ABBREVIATIONS

(NOT ALL ABBREVIATIONS WILL APPLY TO THIS WORK)

A/E	ARCHITECT / ENGINEER
AHHX	AIR TO AIR HEAT EXCHANGER
AB	AIR BLENDER
AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACCH	AIR COOLED CHILLER
ACCU	AIR–COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
ACD	AUTOMATIC CONTROL DAMPER,MODULATING
ACD–TP	AUTOMATIC CONTROL DAMPER,TWO POSITION
AD	ACCESS DOOR
AF	AFTER FILTER
AFCV	AIR FLOW CONTROL VALVE
AFF	ABOVE FINISHED FLOOR
AFMD	AIR FLOW MEASURING DEVICE
AFW	AIR FOIL WHEEL (FAN)
AHU	AIR–HANDLING UNIT
AMP	AMPERGE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS	AIR SEPARATOR
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AW	AIR WASHER
AXF	AXIAL FLOW
B	BOILER
BD	BUTTERFLY DAMPER
BDD	BACKDRAFT DAMPER
BSR	BASE BOARD RADIATOR
BFP	BACKFLOW PREVENTER
BFT	BOILER PLANT FIRE TUBE
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BHW	HOT WATER HEATING BOILER
BHX	BOILER BLOWDOWN HEAT EXCHANGER
BIW	BACKWARD INCLINED WHEEL (FAN)
BMT	BONE MARROW TRANSPLANT
BR	BOTTOM REGISTER
BSC	BIOLOGICAL SAFETY CABINETS
BT	BLOWOFF TANK
BTC	BLOWOFF TANK CONTROL VALVE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWT	BOILER PLANT WATER TUBE
C	CENTIGRADE (CELCIUS)
CC	COOLING COIL
CCD	COOLING COIL CONDENSATE DRAIN
CD	CEILING DIFFUSER
CD–1	CONSTRUCTION DOCUMENTS (SUBMISSION1)
CD–2	CONSTRUCTION DOCUMENTS (SUBMISSION2)
CENT	CENTRIFICAL
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFT	CUBIC FEET
CFP	CHEMICAL FEED PUMP
CG	CEILING GRILLE
CH	CHILLER
CHP	CHILLED WATER PUMP
CHW	CHILLER WATER
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CI	CAST IRON
CM	CARBON MONOXIDE
CM	CUBIC METER
CM/S	CUBIC METER PER SECOND
CO	CLEAN OUT
CO2	CARBON DIOXIDE
COMP	COMPRESSOR UNIT
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CS	CONDENSATE STORAGE TANK
CSG	CLEAN STEAM GENERATOR
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER (POTABLE)
CWCC	CHILLED WATER COOLING COIL
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN (TO COOLING TOWER)
CWS	CONDENSER WATER SUPPLY (FROM COOLING TOWER)
D	DAMPER – AUTOMATIC
D–1	OUTDOOR AIR DAMPER
D–2	RETURN AIR DAMPER
D–3	RELIEF AIR DAMPER
DB	DECIBELS
Db	DRY–BULB TEMPERATURE
DD–1	DESIGN DEVELOPMENT (SUBMISSION1)
DD–2	DESIGN DEVELOPMENT (SUBMISSION2)
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE
DF	DIFFUSER
DIA	DIAMETER
DIW	DEIONIZED WATER
DP	DEW POINT TEMPERATURE
DP	DIFFUSER PLATE
DPA	DIFFERENTIAL PRESSURE ASSEMBLY
DPS	DIFFERENTIAL PRESSURE SENSOR
DX	DIRECT EXPANSION
DXCC	DIRECT EXPANSION COOLING COIL
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	EVAPORATIVE COOLER
ECC	ENGINEERING CONTROL CENTER
ECU	EVAPORATIVE CONDENSER UNIT
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EGS	EMERGENCY GAS SHUTOFF
EGT	ENTERING GLYCOL TEMPERATURE
EH	EXHAUST HOOD
EJ	EXPANSION JOINT
EMD	END OF MAIN DRIP (STEAM)
ENT	ENTERING
ER	EXHAUST REGISTER
ERC	ELECTRIC REHEAT COIL
ERP	ELECTRIC RADIANT PANEL
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETO	ETHYLENE OXIDE
EUH	ELECTRIC UNIT HEATER
EWC	EVAPORATIVE WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
F	FAHRENHEIT
F&T	FLOAT AND THERMOSTATIC
F/SDPR	COMBINATION FIRE SMOKE DAMPER
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT (4 PIPE)
FCUC	FAN COIL UNIT COOLING ONLY
FCUH	FAN COIL UNIT HEATING ONLY
FCW	FORWARD CURVED WHEEL (FAN)
FD	FLOOR DRAIN
FD	FIRE DAMPER
FF	FINAL FILTER
FHX	FLUE GAS/FEEDWATER HEAT EXCHANGER
FM	FLOW METER
FOP	FUEL OIL PUMP
FOT	FUEL OIL TANK
FOHX	FUEL OIL HEAT EXCHANGER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPTU	FAN POWERED TERMINAL UNIT
FR	FLOOR REGISTER
FRP	FIBER REINFORCED POLYESTER
FS	FLOW SWITCH
FSTAT	FREEZESTAT
FT	FEET
FT–LB	FOOT–POUND
FTR	FIN TUBE RADIATION
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLONS
GH	GRAVITY HOOD
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GS	GALVANIZED STEEL
H	HUMIDIFER
H&CW	HOT & COLD WATER
HAC	HOUSEKEEPING AID CLOSET
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
HD	HOOD
HOA	HAND/OFF/AUTOMATIC
HP	HEAT PUMP
HP	HORSEPOWER
HPDT	HIGH PRESSURE DRIP TRAP
HPR	HIGH PRESSURE RETURN (STEAM CONDENSATE)
HPS	HIGH PRESSURE SUPPLY (STEAM)
HRC	HEAT RECOVERY COIL
HRD	HEAT RECOVERY DEVICE
HRP	HYDRONIC RADIANT (CEILING) PANEL
HRW	HEAT RECOVERY WHEEL HSTAT HUMIDISTAT
HTM	HUMIDIFIER TERMINAL
HUM	HUMIDIFIER UNIT MOUNTED
HVU	HEATING AND VENTILATING UNIT
HW	HOT WATER
HWC	HOT WATER COIL
HWHC	HOT WATER HEATING COIL
HWP	HEATING HOT WATER PUMP
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HWUH	HOT WATER UNIT HEATER
HVD	HOSTWAY VENT DAMPER
HX	HEAT EXCHANGER
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
IBT	INVERTED BUCKET TRAP
ICF	IN–LINE CENTRIFUGAL FAN
ICU	INTENSIVE CARE UNIT
ID	INSIDE DIAMETER
