRIER JACKET; JOHNS MANVILLE MICRO-LOK OR APPROVED EQUAL. ACCEPTABLE ALTERNATE: CLOSED CELL ELASTOMERIC; AP ARMAFLEX WITH LAP SEAL. THICKNESS SHALL BE MANUFACTURER'S RECOMMENDED THICKNESS TO PREVENT CONDENSATION ON THE EXTERIOR OF THE JACKET; MINIMUM THICKNESS SHALL BE ½" FOR PIPE SIZES UP TO AND INCLUDING 1¼" AND 1" THICKNESS FOR PIPE SIZES 1½" AND LARGER. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PIPING:

1. REFRIGERANT PIPING SHALL BE TYPE L OR ACR (AIR CONDITIONING AND REFRIGERATION FIELD SERVICE) COPPER TUBING WITH BRAZED JOINTS.

2. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS.

3. REFRIGERANT PIPING CARRYING OTHER THAN SAFETY GROUP A1 OR B1 REFRIGERANTS AND INTERCONNECTING SEPARATE PIECES OF EQUIPMENT (SPLIT HVAC SYSTEMS) AND PASSING VERTICALLY THROUGH FLOORS FROM ONE STORY TO ANOTHER SHALL BE ENCLOSED IN A CODE APPROVED RIGID AND TIGHT CONTINUOUS FIRE RESISTING PIPE DUCT OR SHAFT HAVING NO OPENINGS INTO FLOORS NOT SERVED BY THE REFRIGERATING SYSTEM, AS REQUIRED BY LOCAL CODE AUTHORITIES. THE PIPE, DUCT OR SHAFT SHALL BE VENTED TO OUTDOORS.

4. SEAL THE ANNULAR SPACE AROUND ALL PIPING PENETRATIONS THROUGH WALLS, CEILINGS AND FLOORS AIRTIGHT WITH AN APPROVED MATERIAL (RE: ARCHITECTURAL DRAWINGS FOR APPROVED MATERIALS).

5. CONDENSATE FROM ALL AIR CONDITIONING EQUIPMENT SHALL BE TRAPPED AND ROUTED TO THE NEAREST PLUMBING DRAIN. CONDENSATE PIPING SHALL BE INSULATED TYPE M COPPER OR INSULATED SCHEDULE 40 PVC (IN HVAC PLENUMS USE INSULATED TYPE M COPPER). CPVC PIPING IS NOT ALLOWED. CONDENSATE SHALL BE PUMPED AS REQUIRED. CONDENSATE PUMP SHALL BE TESTED TO COMPLY WITH UL 2043 FOR PLENUM APPLICATIONS; LITTLE GIANT VCCA SERIES. PVC EXPOSED TO THE WEATHER SHALL BE PAINTED WITH A LIGHT-COLORED ACRYLIC OR LATEX ULTRAVIOLET (UV) AND OZONE INHIBITOR PAINT THAT IS CHEMICALLY COMPATIBLE WITH PVC.

6. PROVIDE MANUAL OR AUTOMATIC AIR VENT (WITH DRAIN) AT HIGH POINTS OF ALL RECIRCULATING WATER PIPING SYSTEMS.

7. PIPING AT PUMPS AND EQUIPMENT SHALL BE SUPPORTED SO THAT NO PIPING OR ACCESSORY LOAD IS CARRIED BY THE PUMP OR EQUIPMENT.

8. PIPE SUPPORTS AND HANGERS:

   a. ALL PIPING ABOVE GRADE SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. PIPING HUNG FROM JOISTS SHALL BE HUNG FROM THE TOP CHORDS OF THE JOISTS.
   b. UNLESS NOTED OTHERWISE, CONDENSATE DRAIN AND REFRIGERANT PIPING ROUTED ON THE ROOF SHALL BE SUPPORTED WITH UV RESISTANT RUBBER SUPPORT SYSTEM; MIFAB C SERIES OR EQUAL BY DURA-BLOK.

9. IN WOOD FRAMED BUILDINGS, FERNCO MODEL XJ EXPANSION JOINTS SHALL BE INSTALLED IN VERTICAL PVC AND COPPER CONDENSATE RISERS AT ALTERNATING FLOORS IN THE CEILING CAVITIES. PIPE CLAMPS SHALL BE INSTALLED AT THE SILL PLATE OF THE FLOOR ABOVE THE FITTING.

DWELLING UNITS:

1. CLOTHES DRYER FLEXIBLE DUCTWORK SHALL BE CONNECTED (BY INSTALLING CONTRACTOR) TO A MANUFACTURED DRYER WALL BOX (DRYERBOX MODEL 425 [FOR UPWARD EXHAUST FLOW OR INSTALL UPSIDE DOWN WHERE STACKABLE OR PEDESTAL DRYERS HAVE DOWARD EXHAUST FLOW] OR MODEL 4D [DOWNWARD EXHAUST FLOW] BY IN-O-VATE TECHNOLOGIES, INC. OR EQUAL). THE F AND T RATINGS FOR THE INSTALLATION SHALL BE 1 HOUR. THE FLEXIBLE DUCTWORK (BY DRYER INSTALLER) SHALL CONNECT THE CLOTHES DRYER TO THE DRYER WALL BOX CONNECTION USING A WORM DRIVE TYPE HOSE CLAMP AND BE INSTALLED AS SHOWN ON THE PLANS. THE LOCATION OF THE CLOTHES DRYER CONNECTION IN THE DWELLING UNIT SHALL BE BASED ON THE CLOTHES DRYER TYPE (STACKED OR SIDE BY SIDE) AND COORDINATED IN THE FIELD.

2. BATHROOM AND CLOTHES DRYER EXHAUST DUCTS PENETRATING A HORIZONTAL RATED ASSEMBLY THROUGH THE TOP PLATE OR BOTTOM PLATE OF A FRAMED WALL ASSEMBLY SHALL BE PER UL INSTALLATION INSTRUCTIONS. DUCTWORK SHALL BE CONSTRUCTED OF 26 GAUGE GALVANIZED STEEL FOR THE ENTIRE LENGTH OF THE DUCT SYSTEM. DUCTWORK SHALL BE INSTALLED WITH LONGITUDINAL SEAMS FACING UP. FROM THE EXTERIOR WALL INWARD, SLOPE THE LAST 10' OF DUCTWORK AT 1/8"/FT. DOWN TOWARDS THE EXTERIOR WALL. DO NOT SECURE DRYER DUCT WITH SHEET METAL SCREWS.

3. BATHROOM (TOILET), KITCHEN AND CLOTHES DRYER EXHAUST DUCTWORK SHALL BE PROVIDED WITH A BACK-DRAFT DAMPER. BATHROOM EXHAUST FANS MAY HAVE AN INTEGRAL BACK DRAFT DAMPER TO ACCOMPLISH THIS. BATHROOM EXHAUST SHALL INCLUDE AN INSECT SCREEN.

4. DWELLING UNIT KITCHEN RANGE HOODS SHALL BE THE VENTLESS RECIRCULATING TYPE AND WILL BE PROVIDED BY OTHERS.

5. BATHROOM (TOILET), KITCHEN AND CLOTHES DRYER EXHAUST DUCTWORK SHALL HAVE SEAMS SEALED AIRTIGHT WITH DUCT SEALER.

6. AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2% OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193.

7. ALL JOINTS AND SEAMS OF REGISTER AND DIFFUSER BOOTS, PANS, PLENUM BOXES, ETC. SHALL BE SEALED AIRTIGHT WITH DUCT SEALER OR MASTIC. VINYL OR FOIL TAPES ALONE ARE NOT ACCEPTABLE.

8. TOTAL LEAKAGE OF THE AIR DISTRIBUTION SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE, SHALL BE VERIFIED BY EITHER OF THE FOLLOWING:

   a. POSTCONSTRUCTION TEST: LEAKAGE TO OUTDOORS FOR EACH SYSTEM SHALL BE LESS THAN OR EQUAL TO 8 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA ASSIGNED TO THAT SYSTEM OR A TOTAL LEAKAGE FOR EACH SYSTEM WITH THE AIR HANDLER INSTALLED OF LESS THAN OR EQUAL TO 12 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA ASSIGNED TO THAT SYSTEM WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. CONDITIONED FLOOR AREA SHOULD BE CALCULATED USING ANSI Z765, AND SHOULD INCLUDE ALL DIRECTLY CONDITIONED SQUARE FOOTAGE, WHETHER FINISHED OR NOT, THAT MEETS BUILDING CODE REQUIREMENTS FOR LIVING SPACE.
   b. ROUGH-IN TEST: TOTAL LEAKAGE FOR EACH SYSTEM WITH THE AIR HANDLER INSTALLED SHALL BE LESS THAN OR EQUAL TO 6 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA ASSIGNED TO THAT SYSTEM WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE ROUGHED-IN SYSTEM. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.
   EXCEPTIONS:
      1. DUCT TIGHTNESS TESTING IS NOT REQUIRED IF THE AIR HANDLER AND ALL DUCTS ARE LOCATED WITHIN CONDITIONED SPACE.
      2. DUCT TIGHTNESS TESTING IS NOT REQUIRED FOR EXISTING DUCT SYSTEMS UNLESS MORE THAN 50% OF THE DUCT SYSTEM IS MODIFIED.
      3. IF THE AIR HANDLER, FURNACE OR EVAPORATOR COIL IS REPLACED ON AN EXISTING SYSTEM, ALL JOINTS, SEAMS AND CONNECTIONS FROM EQUIPMENT TO DUCT SYSTEM AND DUCT SYSTEM CONNECTIONS TO PLENUMS SHALL MEET THE SEALING REQUIREMENTS OF THIS CODE AND BE VERIFIED BY A VISUAL INSPECTION BY THE STATE LICENSED CONDITIONED AIR CONTRACTOR OR BY A DUCT AND ENVELOPE TIGHTNESS (DET) VERIFIER.
   c. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL.

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No.	Description	Date

Revisions

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
GENERAL NOTES

Date:
September 30, 2022

Sheet Number:
M0.01

Not Released for Construction

FANS

TAG	MANUF.	MODEL	TYPE	DUTY	CFM	SP (IN. W.C.)	MAX. MOTOR SIZE	RPM	DRIVE	MAX. SONES	APPROX. WEIGHT (LBS)	CONTROLLED BY	EMERGENCY POWER	ACCESSORIES/ REMARKS
EF-A	PANASONIC	FV-0510VS1	CC	TOILET EXH	50	0.25	7.5W	1025	D	0.5	8.82	CA	NO	1,2,4
EF-B	PANASONIC	FV-0511VQ1	CC	KITCHEN EXH	100	0.25	16.4W	1239	D	0.9	11	CA	NO	1,2,3,4,5
EF-C	PANASONIC	FV-0510VS1	CC	TOILET EXH	80	0.25	11.5W	1070	D	0.8	8.82	CM	NO	1,2,4,5
EF-D	BROAN	L200	CC	TOILET EXH	200	0.25	127 W	740	D	2.3	23	CM	NO	1,2,5
EF-E	GREENHECK	BCF-106-4	CAB	POOL EQUIPMENT	600	0.25	1/4 HP	1752	B	8.6	79	CN	NO	1,2,3
EF-F	BROAN	L200	CC	MAINTENANCE/DOG WASH	200	0.25	127 W	740	D	2.3	23	CA	NO	1,2,3
SF-A	SOLER & PALAU	TD-100	INLINE	OA INTAKE FAN	30/45	0.25	26	2516	D	-	4	HUMIDITY SENSOR	NO	

NOTES:
A. SELECTIONS ARE BASED ON A PROJECT ELEVATION OF 701'.
B. GREASE REMOVAL FANS SHALL BE LISTED FOR GREASE REMOVAL (UL 762) AND ELECTRICAL (UL 705)
C. REFER TO DETAILS FOR ADDITIONAL OPTIONS, ACCESSORIES, MOUNTING ARRANGEMENT, ETC.
D. FOR FANS THAT ARE PART OF A SMOKE MANAGEMENT SYSTEM, REFER TO THE SMOKE CONTROL FAN SCHEDULE
E. WEIGHTS INCLUDE ACCESSORIES, CURBS, MOTORS, ETC.
F. FANS THAT ARE SCHEDULED TO RUN CONTINUOUSLY SHALL HAVE IEC 60034-1 CONTINUOUS DUTY RATED MOTORS.
G. FANS THAT ARE INTERCONNECTED WITH LIGHTING CONTROLS (E.G. LIGHT SWITCH) MAY NOT BE THE SAME VOLTAGE AS THE LIGHTING CIRCUIT. COORDINATE WITH THE ELECTRICAL CONTRACTOR AND PROVIDE RELAYS/CONTROLS AS REQUIRED.
H. REFER TO AIR HANDLING UNIT SCHEDULE FOR OA CFM AND BALANCE ACCORDINGLY.
J. FANS SHALL BE CERTIFIED TO BEAR THE AMCA LABEL FOR AIR AND SOUND PERFORMANCE.

FAN TYPES:
CC - CEILING CENTRIFUGAL
CAB - INLINE CABINET

DRIVE TYPE:
D - DIRECT
B - BELT

FAN CONTROL NOTES:
CA - WALL SWITCH - REFER TO ELECTRICAL DWGS.
CM - INTERLOCK WITH LIGHTS - REFER TO ELECTRICAL DWGS.
CN - CONTINUOUS OPERATION
CH - INTERLOCK WITH CO SENSOR

ACCESSORIES:
1. GRAVITY BACKDRAFT DAMPER
2. FACTORY MOUNTED DISCONNECT SWITCH
3. SPEED CONTROLLER
4. ENERGY STAR
5. CEILING RADIATION DAMPER

UNLESS NOTED OTHERWISE, SELECTIONS ARE BASED ON PRODUCTS BY GREENHECK.
EQUAL PRODUCTS: PENNBARRY, CARNES, COOK, ACME PROVIDED THE PRODUCTS MEET OR EXCEEED THE SCHEDULED PERFORMANCE AND SPECIFICATIONS.

GRILLE, REGISTERS & DIFFUSERS - RESIDENTIAL

TAG	MFG	SERIES	BLOW DIRECTION	DUTY	NECK SIZE (INCHES)	FACE SIZE	DAMPER	MATERIAL	TYPE	NOTES	ACCESSORIES
A	TRUAIRE	103M	3-WAY	SUPPLY	SEE DWGS	SEE DWGS	YES	STEEL	STAMPED FACE SIDEWALL/CEILING REGISTER		1,2,3,
B	TRUAIRE	102M	2-WAY	SUPPLY	SEE DWGS	SEE DWGS	YES	STEEL	STAMPED FACE SIDEWALL/CEILING REGISTER		1,2,3
C	TRUAIRE	170	1-WAY	RETURN	SEE DWGS	SEE DWGS	NO	STEEL	STAMPED FACE RETURN AIR GRILLE		1,2,3
D	TRUAIRE	220	1-WAY	SUPPLY	SEE DWGS	SEE DWGS	YES	STEEL	DOUBLE DEFLECTION		1,2
E	PRICE	535D	1-WAY	RETURN	SEE DWGS	SEE DWGS	YES	STEEL	LOUVERED RETURN		2,3,4

NOTES (APPLY TO ALL AIR DEVICES):
A. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF CEILING AND/OR SUSPENSION SYSTEM.
B. FINISH SHALL BE MANUFACTURER'S STANDARD WHITE, UNLESS NOTED OTHERWISE.
B. FINISH SHALL BE MANUFACTURER'S STANDARD. REFER TO ACCESSORIES/NOTES FOR CUSTOM FINISHES, IF ANY. SUBMIT COLOR CHART WITH SHOP DRAWINGS.
C. DRYER MAKE-UP AIR GRILLE SHALL HAVE A MINIMUM OF 120 SQUARE INCHES OF FREE AREA
D. STEEL CONSTRUCTION AS REQUIRED BY UL INSTALLATION DETAIL FOR GRILLE ACCESS TYPE FIRE/SMOKE DAMPER.

ACCESSORIES:
1. MULTI-SHUTTER DAMPER
2. COORDINATE MOUNTING FRAME WITH CEILING TYPE. SEE ARCH. RCP.
3. PROVIDE CEILING RADIATION DAMPERS FOR ALL CEILING MOUNTED AIR DEVICES WERE SHOWN ON PLAN.
4. PROVIDE OPPOSED BLADE DAMPER WITH LOCKING SCREW ADJUSTMENT, BALANCE TO AIRFLOW SHOWN ON PLAN.

EQUAL PRODUCTS: HART & COOLEY, LIMA, TRUAIRE, USAIRE, SPEEDI-GRILLE.

PACKAGED TERMINAL HEAT PUMPS

TAG	MODEL No.	AREA SERVED	TOTAL CFM	TOTAL COOLING (MBH)	AHRI EER	AHRI COP	HEATING (MBH)	AUX HEAT (KW)	ACCESSORIES
PTHP-A	FRIEDRICH	MAINTENANCE	315	14,200	10.4	3.1	13000	5	1,2,3,4

NOTES:
A. COOLING CAPACITY BASED ON AN INDOOR EAT OF 80°F db/67°F wb AND AN OUTDOOR EAT OF 95°F db.
B. HEATING CAPACITY BASED ON AN INDOOR EAT OF 70°F db AND AN OUTDOOR EAT OF47°F db.
C. COOLING AND HEATING CAPACITIES BASED ON PROJECT VOLTAGE.

ACCESSORIES:
1. WALL SLEEVE WITH LEVELING LEGS
2. ARCHITECTURAL EXTRUDED ALUMINUM GRILLE (COLOR/FINISH SELECTED BY ARCHITECT)
3. SUB-BASE ASSEMBLY WITH RECEPTACLE, CORD, AND PLUG
4. CONDENSATE DRAIN KIT

SELECTIONS BASED ON PRODUCTS BY FRIEDRICH
EQUAL PRODUCTS BY GE, AMANA OR DR. PTAC

ELECTRIC HEATERS

TAG	SERIES	TYPE	MOUNTING	CAPACITY (KW)	MOUNTING HEIGHT AFF	APPROX. WEIGHT (LBs)	ACCESSORIES
EWH-A	WCI	WALL HEATER	WALL	3.0	2'-0"	28	1, 2, 3
EUH-A	UHIR	UNIT HEATER	SUSPENDED	5.0	7'-0"	25	1, 2, 3
EUH-B	UHIR	UNIT HEATER	SUSPENDED	3.3	7'-0"	25	1, 2, 3

NOTES:
A. ALL HEATERS SHALL BE UL LISTED
B. CAPACITY SCHEDULED IS AT INSTALLED VOLTAGE. COORDINATE WITH ELECTRICAL DWGS.
C. ALL HEATERS SHALL HAVE THERMAL OVERLOAD PROTECTION
D. STAIRWELL AND SPRINKLER RISER ROOM HEATERS - THERMOSTAT SETPOINT SHALL BE 45°F.

ACCESSORIES:
1. INTEGRAL TAMPERPROOF THERMOSTAT
2. INTEGRAL DISCONNECT SWITCH
3. SURFACE MOUNTING KIT
4. SEMI-RECESS MOUNTING KIT
5. UNIVERSAL WALL/CEILING MOUNTING BRACKET
6. WALL MOUNTED THERMOSTAT
7. TEE BAR CEILING MOUNTING KIT
8. CERTIFIED FOR ZERO CLEARANCE TO WALL OR CEILING
9. FAN GUARD AND LOUVER DIFFUSER
10. COMPLETE INSTALLATION TO INCLUDE ALL SPLICES, END CAPS, MOUNTING HARDWARE, ETC.

