DRAWING SYMBOLS

CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
GHR	GLYCOL HOT WATER RETURN
GHS	GLYCOL HOT WATER SUPPLY
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
C	CONDENSATE
CTR	COOLING TOWER RETURN
CTS	COOLING TOWER SUPPLY
	DIRECTION OF FLOW
DN	DIRECTION OF PITCH
RHL	REFRIGERANT H/L PRESSURE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
SV	STEAM VENT

HPLR	HEAT PUMP LOOP RETURN
HPLS	HEAT PUMP LOOP SUPPLY
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
MU	MAKE-UP WATER
NG	NATURAL GAS
PC	PUMPED CONDENSATE
VAC	VACUUM
IW	INDIRECT WASTE

EXISTING DUCTWORK, PIPE, EQUIPMENT

NEW DUCTWORK, PIPE, EQUIPMENT

DUCTWORK, PIPE, EQUIPMENT TO BE REMOVED

EQUIPMENT TO BE REMOVED

PIPE TURNED UP

PIPE TURNED DOWN

BRANCH OFF TOP OF PIPE

BRANCH OFF BOTTOM OF PIPE

REDUCER

PIPE BREAK

BALL VALVE

BUTTERFLY VALVE

GATE VALVE

CHECK VALVE

BALANCE VALVE

ANGLE VALVE

PRESSURE REDUCING VALVE

STEAM TRAP

MOTOR OR SOLENOID CONTROL VALVE

MOTOR OR SOLENOID CONTROL VALVE (3-WAY)

TRIPLE DUTY VALVE

RELIEF VALVE

STRAINER

UNION

PRESSURE GAUGE

PUMP

NOTE:
NOT ALL SYMBOLS, ABBREVIATIONS AND EQUIPMENT DESIGNATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS FROM THIS LEGEND SHEET DOES NOT IMPLY INCLUSION AND/ OR EXCLUSIONS OF ANY PARTICULAR ITEM FROM THIS PROJECT.

REMOVE TO THIS POINT

NEW CONNECTION TO EXISTING

SECTION CALLOUT (A / M-2)

DETAIL NUMBER (A / M-2)

DEMOLITION KEYNOTE (1)

KEYNOTE (1)

RETURN AIR

SUPPLY AIR

DUCT (DIMENSIONS SHOWN IN DUCT. DIMENSIONS IN INCHES.) (18/8)

DUCT (DIMENSIONS SHOWN BY LEADER, DIMENSIONS IN INCHES.) (18/8)

FLEX DUCT

DUCT SECTION - SUPPLY AIR

DUCT SECTION - EXHAUST AIR

DUCT SECTION - RETURN AIR

VOLUME DAMPER

14" ROUND DUCT (14" Ø)

18" x 8" FLAT OVAL DUCT (18/8 ⇔)

INSULATED DUCT (DIM. IS INTERNAL) (18/8)

MITERED ELBOW W/ TURNING VANES

WALL OR DUCT MOUNTED SUPPLY GRILLE

WALL OR DUCT MOUNTED RETURN OR EXHAUST GRILLE

FIRE DAMPER (FD / AD)

ACCESS DOOR TO BE LOCATED ON MOST ACCESSIBLE SIDE OF DUCT

SMOKE DAMPER (SD. / AD)

ACCESS DOOR TO BE LOCATED ON MOST ACCESSIBLE SIDE OF DUCT

COMBINATION FIRE / SMOKE DAMPER (F/S. / AD)

ACCESS DOOR TO BE LOCATED ON MOST ACCESSIBLE SIDE OF DUCT

MOTOR OPERATED DAMPER (M)

THERMOSTAT (T)

SENSOR (S)

HUMIDISTAT (H)

CARBON DIOXIDE SENSOR (CO2)

EXHAUST GRILLE

SUPPLY DIFFUSER

RETURN GRILLE

REGISTER OR GRILLE - TOP NUMBER REPRESENTS TAG, SEE SCHEDULE; BOTTOM NUMBER REPRESENTS CFM. (8 / 750)

DIFFUSER - LETTER REPRESENTS TAG, SEE SCHEDULE; NUMBER REPRESENTS CFM (A / 125)

GENERAL NOTES

DUCTWORK GENERAL NOTES

1 HVAC CONTRACTOR TO PROVIDE CRANE AND NECESSARY EQUIPMENT TO HOIST ROOF MOUNTED HVAC EQUIPMENT FROM SITE TO FINAL ROOF LOCATION. GENERAL CONTRACTOR TO PROVIDE ALL ROOF PENETRATIONS REQUIRED TO ACCOMMODATE HVAC EQUIPMENT OPENINGS AND SET CURBS. HVAC CONTRACTOR TO COORDINATE EXACT LOCATION OF PENETRATIONS WITH G.C. AND SHALL ASSIST WITH SETTING ALL HVAC EQUIPMENT ROOF CURBS. HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY CAP OF ALL ROOF PENETRATIONS IN INTERIM FROM TIME PENETRATIONS ARE COMPLETE TO TIME EQUIPMENT IS SET ON ROOF CURBS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FLASHING ALL EQUIPMENT CURBS AND OTHER HVAC RELATED ROOF PENETRATIONS. HVAC CONTRACTOR SHALL REMOVE AND DISPOSE OF TEMPORARY CAP WHEN EQUIPMENT IS SET IN PLACE.

2 PROVIDE 45 DEGREE SHOE-TAP FITTING AND VOLUME DAMPER AT ALL BRANCH DUCT TAKE-OFFS (TOP, SIDE AND BOTTOM) FOR SUPPLY, RETURN AND EXHAUST AIR, UNLESS SHOWN OR NOTED OTHERWISE. VOLUME DAMPERS SHALL BE OMITTED FROM VAV INLET BRANCH DUCTWORK.

3 COORDINATE HVAC INSTALLATION WITH STRUCTURE, CEILING, LIGHTING, CONDUIT, HEATING AND DOMESTIC PIPING, STORM AND SANITARY DRAIN PIPING (ALL TRADES). PREPARE AND SUBMIT FULL COORDINATION DRAWINGS FOR APPROVAL BY ENGINEER PRIOR TO ORDERING MATERIALS AND/OR BEGINNING CONSTRUCTION.

4 INSULATE OR LINE DUCTWORK AS SPECIFIED IN THE MECHANICAL INSULATION AND METAL DUCTS SPECIFICATIONS OR NOTED ON DRAWINGS. NOTE THAT DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE NET CLEAR DIMENSIONS.

5 ALL 90 DEGREE RECTANGULAR ELBOWS AND DUCTWORK TEES SHALL BE HARD MITERED WITH FACTORY TURNING VANES. TURNING VANES SHALL BE OMITTED FROM AIR TRANSFER DUCT ELBOWS.

6 ALL DUCTWORK PASSING THROUGH NON-FIRE RATED WALLS TO BE SEALED AROUND PERIMETER (BOTH SIDES) WITH DRYWALL JOINT COMPOUND OR APPROVED EQUAL.

7 HVAC CONTRACTOR TO PROVIDE ALL WALL & ROOF PENETRATIONS 8"x8" OR SMALLER. ALL PENETRATIONS LARGER THAN 8"x8" IS THE RESPONSIBILITY OF THE G.C. COORDINATE ALL 8"x8" OR LARGER PENETRATION LOCATIONS WITH G.C. LINTELS (BY G.C.) REFER TO STRUCTURAL DRAWINGS FOR LINTEL SCHEDULE. PENETRATIONS AND LINTEL LOCATIONS TO BE COORDINATED WITH G.C. AND DOCUMENTED ON COORDINATION DRAWINGS.

8 BALANCING CONTRACTOR TO SET MINIMUM OUTSIDE AIR DAMPER POSITION TO MEET VENTILATION AIR QUANTITIES REQUIRED AS SHOWN ON PLANS OR LISTED IN EQUIPMENT SCHEDULES.

9 ALL SUPPORT OF EQUIPMENT, DUCTWORK AND ASSOCIATED DISTRIBUTION SERVICES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE BUILDING CODE. THE DISCIPLINE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE STRUCTURAL STEEL WHERE REQUIRED IN ORDER TO SUPPORT EQUIPMENT, DUCTWORK AND ASSOCIATED DISTRIBUTION SERVICES WHERE THE BUILDING STRUCTURE SPACING IS TOO GREAT TO ALLOW DIRECT SUPPORT. THE DISCIPLINE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMATION OF ALL SUPPORTS AND SHALL OBTAIN THE PROFESSIONAL SERVICE OF A LICENSED STRUCTURAL ENGINEER AND FURNISH SEALED DRAWINGS AND DETAILS ILLUSTRATING SUCH SUPPORTS AND COMPLIANCE METHODS.