IFB	INTEGRAL FACE AND BYPASS
IN	INCHES
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IN–LB	INCH–POUND
IPLV	INTERGRATED PART LOAD VALUE
IRH	INTRARED HEATER
IS	INSECT SCREEN
IU	INDUCTION UNIT
IV	INLET VANES
J	INTENTIALLY LEFT BLANK
kg	KILOGRAM
kg/HR	KILOGRAM PER HOUR
kPa	KILOPASCAL
kW	KILOWATT
kWh	KILOWATT HOUR
L	LITER
L/h	LITERS PER HOUR (OR LITERS/HOUR)
L/m	LITERS PER MINUTE (OR LITERS/MINUTE)
L/s	LITERS PER SECOND (OR LITERS/SECOND)
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LGT	LEAVING GLYCOL TEMPERATURE
LH	LATENT HEAT
LPG	LIQUID PROPANE GAS
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)
LPRC	LOW PRESSURE STEAM RETURN (CLEAN)
LLHX	LIQUID TO LIQUID HEAT EXCHANGER
LPS	LOW PRESSURE STEAM
LPSC	LOW PRESSURE STEAM (CLEAN)
LSD	LINEAR SLOT DIFFUSER
LTCP	LOCAL TEMPERATURE CONTROL PANEL
LVG	LEAVING
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
M	METER, SI UNIT
M/s	METERS PER SECOND (OR METERS/SECOND)
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAU	MAKE–UP AIR UNIT
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MBH	1000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MER	MECHANICAL EQUIPMENT ROOM
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MH	MANHOLE
MHP	MOTOR HORSEPOWER
MIN	MINIMUM
MM	MILLIMETER
MOV	MOTOR OPERATED VALVE
MPR	MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS	MEDIUM PRESSURE STEAM
MRI	MAGNETIC RESONANCE IMAGING
MTD	MEAN TEMPERATURE DIFFERENCE
MVD	MANUAL VOLUME DAMPER
MZ	MULTI–ZONE
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NG	NATURAL GAS
NGFM	NATURAL GAS FLOWMETER
NO	NORMALLY OPEN
NOAA	NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
NOM	NOMINAL
NPLV	NON–STANDARD PART LOAD VALUE
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAG	OUTSIDE AIR GRILLE
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
OFM	OIL FLOWMETER
OR	OPERATING ROOM
P	PUMP
PA	PASCAL
PC	PUMPED CONDENSATE
PCF	POUNDS PER CUBIC FOOT (FEET)
PD	PRESSURE DROP
PEF	PROPELLER (TYPE) EXHAUST FAN
PF	PRE–FILTER
PG	PRESSURE GAGE
PGW	PROPYLENE GLYCOL–WATER (SOLUTION)
PHC	PREHEAT COIL
PPM	PARTS PER MILLION
PRS	PRESSURE REGULATING (VALVE) STATION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH – ABSOLUTE
PSIG	POUNDS PER SQUARE INCH – GAGE
PSS	PRIMARY SECONDARY SYSTEM
PSV	PRESSURE SAFETY VALVE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
R/E	RETURN OR EXHAUST
RA	RETURN AIR
RAD	REFRIGERANT AIR DRYER
RAF	RADIO FREQUENCY
RAHX	ROTARY AIR HEAT EXCHANGER
RAT	RETURN AIR TEMPERATURE
RCCH	REMOTE CONDENSER CHILLER
RCU	RECIPROCATING CHILLER UNIT
RD	REFRIGERANT DISCHARGE
RDS	ROOM DATA SHEETS
REA	RELIEF AIR
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID LINE
RLA	RUN LOAD AMPERE
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
SA	SUPPLY AIR
SAD	SOUND ATTENUIATING DEVICE
SAT	SUPPLY AIR TEMPERATURE
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCI	SPINAL CODE INJURY
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SD	SUPPLY AIR DIFFUSER
SD–1	SCHEMATIC DESIGN (SUBMISSION1)
SD–2	SCHEMATIC DESIGN (SUBMISSION2)
SDPR	SMOKE DAMPER
SDR	SMOKE DAMPER (RETURN)
SDS	SMOKE DAMPER (SUPPLY)
SEN	SENSIBLE HEAT
SF	SUPPLY FAN
SG	SUPPLY AIR GRILLE
SH	STEAM HUMIDIFIER
SHC	STEAM HEATING COIL
SI	SQUARE INCHES
SP	STATIC PRESSURE
SP GR	SPECIFIC GRAVITY
SPD	SUPPLY PROCESS AND DISTRIBUTION
SPRV	STEAM PRESSURE REDUCING VALVE
SPS	STATIC PRESSURE SENSOR
SQ FT	SQUARE FOOT (FEET)
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
SSHX	STEAM TO STEAM HEAT EXCHANGER
SSR	SOLID SEPARATOR
ST	STEAM TRAP
SUH	STEAM UNIT HEATER
SV	STEAM PRESSURE REDUCING VALVE
SVS	STEAM VENT SILENCER
SWHX	STEAM TO WATER HEAT EXCHANGER
T & PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
TAB	TESTING, ADJUSTING, BALANCE
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TDS	TOTAL DISSOLVED SOLIDS
TG	TRANSFER GRILLE
TP	TRAP
TR	TOP REGISTER
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TU	TERMINAL UNIT
TWU	THRU–WALL UNIT
UC	UNDER CUT
UC	UNIT COOLER
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
URV	UPBLAST UNIT VENTILATOR
V	VALVE
VAF	VANE–AXIAL FAN
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
VHA	VETERANS HEALTH ADMINISTRATION
VI	VIBRATION ISOLATOR
VIV	VARIABLE INLET VANES
VP	VACUUM PUMP
VPS	VARIABLE PRIMARY SYSTEM
VR	VACUUM (STEAM CONDENSATE) RETURN
VSD	VARIABLE SPEED DRIVE
VUH	VERTICAL UNIT HEATER
W	WATTS
WAG	WASTE ANETHESIA GAS
Wb	WET–BULB (TEMPERATURE)
WC	WATER COOLED
WCCH	WATER COOLED CHILLER
WCCU	WATER COOLED CONDENSING UNIT
WCHP	WATER COOLED HEAT PUMPS
WCPU	WATER COOLED PACKAGED UNIT
WEF	WALL EXHAUST FAN
WF	WATER FILTER
WFCV	WATER FLOW CONTROL VALVE
WFM	WATER FLOWMETER
WFMD	WATER FLOW MEASURING DEVICE
WG	WATER GAGE
WPD	WATER SIDE PRESSURE DROP
YR	YEAR