SELECTIONS BASED ON PRODUCTS BY INDEECO
EQUAL PRODUCTS BY MARKEL, BERKO, QMARK, RAYWALL

SPLIT SYSTEM HEAT PUMP UNITS - DWELLING UNITS

TAG	MODEL NUMBER AIR HANDLER/HEAT PUMP UNIT	AIR HANDLER						CAPACITY				MIN. SEER	MIN. HSPF	APPROX. WEIGHT (AH/HP) (LBS)	ACCESSORIES
		TYPE	TOTAL CFM	OA SOURCE	OA CFM	MAX FAN HP	ESP (IN WC)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HEAT PUMP HEAT (MBH)	AUXILIARY HEAT (KW)				
AH-A / HP-A	AWUF31 + TXV / GSZ14018	W	600	N	-	1/2	0.40	17.2	13.6	17.2	5.0	14.0	8.2	110/143	1, 2, 3, 4, 5, 6, 7, 8
AH-B / HP-B	AWUF31 + TXV / GSZ14024	W	800	N	-	1/2	0.40	22.8	18.2	23.2	8.0	14.0	8.2	110/143	1, 2, 3, 4, 5, 6, 7, 8
AH-C / HP-C	AWUF31 + TXV / GSZ14030	W	1,000	N	-	1/2	0.40	27.8	20.6	28.0	8.0	14.0	8.2	110/171	1, 2, 3, 4, 5, 6, 7, 8
AH-D / HP-D	AWUF37 + TXV / GSZ14037	W	1,200	N	-	1/2	0.40	32.4	23.6	33.4	8.0	14.0	8.2	100/220	1, 2, 3, 4, 5, 6, 7, 8

NOTES:
A. COOLING CAPACITIES ARE BASED ON AN INDOOR EAT OF 80°F DB/67°F WB AND 95°F DB ENTERING OUTDOOR UNIT AND A PROJECT ELEVATION OF 801'.
B. 14 SEER MINIMUM UNITS WITH R-410A. MINIMUM 8.2 HSPF. SUBMIT AHRI CERTIFIED CAPACITIES FOR ACTUAL EQUIPMENT TO BE INSTALLED.
C. HEAT PUMP HEATING CAPACITY BASED ON AN INDOOR EAT OF 80°F DB AND 47°F ENTERING OUTDOOR UNIT.
D. ELECTRIC HEAT CAPACITY IS THE MINIMUM OUTPUT REQUIRED AT THE PROJECT VOLTAGE (240V).
E. ESP DOES NOT INCLUDE COIL, FILTER, CASING AND ACCESSORY LOSSES.
F. REFER TO HVAC GENERAL NOTES AND DETAILS FOR ADDITIONAL INFORMATION.
G. ADJUST MOTOR SPEED TAP IN FIELD TO PROVIDE TOTAL CFM LISTED FOR EACH AIR HANDLER.
H. INDOOR AND OUTDOOR UNITS SHALL BE INSTALLED PER PLANS, MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.
J. PRIMARY CONDENSATE SHALL BE SIZED, TRAPPED AND ROUTED PER PLANS AND DETAILS.
K. FOR LONG LINE APPLICATIONS, PROVIDE ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER.K
L. SEE DRAWINGS FOR AIR HANDLER ORIENTATION.
M. ELECTRIC HEAT SHALL OPERATE ONLY IN DEFROST MODE OR WHEN THE HEATING LOAD CANNOT BE MET BY THE COMPRESSOR ALONE.

LEGEND	
TYPE:	OA SOURCE:
C - CLOSET	M - MECHANICAL
P - ..	N - NATURAL
W - WALL...	
H - ...	

ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):
1. IECC COMPLIANT 7-DAY PROGRAMMABLE THERMOSTAT; MANUAL CHANGEOVER WITH COMPRESSOR ANTI-RECYCLE PROTECTION, 2-STAGE HEATING, ADAPTIVE SETBACK RECOVERY AND TIME DELAY RELAY
2. INDOOR UNIT - SINGLE POINT POWER WIRING KIT WITH DISCONNECTING MEANS AND OVERLOAD PROTECTION (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
3. OUTDOOR UNIT - DISCONNECT FURNISHED BY MECHANICAL; INSTALLED BY ELECTRICAL (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
4. FACTORY MOUNTED THERMAL EXPANSION VALVE TO ACHIEVE 14 SEER RATING (IF REQUIRED)
5. Bi-FLOW REFRIGERANT FILTER DRIER IF REQUIRED BY MANUFACTURER (LOCATE PER MANUFACTURER'S RECOMMENDATION)
6. SAF-T-SWITCH INSTALLED IN SECONDARY CONDENSATE DRAIN FOR OVERFLOW PROTECTION OR ROUTE FULL SIZE OUTLET CONNECTION THRU CEILING WITH ESCUTCHEON
7. HARD START KIT
8. CRANKCASE HEATER

SELECTIONS BASED ON PRODUCTS BY GOODMAN
EQUAL PRODUCTS BY GOODMAN, FIRST COMPANY, SUNTHERM, ASPEN, CARRIER, BRYANT, TRANE, YORK, LENNOX, RHEEM

SPLIT SYSTEM HEAT PUMP UNITS - COMMON AREAS

TAG	MODEL NUMBER AIR HANDLER/HEAT PUMP UNIT	AREA SERVED	AIR HANDLE					CAPACITY				SEER	HSPF	APPROX. WEIGHT (AH/HP) (LBS)	ACCESSORIES
			TYPE	TOTAL CFM	OA CFM	MAX HP	ESP (IN WC)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HP HEATING (MBH)	AUXILIARY HEAT (kW)				
AH-1 / HP-1	ASPT47 / GSZ14042	OFFICE	C	1,400	130	3/4	0.40	39.5	30.0	39.0	10.0	14.0	8.2	145/230	1, 2, 3, 4, 5, 6, 7, 8
AH-2 / HP-2	ASPT61 / GSZ14060	CLUB	C	1,850	180	1	0.40	56.5	43.0	59.0	15.0	14.0	8.5	170/310	1, 2, 3, 4, 5, 6, 7, 8
AH-3 / HP-3	ASPT61 / GSZ14060	FITNESS/GATHERING	C	1,820	195	1	0.40	56.5	43.0	59.0	15.0	14.0	8.5	170/310	1, 2, 3, 4, 5, 6, 7, 8

NOTES:
A. COOLING CAPACITIES ARE BASED ON AN INDOOR EAT OF 80°F DB/67°F WB AND 95°F DB ENTERING OUTDOOR UNIT AND A PROJECT ELEVATION OF 801'.
B. 14 SEER MINIMUM UNITS WITH R-410A. MINIMUM 8.2 HSPF. SUBMIT AHRI CERTIFIED CAPACITIES FOR ACTUAL EQUIPMENT TO BE INSTALLED.
C. HEAT PUMP HEATING CAPACITY BASED ON AN INDOOR EAT OF 80°F DB AND 47°F ENTERING OUTDOOR UNIT.
D. ELECTRIC HEAT CAPACITY IS THE MINIMUM OUTPUT REQUIRED AT THE PROJECT VOLTAGE (240V).
E. ESP DOES NOT INCLUDE COIL, FILTER, CASING AND ACCESSORY LOSSES.
F. REFER TO HVAC GENERAL NOTES AND DETAILS FOR ADDITIONAL INFORMATION.
G. ADJUST MOTOR SPEED TAP IN FIELD TO PROVIDE TOTAL CFM LISTED FOR EACH AIR HANDLER.
H. INDOOR AND OUTDOOR UNITS SHALL BE INSTALLED PER PLANS, MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.
J. PRIMARY CONDENSATE SHALL BE SIZED, TRAPPED AND ROUTED PER PLANS AND DETAILS.
K. FOR LONG LINE APPLICATIONS, PROVIDE ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER.
L. SEE DRAWINGS FOR AIR HANDLER ORIENTATION.
M. ELECTRIC HEAT SHALL OPERATE ONLY IN DEFROST MODE OR WHEN THE HEATING LOAD CANNOT BE MET BY THE COMPRESSOR ALONE.

LEGEND
TYPE:
C - CLOSET
P - ..
W - WALL...

ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):
1. 7-DAY PROGRAMMABLE THERMOSTAT; MANUAL CHANGEOVER WITH COMPRESSOR ANTI-RECYCLE PROTECTION AND TIME DELAY RELAY (Honeywell RTH7500 OR APPROVED EQUAL)
2. INDOOR UNIT - SINGLE POINT POWER WIRING KIT WITH DISCONNECTING MEANS AND OVERLOAD PROTECTION (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
3. OUTDOOR UNIT - DISCONNECT FURNISHED BY MECHANICAL; INSTALLED BY ELECTRICAL (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
4. FACTORY MOUNTED THERMAL EXPANSION VALVE TO ACHIEVE 14 SEER RATING (IF REQUIRED)
5. Bi-FLOW REFRIGERANT FILTER DRIER IF REQUIRED BY MANUFACTURER (LOCATE PER MANUFACTURER'S RECOMMENDATION)
6. SAF-T-SWITCH INSTALLED IN SECONDARY CONDENSATE DRAIN FOR OVERFLOW PROTECTION OR ROUTE FULL SIZE OUTLET CONNECTION THRU CEILING WITH ESCUTCHEON
7. HARD START KIT
8. CRANKCASE HEATER

SELECTIONS BASED ON PRODUCTS BY GOODMAN
EQUAL PRODUCTS BY GOODMAN, FIRST COMPANY, SUNTHERM, ASPEN, CARRIER, BRYANT, TRANE, YORK, LENNOX, RHEEM

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Project Number: 22010515 Drawn By: Author Checked By: Checker

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m

No.	Description	Date

Revisions

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

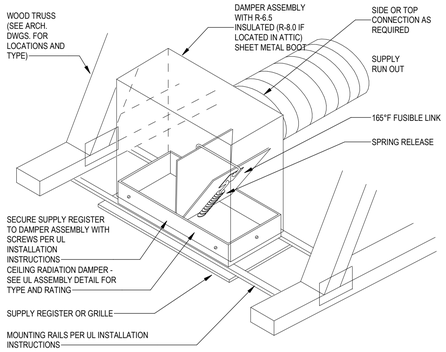
A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
SCHEDULES

Date:
September 30, 2022

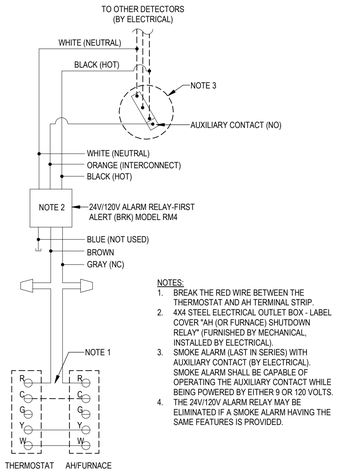
Sheet Number:
M0.02

Not Released for Construction



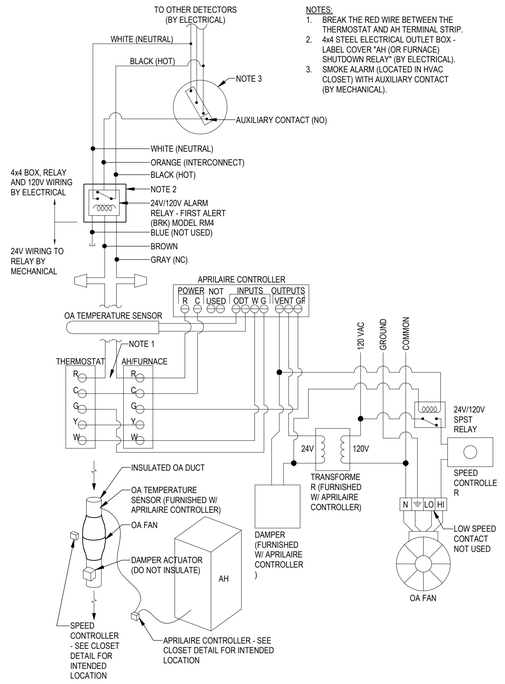
NOTE:
1. CRDs SHALL BE CLASSIFIED IN ACCORDANCE WITH UL555C AND LABELED FOR A 1 HOUR FIRE RESISTANCE RATING.

CEILING RADIATION DAMPER DETAIL
SCALE: NTS



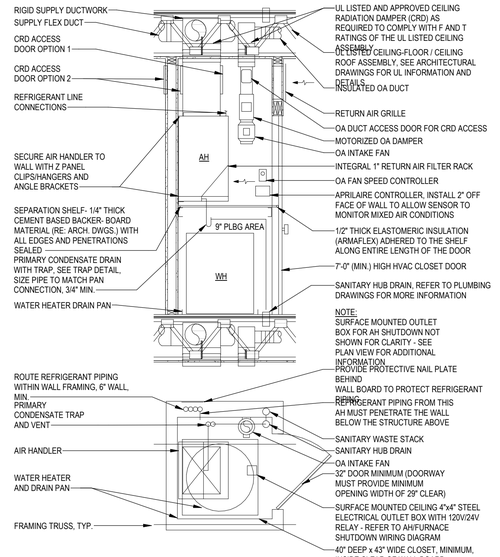
NOTES:
1. BREAK THE RED WIRE BETWEEN THE THERMOSTAT AND AH TERMINAL STRIP.
2. 4X4 STEEL ELECTRICAL OUTLET BOX - LABEL COVER "AH (OR FURNACE) SHUTDOWN RELAY" (FURNISHED BY MECHANICAL, INSTALLED BY ELECTRICAL).
3. SMOKE ALARM (LAST IN SERIES) WITH AUXILIARY CONTACT (BY ELECTRICAL). SMOKE ALARM SHALL BE CAPABLE OF OPERATING THE AUXILIARY CONTACT WHILE BEING POWERED BY EITHER 9 OR 120 VOLTS.
4. THE 24V/120V ALARM RELAY MAY BE ELIMINATED IF A SMOKE ALARM HAVING THE SAME FEATURES IS PROVIDED.

AIR HANDLER / FURNACE SHUTDOWN WIRING
SCALE: NTS

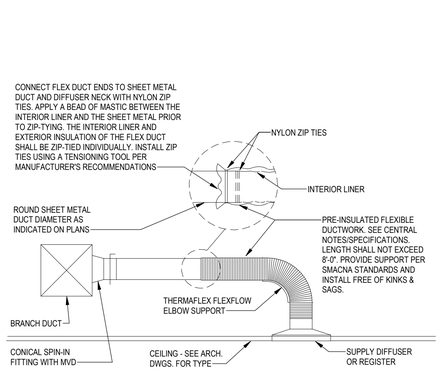


APRILAIRE CONTROLLER WIRING DIAGRAM
SCALE: NTS

NOTES:
1. GENERAL CONTRACTOR SHALL COORDINATE THE PLENUM RATING OF ALL MATERIALS IN THE HVAC CLOSET WITH ALL DISCIPLINES PRIOR TO CONSTRUCTION.
2. ALL MATERIALS, INCLUDING WIRING AND PIPING, IN THE UPPER CLOSET SHALL BE PLENUM RATED AS REQUIRED BY BUILDING CODE.
3. HVAC CLOSET MAY BE CONSTRUCTED OF COMBUSTIBLE MATERIALS WHERE PERMITTED BY BUILDING CODE.
4. GENERAL AND MECHANICAL CONTRACTORS SHALL CONFIRM ADEQUATE LAYOUT, ROUTING AND INSTALLATION OF ALL EQUIPMENT, PIPING AND SYSTEMS IN CLOSET WITH ALL DISCIPLINES PRIOR TO CONSTRUCTION.
5. AIR HANDLER SHALL BE INSTALLED SUCH THAT THE TOP OF THE AIR HANDLER SHALL NOT EXCEED THE TOP OF THE CLOSET DOOR OPENING.
6. CAREFULLY COORDINATE LOCATION OF CEILING RADIATION DAMPER ACCESS PRIOR TO CONSTRUCTION.
7. GENERAL CONTRACTOR SHALL COORDINATE FLOOR/ATTIC TRUSS LOCATIONS ABOVE CLOSET WITH PLUMBING AND MECHANICAL CONTRACTORS TO AVOID CONFLICTS WITH DUCTWORK AND PIPING. TRUSS SPACING MAY REQUIRE GREATER THAN 24" O.C. AT HVAC CLOSET.
8. PROVIDE SAFE-T-SWITCH CONDENSATE OVERFLOW SHUT-OFF SWITCH ON SECONDARY CONNECTION ON PRIMARY DRAIN PAN.
9. INTERLOCK NEAREST DWELLING UNIT SMOKE DETECTOR TO SHUTDOWN AIR HANDLER OPERATION. SEE INTERLOCK DETAIL FOR MORE INFORMATION.
10. PROVIDE COMPLETE APRILAIRE 8126X DIGITAL VENTILATION CONTROL SYSTEM WITH OA SENSOR, MOTORIZED DAMPER AND MIXED AIR SENSOR/CONTROL PANEL. IN LIEU OF THE OA INTAKE FAN, SPEED CONTROLLER, MOTORIZED DAMPER, FILTER CARTRIDGE AND APRILAIRE 8126A CONTROLLER, PROVIDE APRILAIRE MODEL 8144NC FRESH AIR VENTILATOR AND APRILAIRE MODEL 8120X VENTILATION CONTROLLER
11. INSTALL OA SENSOR AT EXTERIOR WALL OR IN OA INTAKE DUCT.

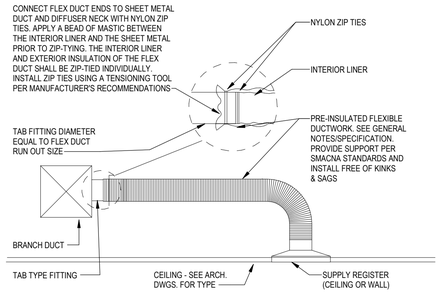


DWELLING UNIT VERTIAL AIR HANDLING UNIT DETAIL
SCALE: NTS



NOTES:
1. TAPES AND MASTICS USED TO SEAL FIBROUS GLASS DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED "181 A-P" FOR PRESSURE-SENSITIVE TAPE, "181 A-M" FOR MASTIC OR "181 A-H" FOR HEAT-SENSITIVE TAPE.
2. TAPES AND MASTICS USED TO SEAL METALLIC AND FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181 B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181 B-M" FOR MASTIC.
3. MECHANICAL FASTENERS FOR USE WITH FLEXIBLE NONMETALLIC AIR DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181 B-C".

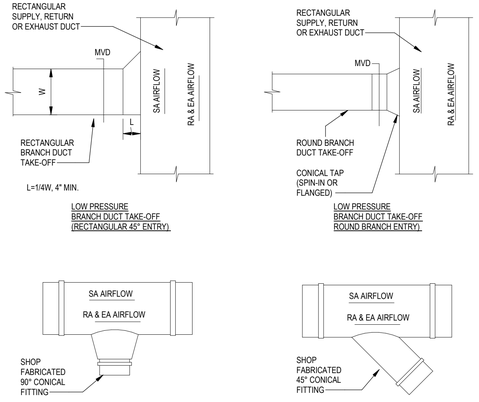
COMMERCIAL FLEXIBLE DUCT TAKE-OFF DETAIL
SCALE: NTS



NOTES:

1. TAPES AND MASTICS USED TO SEAL FIBROUS GLASS DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED "181 A-P" FOR PRESSURE-SENSITIVE TAPE, "181 A-M" FOR MASTIC OR "181 A-H" FOR HEAT-SENSITIVE TAPE.
2. TAPES AND MASTICS USED TO SEAL METALLIC AND FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181 B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181 B-M" FOR MASTIC.
3. MECHANICAL FASTENERS FOR USE WITH FLEXIBLE NONMETALLIC AIR DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181 B-C".