10 THE ABOVE GENERAL NOTES APPLY TO ALL HVAC CONSTRUCTION DOCUMENT DRAWINGS.

NC ENERGY REQUIREMENTS:

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE ☒ ENERGY COST BUDGET ☐

THERMAL ZONE	4A
EXTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	22
SUMMER DRY BULB	94
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	72
SUMMER DRY BULB	75
RELATIVE HUMIDTY	50
BUILDING HEATING LOAD	211.4 MBH
BUILDING COOLING LOAD	239.0 MBH
MECHANICAL SPACE CONDITIONING SYSTEM	
UNITARY	
DESCRIPTION OF UNIT	SEE SCHEDULES
HEATING EFFICIENCY	SEE SCHEDULES
COOLING EFFICIENCY	SEE SCHEDULES
HEAT OUTPUT OF UNIT	SEE SCHEDULES
COOLING OUTPUT OF UNIT	SEE SCHEDULES
BOILER	
TOTAL BOILER OUTPUT	N/A
CHILLER	
TOTAL CHILLER OUTPUT	N/A
LIST EQUIPMENT EFFICIENCIES	SEE SCHEDULES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)	
MOTOR HORSEPOWER	SEE SCHEDULES
NUMBER OF PHASES	SEE SCHEDULES
MINIMUM EFFICIENCY	SEE SCHEDULES
MOTOR TYPE	SEE SCHEDULES
NUMBER OF POLES	SEE SCHEDULES

ADDITIONAL PRESCRIPTIVE COMPLIANCE REQUIREMENTS

☐	C406.2	MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
☒	C406.3	REDUCED LIGHTING POWER DENSITY
☐	C406.4	ENHANCED DIGITAL LIGHTING CONTROLS
☐	C406.5	ON-SITE RENEWABLE ENERGY
☐	C406.6	DEDICATED OUTDOOR AIR SYSTEM
☐	C406.7	REDUCED ENERGY USE IN SERVICE WATER HEATING

APPLICABLE CODES

- 2018 NORTH CAROLINA BUILDING CODE
- 2018 NORTH CAROLINA MECHANICAL CODE
- 2018 NORTH CAROLINA FIRE CODE
- 2018 NORTH CAROLINA PLUMBING CODE
- 2018 NORTH CAROLINA ENERGY CONSERVATION CODE
- ACCESSIBLE AND USABLE BUILDING AND FACILITIES-CABO/ANSI A117.1
- 2017 NATIONAL ELECTRIC CODE
- 2016 NFPA 13

SHEET LIST

EQUIPMENT DESIGNATIONS

ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AD	ACCESS DOOR
AS	AIR SEPARATOR
BDD	BACK DRAFT DAMPER
B	BOILER
CA	AIR COMPRESSOR
CAV	CONSTANT AIR VOLUME BOX
CC	COOLING COIL
CFP	CHEMICAL FEED PUMP
CH	CHILLER
CHP	CHILLED WATER PUMP
CP	CONDENSATE PUMP
CRAC	COMPUTER ROOM UNIT
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONTROL VALVE
DHW	DOMESTIC WATER HEATER
EF	EXHAUST FAN
ET	EXPANSION TANK
FCU	FAN COIL UNIT
FP	FIRE PUMP
FT	FINNED TUBE
HC	HEATING COIL
HP	HEAT PUMP
HU	HUMIDIFIER
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
L	LOUVER
MAU	MAKE UP AIR UNITS
MD	MOTORIZED DAMPER
P	PUMP
PHC	PREHEAT COIL
PPU	PUMPING PACKAGED UNIT
PRG	GAS PRESSURE REGULATOR
PRV	PRESSURE REDUCING VALVE
R	REGISTER
RCP	RADIANT CEILING PANEL
RTU	ROOF TOP UNIT
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME BOX
VD	VOLUME DAMPER
VFD	VARIABLE SPEED DRIVE
WS	WATER SOFTENER

NOTE:
SOME ABBREVIATIONS MAY NOT BE USED ON DRAWINGS

ABBREVIATIONS

%	PERCENT
AC	ALTERNATING CURRENT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AMB	AMBIENT
AMP	AMPERE (AMP,AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APPROX	APPOROXIAMTE (LY)
AVG	AVERAGE
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BO	BOTTOM OF
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
BV	BALANCING VALVE
CAP	CAPACITY
CIP	CAST IRON PIPE
CLG	CEILING
CLR	CLEAR
CO	CLEANOUT or CARBON MONOXIDE
COL	COLUMN
CONN	CONNECTION
CONC	CONCRETE
CONT	CONTINUOUS
CU FT	CUBIC FEET
CV	VALVE FLOW COEFFICIENT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DCV	DETECTOR CHECK VALVE
DCW	DOMESTIC COLD WATER
DEMO	DEMOLISH or DEMOLITION
DHW	DOMESTIC HOT WATER
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWH	DOMESTIC WATER HEATER
DWV	DRAIN, WASTE, & VENT
DWG	DRAWING
(E)	EXISTING
ENGR	ENGINEER
EQ	EQUAL
EST	ESTIMATED
ETR	EXISTING TO REMAIN
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
°F	DEGREES FAHRENHEIT
FA	FREE AREA
FIN	FINISHED
FL	FLOOR
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT OR FEET
FUT	FUTURE
GA	GAGE OR GAUGE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HR	HOUR
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	FREQUENCY
ID	DIAMTER, INSIDE
IN	INCH
INSUL	INSULATION
INT	INTERIOR
IPS	IRON PIPE SIZE
INV	INVERT
KW	KILOWATT
KWH	KILOWATT HOUR
LBS	POUNDS
LF	LINEAR FEET
LG	LENGTH
LOC	LOCATION
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MATL	MATERIAL
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MECH	MECHANICAL
MFG	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPT	NATIONAL PIPE TREAD
NRS	NON-RISING STEM
NTS	NOT TO SCALE
OC	ON CENTER
OD	DIAMETER, OUTSIDE
OS&Y	OUTSIDE SCREW AND YOKE
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
PH	PHASE (ELECTRICAL)
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PSI GUAGE
PRV	PRESSURE REDUCING VALVE
RCVR	RECEIVER
RECIRC	RECIRCULATE
RHW	HOT WATER RE-CIRCULATION
RO	ROUGH OPENING
RPDA	REDUCED-PRESSURE DETECTOR ASSY.
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED-PRESSURE ZONE
SCH	STEAM CAPTURE HOOD
SPEC	SPECIFICATION
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT (FEET)
SQ IN	SQUARE INCH (INCHES)
STD	STANDARD
SUCT	SUCTION
T'STAT	THERMOSTAT
TBD	TO BE DETERMINED
TC	TEMPERATURE CONTROL CONTRACTOR
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TO	TOP OF
TYP	TYPICAL
V	VOLT
VAC	VACUUM
VAR	VARIABLE
VEL	VELOCITY
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATT
W/	WITH
W/O	WITH OUT
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTER
WM	WATER METER
WPD	WATER PRESSURE DROP
WT	WEIGHT
WWP	WORKING WATER PRESSURE

NOTE:
SOME ABBREVIATIONS MAY NOT BE USED ON DRAWINGS

STUDIO WALES architecture
3151 MILHAVEN LAKE DR., WINSTON-SALEM, NC 27106
p. 4140704.6764 I www.STUDIO-WALES.com

CORPORATE ENGINEERING LICENSE NO. C-0430

NORTH CAROLINA PROFESSIONAL SEAL 047719 ENGINEER MICHAEL E GROSE

LIBELLA ASSOCIATES P.C. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52904 CHARLOTTE, N.C.