DUCTWORK SYMBOLS

(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

- UP DN — SUPPLY DUCT (UP & DOWN)
- UP DN — EXHAUST DUCT (UP & DOWN)
- UP DN — RETURN DUCT (UP & DOWN)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
- VANED ELBOW & AIR SPLIT TYPE DUCT TAKE–OFF
- CONNECT NEW DUCT TO EXISTING DUCT
- R — INCLINED RISE, IN DIRECTION OF AIR FLOW
- D — INCLINED DROP, IN DIRECTION OF AIR FLOW
- LIMIT OF DEMOLITION
- FC — FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW (LONG RADIUS)
- 10x8 — NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
- FLEXIBLE DUCTWORK (INSULATED)
- DUCT WITH SOUND LINING
- VD — MANUAL VOLUME DAMPER
- FD — FIRE DAMPER
- BDD — BACK DRAFT DAMPER
- F/S DPR, N — COMBINATION FIRE/SMOKE DAMPER
- 2, 4, 1/2 — POINT OF CHANGE IN DUCT CONSTRUCTION BY STATIC PRESSURE CLASS. THE NUMBER ASSIGNS PRESSURE CLASS (IN. OF WATER) WHICH WILL ACCOMMODATE MAXIMUM OPERATING PRESSURE IN THE DUCT SUBSECTION. THE SYMBOL CONTINUES THE ASSIGNMENT UNTIL THE DUCT TERMINATES OR ANOTHER SYMBOL APPEARS. A "N" SUPERSCRIPT INDICATES NEGATIVE PRESSURE.
- AUTOMATIC CONTROL DAMPER MODULATING
- AUTOMATIC CONTROL DAMPER TWO POSITION
- STAINLESS STEEL DUCT
- MANUAL SPLITTER DAMPER
- 45° SUPPLY — STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
- 45° RETURN
- DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)
- DUCT MOUNTED COIL

CEILING DIFFUSER : CD–2 RATING 170 CFM
RETURN GRILLE : RG–1 RATING 60 CFM
EXHAUST GRILLE : EG–2 RATING 180 CFM

VALVE SYMBOLS

(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

- GATE VALVE – THREADED/FLANGED
- GLOBE VALVE – THREADED/FLANGED
- GATE VALVE WITH 3/4" HOSE ADAPTER
- CHECK VALVE
- WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
- WYE STRAINER WITH VALVED DRAIN AND QUICK–COUPLE HOSE CONNECTOR
- FLEXIBLE CONNECTION
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- MODULATING CONTROL VALVE
- MODULATING CONTROL BUTTERFLY VALVE
- TWO POSITION CONTROL VALVE
- THREE–WAY MODULATING CONTROL VALVE
- THREE–WAY TWO POSITION CONTROL VALVE
- PRESSURE REGULATING VALVE
- PRESSURE SAFETY VALVE
- AUTOMATIC BALANCING CONTROL VALVE
- WATER BALANCE DEVICE
- CIRCUIT SETTER VALVE
- GATE VALVE WITH GLOBE–VALVED BYPASS
- PLUG VALVE
- CONTROL VALVE (CV) – FLOAT–OPERATED
- PRESSURE REDUCING VALVE (PRV)
- LC — WATER LEVEL CONTROLLER
- M — FLOW METER

GENERAL PIPING SYMBOLS

(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- PIPE UP
- PIPE DOWN
- INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
- FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
- THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
- THERMOMETER
- PRESSURE GAGE
- FE — FLOW ELEMENT
- REFRIGERANT SIGHT GLASS
- TEST PLUG (PRESSURE/TEMPERATURE)
- AV — AUTOMATIC AIR VENT
- MV — MANUAL AIR VENT
- C — QUICK–COUPLE HOSE CONNECTOR

GENERAL NOTES

1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
3. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
4. FOR TYPICAL WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
5. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
6. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.