DWELLING UNIT FLEXIBLE DUCT TAKE-OFF DETAIL
SCALE: NTS



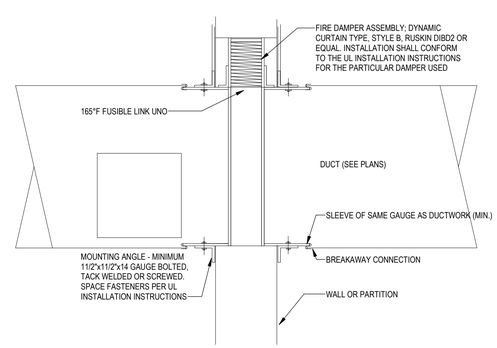
NOTE:
1. ACCEPTABLE ALTERNATIVES ARE CONICAL TAPS AND CONICAL SADDLE TAPS PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS

LOW PRESSURE BRANCH DUCT TAKE-OFF (ALTERNATIVE ROUND 90° BRANCH)

NOTE:
1. ACCEPTABLE ALTERNATIVES ARE CONICAL TAPS AND CONICAL SADDLE TAPS PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS

LOW PRESSURE BRANCH DUCT TAKE-OFF (ALTERNATIVE ROUND 45° ENTRY)

BRANCH DUCT TAKE-OFF DETAIL
SCALE: NTS



1. STYLE A (BLADE STACK IN THE AIR STREAM) WILL BE CONSIDERED AS AN ALTERNATE ONLY IF THERE IS INSUFFICIENT SPACE TO MOUNT THE STYLE B DAMPER. SUBMIT SUPPORTING DATA FOR ENGINEER'S REVIEW.

2. FDs SHALL HAVE A RATING COMPATIBLE WITH THE WALL OR PARTITION, SHALL BE TESTED IN ACCORDANCE WITH UL555 AND BE LABELED FOR THE INTENDED LOCATION. FDs SHALL BE RATED FOR 1 1/2 HOURS UNO. COORDINATE WITH ARCHITECTURAL DRAWINGS TO CONFIRM RATINGS.

3. IN WOOD CONSTRUCTION, GYPSUM WALLBOARD MUST COVER ALL WOOD STUD SURFACES. REFER TO UL INSTALLATION INSTRUCTIONS FOR EXACT REQUIREMENTS.

4. ACCESS DOOR SHALL BE IN AN ACCESSIBLE LOCATION AND ARRANGED SUCH THAT THE FD CAN BE INSPECTED AND THE FUSIBLE LINK EASILY REPLACED. ACCESS DOORS MAY BE FACTORY MOUNTED. ACCESS DOORS IN MEDIUM PRESSURE (+4 IN. WG AND HIGHER) DUCT SYSTEMS SHALL BE THE IMPLOSION TYPE.

VERTICAL FIRE DAMPER DETAIL
SCALE: NTS

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No.	Description	Date

Revisions

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
DETAILS

Date:
September 30, 2022

Sheet Number:
M0.03

Jordan & Skala Engineers
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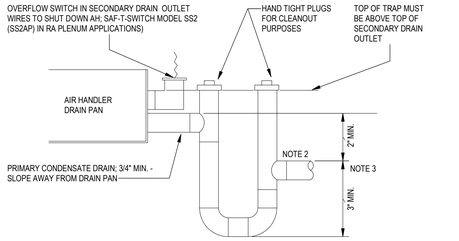
Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction

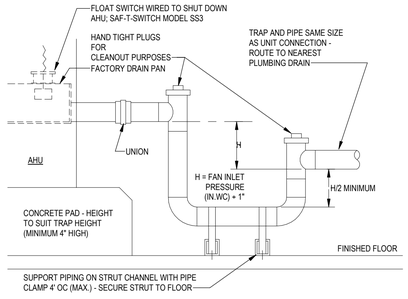


NOTES:

1. ALL PIPING LOCATED WITHIN A RETURN AIR PLENUM MUST MEET FLAME SPREAD/SMOKE DEVELOPED RATINGS OF 25/50.
2. SLOPE PIPING DOWN TOWARDS PLUMBING DRAIN AT A MINIMUM OF 1/4" PER FT.
3. TRAP HEIGHT DIMENSIONS ARE BASED ON GOODMAN MODEL ARUF. ADJUST AS REQUIRED PER INSTALLED EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
4. AS AN ALTERNATE TO THE OVERFLOW SWITCH IN THE SECONDARY DRAIN OUTLET, THE AIR HANDLER MAY HAVE A FLOAT SWITCH IN THE PRIMARY DRAIN PAN.

RESIDENTIAL CONDENSATE DRAIN TRAP DETAIL (GENERIC)

SCALE: NTS

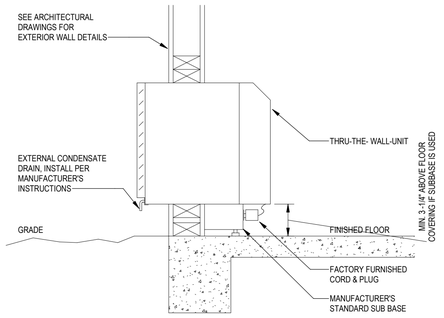


NOTES:

1. SLOPE PIPING DOWN TOWARDS PLUMBING DRAIN AT 1/8" PER FOOT.
2. RUNNING TRAPS ARE NOT ALLOWED
3. ALL PIPING LOCATED WITHIN A RETURN AIR PLENUM MUST MEET FLAME SPREAD/SMOKE DEVELOPED RATINGS OF 25/50
4. TEST THE FLOAT SWITCH IN THE DRAIN PAN FOR PROPER OPERATION AT LEAST ONCE A YEAR.

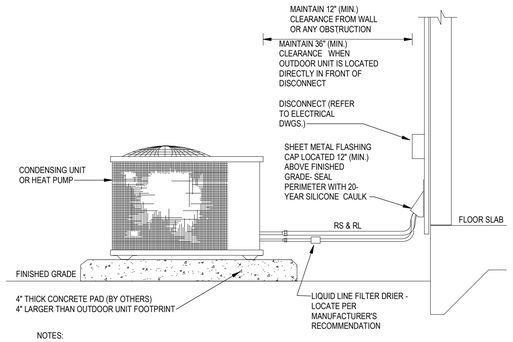
CONDENSATE DRAIN TRAP DETAIL

SCALE: NTS



PACKAGED TERMINAL AIR CONDITIONER DETAIL

SCALE: NTS

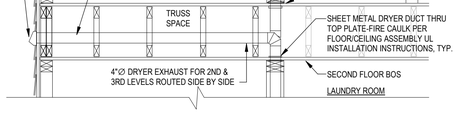


NOTES:

1. MAINTAIN 30"x30" CLEARANCE ON SERVICE SIDE OF ALL OUTDOOR UNITS.
2. IF REQUIRED BY LOCAL CODE, SECURE UNIT TO CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS.
3. SEAL SPACE BETWEEN PIPING AND FLASHING CAP WEATHER TIGHT WITH EXPANDING FOAM INSULATION.
4. ALL REFRIGERANT LINE SET PENETRATIONS SHALL BE LOCATED AT THE SAME ELEVATION AROUND THE BUILDING.
5. ALL ELECTRICAL DISCONNECTS SHALL BE LOCATED AT THE SAME ELEVATION AROUND THE BUILDING (COORDINATE WITH ELECTRICAL CONTRACTOR).

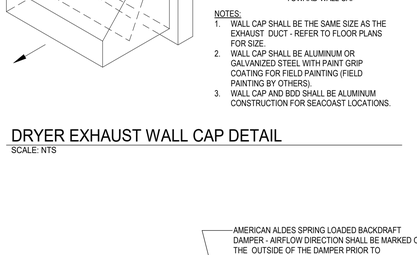
GRADE MOUNTED OUTDOOR UNIT DETAIL ON CONCRETE PAD

SCALE: NTS



DRYER EXHAUST ROUTING DATAIL

SCALE: NTS

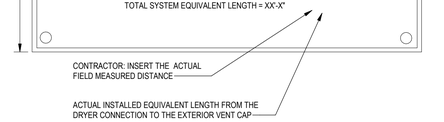


NOTES:

1. WALL CAP SHALL BE THE SAME SIZE AS THE EXHAUST DUCT - REFER TO FLOOR PLANS FOR SIZE.
2. WALL CAP SHALL BE ALUMINUM OR GALVANIZED STEEL WITH PAINT GRIP COATING FOR FIELD PAINTING (FIELD PAINTING BY OTHERS).
3. WALL CAP AND BDD SHALL BE ALUMINUM CONSTRUCTION FOR SEACOAST LOCATIONS.

DRYER EXHAUST WALL CAP DETAIL

SCALE: NTS

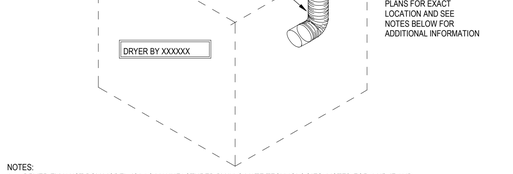


NOTES:

1. PERMANENTLY AFFIX THE LABEL IN A CONSPICUOUS LOCATION WITHIN SIX (6) LINEAL FEET OF THE EXHAUST CONNECTION.
2. LABEL ABOVE IS SHOWN AS A GUIDELINE ONLY. ALTERNATE DESIGNS MAY BE SUBMITTED FOR REVIEW (SUCH AS THOSE MANUFACTURED BY IN-O-VATE TECHNOLOGIES, INC. - www.dryerplacard.com).

DRYER EXHAUST VENT WARNING LABEL

SCALE: NTS

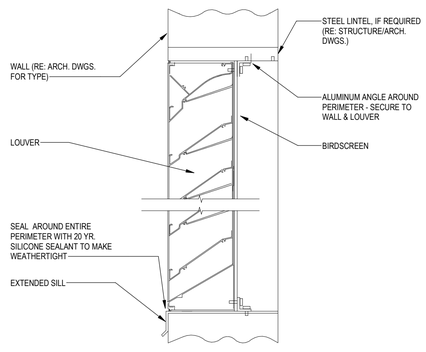


NOTES:

1. DRYER EXHAUST BOX MODEL 425 AS MANUFACTURED BY IN-O-VATE TECHNOLOGIES; LISTED FOR 1-HR (F AND T RATINGS) WALL INSTALLATION; UL THROUGH-PENETRATION FIRESTOP SYSTEM NO. WL-7129. USE FOR UPWARD EXHAUST DIRECTION AND DOWNWARD EXHAUST DIRECTION ONLY FOR PEDESTAL AND STACKING DRYERS.
2. FOR DOWNWARD EXHAUST DIRECTION USE THE MODEL 4D (EXCEPT FOR PEDESTAL AND STACKABLE DRYERS).
3. INSTALLATION REQUIRES THE SPACES BETWEEN THE SIDES OF THE BOX AND THE STUDS AND THE SPACE IMMEDIATELY ABOVE THE BOX TO BE TIGHTLY PACKED WITH GLASS FIBER BATT OR MINERAL WOOL BATT INSULATION. REFER TO UL INSTALLATION DETAILS FOR ADDITIONAL INFORMATION.
4. INSTALL 16 GA STEEL SHIELD PLATES AT THE FINISHED FACE OF FRAMING MEMBERS WHERE THERE IS LESS THAN 1 1/4" BETWEEN THE DUCT AND THE FINISHED FACE OF THE FRAMING. SHIELD PLATES SHALL EXTEND 2" ABOVE SOLE PLATES AND 2" BELOW TOP PLATES.

DRYER EXHAUST WALL BOX DETAIL

SCALE: NTS

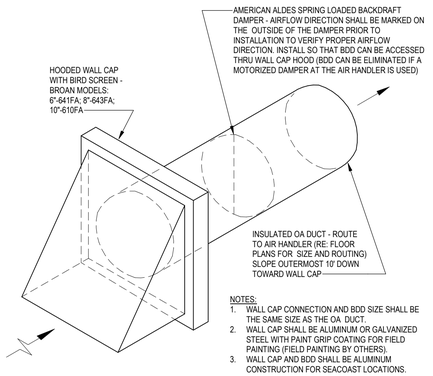


NOTES:

1. ARCH. DWGS. AND MANUFACTURER INSTALLATION INSTRUCTIONS SUPERCEDE THIS DETAIL.

WALL LOUVER DETAIL

SCALE: NTS

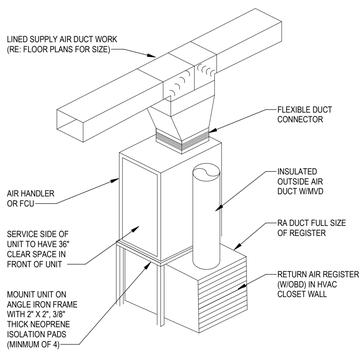


NOTES:

1. WALL CAP CONNECTION AND BDD SIZE SHALL BE THE SAME SIZE AS THE OA DUCT.
2. WALL CAP SHALL BE ALUMINUM OR GALVANIZED STEEL WITH PAINT GRIP COATING FOR FIELD PAINTING (FIELD PAINTING BY OTHERS).
3. WALL CAP AND BDD SHALL BE ALUMINUM CONSTRUCTION FOR SEACOAST LOCATIONS.

OUTSIDE AIR INTAKE WALL CAP

SCALE: NTS



VERTICAL GAS - FIRED FURNACE DETAIL

SCALE: NTS

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Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
DETAILS

Date:
September 30, 2022

Sheet Number:

M0.04

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September 30, 2022

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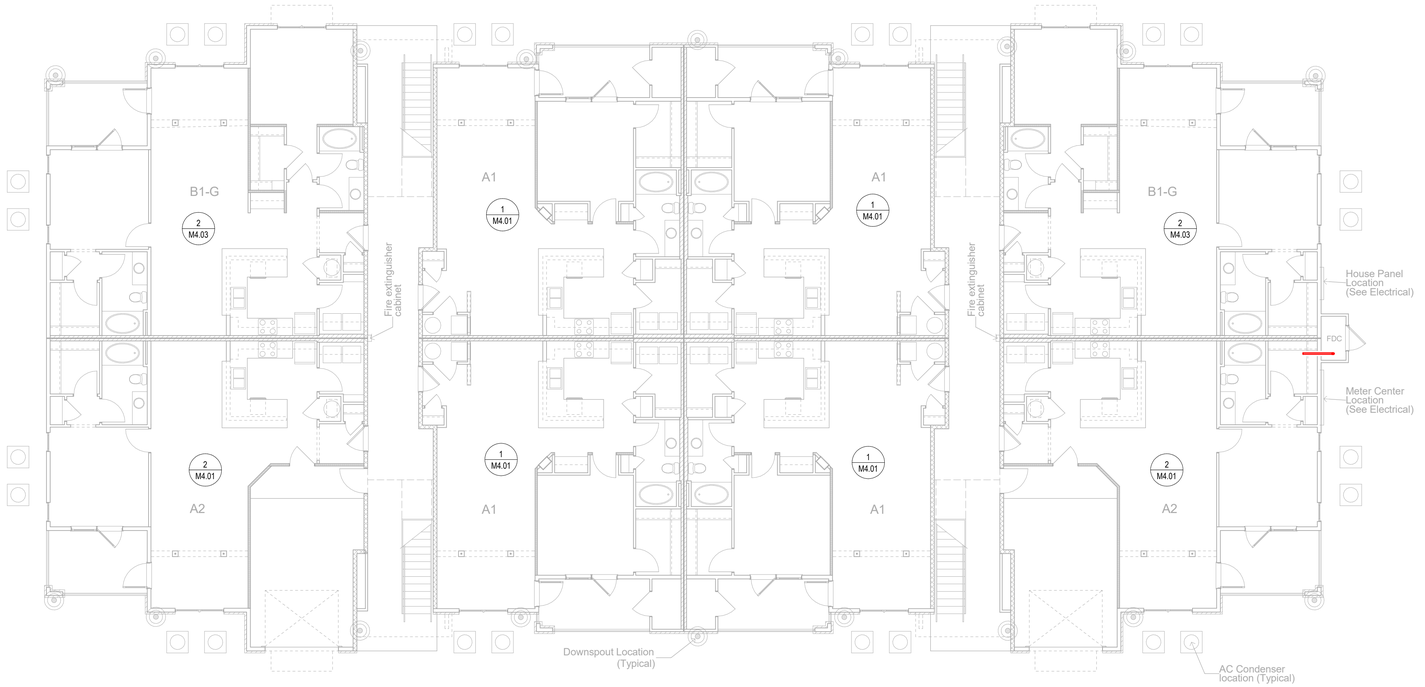
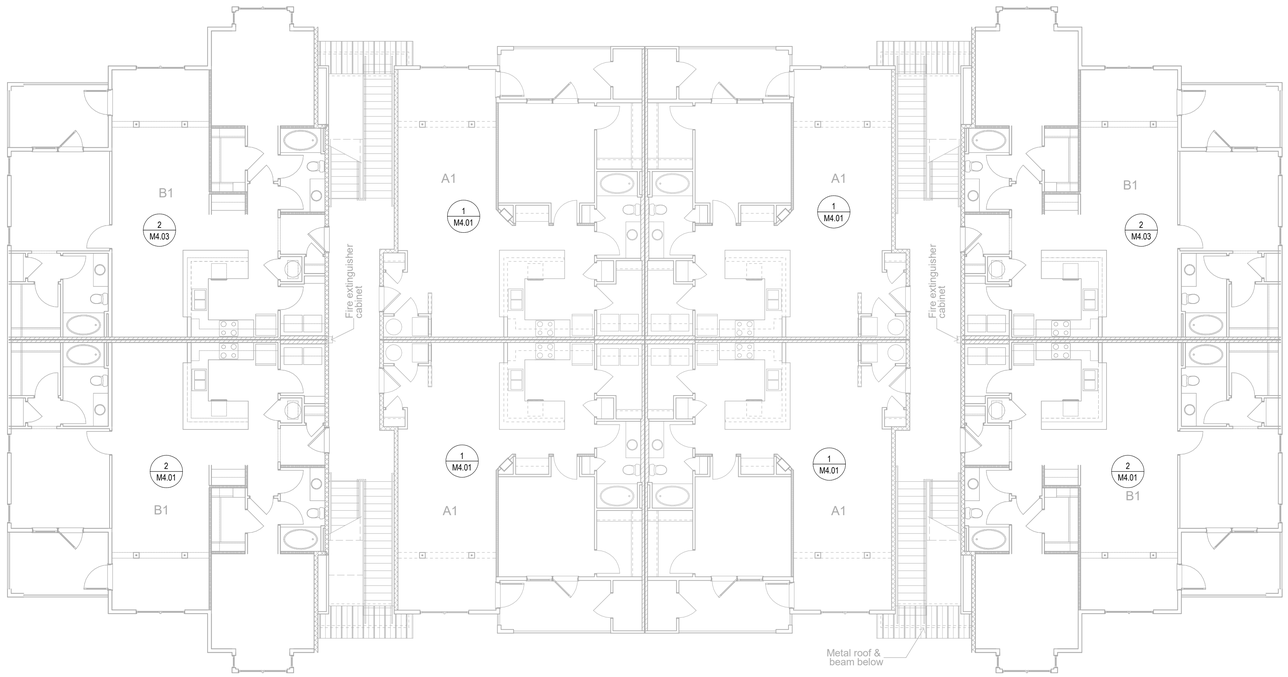


1 LEVEL 1 HVAC PLAN

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



2 LEVEL 2 HVAC PLAN

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

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Lullwater at Ft. Clarke Apartments

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BUILDING PLANS, TYPE I, FIRST & SECOND LEVEL PLANS

Date:

September 30, 2022

Sheet Number:

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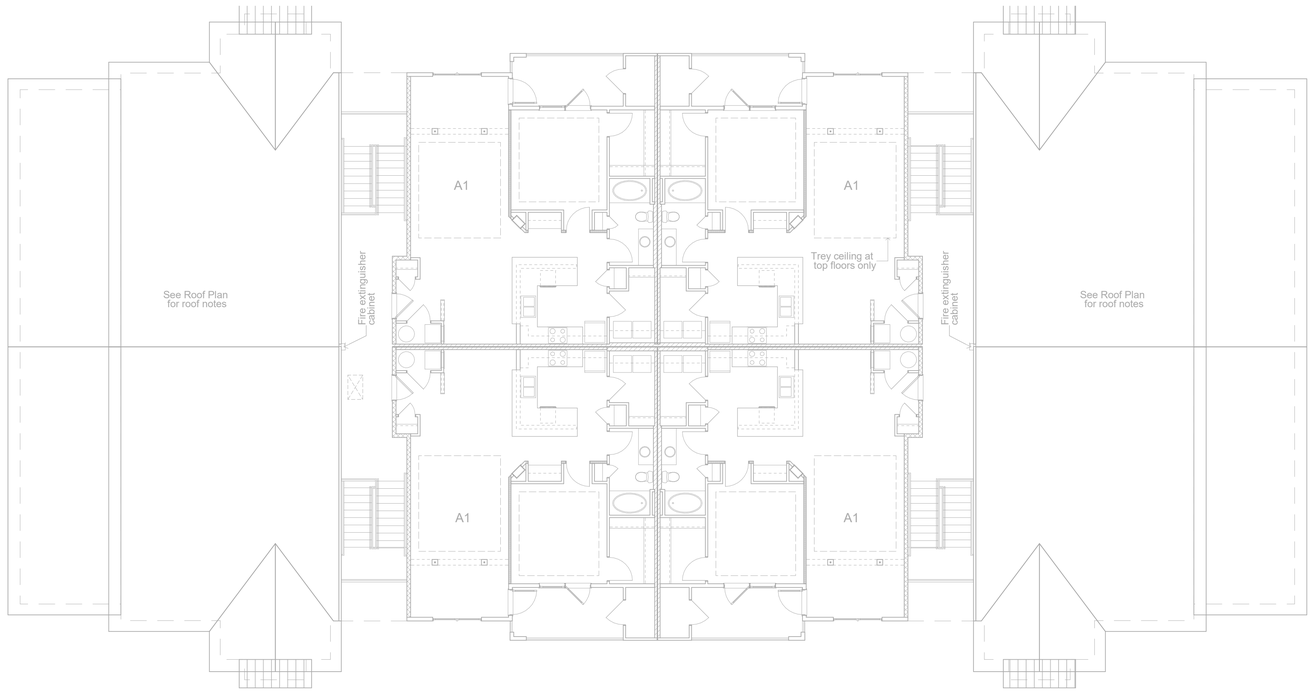
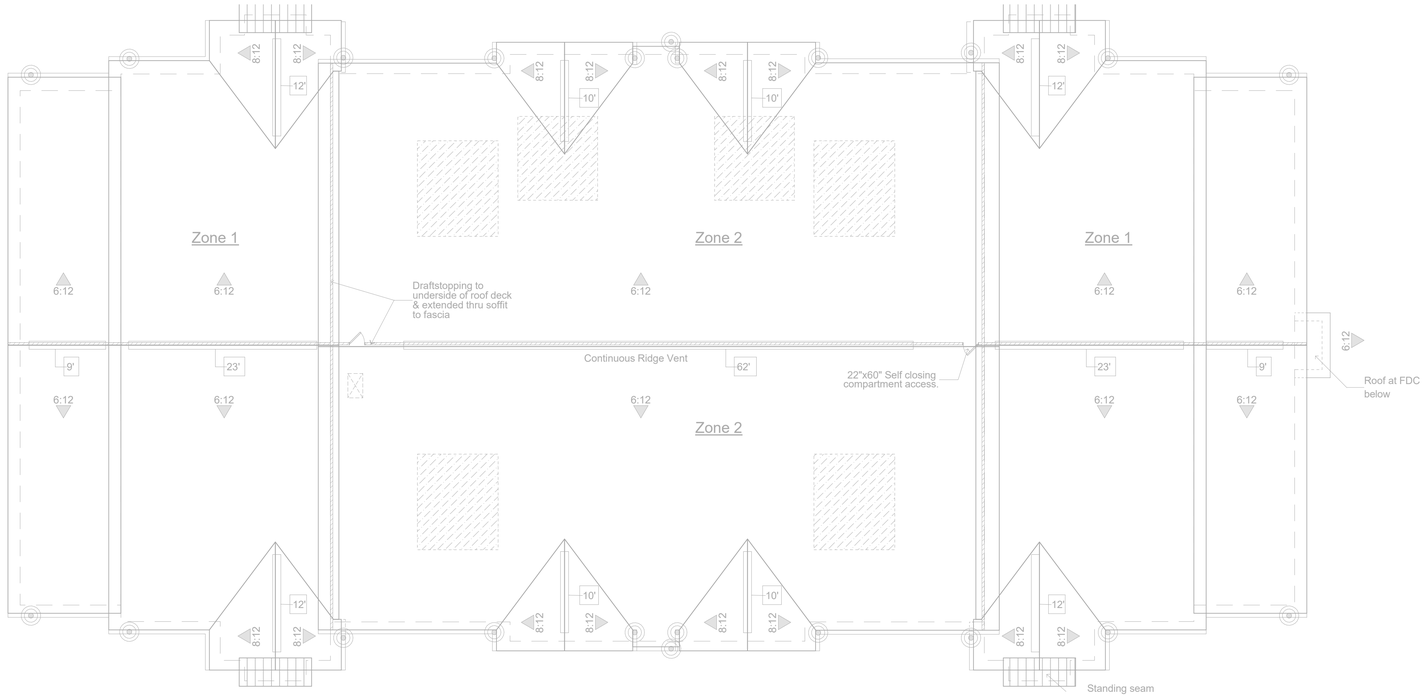


1 LEVEL 3 HVAC PLAN

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



2 ROOF MECHANICAL PLAN

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

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Lullwater at Ft. Clarke Apartments

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BUILDING PLANS, TYPE I, THIRD LEVEL PLAN & ROOF PLAN

Date:

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M2.02

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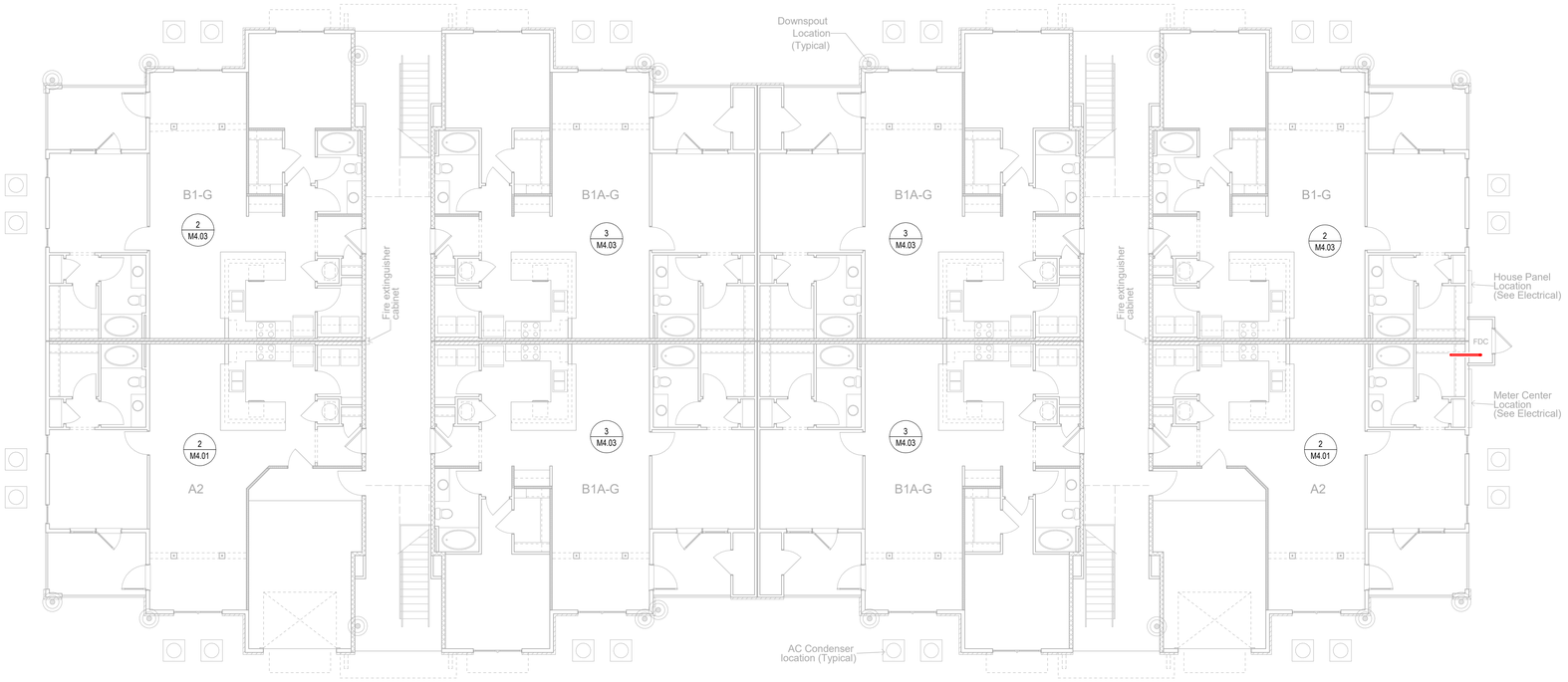
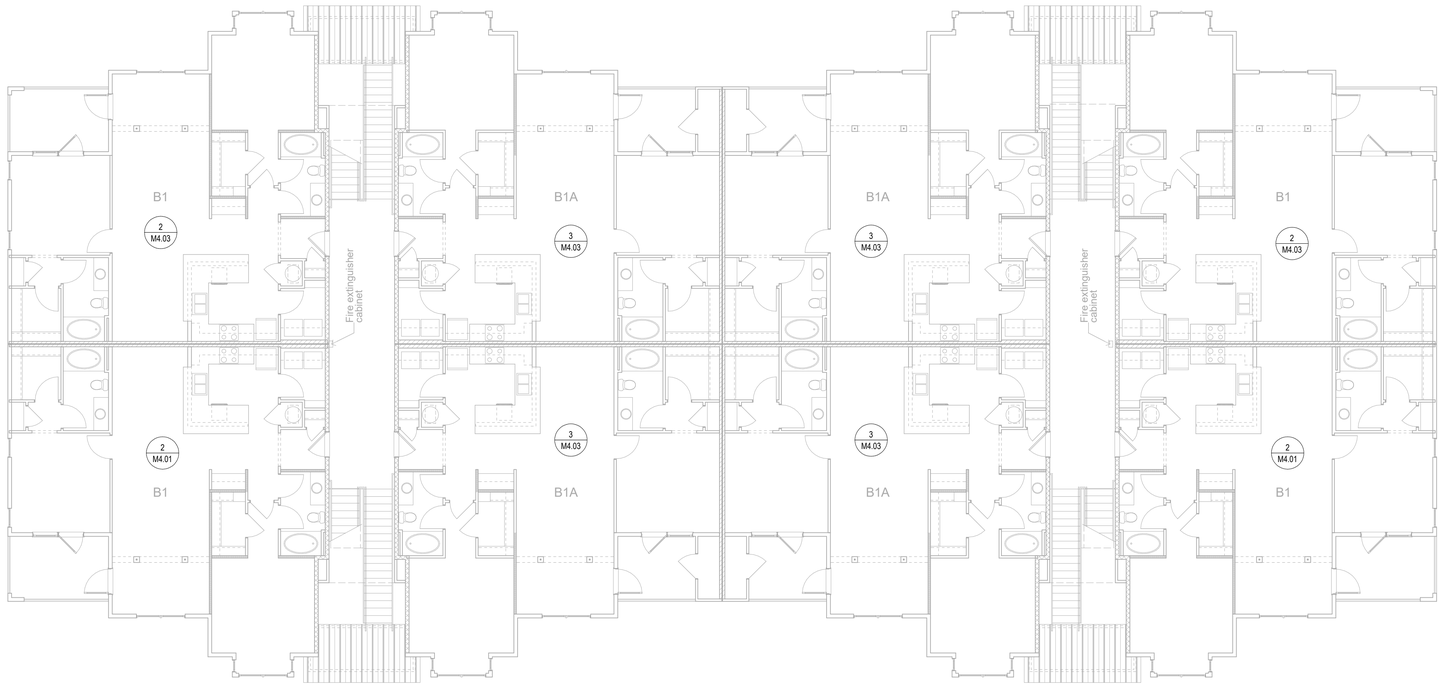


1 LEVEL 1 HVAC PLAN

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



2 LEVEL 2 HVAC PLAN

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

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BUILDING PLANS, TYPE II, FIRST & SECOND LEVEL PLANS

Date:

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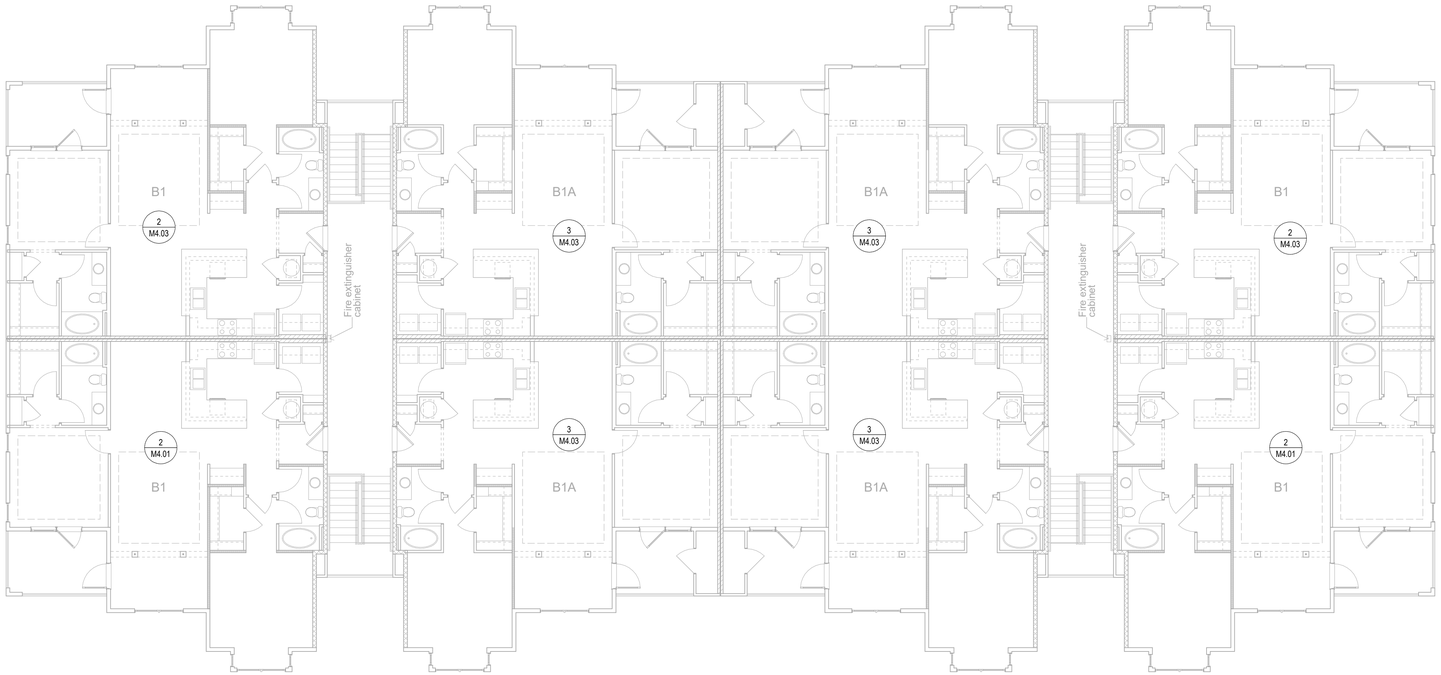
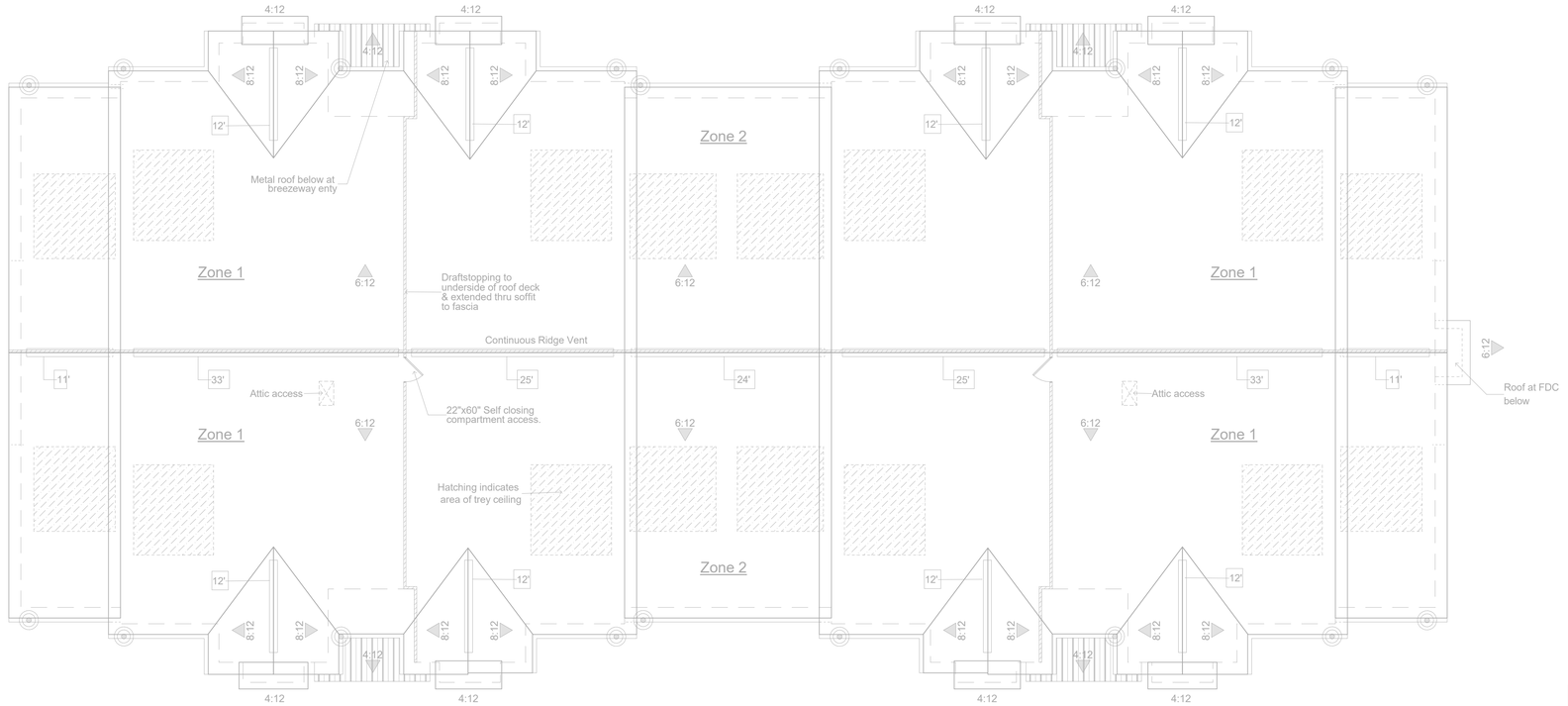