02.18.2025

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions

No.	Description	Date

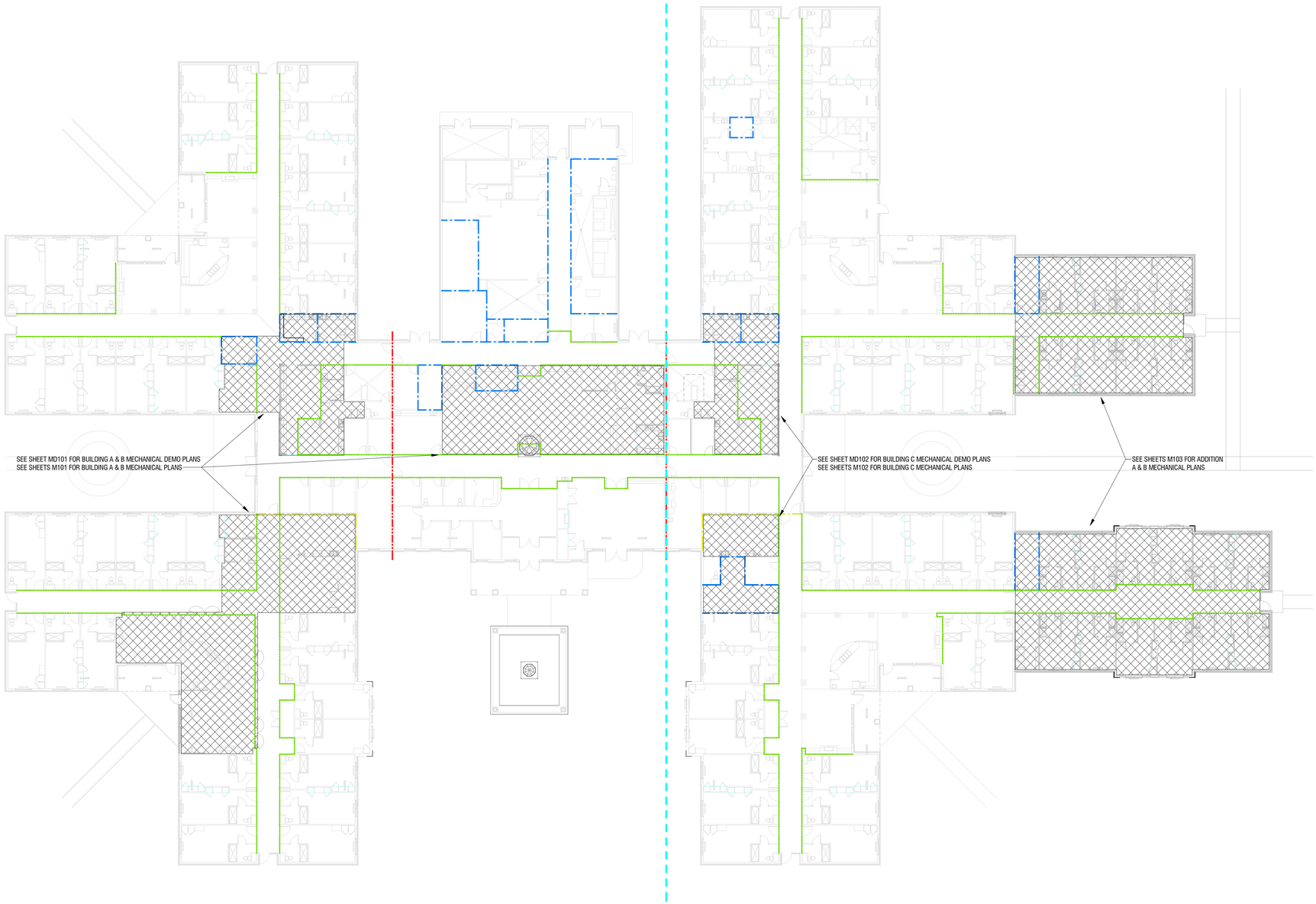
date: 02/06/2025

commission: NH-3138

sheet title:
MECHANICAL LEGEND SHEET

sheet number :

M001



1 / M002 LEVEL 1 DUCTWORK PLAN - OVERALL

1" = 20'-0"

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02.18.2025

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions

No.	Description	Date

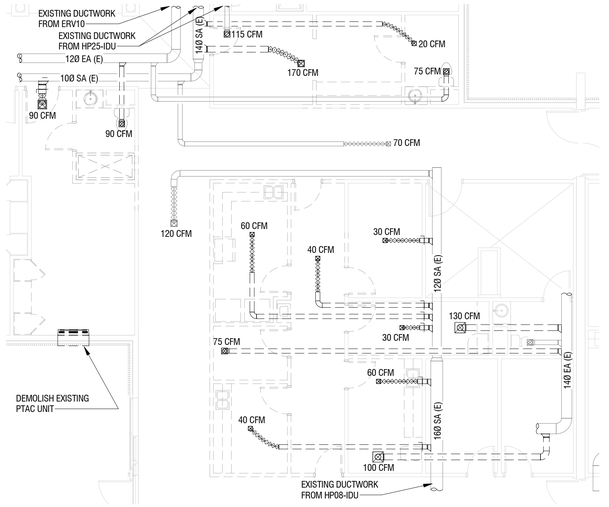
date: 02/06/2025

commission: NH-3138

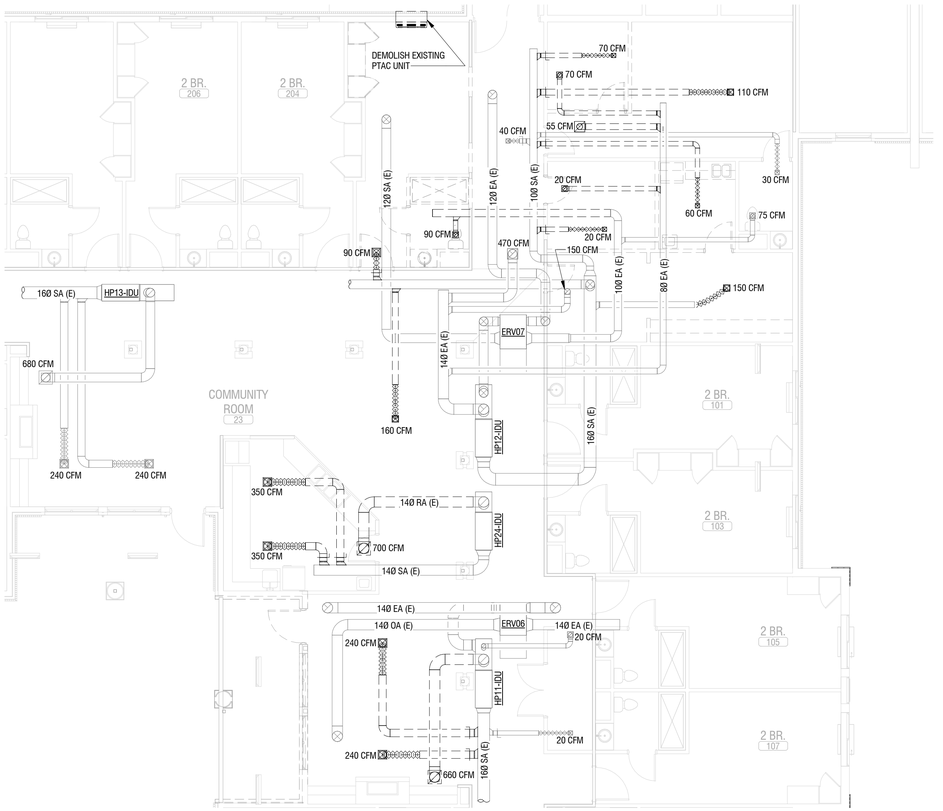
sheet title:
OVERALL LEVEL 1 DUCTWORK PLAN

sheet number :

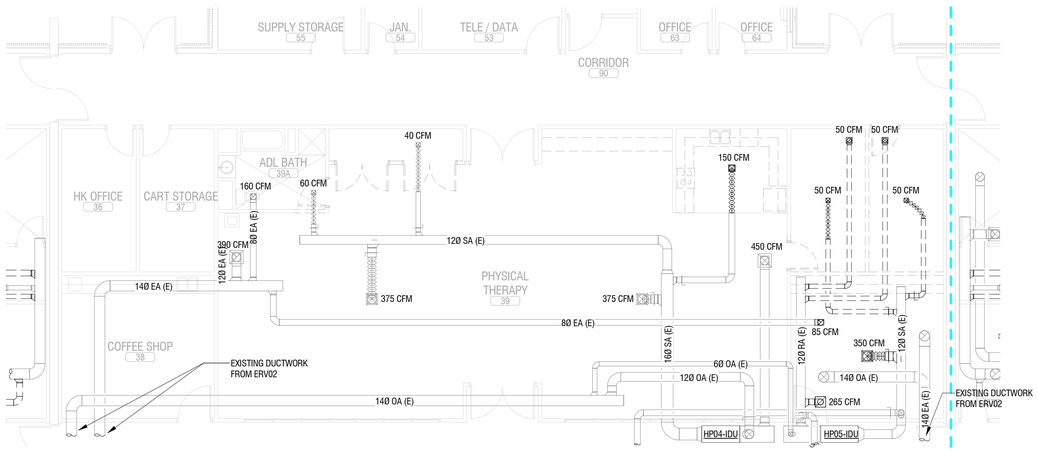
M002



2 MD101 LEVEL 1 DEMOLITION DUCTWORK PLAN - BLDG A (NURSE STATION)
1/8" = 1'-0"



1 MD101 LEVEL 1 DEMOLITION DUCTWORK PLAN - BLDG A (COMMUNITY ROOM)
1/8" = 1'-0"



3 MD101 LEVEL 1 DEMOLITION DUCTWORK PLAN - BLDG B
1/8" = 1'-0"

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CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions

No.	Description	Date

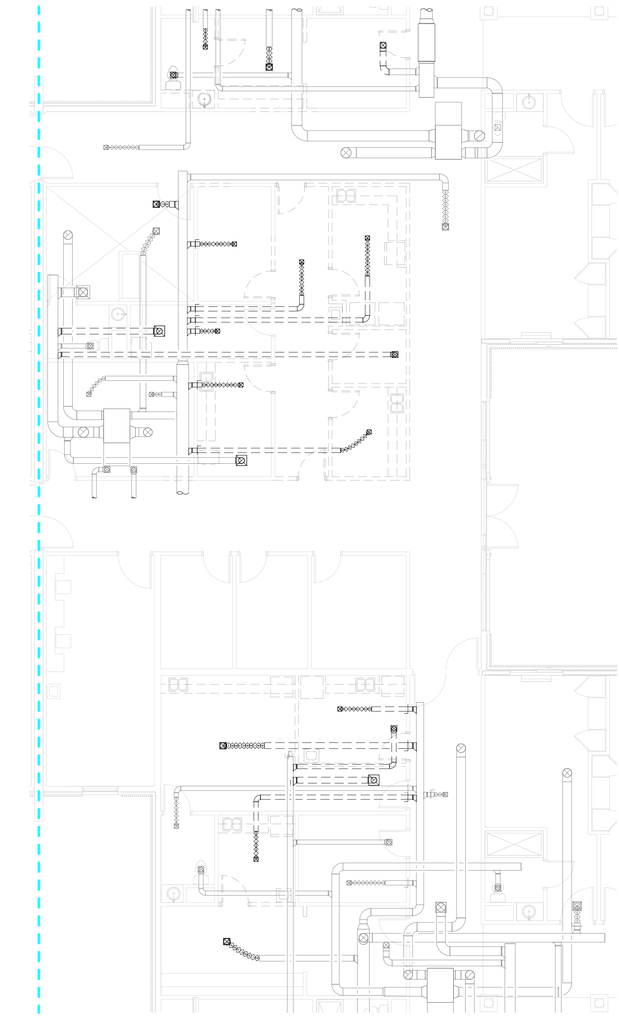
date: 02/06/2025

commission: NH-3138

sheet title:
DEMOLITION DUCTWORK PLANS - BLDG A & B

sheet number :

MD101



1 MD201 LEVEL 1 DEMOLITION DUCTWORK PLAN - BLDG C
1/8" = 1'-0"

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02.18.2025

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195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions

No.	Description	Date

date: 02/06/2025

commission: NH-3138

sheet title:
DEMOLITION DUCTWORK PLANS - BLDG C

sheet number :

MD201

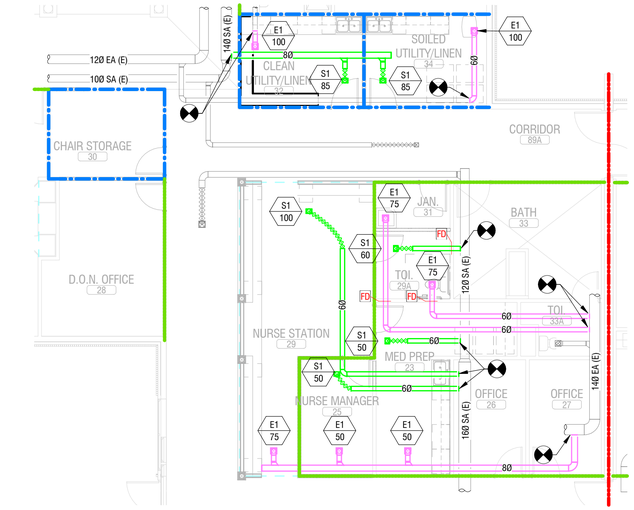
MECHANICAL NOTES:

1. ALL CEILINGS ARE FIRE RATED. PROVIDE SUITABLE RADIATION DAMPERS AT ALL DUCT, DIFFUSER OR GRILLE LOCATIONS.
2. ALL PIPING PENETRATIONS THRU RATED PARTITIONS SHALL BE PER PENETRATION DETAILS. REFER TO ARCH.
3. ALL OUTSIDE AIR INTAKES SHALL BE LOCATED 10'-0" MIN. FROM ANY PLUMBING VENT TERMINAL.
4. ALL ROOF MOUNTED EQUIPMENT, INTAKES, CAPS, ETC. SHALL BE LOCATED ON THE REAR FACE OF THE ROOF.
5. PAINT ALL ROOF VENTILATORS IN COLOR TO MATCH ROOF.
6. BRANCH DUCT CONNECTION TO DIFFUSER OR GRILLE MAY HAVE 8'-0" LONG MAX. FLEX DUCT CONNECTOR.
7. ALL BRANCH DUCTS SHALL HAVE BALANCING DAMPERS.
8. BALANCE ALL FAN AND AIR CONDITIONING SYSTEMS TO CFM'S INDICATED ON PLANS.
9. SEE SPECS FOR PROCEDURE ON APPROVAL OF EQUIVALENT MATERIALS AND EQUIPMENT.
10. EQUIPMENT AND DUCTWORK LOCATIONS IN ATTIC ARE APPROXIMATE BASED ON ASSUMED ROOF FRAMING ARRANGEMENTS. ADJUST AND COORDINATE WITH ACTUAL FIELD CONDITIONS AS REQUIRED TO PROVIDE CLEARANCES FOR CODE AND MAINTENANCE.
11. REFRIGERANT PIPING RUNS SHALL BE SIZED AND ARRANGED PER MFR'S RECOMMENDATIONS. PROVIDE ACCUMULATOR, DRYER, TXP VALVE AND OTHER ACCESSORIES AS RECOMMENDED.
12. COORDINATE REGISTER DIFFUSER LOCATIONS WITH LIGHTS, SMOKE DETECTORS ETC. ADJUST LOCATIONS AS REQUIRED.
13. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION THAT ALL EQUIPMENT INSTALLED IN ATTIC CAN BE REMOVED THROUGH ACCESS OPENINGS PROVIDED IN ACCORDANCE WITH CODE.
14. BUILDING ADDITION INCLUDES FULL COVERAGE FIRE ALARM. DUCT SMOKE DETECTORS ARE NOT REQUIRED.