PIPING SYMBOLS

(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

HPS	HIGH PRESSURE STEAM (60 PSIG AND ABOVE)
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM (15 PSIG AND BELOW)
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
PC	CONDENSATE PUMP DISCHARGE
HWS	HOT WATER HEATING SUPPLY
HWR	HOT WATER HEATING RETURN
GHS	GLYCOL–WATER HEATING SUPPLY
GHR	GLYCOL–WATER HEATING RETURN
SWS	SOLAR WATER SUPPLY
SWR	SOLAR WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RHG	REFRIGERANT HOT GAS
CWS	CONDENSER WATER SUPPLY (FROM TOWER)
CWR	CONDENSER WATER RETURN (TO TOWER)
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
GCS	CHILLED GLYCOL–WATER SUPPLY
GCR	CHILLED GLYCOL–WATER RETURN
MW	MAKE–UP WATER
D	DRAIN LINE
V	VENT LINE
GRS	GLYCOL–WATER RUN AROUND SUPPLY
GRR	GLYCOL–WATER RUN AROUND RETURN
X	EXISTING PIPE TO BE REMOVED
FWPD	FEEDWATER PUMP DISCHARGE
FWPS	FEEDWATER PUMP SUCTION
CTPD	CONDENSATE TRANSFER PUMP DISCHARGE
CTPS	CONDENSATE TRANSFER PUMP SUCTION
VR	VACUUM CONDENSATE RETURN
TC	TUBE CLEANER WATER SUPPLY
BO	BOILER BLOWOFF
CBD	CONTINUOUS BLOWDOWN
BWS	BOILER WATER SAMPLE
FWS	FEEDWATER SAMPLE (FROM DEAERATOR)
CF	CHEMICAL FEED
OFL	OVERFLOW
A	COMPRESSED AIR
G	NATURAL GAS MAIN FUEL
G(I)	NATURAL GAS IGNITER FUEL
LPG(I)	LIQUEFIED PETROLEUM GAS IGNITER FUEL
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
CW	COLD WATER (CITY WATER)
SW	SOFTENED WATER
HW	HOT WATER
RH	ROLLER–TYPE HANGER
SH	VARIABLE SPRING–TYPE HANGER (TYPE 51)*
SCH	SPRING CUSHION–TYPE HANGER (TYPE 48 OR 49)*
	CLEVIS–TYPE HANGER
TH	TRAPEZE HANGER (PROVIDE U–BOLT PIPE ATTACHMENT TO TRAPEZE EXCEPT WHERE RH ARE INDICATED)
FS	FLOOR–SUPPORTED PIPE STAND
RC	RISER CLAMP (TYPE 42)*
WB	WALL BRACKET (TYPE 31, 32, 33)*
CSH	CONSTANT SUPPORT HANGER (TYPE 54, 55, 56)*
SS	SLIDING SUPPORTS (TYPE 35)*

* TYPE NUMBERS REFER TO MANUFACTURER'S STANDARDIZATION SOCIETY STANDARD PRACTICE SP–58

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

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Drawing Title: MECHANICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES

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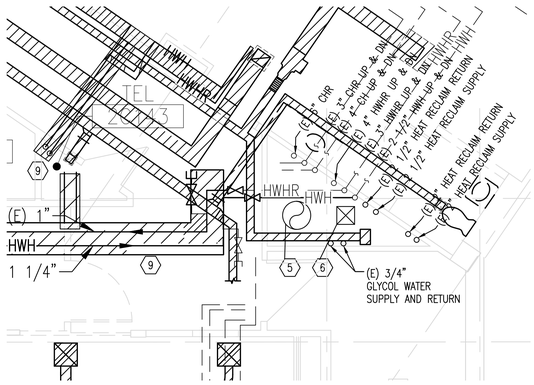
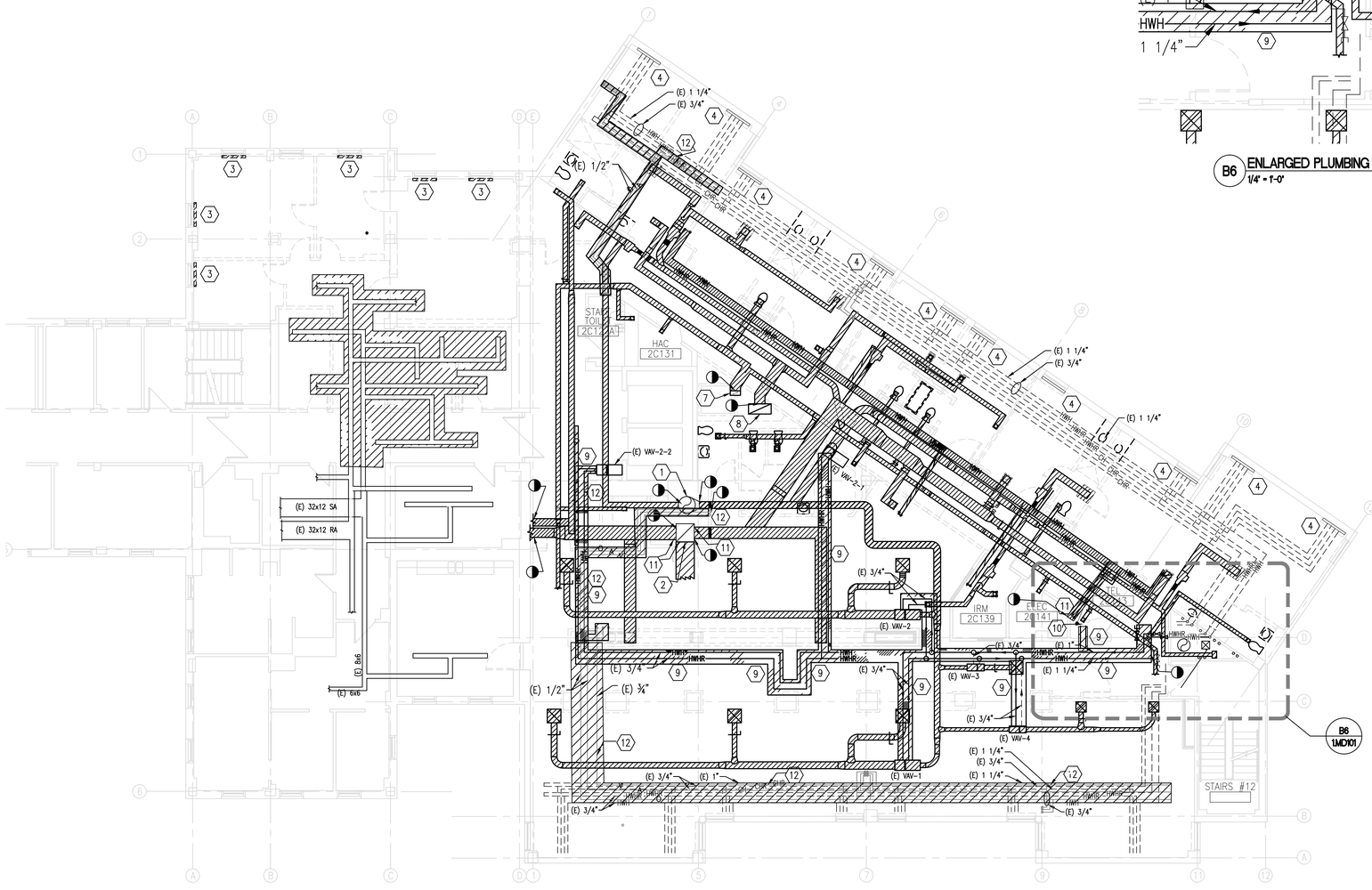