1 LEVEL 3 HVAC PLAN

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



2 ROOF MECHANICAL PLAN

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

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BUILDING PLANS, TYPE II, THIRD LEVEL PLAN & ROOF PLAN

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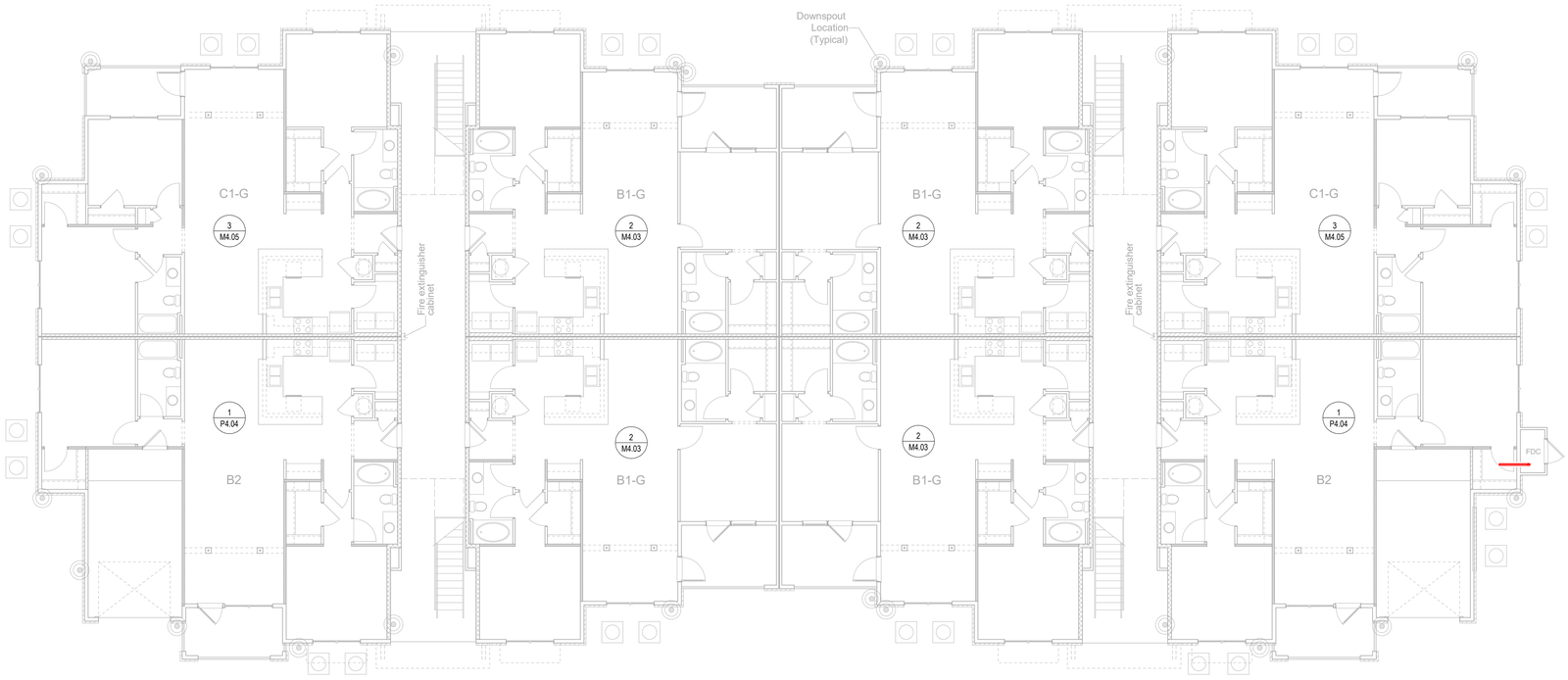
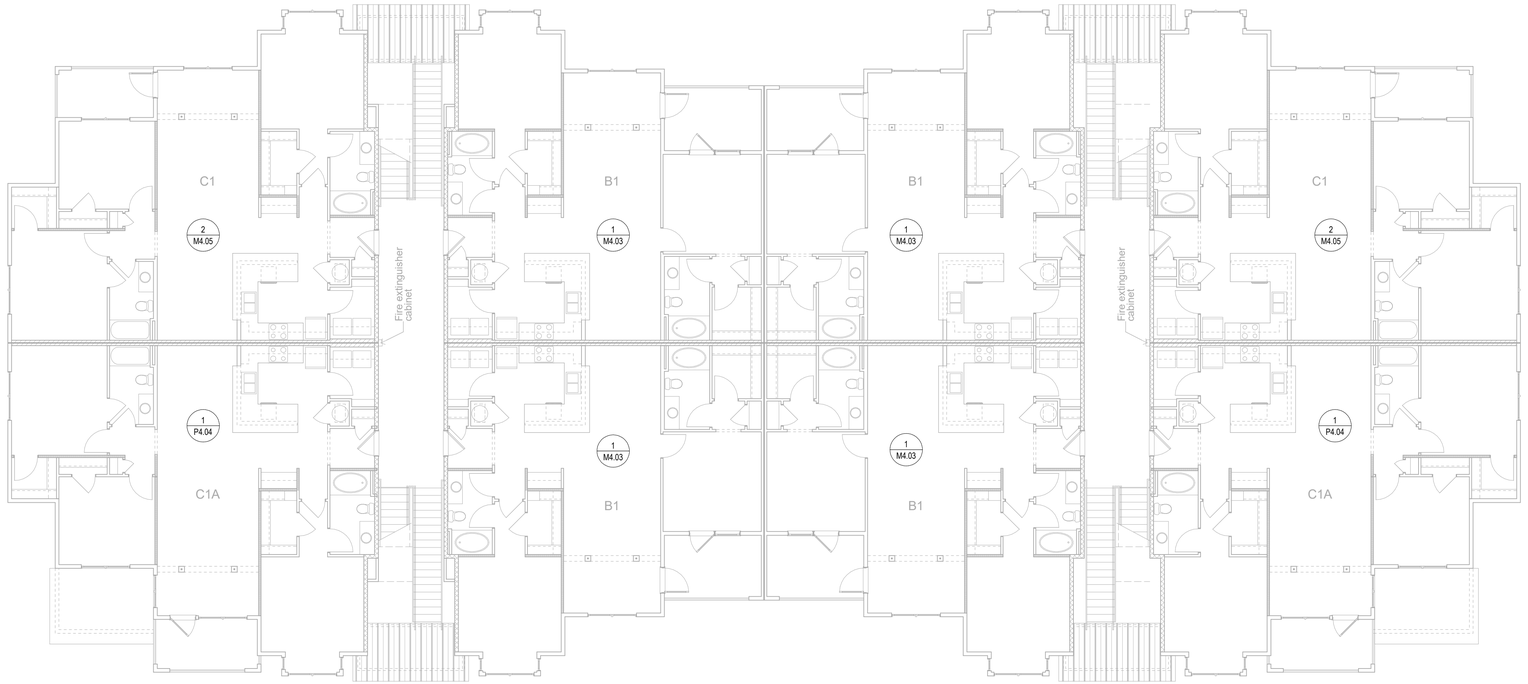


1 LEVEL 1 HVAC PLAN

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



2 LEVEL 2 HVAC PLAN

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

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Lullwater at Ft. Clarke Apartments

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BUILDING PLANS, TYPE III, FIRST & SECOND LEVEL PLANS

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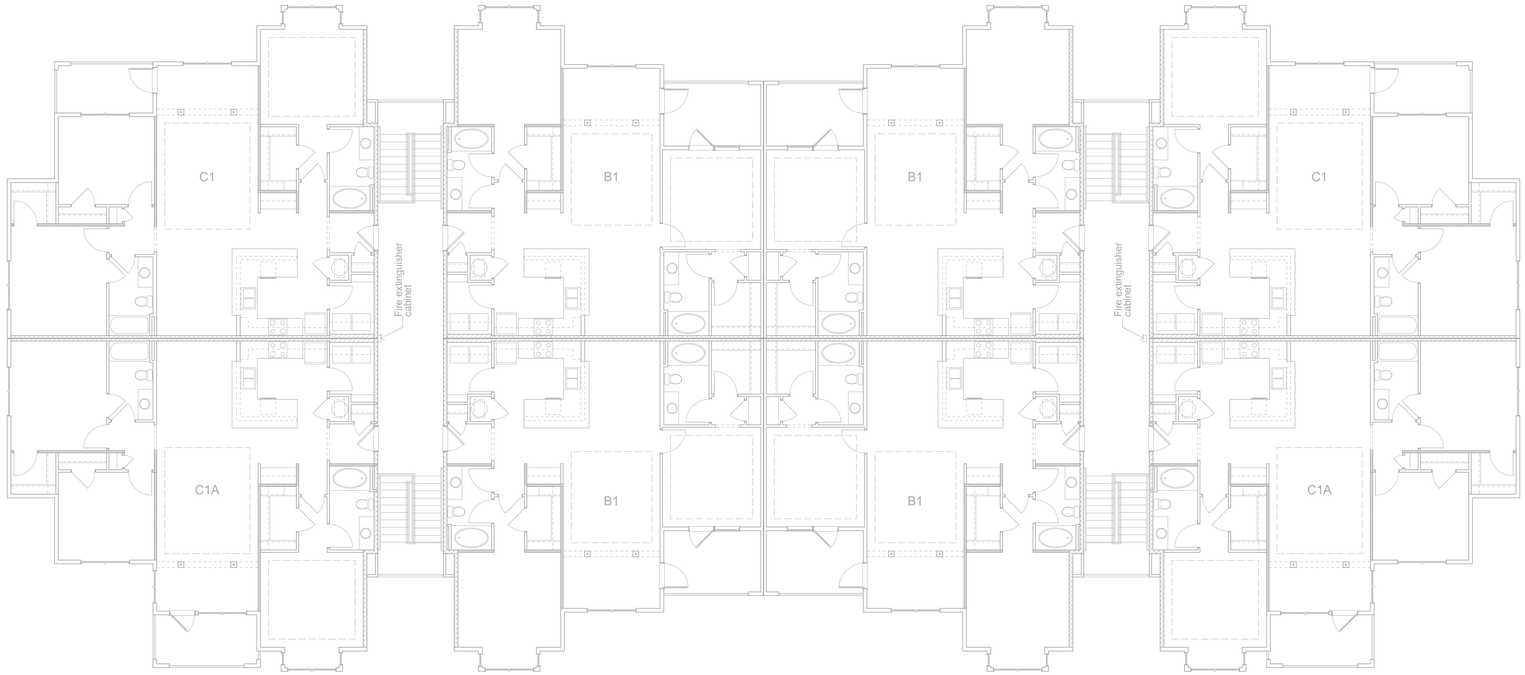
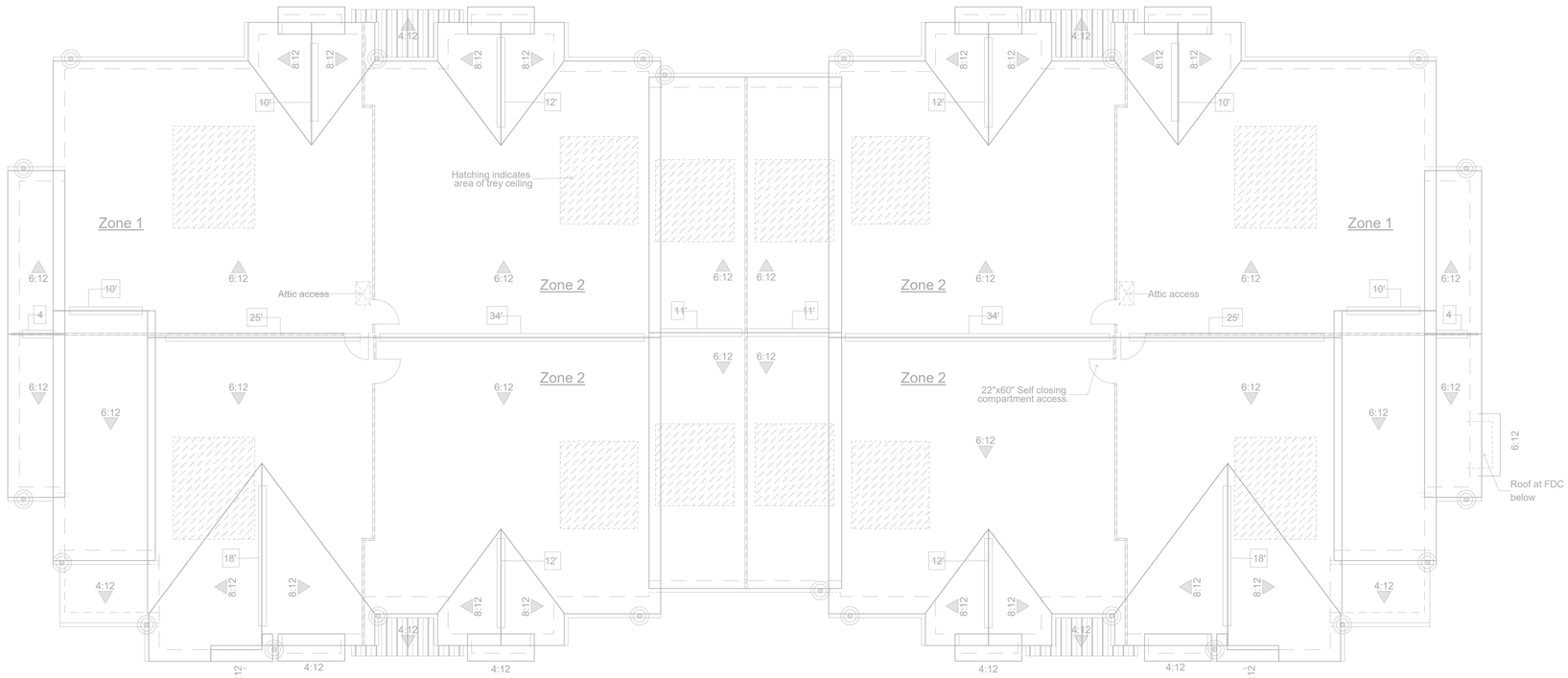


1 LEVEL 3 HVAC PLAN

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



2 ROOF MECHANICAL PLAN

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

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Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

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BUILDING PLANS, TYPE III, THIRD LEVEL PLAN & ROOF PLAN

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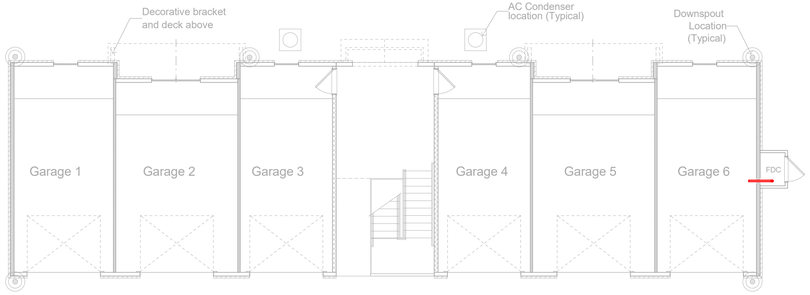
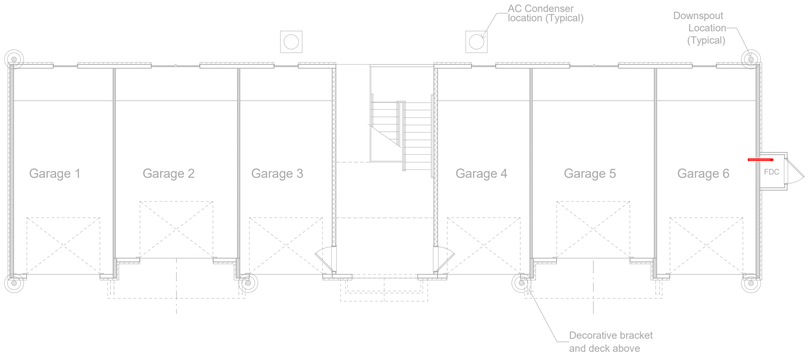