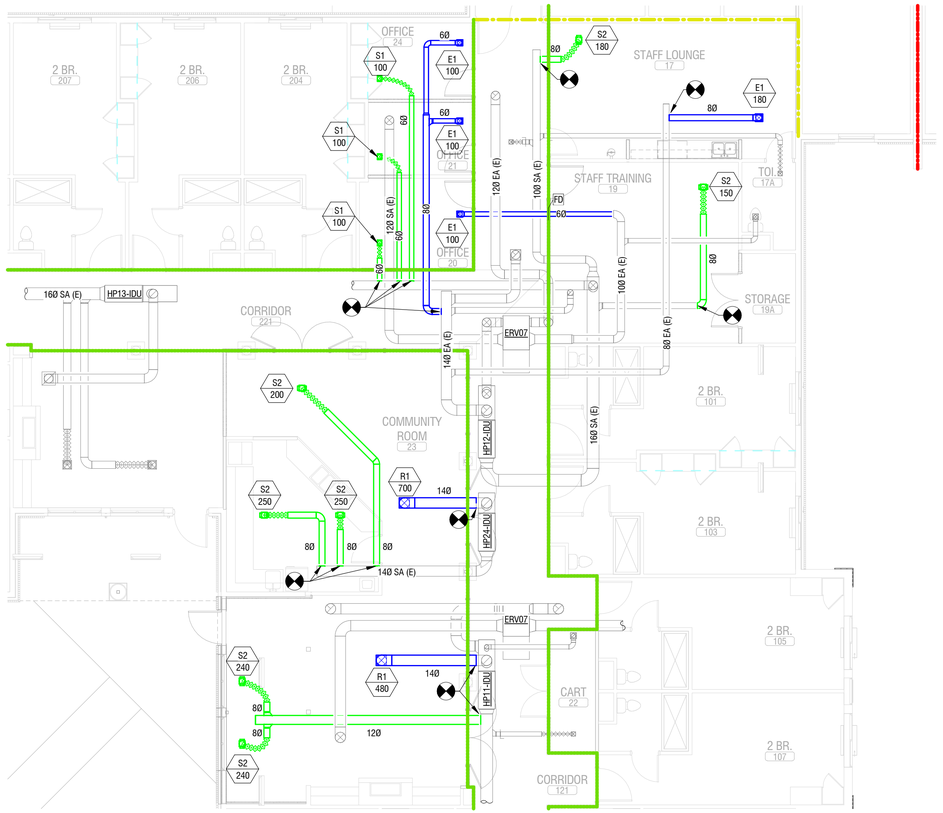
AIR BALANCE DESIGNATION - BLDG A & B

NOTES:
Balance CFM = Supply CFM - Return/Exhaust CFM
Pressure Options: Positive, Negative or Neutral
ACH = (Supply CFM * 60) / (Area * Room Height) ; Room Height = 9'-0"

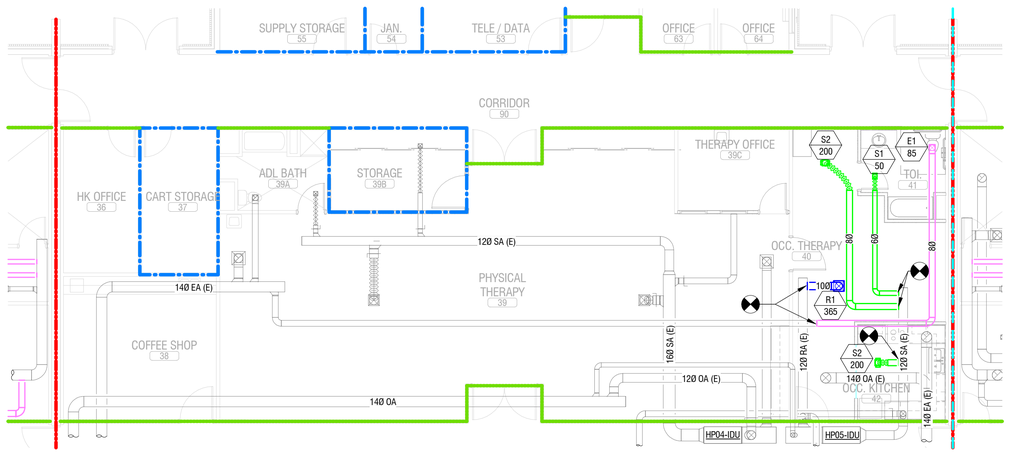
Room Name	Areas (SF)	Supply (CFM)	Return/Exhaust (CFM)	Balance (CFM)	Pressure	Air Changes per Hour (ACH)
17 STAFF LOUNGE	416 SF	180	180	0	NEUTRAL	2.88
19 STAFF TRAINING	426 SF	150	150	0	NEUTRAL	2.35
20 OFFICE	126 SF	100	100	0	NEUTRAL	5.29
21 OFFICE	93 SF	100	100	0	NEUTRAL	7.17
23 COMMUNITY ROOM	1330 SF	1180	1180	0	NEUTRAL	5.91
24 OFFICE	99 SF	100	100	0	NEUTRAL	6.73
23 MED PREP	203 SF	50	50	0	NEUTRAL	1.64
25 NURSE MANAGER	102 SF	50	50	0	NEUTRAL	3.27
29 NURSE STATION	357 SF	100	75	25	POSITIVE	1.87
29A TOI.	62 SF	60	75	-15	NEGATIVE	6.45
31 JAN.	41 SF	0	75	-75	NEGATIVE	12.2
32 CLEAN UTILITY/LINEN	135 SF	85	100	-15	NEGATIVE	4.2
34 SOILED UTILITY/LINEN	135 SF	85	100	-15	NEGATIVE	4.2
40 OCC. THERAPY	350 SF	200	365	-165	NEGATIVE	3.81
41 TOI.	81 SF	50	85	-15	NEGATIVE	4.12
42 OCC. KITCHEN	105 SF	200	0	200	POSITIVE	12.7



2 M101 — LEVEL 1 DUCTWORK PLAN - BLDG A (NURSE STATION)
1/8" = 1'-0"



1 M101 — LEVEL 1 DUCTWORK PLAN - BLDG A (COMMUNITY ROOM)
1/8" = 1'-0"



3 M101 — LEVEL 1 DUCTWORK PLAN - BLDG B
1/8" = 1'-0"

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CORPORATE ENGINEERING
LICENSE NO. C-0430

NORTH CAROLINA PROFESSIONAL SEAL 047719 ENGINEER MICHAEL E GROSE

LABELLA ASSOCIATES P.C. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52904 CHARLOTTE, N.C.

02.18.2025

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS
FOR CONSTRUCTION

Revisions

No.	Description	Date

date: 02/06/2025
commission: NH-3138

sheet title:
LEVEL 1 DUCTWORK PLAN - BLDG A & B

sheet number :

M101

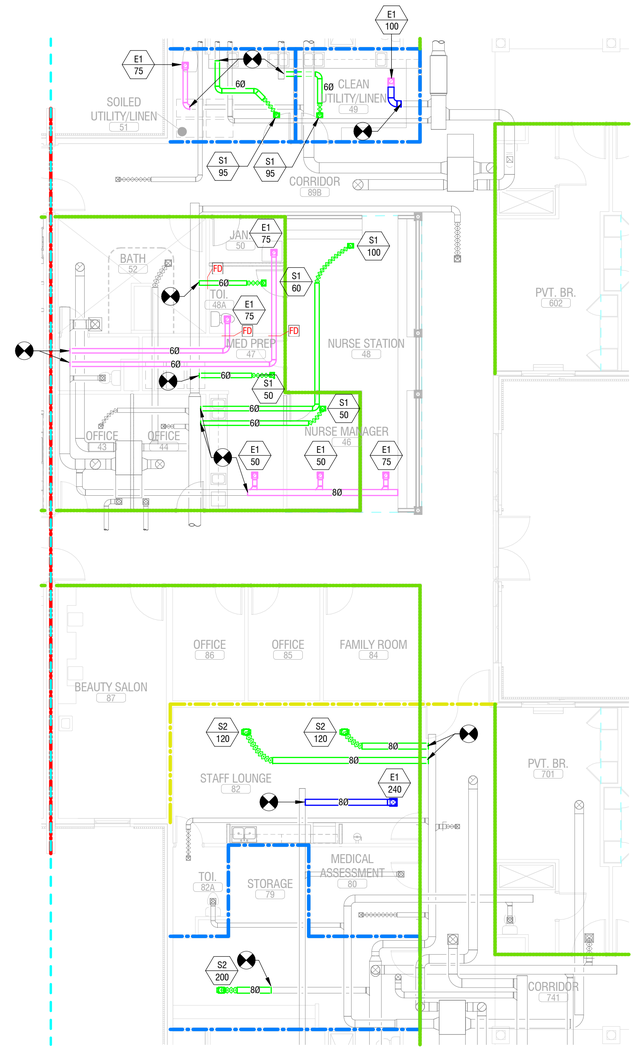
MECHANICAL NOTES:

1. ALL CEILINGS ARE FIRE RATED. PROVIDE SUITABLE RADIATION DAMPERS AT ALL DUCT, DIFFUSER OR GRILLE LOCATIONS.
2. ALL PIPING PENETRATIONS THRU RATED PARTITIONS SHALL BE PER PENETRATION DETAILS. REFER TO ARCH.
3. ALL OUTSIDE AIR INTAKES SHALL BE LOCATED 10'-0" MIN. FROM ANY PLUMBING VENT TERMINAL.
4. ALL ROOF MOUNTED EQUIPMENT, INTAKES, CAPS, ETC. SHALL BE LOCATED ON THE REAR FACE OF THE ROOF.
5. PAINT ALL ROOF VENTILATORS IN COLOR TO MATCH ROOF.
6. BRANCH DUCT CONNECTION TO DIFFUSER OR GRILLE MAY HAVE 8'-0" LONG MAX. FLEX DUCT CONNECTOR.
7. ALL BRANCH DUCTS SHALL HAVE BALANCING DAMPERS.
8. BALANCE ALL FAN AND AIR CONDITIONING SYSTEMS TO CFM'S INDICATED ON PLANS.
9. SEE SPECS FOR PROCEDURE ON APPROVAL OF EQUIVALENT MATERIALS AND EQUIPMENT.
10. EQUIPMENT AND DUCTWORK LOCATIONS IN ATTIC ARE APPROXIMATE BASED ON ASSUMED ROOF FRAMING ARRANGEMENTS. ADJUST AND COORDINATE WITH ACTUAL FIELD CONDITIONS AS REQUIRED TO PROVIDE CLEARANCES FOR CODE AND MAINTENANCE.
11. REFRIGERANT PIPING RUNS SHALL BE SIZED AND ARRANGED PER MFR'S RECOMMENDATIONS. PROVIDE ACCUMULATOR, DRYER, TXP VALVE AND OTHER ACCESSORIES AS RECOMMENDED.
12. COORDINATE REGISTER DIFFUSER LOCATIONS WITH LIGHTS, SMOKE DETECTORS ETC. ADJUST LOCATIONS AS REQUIRED.
13. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION THAT ALL EQUIPMENT INSTALLED IN ATTIC CAN BE REMOVED THROUGH ACCESS OPENINGS PROVIDED IN ACCORDANCE WITH CODE.
14. BUILDING ADDITION INCLUDES FULL COVERAGE FIRE ALARM. DUCT SMOKE DETECTORS ARE NOT REQUIRED.

AIR BALANCE DESIGNATION - BLDG C

NOTES:
Balance CFM = Supply CFM - Return/Exhaust CFM
Pressure Options: Positive, Negative or Neutral
ACH = (Supply CFM * 60) / (Area * Room Height) ; Room Height = 9'-0"

Room Name	Area (SF)	Supply (CFM)	Return/Exhaust (CFM)	Balance (CFM)	Pressure	Air Changes per Hour (ACH)
46 NURSE MANAGER	102 SF	50	50	0	NEUTRAL	3.27
47 MED PREP	203 SF	50	50	0	NEUTRAL	1.64
48 NURSE STATION	359 SF	100	75	25	POSITIVE	1.86
48A TOI.	62 SF	60	75	-15	NEGATIVE	6.45
49 CLEAN UTILITY/LINEN	136 SF	95	100	-5	NEGATIVE	4.66
50 JAN.	41 SF	0	75	-75	NEGATIVE	12.2
51 SOILED UTILITY/LINEN	135 SF	95	75	20	POSITIVE	4.69
79 STORAGE	362 SF	200	200	0	NEUTRAL	3.68
82 STAFF LOUNGE	416 SF	240	240	0	NEUTRAL	3.85



1 M102 LEVEL 1 DUCTWORK PLAN - BLDG C
1/8" = 1'-0"

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02.18.2025

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions

No.	Description	Date

date: 02/06/2025
commission: NH-3138

sheet title:
LEVEL 1 DUCTWORK PLAN - BLDG C

sheet number :

M102

DESIGN BRIEF - VENTILATION CALCULATIONS - ADDITIONS A & B

NOTES:
Occupancy (Pz) = [Occupant Density / 1000] * Area (Az)
Standard Classroom (770 to 1,000 sq.ft.) = 30 people max.
Vbz = RpPz + RaAz
Voz = Vbz / Ez

Zone	Room Number	Room Name	Classification	Area (Az) (sq.ft.)	Occupant Density (#/1000 sq.ft.)	OA/Person (Rp)	Outdoor Air Rate (Ra)	Exhaust Rate	Config. (Ez)	Occupancy (Pz) Code	Occupancy (Pz) Adjusted	Breathing Zone Rate (Vbz) (cfm)	Zone Outdoor Airflow Rate (Voz) (cfm)	Space Exhaust Rate (CFM)
IDU-32/ERV-20/PTAC-1	81	STORAGE	STORAGE	182	0	0	0.12	0	0.80	0	0	22	27	0
IDU-32/ERV-20/PTAC-1	83	CONTROL POINT	OFFICE	107	5	5	0.06	0	0.80	1	1	11	14	0
IDU-32/ERV-20/PTAC-1	609	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	610	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	611	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	612	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	613	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	614	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	615	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	616	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-32/ERV-20/PTAC-1	620	CORRIDOR	CORRIDOR	1130	0	0	0.06	0	0.80	0	0	68	85	0
				3019								237	296	720
IDU-33/ERV-21/PTAC-1	91	STORAGE	STORAGE	182	0	0	0.12	0	0.80	0	0	22	27	0
IDU-33/ERV-21/PTAC-1	91	CONTROL POINT	OFFICE	107	5	5	0.06	0	0.80	1	1	11	14	0
IDU-33/ERV-21/PTAC-1	709	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	710	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	711	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	712	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	713	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	714	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	715	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	716	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	717	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	718	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	719	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	720	PRIVATE BEDROOM	DWELLING	200	10	5	0.06	0	0.80	2	1	17	21	90
IDU-33/ERV-21/PTAC-1	741	CORRIDOR	CORRIDOR	1468	0	0	0.06	0	0.80	0	0	88	110	0
				4157								325	407	1080
				7176								562	703	1800

AIR BALANCE DESIGNATION - ADDITIONS A & B

NOTES:
Balance CFM = Supply CFM - Return/Exhaust CFM
Pressure Options: Positive, Negative or Neutral
ACH = (Supply CFM * 60) / (Area * Room Height) ; Room Height = 9'-0"

Room Name	Area (SF)	Supply (CFM)	Return/Exhaust (CFM)	Balance (CFM)	Pressure	Air Changes per Hour (ACH)
81 STORAGE	182 SF	80	0	80	POSITIVE	2.93
83 CONTROL POINT	107 SF	200	0	200	POSITIVE	12.46
609 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
610 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
611 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
612 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
613 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
614 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
615 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
616 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
620 CORRIDOR	1130 SF	200	480	-280	NEGATIVE	2.83
91 STORAGE	182 SF	100	0	100	POSITIVE	3.66
92 CONTROL POINT	107 SF	120	0	120	POSITIVE	7.48
709 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
710 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
711 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
712 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
713 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
714 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
715 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
716 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
717 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
718 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
719 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
720 PRIVATE BEDROOM	200 SF	90	90	0	NEUTRAL	3
741 CORRIDOR	1468 SF	200	420	-220	NEGATIVE	1.91

MECHANICAL NOTES:

1. ALL CEILINGS ARE FIRE RATED. PROVIDE SUITABLE RADIATION DAMPERS AT ALL DUCT, DIFFUSER OR GRILLE LOCATIONS.
2. ALL PIPING PENETRATIONS THRU RATED PARTITIONS SHALL BE PER PENETRATION DETAILS. REFER TO ARCH.
3. ALL OUTSIDE AIR INTAKES SHALL BE LOCATED 10'-0" MIN. FROM ANY PLUMBING VENT TERMINAL.
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5. PAINT ALL ROOF VENTILATORS IN COLOR TO MATCH ROOF.
6. BRANCH DUCT CONNECTION TO DIFFUSER OR GRILLE MAY HAVE 8'-0" LONG MAX. FLEX DUCT CONNECTOR.
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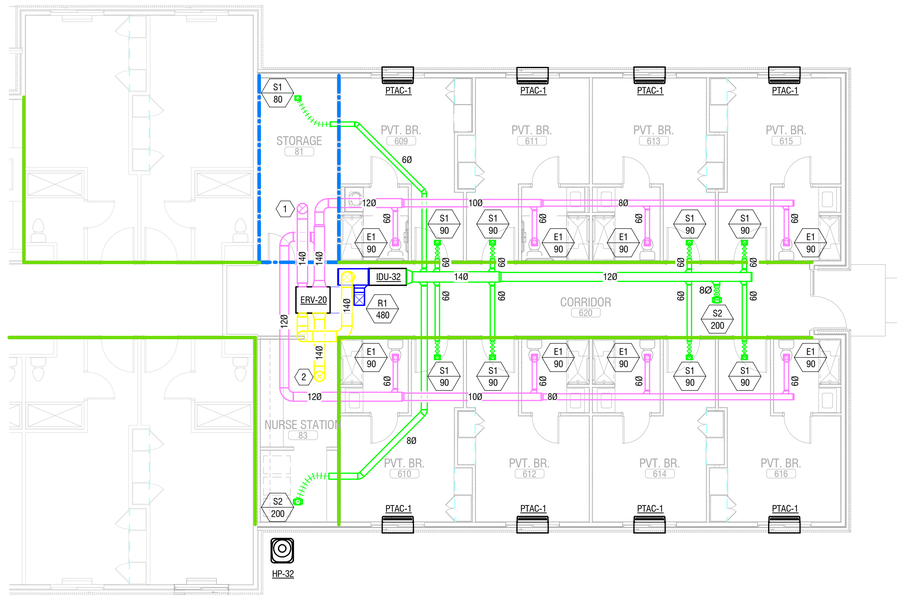
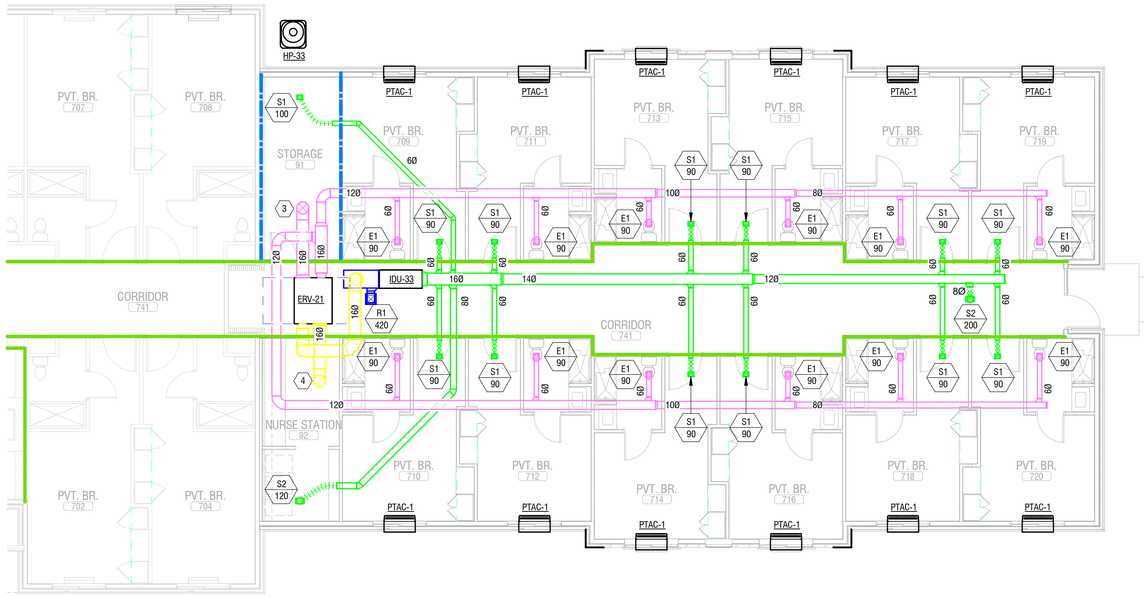


1 M103 LEVEL 1 DUCTWORK PLAN - ADDITION A
1/8" = 1'-0"



2 M103 LEVEL 1 DUCTWORK PLAN - ADDITION B
1/8" = 1'-0"

KEY NOTES:

1. ROUTE 14" EXHAUST DUCT THROUGH ROOF AND TERMINATE W/ HOODED ROOF CAP. ROOF CAP TO BE GREENHECK MODEL GRSR-14, OR APPROVED EQUAL. PROVIDE W/ BIRD SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH AND ROOF PITCH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" MIN. AWAY FROM O.A. INTAKES. MAINTAIN 3'-0" MIN. AWAY FROM BUILDING OPENINGS.
2. ROUTE 14" O.A. DUCT THROUGH ROOF AND TERMINATE W/ APPROVED ROOF CAP. ROOF CAP TO BE GREENHECK MODEL GRSI-14 OR APPROVED EQUAL. PROVIDE W/ INSECT SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH AND ROOF PITCH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" FROM EXHAUST OUTLETS & PLUMBING VENTS.
3. ROUTE 16" EXHAUST DUCT THROUGH ROOF AND TERMINATE W/ HOODED ROOF CAP. ROOF CAP TO BE GREENHECK MODEL GRSR-16, OR APPROVED EQUAL. PROVIDE W/ BIRD SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH AND ROOF PITCH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" MIN. AWAY FROM O.A. INTAKES. MAINTAIN 3'-0" MIN. AWAY FROM BUILDING OPENINGS.
4. ROUTE 16" O.A. DUCT THROUGH ROOF AND TERMINATE W/ APPROVED ROOF CAP. ROOF CAP TO BE GREENHECK MODEL GRSI-16 OR APPROVED EQUAL. PROVIDE W/ INSECT SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH AND ROOF PITCH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" FROM EXHAUST OUTLETS & PLUMBING VENTS.

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02.18.2025

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS
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Revisions

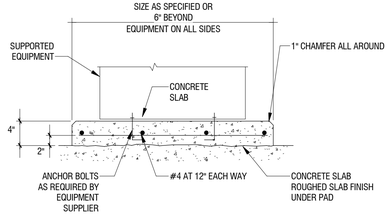
No.	Description	Date

date: 02/06/2025
commission: NH-3138

sheet title:
LEVEL 1 DUCTWORK PLAN - ADDITION A & B

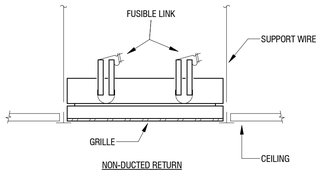
sheet number :

M103

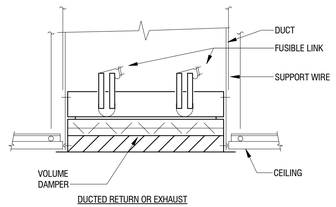


7 M501 S - HOUSEKEEPING PAD DETAIL

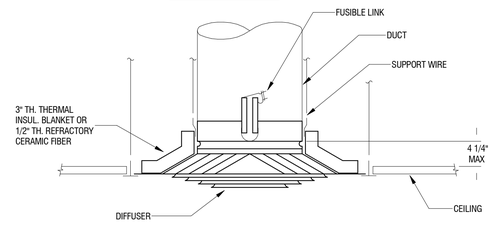
NOT TO SCALE



NON-DUCTED RETURN

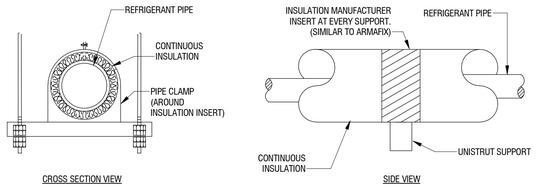


DUCTED RETURN OR EXHAUST



5 M501 DUCT - FD - FIRE DAMPER DETAILS AT CEILING PENETRATION

NOT TO SCALE



CROSS SECTION VIEW

SIDE VIEW

NOTES:

1. PROVIDE INSULATION CONTINUOUS THROUGH SUPPORT.
2. PROVIDE MANUFACTURERS INSULATION INSERT AT EACH PIPE CLAMP.
3. PROVIDE CLAMP AROUND INSULATION INSERT.
4. INSTALL INSULATION/INSERT PER MANUFACTURERS RECOMMENDATION.
5. PROVIDE PVC JACKET AROUND PIPE IN ALL EXPOSED LOCATIONS AND EXTERIOR INSTALLATION.

6 M501 PIPE - REFRIGERANT PIPING SUPPORT DETAIL

NOT TO SCALE

(A) RETAINING ANGLE: SHALL BE MINIMUM OF 1-1/2"x1-1/2"x14 GA. FASTEN TO SLEEVE ONLY WITH 1/4" DIA. BOLTS & NUTS ON 8" CENTERS & WITH MINIMUM OF TWO CONNECTIONS IN EACH SIDE. RETAINING ANGLES SHALL OVERLAP WALL A MINIMUM OF ONE INCH ON ALL FOUR SIDES.

(B) CLEARANCE: OPENINGS IN WALL OR FL. SHALL BE 1/8" PER FOOT LARGER THAN DAMPER DIMENSIONS (3/16" FOR STAINLESS STEEL) MINIMUM CLEARANCE OF 1/4" REQUIRED IN BOTH DIRECTIONS.

(C) STEEL SLEEVE: 14 GAGE WITH BREAKAWAY CONNECTIONS.

(D) FIRE DAMPER: UL BLADE TYPE.