B6 ENLARGED PLUMBING DEMOLITION PLAN
1/4" = 1'-0"



E1 MECHANICAL DEMOLITION PLAN - SECOND FLOOR
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO DWG. M001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES RELATED TO THIS SHEET.
2. ALL EXISTING PIPING, DUCTWORK, SPRINKLERS, CONDUIT, LIGHTING OR OTHER CONSTRUCTION SHALL BE RELOCATED AS NECESSARY FOR ALL DEMOLITION AND INSTALLATION WORK.

NOTES

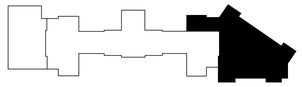
1. ALL ITEMS SHOWN TO BE DEMOLISHED.SHALL INDICATE REMOVAL OF ALL ASSOCIATED HANGERS AND SUPORTS.

KEY NOTES

1. EXISTING 30ø SA RISER TO REMAIN.
2. EXISTING 32x32 RA RISER TO REMAIN.
3. DEMOLISH EXISTING FAN COIL UNIT.
4. EXISTING FAN COIL UNIT TO REMAIN.
5. EXISTING 22"ø SUPPLY DUCT UP AND DOWN TO BASEMENT AHU–2 TO REMAIN.
6. EXISTING 14x14 SUPPLY DUCT UP AND DOWN TO BASEMENT AHU–2 TO REMAIN.
7. EXISTING 8x18 EXHAUST DUCT TO REMAIN.
8. EXISTING 18x40 EXHAUST DUCT TO REMAIN.
9. EXISTING HWH AND HWHR TO VAV BOXES TO BE REMOVED BACK TO POINT INDICATED.
10. MAINTAIN 1–1/4" RISERS HWH AND HWHR FOR VAV BOXES IN THIS LOCATION.
11. KEEP EXISTING TIE–IN:1 ¼" HWH AND 1 ¼" HWHR DN TO FIRST FLOOR CEILING.
12. DEMO MEDICAL GASES (AOV) BACK TO RISER IN SHAFT AS INDICATED. EXISTING HVAC HWH AND CW LINES TO REMAIN.
13. REMOVE EXISTING SMOKE DETECTOR AND PREPARE FOR INSTALLATION OF NEW.

LEGEND

- END OF DEMOLITION
- EXISTING ITEMS TO BE DEMOLISHED



KEY PLAN

N

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

PARADIGM
ENGINEERS AND CONSTRUCTORS
PO BOX 436223 Louisville, Kentucky 40253 – PH: 502.339.8511 – www.paradigmusa.com

Drawing Title: MECHANICAL DEMOLITION PLAN SECOND FLOOR

Approved: Medical Center Director

Project Title: RENOVATE SECOND FLOOR FOR AMBULATORY CARE

Location: HUNTINGTON VA MED. CENTER
1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