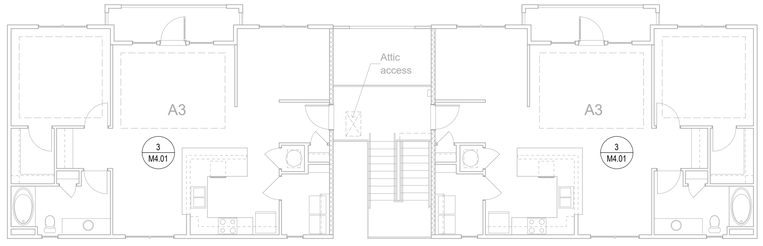
1 LEVEL 1 HVAC PLAN

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



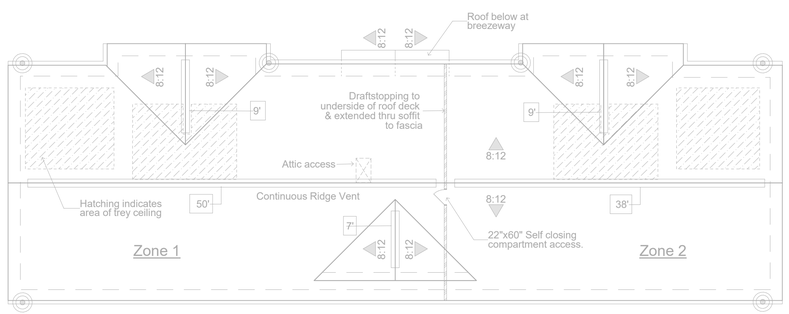
2 LEVEL 1 HVAC PLAN

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



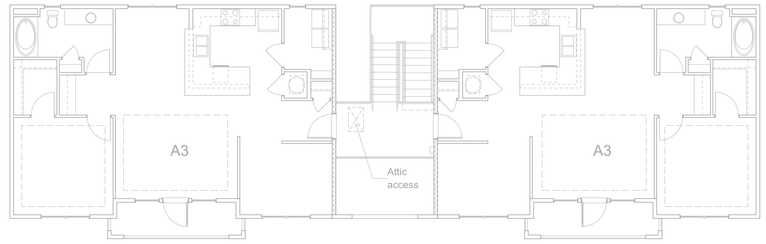
3 LEVEL 2 HVAC PLAN

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



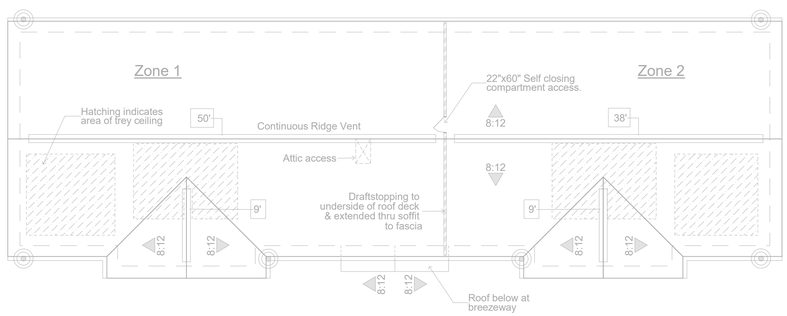
4 ROOF MECHANICAL PLAN

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



5 LEVEL 2 HVAC PLAN

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



6 ROOF MECHANICAL PLAN

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

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BUILDING PLANS, TYPE IV, FIRST & SECOND LEVEL PLANS & ROOF PLAN

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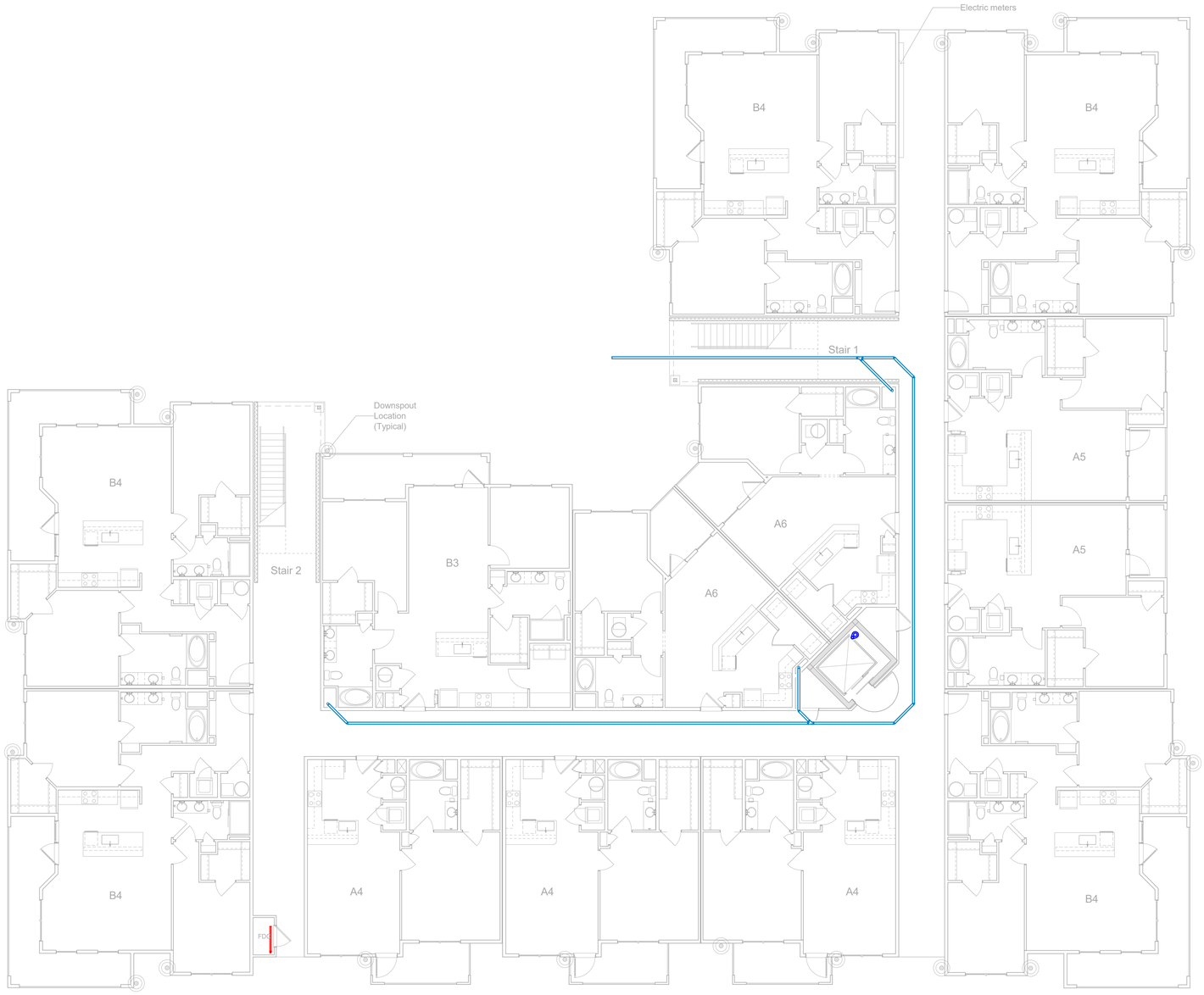

1 LEVEL 1 HVAC PLAN

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

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BUILDING PLAN, TYPE V, FIRST LEVEL PLAN

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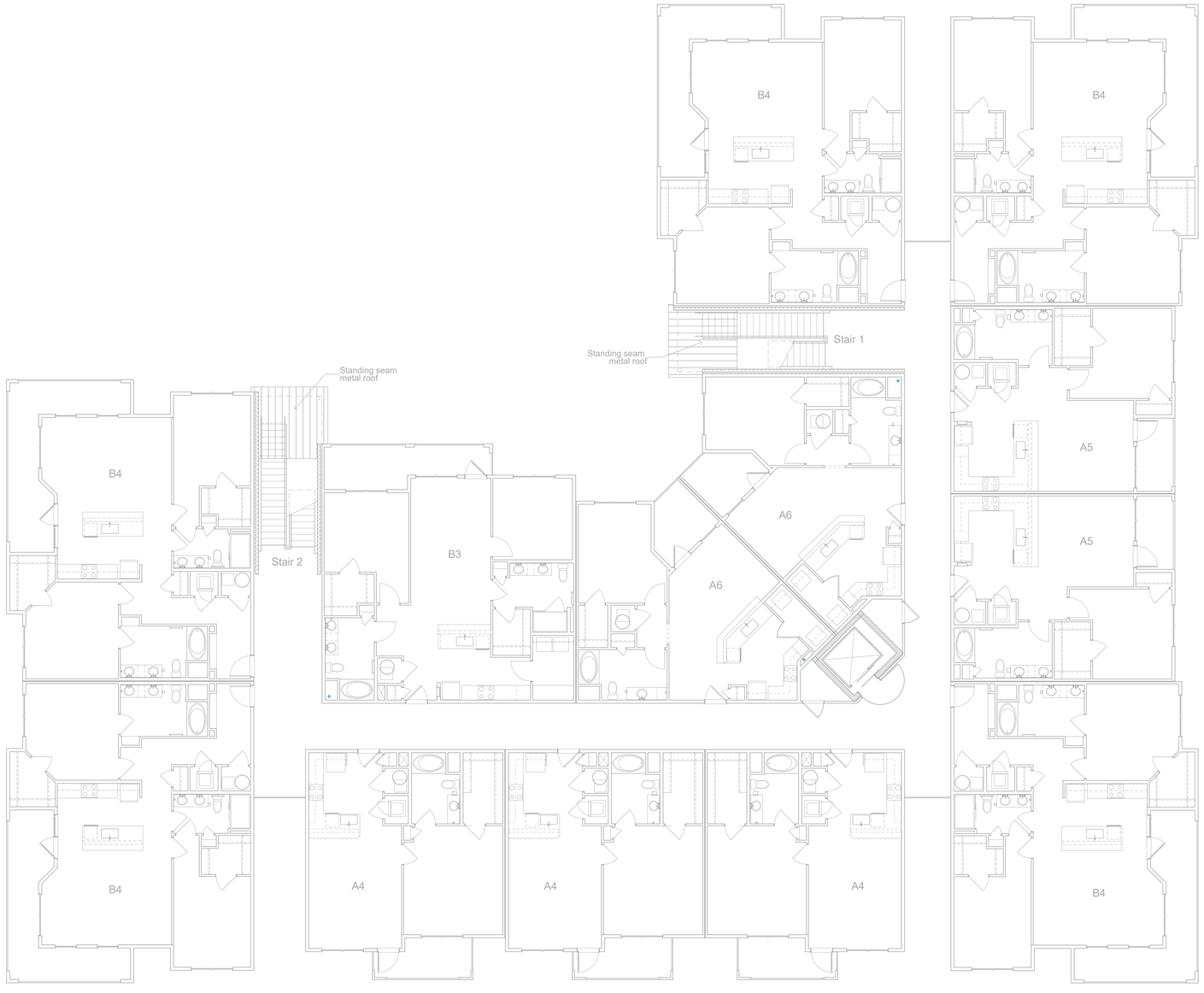

1 LEVEL 2 HVAC PLAN

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

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BUILDING PLAN, TYPE V, SECOND LEVEL PLAN

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1 LEVEL 3 HVAC PLAN

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

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BUILDING PLAN, TYPE V, THIRD LEVEL PLAN

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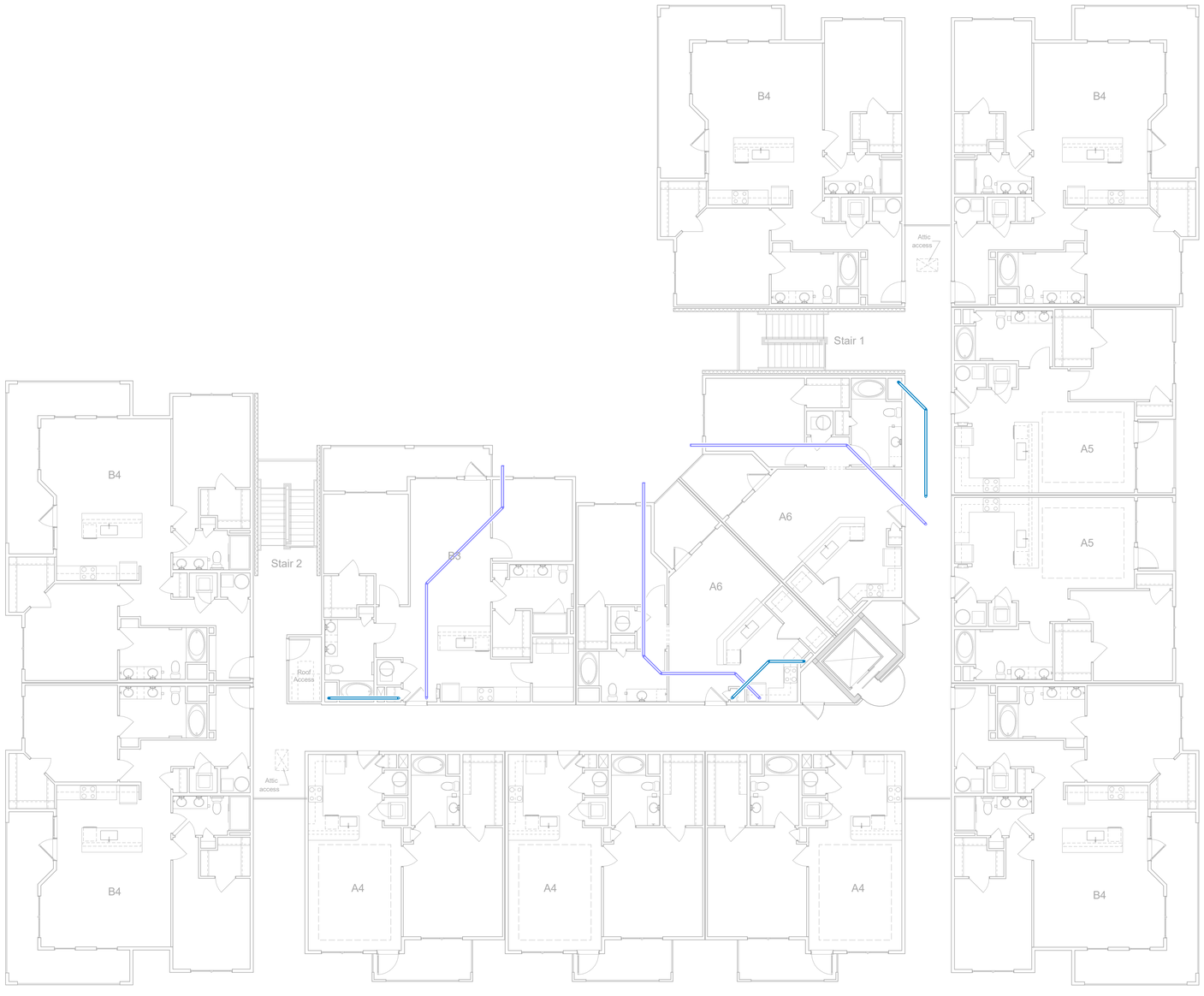

1 LEVEL 4 HVAC PLAN

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

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Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:

BUILDING PLAN, TYPE V, FOURTH LEVEL PLAN

Date:

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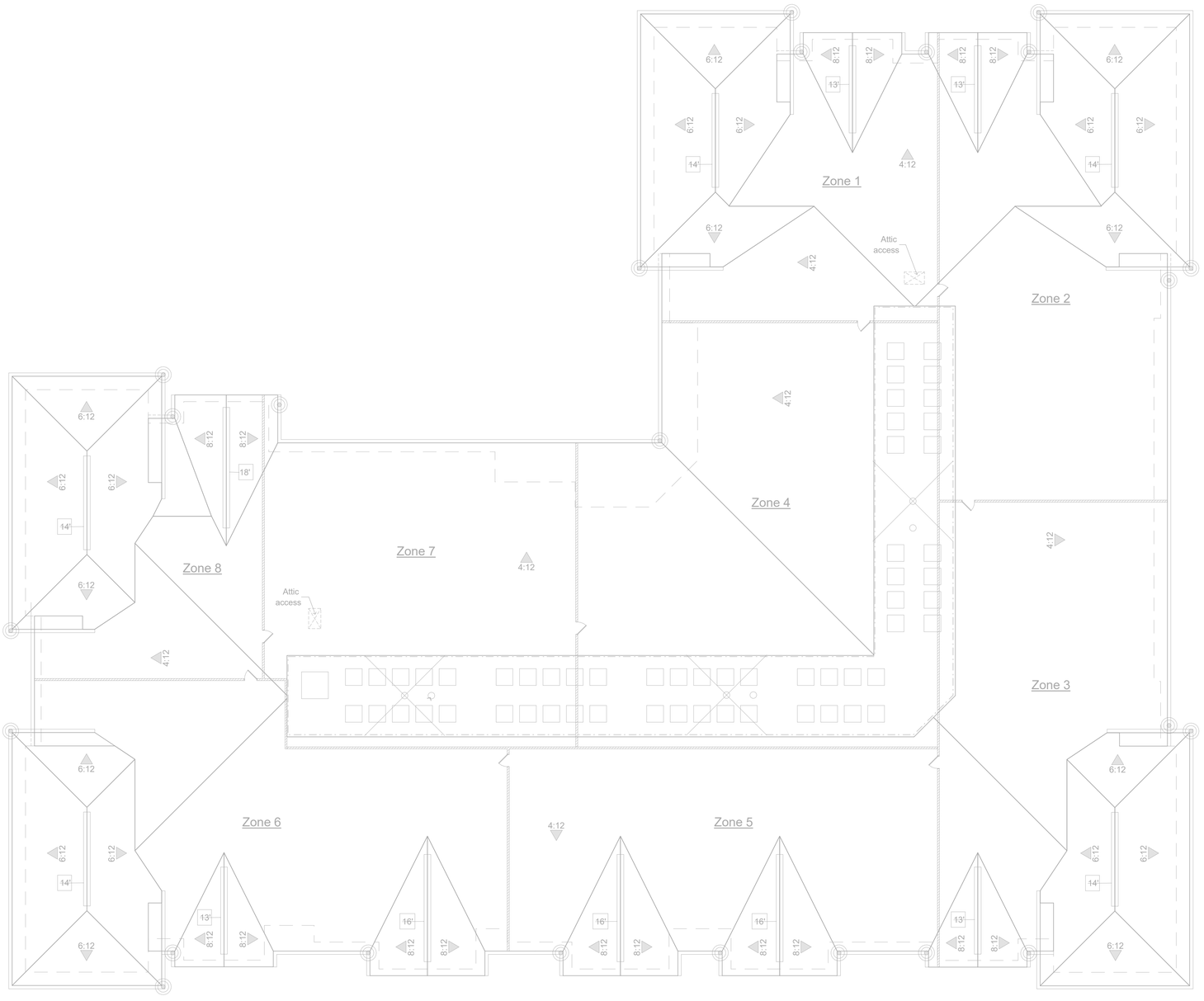

1 ROOF MECHANICAL PLAN

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

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Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

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Sheet Title:

BUILDING PLAN, TYPE V, ROOF PLAN

Date:

September 30, 2022

Sheet Number:

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Project Number: 22010515 Drawn By: Author Checked By: Checker

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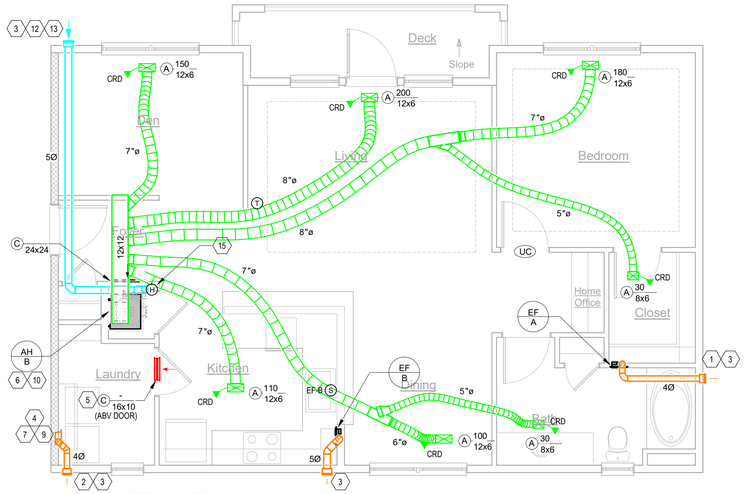
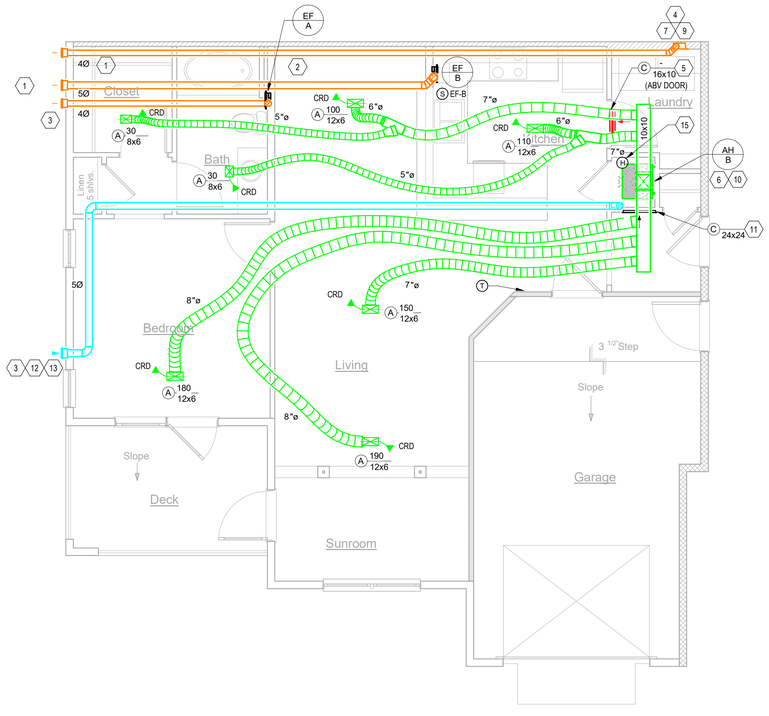
CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING			MODEL NO: ELSE		
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING			MODEL NO: ELSE		
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					



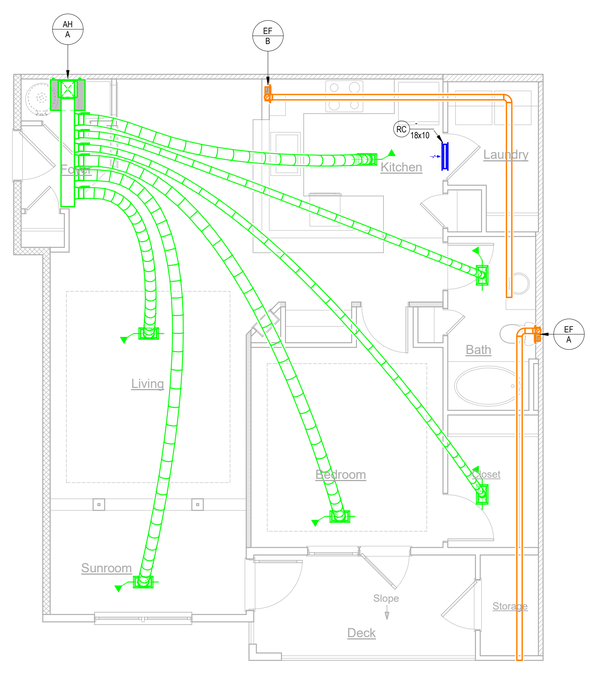
3 M-L1-UNITS-UNIT A3

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



2 M-L1-UNITS-UNIT A2

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



1 M-L1-UNITS-UNIT A1

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

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING			MODEL NO: ELSE		
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

NOTES: (THIS SHEET ONLY)

GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
*COORDINATE ALL DUCT ROUTING QBOVE CEILING WITH THE STRUCTURE, LIGHTS, PLUMBING, AND SPRINKLER PIPING.
*ALL RATED DUCT AND PIPE PENETRATIONS SHALL BE FIRE STOPPED AS REQUIRED.