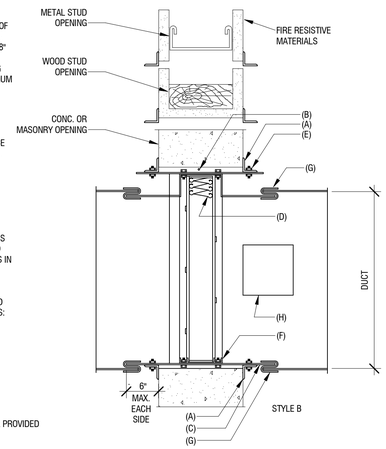
(E) BOLTS AND NUTS: SECURE RETAINING ANGLES TO SLEEVE ONLY ON 8" CENTERS WITH 1/4" DIAMETER. BOTS & NUTS AND WITH A MINIMUM OF TWO CONNECTIONS IN EACH SIDE.

(F) SECURE DAMPER TO SLEEVE ON SAME SPACING AS ANGLES AS RECOMMENDED BY SMACNA. BREAKAWAY CONNECTIONS: PROVIDE.

(G) BREAKAWAY CONNECTIONS AT JOINTS BETWEEN DUCTS AND SLEEVE PER SMACNA RECOMMENDATIONS.

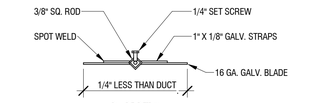
(H) ACCESS DOOR

NOTE:
FOR REFERENCE ONLY- USE MANUFACTURER PROVIDED UL LISTED INSULATION REQUIREMENTS.

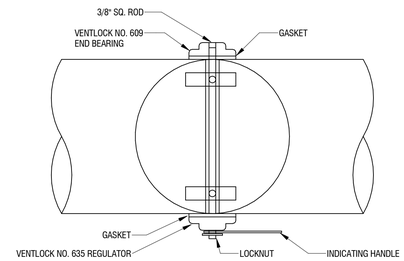


4 M501 DUCT - FD - FIRE DAMPER DETAIL

NOT TO SCALE

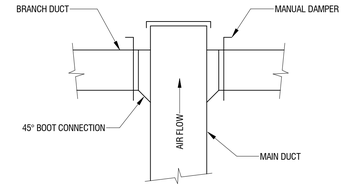


BLADE DETAIL



3 M501 DUCT - ROUND VOLUME DAMPER DETAIL

NOT TO SCALE

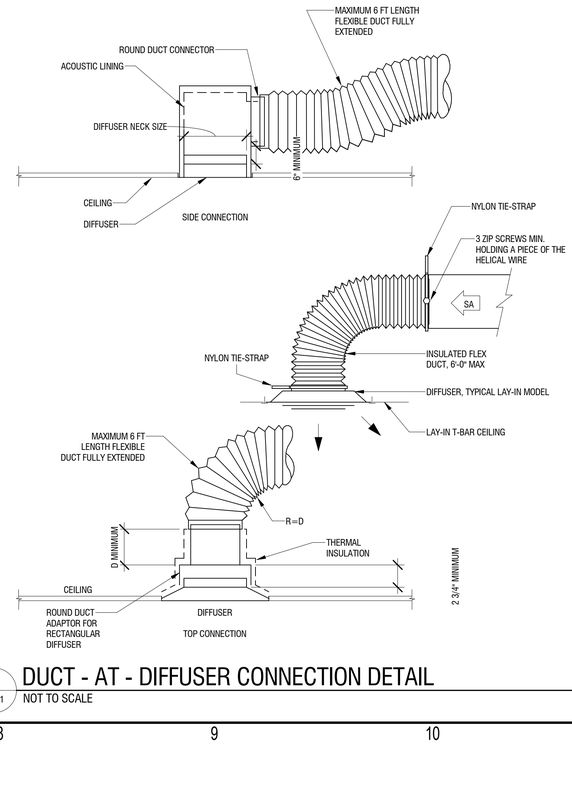


NOTE:

AIR FLOW FOR SUPPLY SYSTEM IS SHOWN. AIR FLOW FOR EXHAUST SYSTEM IS OPPOSITE.

2 M501 DUCT - DUCT TEE BRANCH TAKE-OFF DETAIL

NOT TO SCALE



1 M501 DUCT - AT - DIFFUSER CONNECTION DETAIL

NOT TO SCALE

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CORPORATE ENGINEERING
LICENSE NO. C-0430

NORTH CAROLINA PROFESSIONAL SEAL 047719 ENGINEER MICHAEL E GROSE

LIBELLA ASSOCIATES P.C. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52904 CHARLOTTE, N.C.

02.18.2025

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions

No.	Description	Date

date: 02/06/2025

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sheet title:
MECHANICAL DETAILS

sheet number :

M501

SPLIT SYSTEM HEAT PUMP SCHEDULE

INDOOR UNIT TAG	OUTDOOR UNIT TAG	LOCATION	COOLING PERFORMANCE			HEATING PERFORMANCE		INDOOR UNIT						OUTDOOR UNIT					MANUFACTURER	MODEL	NOTES
			CAPACITY (MBH)	EER	REFRIG. TYPE	CAPACITY @ 47°F (MBH)	CAPACITY @ 17°F (MBH)	DRY CFM	WEIGHT (lb)	POWER	MAX FUSE	MCA	FAN FLA	WEIGHT (lb)	POWER	MAX FUSE	MCA	FAN FLA			
IDU-32	HP-32	CORRIDOR 620	31.7	11.7	R-454B	32.0	21.8	1200	138	208V/1Ph/60Hz	30	27.0	3.9	222	208V/1Ph/60Hz	30	19.0	0.64	TRANE	5TEM4D04AC31SA / 5TWR5036A	3.6kW HEATER; PROVIDE MERV 13 FILTERS
IDU-33	HP-33	CORRIDOR 741	37.7	11.7	R-454B	39.0	24.6	1500	138	208V/1Ph/60Hz	30	27.0	3.9	222	208V/1Ph/60Hz	40	24.0	0.64	TRANE	5TEM4D04AC31SA / 5TWR5042A	3.6kW HEATER; PROVIDE MERV 13 FILTERS

ENERGY RECOVERY VENTILATOR SCHEDULE

No.	SERVING	SUPPLY CFM	RETURN CFM	OUTSIDE CFM	EXHAUST CFM	SUPPLY ESP	EXHAUST ESP	ENERGY PERFORMANCE					V/Hz/Ph	MCA (A)	MAX FUSE	MANUFACTURER	MODEL	NOTES
								SUPPLY TEMP (°F)	NET FLOW (CFM)	POWER (hp)	SENSIBLE EFFICIENCY (%)	LATENT RECOVERY MOISTURE						
ERV-20	ADDITION A BEDROOMS	720	720	720	720	0.25	0.37	78.8	720	0.24	1.02	76%	120/60/1	20.5	25	GREENHECK	MINIVENT-750-VG	
ERV-21	ADDITION B BEDROOMS	1080	1080	1080	1080	0.25	0.37	78.8	1080	0.33	1.03	80%	208/60/1	12.6	15	GREENHECK	ERV-20-15L	

REGISTER AND GRILLE SCHEDULE

No.	NECK SIZE	FACE SIZE	SERVICE	MATERIAL	DAMPER	FINISH	MOUNTING	USE	DESCRIPTION	MANUFACTURER	MODEL	NOTES
E1	6"x6"	8"x6"	EXHAUST	ST	YES	WE	SURFACE	EXHAUST	EXHAUST GRILLE 45 DEG DEFLECTION	PRICE	530	
R1	14"x14"	16"x16"	RETURN	ST	YES	WE	SURFACE	SUPPLY	RETURN GRILLE 45 DEG DEFLECTION	PRICE	530	
S1	6"x6"	8"x6"	SUPPLY	ST	YES	WE	SURFACE	SUPPLY	SUPPLY GRILLE DOUBLE DEFLECTION	PRICE	510	
S2	10"x4"	10"x6"	SUPPLY	ST	YES	WE	SURFACE	SUPPLY	SUPPLY GRILLE DOUBLE DEFLECTION	PRICE	510	

PTAC SCHEDULE

No.	COOLING TOTAL BTUH	COOLING SENS. BTUH	CFM HIGH/LOW	ELECTRIC DATA	MCA	MOCP	HEATING BTU	COP	NOTES	MANUFACTURER	MODEL
PTAC-1	7.1	6.9	360/205	208V/1PH	13.6	20	9.4	4.0	2.7 KW HEATER	GE	AZ65H07DAB

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