Project Number: 581-11-103

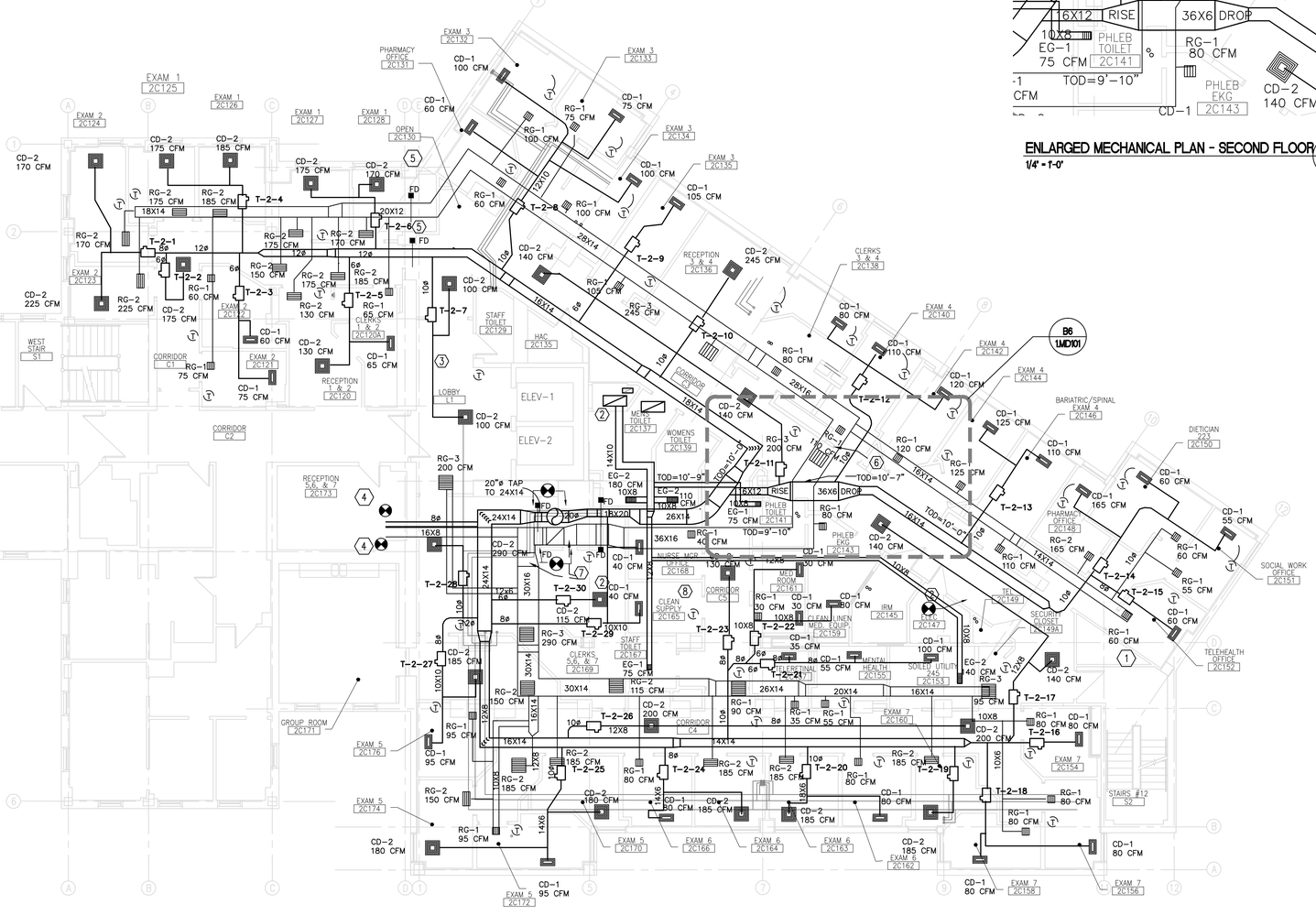
Building Number: 1W

Drawing Number: 1.MD101

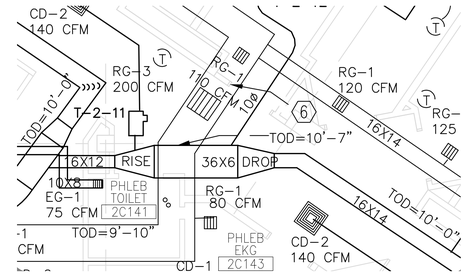
Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08–6231



E1 MECHANICAL PLAN - SECOND FLOOR
1/8" = 1'-0"



ENLARGED MECHANICAL PLAN - SECOND FLOOR B6 MH101
1/4" = 1'-0"

GENERAL NOTES

1. REFER TO DWG. M001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES RELATED TO THIS SHEET.
2. ALL EXISTING PIPING, DUCTWORK, SPRINKLERS, CONDUIT, LIGHTING OR OTHER CONSTRUCTION SHALL BE RELOCATED AS NECESSARY FOR ALL DEMOLITION AND INSTALLATION WORK.

NOTES

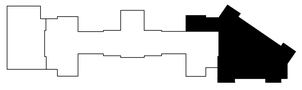
1. ALL RETURN RUN-OUTS TO RETURN GRILLES ARE 10X8 UNLESS NOTED OTHERWISE.
2. ALL SUPPLY AND RETURN DUCT IS TO BE WRAPPED WITH DUCT INSULATION PER THE SPECIFICATIONS. CONFIRM ALL CLEARANCES WITH STRUCTURE AND OTHER TRADE WORK IN ORDER TO ASSURE PROPER INSTALLATION.
3. THE FIRST (8) EIGHT FEET OF EXHAUST DUCT FROM EACH EXHAUST GRILLE SHALL BE EXPANDED AND INTERNALLY LINED WITH ½" DUCT LINER FOR NOISE CONTROL.

KEY NOTES

1. CONNECT SUPPLY DUCT TO EXISTING EXHAUST DUCT.
2. CONNECT NEW DUCT TO EXISTING EXHAUST RISER.
3. STRUCTURE HEIGHT IS 9'-4" A.F.F. IN THIS LOCATION. COORDINATE DUCTWORK TO FIT UNDER STRUCTURE IN THIS AREA. MINIMUM DUCT HEIGHT TO BE 4".
4. RECONNECT EXISTING SUPPLY AND RETURN DUCT FEEDS TO UNAFFECTED SPACE. CONFIRM SIZES AS REQUIRED. THESE ITEMS MUST BE MAINTAINED (BY TEMPORARY MEANS) DURING CONSTRUCTION.
5. EXISTING STRUCTURE AND EXISTING ELECTRICAL WORK IN THIS AREA ALLOWS FOR ONLY 12" HIGH DUCT. COORDINATE AS REQUIRED WITH STRUCTURE AND EXISTING 2" ELECTRICAL CONDUIT IN THIS AREA.
6. 1 ½" FIRE PROTECTION LINE IN THIS AREA TO BE REROUTED AS NECESSARY TO ALLOW FOR INSTALLATION OF NEW DUCT.
7. INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT AND TIE TO FIRE ALARM SYSTEM.
8. INSTALL VERSATER HUMIDITY MONITORING EQUIPMENT IN CLEAN STORAGE ROOM AND TIE TO TEMPERATURE CONTROL/BAS SYSTEM.