1. FOR TOILET EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP EQUAL SIZE AS DRYER EXHAUST WALL CAP, COLLAR, TRANSITION, AND 4"Ø DUCT. FOR KITCHEN EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, TRANSITION, AND 5"Ø DUCT.
2. FOR DRYER EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, AND 4"Ø DUCT. EXHAUST SHALL NOT BE OBSTRUCTED WITH SCREENS OR ANY FASTENERS EXTRUDING INTO THE PATH OF AIRFLOW. SEE DETAIL.
3. ALL WALL CAPS AND VENTS SHALL BE MOUNTED AT THE SAME HEIGHT. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH THE ARCHITECT PRIOR TO ROUGH-IN. PAINTABLE WALL CAPS, COLOR SELECTED BY THE ARCHITECT. (TYPICAL)
4. PROVIDE AND INSTALL WALL MOUNTED DRYER SIGN. INDICATE LENGTH OF DRYER DUCT AND NUMBER OF ELBOWS. SEE DRYER VENT WARNING SIGN DETAIL.
5. DRYER MAKEUP, GRILLES LOCATED ABOVE DOOR
6. 3/4" CONDENSATE DRAIN WITH P-TRAP TO HUB DRAIN, SEE PLUMBING DRAWINGS
7. UL LISTED DRYER BOX TO BE PROVIDED AND INSTALLED IN A 6" WALL FOR DRYER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH DRYER DISCHARGE POINT PRIOR TO ROUGH-IN. SEE DETAIL.
8. UNDER CUT DOOR
9. FIRE STOP, SEE DRYER VENT FLOOR CEILING ASSEMBLY DETAIL.
10. CEILING RADIATION DAMPER AND ACCESS PANEL, SEE APARTMENT MECHANICAL CLOSET DETAIL.
11. RETURN GRILLE, MOUNT 12" ABOVE FINISHED FLOOR.
12. PROVIDE 5" INTAKE WALL CAP WITH INSECT SCREEN AND 4" OUTSIDE AIR DUCT WITH BACK DRAFT DAMPER.
13. UPPER LEVEL INTAKE VENT WILL UTILIZE GRILLE LOCATED IN SOFFIT.
14. OUTSIDE AIR VENTILATION FAN, SEE VERTICAL AIR HANDLER DETAIL.
15. APRILAIRE 8126A CONTROLLER, SEE DETAIL.

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www.sgnplusa.com

No.	Description	Date

Revisions

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

Date:
September 30, 2022

Sheet Number:
M4.01

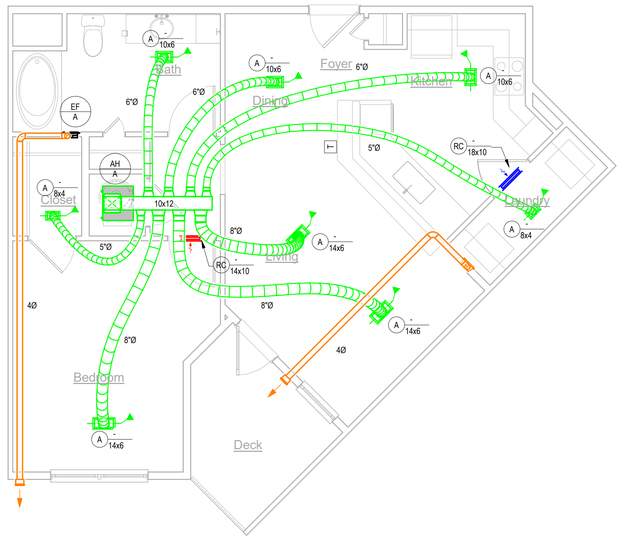
Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE:	SOMETHING		MODEL NO:	ELSE	
NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE:	SOMETHING		MODEL NO:	ELSE	
NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					



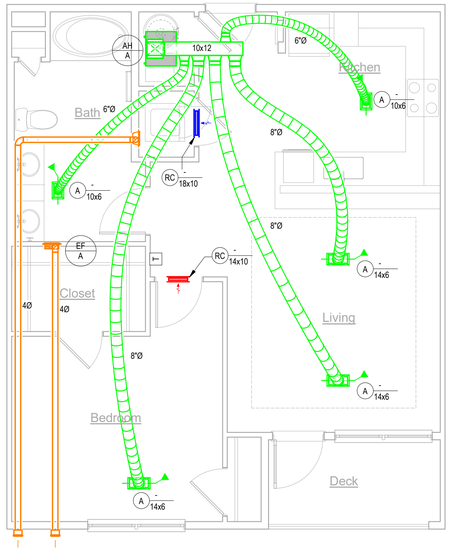
3 M-L1-UNITS-UNIT A6

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

NOTES: (THIS SHEET ONLY)

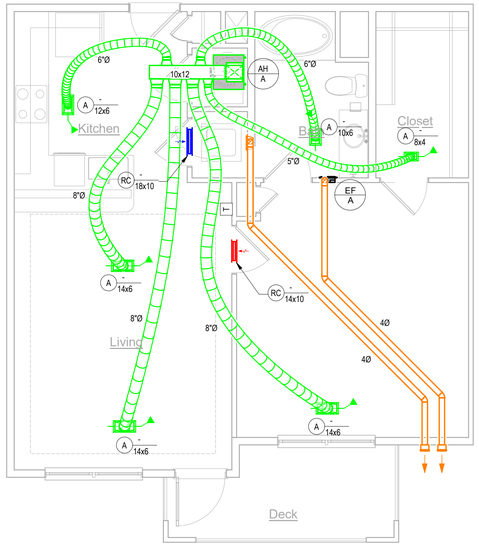
GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
*COORDINATE ALL DUCT ROUTING QBOVE CEILING WITH THE STRUCTURE, LIGHTS, PLUMBING, AND SPRINKLER PIPING.
*ALL RATED DUCT AND PIPE PENETRATIONS SHALL BE FIRE STOPPED AS REQUIRED.

1. FOR TOILET EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP EQUAL SIZE AS DRYER EXHAUST WALL CAP, COLLAR, TRANSITION, AND 4"Ø DUCT. FOR KITCHEN EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, TRANSITION, AND 5"Ø DUCT.
2. FOR DRYER EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, AND 4"Ø DUCT. EXHAUST SHALL NOT BE OBSTRUCTED WITH SCREENS OR ANY FASTENERS EXTRUDING INTO THE PATH OF AIRFLOW. SEE DETAIL.
3. ALL WALL CAPS AND VENTS SHALL BE MOUNTED AT THE SAME HEIGHT. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH THE ARCHITECT PRIOR TO ROUGH-IN. PAINTABLE WALL CAPS, COLOR SELECTED BY THE ARCHITECT. (TYPICAL)
4. PROVIDE AND INSTALL WALL MOUNTED DRYER SIGN. INDICATE LENGTH OF DRYER DUCT AND NUMBER OF ELBOWS. SEE DRYER VENT WARNING SIGN DETAIL.
5. DRYER MAKEUP, GRILLES LOCATED ABOVE DOOR
6. 3/4" CONDENSATE DRAIN WITH P-TRAP TO HUB DRAIN, SEE PLUMBING DRAWINGS
7. UL LISTED DRYER BOX TO BE PROVIDED AND INSTALLED IN A 6" WALL FOR DRYER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH DRYER DISCHARGE POINT PRIOR TO ROUGH-IN. SEE DETAIL.
8. UNDER CUT DOOR
9. FIRE STOP, SEE DRYER VENT FLOOR CEILING ASSEMBLY DETAIL.
10. CEILING RADIATION DAMPER AND ACCESS PANEL, SEE APARTMENT MECHANICAL CLOSET DETAIL.
11. RETURN GRILLE, MOUNT 12" ABOVE FINISHED FLOOR.
12. PROVIDE 5" INTAKE WALL CAP WITH INSECT SCREEN AND 4" OUTSIDE AIR DUCT WITH BACK DRAFT DAMPER.
13. UPPER LEVEL INTAKE VENT WILL UTILIZE GRILLE LOCATED IN SOFFIT.
14. OUTSIDE AIR VENTILATION FAN, SEE VERTICAL AIR HANDLER DETAIL.
15. APRILAIRE 8126A CONTROLLER, SEE DETAIL.



2 M-L1-UNITS-UNIT A5

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



1 M-L1-UNITS-UNIT A4

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

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE:	SOMETHING		MODEL NO:	ELSE	
NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

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www.sgnplusa.com

No.	Description	Date
	Revisions	

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

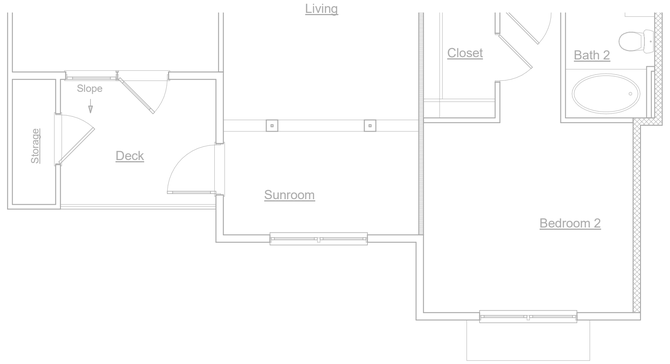
Date:
September 30, 2022

Sheet Number:
M4.02

Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

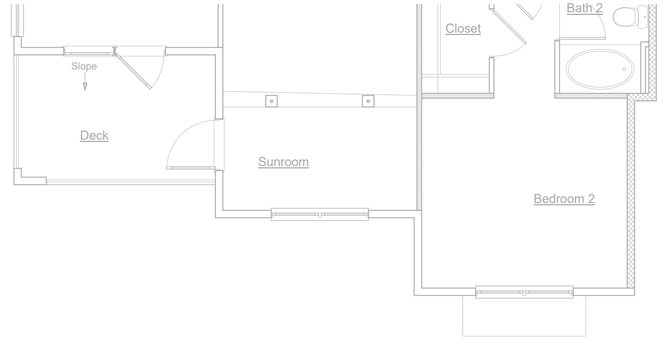
Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction



3 M-L1-UNITS-UNIT B1A-G

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



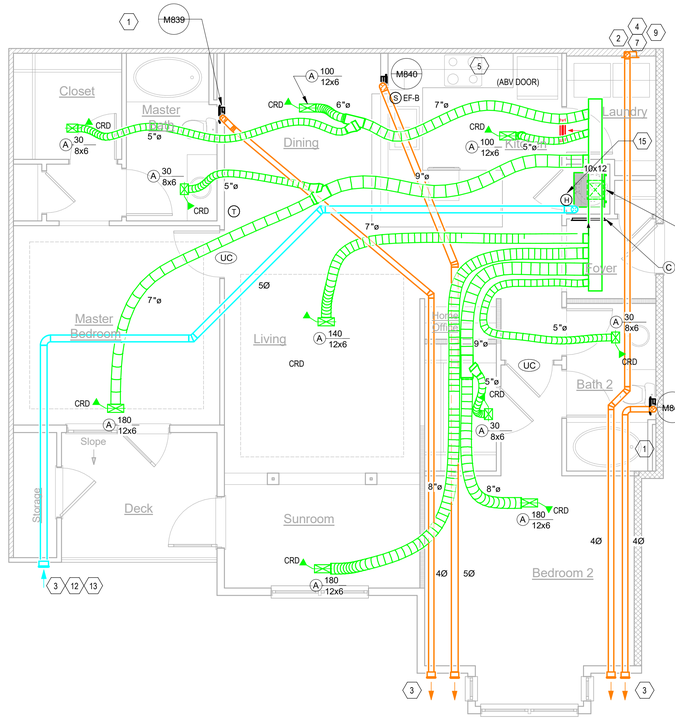
2 M-L1-UNITS-UNIT B1-G

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

NOTES: (THIS SHEET ONLY)

GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
*COORDINATE ALL DUCT ROUTING QBOVE CEILING WITH THE STRUCTURE, LIGHTS, PLUMBING, AND SPRINKLER PIPING.
*ALL RATED DUCT AND PIPE PENETRATIONS SHALL BE FIRE STOPPED AS REQUIRED.

1. FOR TOILET EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP EQUAL SIZE AS DRYER EXHAUST WALL CAP, COLLAR, TRANSITION, AND 4"∅ DUCT. FOR KITCHEN EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, TRANSITION, AND 5"∅ DUCT.
2. FOR DRYER EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, AND 4"∅ DUCT. EXHAUST SHALL NOT BE OBSTRUCTED WITH SCREENS OR ANY FASTENERS EXTRUDING INTO THE PATH OF AIRFLOW. SEE DETAIL.
3. ALL WALL CAPS AND VENTS SHALL BE MOUNTED AT THE SAME HEIGHT. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH THE ARCHITECT PRIOR TO ROUGH-IN. PAINTABLE WALL CAPS, COLOR SELECTED BY THE ARCHITECT. (TYPICAL)
4. PROVIDE AND INSTALL WALL MOUNTED DRYER SIGN. INDICATE LENGTH OF DRYER DUCT AND NUMBER OF ELBOWS. SEE DRYER VENT WARNING SIGN DETAIL.
5. DRYER MAKEUP, GRILLES LOCATED ABOVE DOOR
6. 3/4" CONDENSATE DRAIN WITH P-TRAP TO HUB DRAIN, SEE PLUMBING DRAWINGS
7. UL LISTED DRYER BOX TO BE PROVIDED AND INSTALLED IN A 6" WALL FOR DRYER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH DRYER DISCHARGE POINT PRIOR TO ROUGH-IN. SEE DETAIL.
8. UNDER CUT DOOR
9. FIRE STOP, SEE DRYER VENT FLOOR CEILING ASSEMBLY DETAIL.
10. CEILING RADIATION DAMPER AND ACCESS PANEL, SEE APARTMENT MECHANICAL CLOSET DETAIL.
11. RETURN GRILLE, MOUNT 12" ABOVE FINISHED FLOOR.
12. PROVIDE 5" INTAKE WALL CAP WITH INSECT SCREEN AND 4" OUTSIDE AIR DUCT WITH BACK DRAFT DAMPER.
13. UPPER LEVEL INTAKE VENT WILL UTILIZE GRILLE LOCATED IN SOFFIT.
14. OUTSIDE AIR VENTILATION FAN, SEE VERTICAL AIR HANDLER DETAIL.
15. APRILAIRE 8126A CONTROLLER, SEE DETAIL.



CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT

PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION

ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"

*DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE (35' - 0")

NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.

BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC

MAKE:	SOMETHING	MODEL NO:	ELSE

NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"

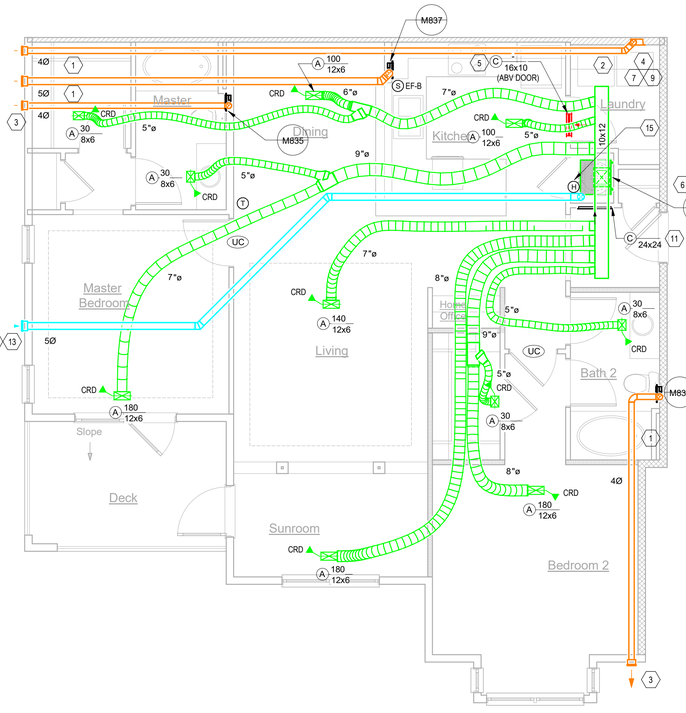
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"

0' - 0" IS LESS THAN 60' - 0"THEREFORE:

DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH

4 M-L1-UNITS-UNIT B1A

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



CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT

PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION

ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"

*DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE (35' - 0")

NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.

BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC

MAKE:	SOMETHING	MODEL NO:	ELSE

NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"

ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"

0' - 0" IS LESS THAN 60' - 0"THEREFORE:

DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH

1 M-L1-UNITS-UNIT B1

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

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315 West Ponce de Leon Avenue
Suite 755
Decatur, Georgia 30030
Tel: 404.373.7370
Fax: 404.373.7372
www.sgnplusa.com

No.	Description	Date

Revisions

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

Date:
September 30, 2022

Sheet Number:

M4.03

Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

Project Number: 22010515 Drawn By: Author Checked By: Checker

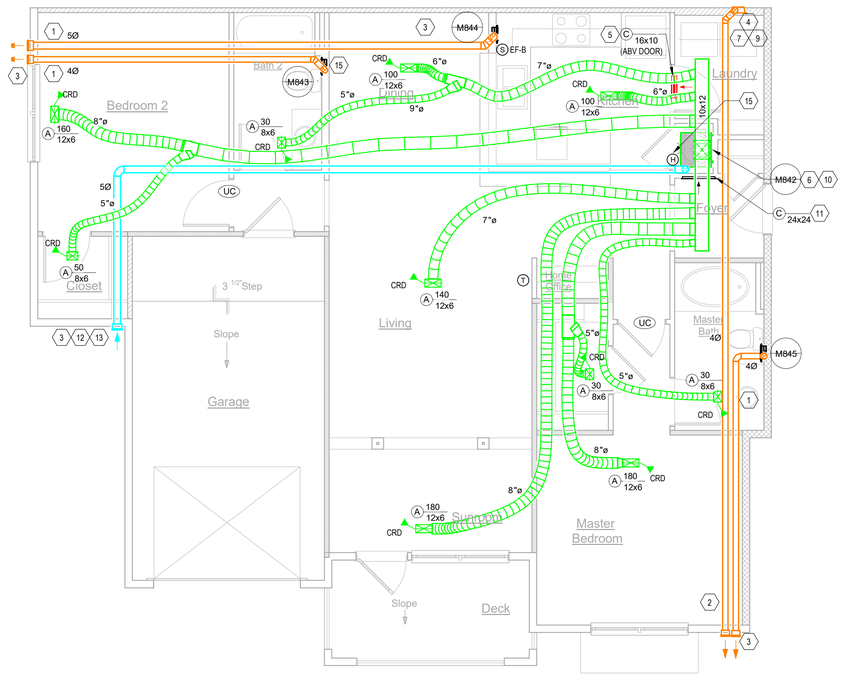
Not Released for Construction

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING		MODEL NO: ELSE			
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING		MODEL NO: ELSE			
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

2 M-L1-UNITS-UNIT B3

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



1 M-L1-UNITS-UNIT B2

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

NOTES: (THIS SHEET ONLY)

GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
*COORDINATE ALL DUCT ROUTING QBOVE CEILING WITH THE STRUCTURE, LIGHTS, PLUMBING, AND SPRINKLER PIPING.
*ALL RATED DUCT AND PIPE PENETRATIONS SHALL BE FIRE STOPPED AS REQUIRED.