LEGEND

CONNECTION BETWEEN NEW AND EXISTING



KEY PLAN

N

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

PARADIGM
ENGINEERS AND CONSTRUCTORS
PO BOX 436223 Louisville, Kentucky 40253 - PH: 502.339.8511 - www.paradigmusa.com

Drawing Title: MECHANICAL PLAN - SECOND FLOOR

Approved: Medical Center Director

Project Title: RENOVATE SECOND FLOOR FOR AMBULATORY CARE

Location: HUNTINGTON VA MED. CENTER
1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

Project Number: 581-11-103

Building Number: 1W

Drawing Number: 1.MH101

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

GENERAL NOTES

1. REFER TO DWG. M001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES RELATED TO THIS SHEET.
2. ALL EXISTING PIPING, DUCTWORK, SPRINKLERS, CONDUIT, LIGHTING OR OTHER CONSTRUCTION SHALL BE RELOCATED AS NECESSARY FOR ALL DEMOLITION AND INSTALLATION WORK.

NOTES

1. EXISTING HWH, HWHR, CHW, AND CHWR PIPING ON PERIMETER FOR FAN COIL UNITS IS TO REMAIN. NO NEW WORK IS REQUIRED FOR THIS PIPING.
2. COORDINATE ALL NEW PIPING WORK WITH EXISTING PIPING RISERS DEDICATED FOR VAV REHEAT.
3. ALL RUNOUTS TO VAV TERMINALS SHALL BE ¾" HWH AND HWHR. PROVIDE VALVING ACCORDING TO TERMINAL UNIT HOT WATER HEATING COIL PIPING DETAIL.

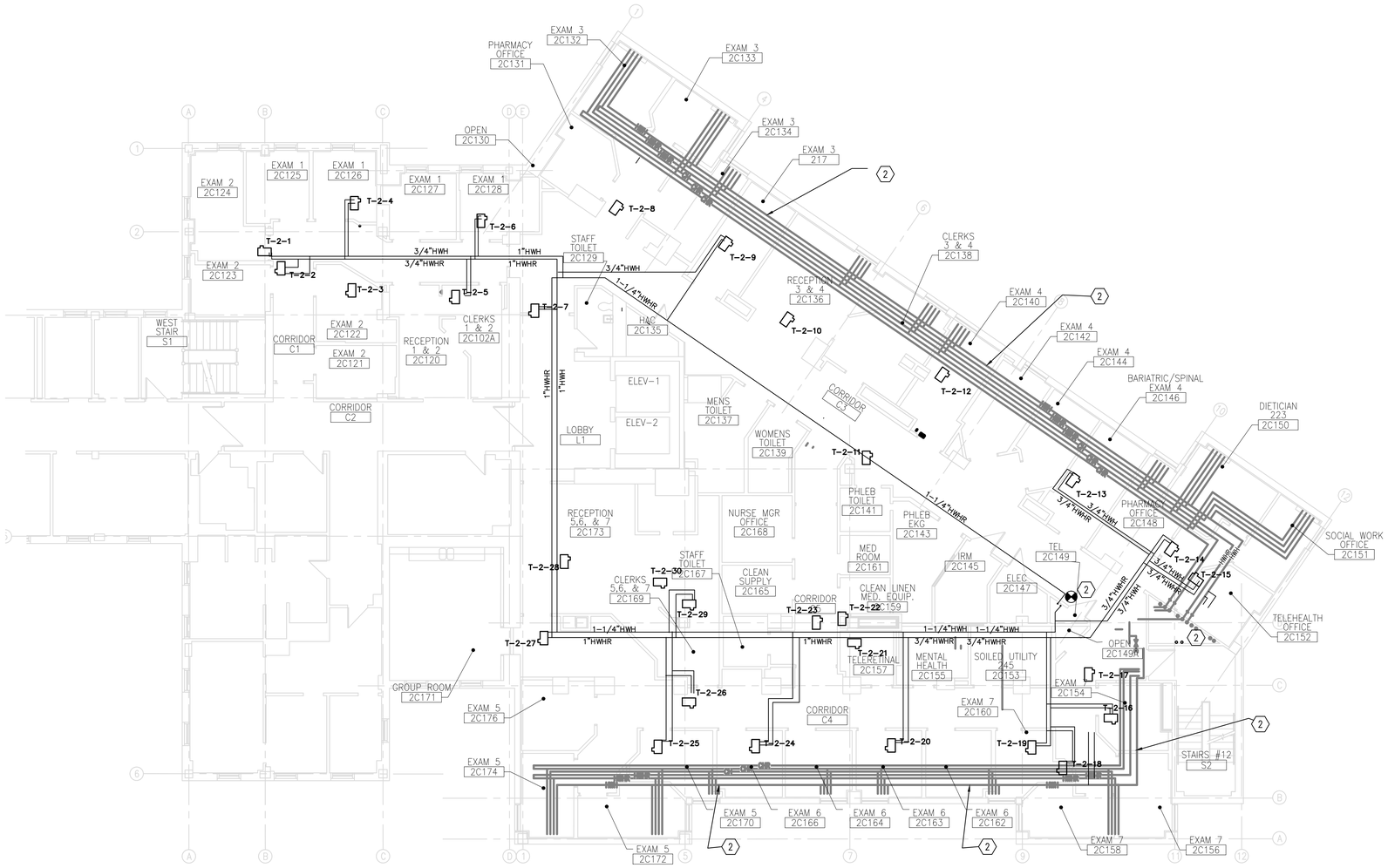
KEY NOTES

(1) CONNECT PIPE TO EXISTING HW AND HWHR PIPE. ROUTE NEW MAINS AS INDICATED.

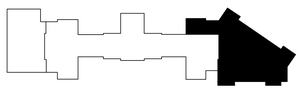
(2) EXISTING HW,HWR,CWS,CWR ETC TO REMAIN.