1. FOR TOILET EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP EQUAL SIZE AS DRYER EXHAUST WALL CAP, COLLAR, TRANSITION, AND 4"∅ DUCT. FOR KITCHEN EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, TRANSITION, AND 5"∅ DUCT.
2. FOR DRYER EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, AND 4"∅ DUCT. EXHAUST SHALL NOT BE OBSTRUCTED WITH SCREENS OR ANY FASTENERS EXTRUDING INTO THE PATH OF AIRFLOW. SEE DETAIL.
3. ALL WALL CAPS AND VENTS SHALL BE MOUNTED AT THE SAME HEIGHT. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH THE ARCHITECT PRIOR TO ROUGH-IN. PAINTABLE WALL CAPS, COLOR SELECTED BY THE ARCHITECT. (TYPICAL)
4. PROVIDE AND INSTALL WALL MOUNTED DRYER SIGN. INDICATE LENGTH OF DRYER DUCT AND NUMBER OF ELBOWS. SEE DRYER VENT WARNING SIGN DETAIL.
5. DRYER MAKEUP, GRILLES LOCATED ABOVE DOOR
6. 3/4" CONDENSATE DRAIN WITH P-TRAP TO HUB DRAIN, SEE PLUMBING DRAWINGS
7. UL LISTED DRYER BOX TO BE PROVIDED AND INSTALLED IN A 6" WALL FOR DRYER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH DRYER DISCHARGE POINT PRIOR TO ROUGH-IN. SEE DETAIL.
8. UNDER CUT DOOR
9. FIRE STOP, SEE DRYER VENT FLOOR CEILING ASSEMBLY DETAIL.
10. CEILING RADIATION DAMPER AND ACCESS PANEL, SEE APARTMENT MECHANICAL CLOSET DETAIL.
11. RETURN GRILLE, MOUNT 12" ABOVE FINISHED FLOOR.
12. PROVIDE 5" INTAKE WALL CAP WITH INSECT SCREEN AND 4" OUTSIDE AIR DUCT WITH BACK DRAFT DAMPER.
13. UPPER LEVEL INTAKE VENT WILL UTILIZE GRILLE LOCATED IN SOFFIT.
14. OUTSIDE AIR VENTILATION FAN, SEE VERTICAL AIR HANDLER DETAIL.
15. APRILAIRE 8126A CONTROLLER, SEE DETAIL.

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No.	Description	Date
	Revisions	

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

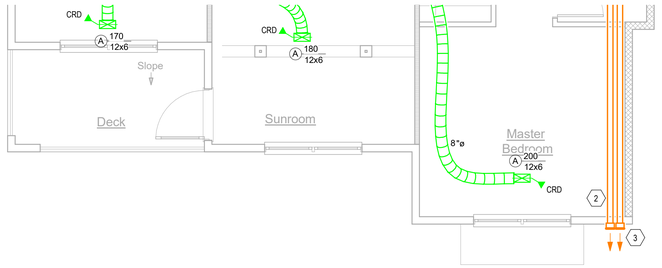
Date:
September 30, 2022

Sheet Number:
M4.04

Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction



3 M-L1-UNITS-UNIT C1-G

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

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
*DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE					(35' - 0")

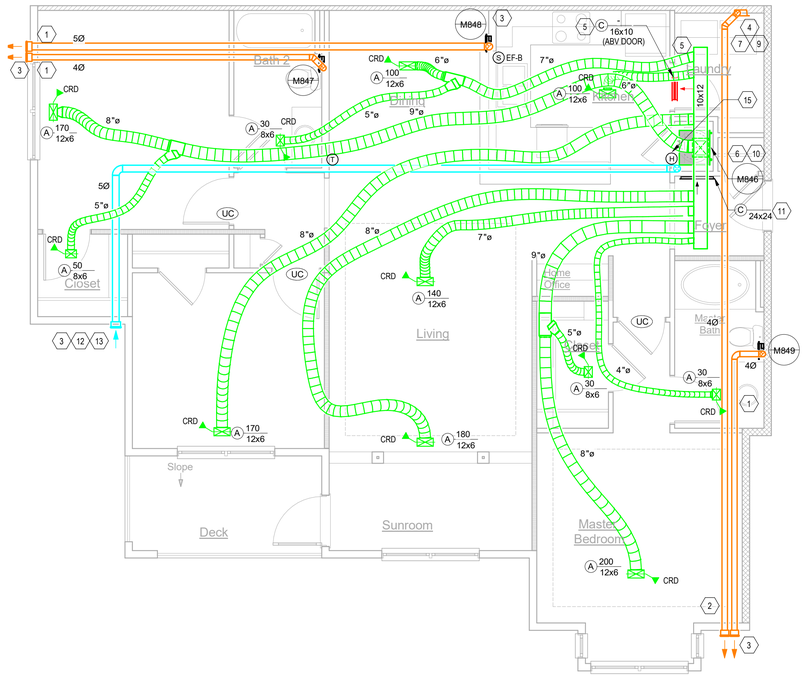
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.

BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE:	SOMETHING		MODEL NO:	ELSE	
NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
*DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE					(35' - 0")

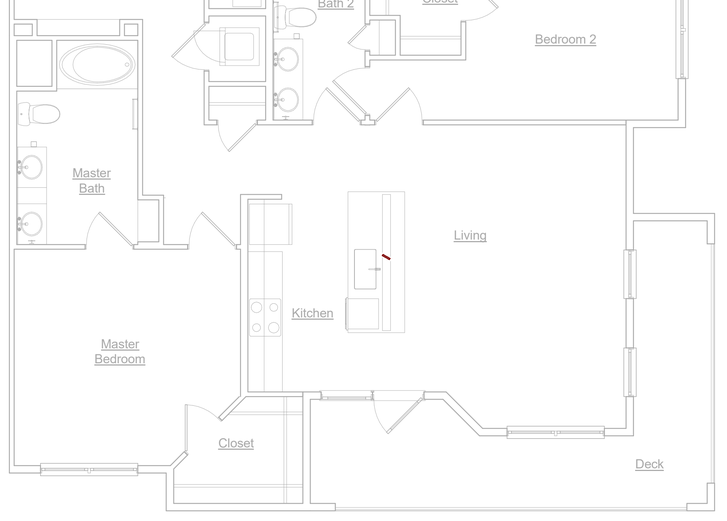
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.

BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE:	SOMETHING		MODEL NO:	ELSE	
NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0" THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					



2 M-L1-UNITS-UNIT C1

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



1 M-L1-UNITS-UNIT B4

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

NOTES: (THIS SHEET ONLY)

GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
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2. FOR DRYER EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, AND 4"∅ DUCT. EXHAUST SHALL NOT BE OBSTRUCTED WITH SCREENS OR ANY FASTENERS EXTRUDING INTO THE PATH OF AIRFLOW. SEE DETAIL.
3. ALL WALL CAPS AND VENTS SHALL BE MOUNTED AT THE SAME HEIGHT. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH THE ARCHITECT PRIOR TO ROUGH-IN. PAINTABLE WALL CAPS, COLOR SELECTED BY THE ARCHITECT. (TYPICAL)
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5. DRYER MAKEUP, GRILLES LOCATED ABOVE DOOR
6. 3/4" CONDENSATE DRAIN WITH P-TRAP TO HUB DRAIN, SEE PLUMBING DRAWINGS
7. UL LISTED DRYER BOX TO BE PROVIDED AND INSTALLED IN A 6" WALL FOR DRYER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH DRYER DISCHARGE POINT PRIOR TO ROUGH-IN. SEE DETAIL.
8. UNDER CUT DOOR
9. FIRE STOP, SEE DRYER VENT FLOOR CEILING ASSEMBLY DETAIL.
10. CEILING RADIATION DAMPER AND ACCESS PANEL, SEE APARTMENT MECHANICAL CLOSET DETAIL.
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No.	Description	Date
	Revisions	

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

Date:
September 30, 2022

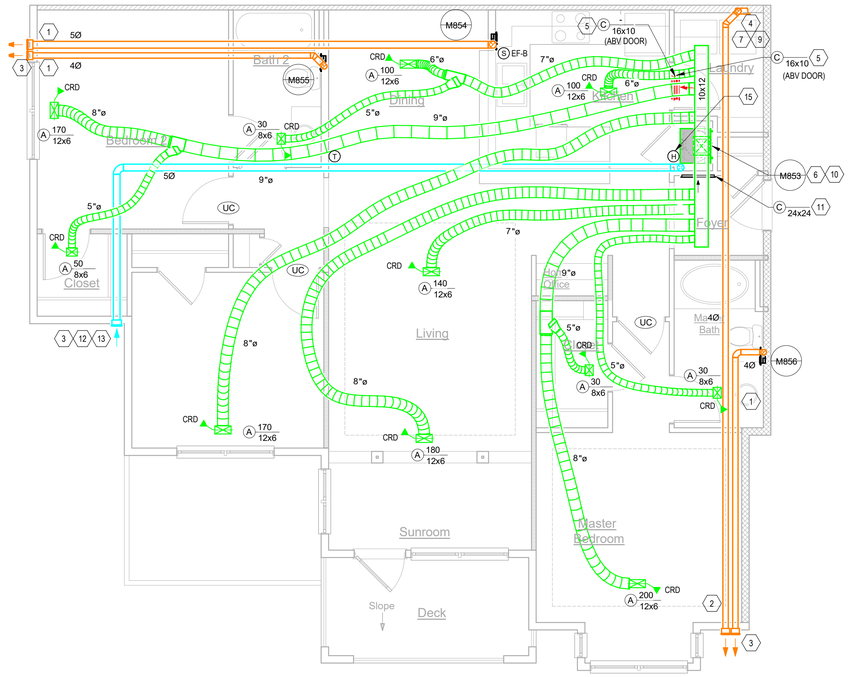
Sheet Number:
M4.05

Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
***DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE**					*(35' - 0")*
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE:	SOMETHING		MODEL NO:	ELSE	
NO. OF 90 DEGREE ELBOWS	0	NO. OF 45 DEGREE ELBOWS	0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES	60' - 0"
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0"THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					



1 M-L1-UNITS-UNIT C1A

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

NOTES: (THIS SHEET ONLY)

GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
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8. UNDER CUT DOOR
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No.	Description	Date
	Revisions	

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

Date:
September 30, 2022

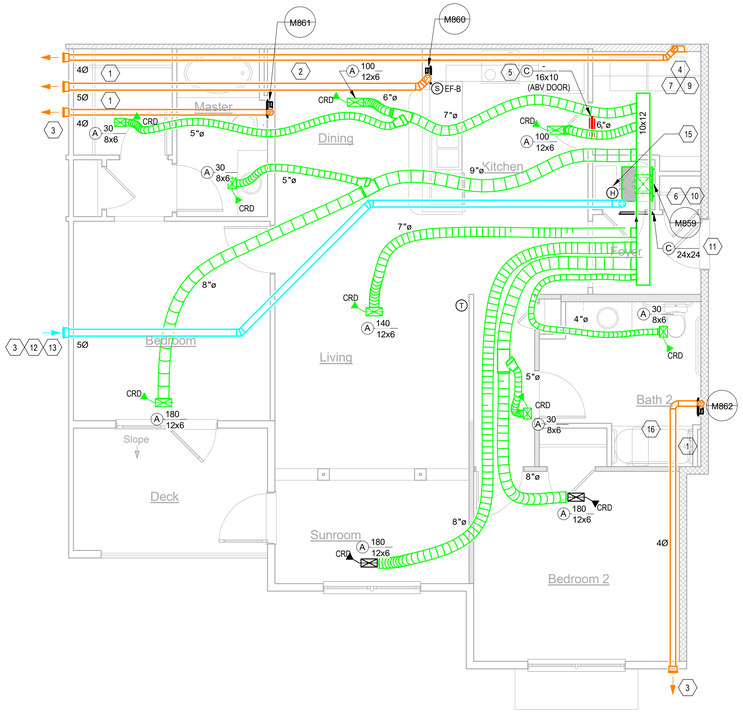
Sheet Number:
M4.06

Jordan & Skala Engineers
4275 Shackleford Road, Suite 200 ● Norcross, GA 30093
p. 770.447.5547 ● f. 770.448.0262

Project Number: 22010515 Drawn By: Author Checked By: Checker

Not Released for Construction

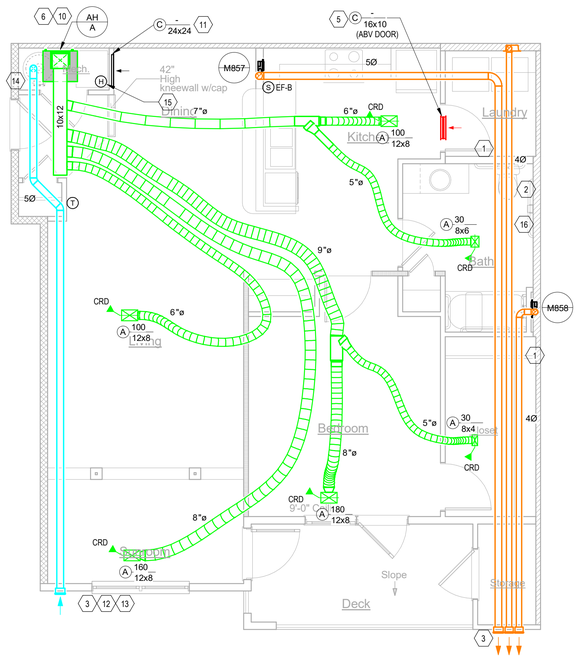
CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
*DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING		MODEL NO: ELSE			
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0"THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					



1 M-L1-UNITS-UNIT B1-G-HC

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

CLOTHES DRYER VENT LENGTH CALCULATION - 4" DUCT					
PRESCRIPTIVE CODE EQUIVALENT LENGTH CALCULATION					
ELBOW TYPE	ELBOW DEGREES	ELBOW RADIUS (IN)	ELBOW EQUIVALENT LENGTH (FT)	QTY. OF ELBOWS	TOTAL EQUIVALENT LENGTH (FT)
RADIUS MITERED	90	4	5' - 0"	0	0' - 0"
RADIUS MITERED	45	4	2' - 6"	0	0' - 0"
	TOTAL EQUIVALENT LENGTH - FITTINGS:				0' - 0"
	TOTAL HORIZONTAL LENGTH:				0' - 0"
	TOTAL VERTICAL LENGTH:				0' - 0"
	TOTAL SYSTEM EQUIVALENT LENGTH (REFER TO DETAIL):				0' - 0"
*DRYER COMPLIES WITH PRESCRIPTIVE CODE MAXIMUM ALLOWABLE					(35' - 0")
NOTE: CALCULATIONS ARE BASED ON THE 2012 IMC. THE DESIGN INCORPORATES A CLOTHES DYER EXHAUST WALL RECEPTOR WHICH ELIMINATES THE REQUIREMENT FOR ONE 90 DEGREE ELBOW.					
BASIS OF DESIGN DRYER - OWNER PROVIDED - MANUFACTURER SPECIFIC					
MAKE: SOMETHING		MODEL NO: ELSE			
NO. OF 90 DEGREE ELBOWS: 0	NO. OF 45 DEGREE ELBOWS: 0	ALLOWED TOTAL STRAIGHT LENGTH PER MANUFACTURER GUIDELINES: 60' - 0"			
ACTUAL STRAIGHT LENGTH ON PLAN: 0' - 0"					
0' - 0" IS LESS THAN 60' - 0"THEREFORE:					
DRYER COMPLIES WITH MANUFACTURER'S ALLOWABLE LENGTH					



2 M-L1-UNITS-UNIT A1-HC

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

NOTES: (THIS SHEET ONLY)

GENERAL:
*ALL CEILING MOUNTED DEVICES SHALL BE LOCATED PER THE ARCHITECTURAL REFLECTED CEILING PLANS.
*COORDINATE ALL DUCT ROUTING QBOVE CEILING WITH THE STRUCTURE, LIGHTS, PLUMBING, AND SPRINKLER PIPING.
*ALL RATED DUCT AND PIPE PENETRATIONS SHALL BE FIRE STOPPED AS REQUIRED.

1. FOR TOILET EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP EQUAL SIZE AS DRYER EXHAUST WALL CAP, COLLAR, TRANSITION, AND 4"∅ DUCT. FOR KITCHEN EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, TRANSITION, AND 5"∅ DUCT.
2. FOR DRYER EXHAUST FURNISH AND INSTALL SINGLE LOUVERED WALL CAP, COLLAR, AND 4"∅ DUCT. EXHAUST SHALL NOT BE OBSTRUCTED WITH SCREENS OR ANY FASTENERS EXTRUDING INTO THE PATH OF AIRFLOW. SEE DETAIL.
3. ALL WALL CAPS AND VENTS SHALL BE MOUNTED AT THE SAME HEIGHT. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH THE ARCHITECT PRIOR TO ROUGH-IN. PAINTABLE WALL CAPS, COLOR SELECTED BY THE ARCHITECT. (TYPICAL)
4. PROVIDE AND INSTALL WALL MOUNTED DRYER SIGN. INDICATE LENGTH OF DRYER DUCT AND NUMBER OF ELBOWS. SEE DRYER VENT WARNING SIGN DETAIL.
5. DRYER MAKEUP, GRILLES LOCATED ABOVE DOOR
6. 3/4" CONDENSATE DRAIN WITH P-TRAP TO HUB DRAIN, SEE PLUMBING DRAWINGS
7. UL LISTED DRYER BOX TO BE PROVIDED AND INSTALLED IN A 6" WALL FOR DRYER CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH DRYER DISCHARGE POINT PRIOR TO ROUGH-IN. SEE DETAIL.
8. UNDER CUT DOOR
9. FIRE STOP, SEE DRYER VENT FLOOR CEILING ASSEMBLY DETAIL.
10. CEILING RADIATION DAMPER AND ACCESS PANEL, SEE APARTMENT MECHANICAL CLOSET DETAIL.
11. RETURN GRILLE, MOUNT 12" ABOVE FINISHED FLOOR.
12. PROVIDE 5" INTAKE WALL CAP WITH INSECT SCREEN AND 4" OUTSIDE AIR DUCT WITH BACK DRAFT DAMPER.
13. UPPER LEVEL INTAKE VENT WILL UTILIZE GRILLE LOCATED IN SOFFIT.
14. OUTSIDE AIR VENTILATION FAN, SEE VERTICAL AIR HANDLER DETAIL.
15. APRILAIRE 8126A CONTROLLER, SEE DETAIL.

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No.	Description	Date
	Revisions	

Construction Documents - Progress Set

Lullwater at Ft. Clarke Apartments

Ft. Clarke, Florida

A Residential Development by: Ft. Clarke Apartments Residences, LLC

Sheet Title:
UNIT PLANS

Date:
September 30, 2022

Sheet Number:
M4.07

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Not Released for Construction