LEGEND

CONNECTION BETWEEN NEW AND EXISTING



E1 NEW PIPING PLAN - SECOND FLOOR
1/8" = 1'-0"



KEY PLAN

N

NOT FOR CONSTRUCTION
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100% CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

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PO BOX 436223 Louisville, Kentucky 40253 - PH: 502.339.8511 - www.paradigmusa.com

Drawing Title: NEWHVAC PIPING PLAN - SECOND FLOOR

Approved: Medical Center Director

Project Title: RENOVATE SECOND FLOOR FOR AMBULATORY CARE

Location: HUNTINGTON VA MED. CENTER
1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

Project Number: 581-11-103

Building Number: 1W

Drawing Number: 1.MH102

Office of Construction and Facilities Management

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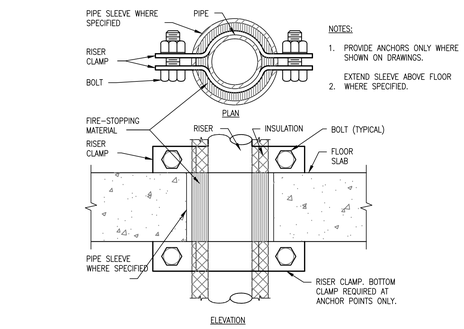
VA FORM 08-6231

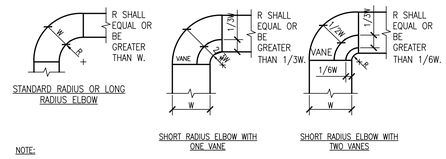
CONTROL SYMBOLS
(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

- (T) ROOM THERMOSTAT/TRANSMITTER – WALL MOUNT
- (M) ROOM HUMIDISTAT (MOISTURE)/TRANSMITTER – WALL MOUNT
- (TT) TEMPERATURE TRANSMITTER
- (TT) TEMPERATURE TRANSMITTER, AVERAGING ELEMENT
- (MT) MOISTURE (HUMIDITY) TRANSMITTER
- (PT) PRESSURE TRANSMITTER
- (SPS) STATIC PRESSURE SENSOR
- (FT) FLOW TRANSMITTER
- (IT) CURRENT TRANSMITTER
- (CT) CONDUCTIVITY TRANSMITTER
- (SD) SMOKE DETECTOR
- (PDT) PRESSURE DIFFERENTIAL TRANSMITTER
- (PDS) PRESSURE DIFFERENTIAL SWITCH
- (HS) HAND SWITCH (HAND–OFF–AUTO SWITCH)
- (ZC) VALVE OR DAMPER POSITION CONTROLLER
- (KR) LOCAL RECORDING TIME CLOCK (RUNTIME)
- (TSL) TEMPERATURE SWITCH, LOW (FREEZESTAT)
- (TSH) TEMPERATURE SWITCH, HIGH (FREEZESTAT)
- (LC) LEVEL CONTROLLER
- (LT) LEVEL TRANSMITTER
- (PSH) PRESSURE SWITCH HIGH
- (PSL) PRESSURE SWITCH LOW
- (EPT) ELECTRONIC TO PNEUMATIC TRANSDUCER
- (AT CO2) CARBON DIOXIDE TRANSMITTER
- (AT CO) CARBON MONOXIDE TRANSMITTER
- (AT OC) OCCUPANCY SENSOR
- [LTCP] LOCAL TEMPERATURE CONTROL PANEL
- [HVAC] HVAC CONTROL PANEL
- [VSMC] VARIABLE SPEED MOTOR CONTROLLER
- (ECC) INTEGRATE CONTROL POINT ON REMOTE GRAPHICS WORKSTATION AT ENERGY CONTROL CENTER
- (TC) TEMPERATURE CONTROLLER. SEE SEQUENCE OF OPERATION
- (PC) PRESSURE CONTROLLER. SEE SEQUENCE OF OPERATION
- (SC) SPEED CONTROLLER. SEE SEQUENCE OF OPERATION
- (FC) FLOW CONTROLLER. SEE SEQUENCE OF OPERATION
- (FSH) FLOW SWITCH HIGH
- (FSL) FLOW SWITCH LOW
- (KC) TIME CLOCK CONTROLLING EQUIPMENT ON A SCHEDULE
- (MC) HUMIDIFIER CONTROL VALVE
- TEMPERATURE SENSING ELEMENT FOR TRANSMITTING TEMPERATURE TO EMCS (PROVIDE 12 INCHES [200mm] MINIMUM LENGTH IN DUCT WHEN SPACE PERMITS.)
- A SENSOR WITH AVERAGING ELEMENT TO TRANSMIT TEMPERATURE TO EMCS
- MOTOR STARTER
- M ELECTRIC OPERATED CONTROL DAMPER/OR VALVE



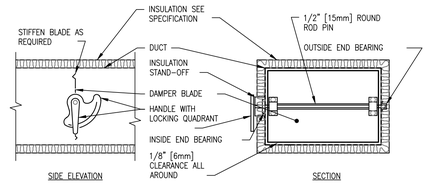
NOTES:
1. PROVIDE ANCHORS ONLY WHERE SHOWN ON DRAWINGS.
2. EXTEND SLEEVE ABOVE FLOOR WHERE SPECIFIED.

B3 SUPPORT/ANCHOR FOR PIPE RISERS
NOT TO SCALE



NOTE:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

B5 DUCTWORK RADIUS ELBOWS
NOT TO SCALE

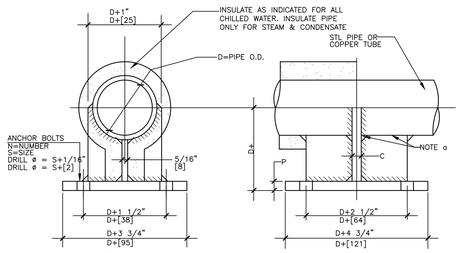


NOTE:
1. DELETE INSULATION STAND–OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI–BLADE DAMPERS & ROUND DAMPERS.

B7 VOLUME DAMPER DETAIL
NOT TO SCALE

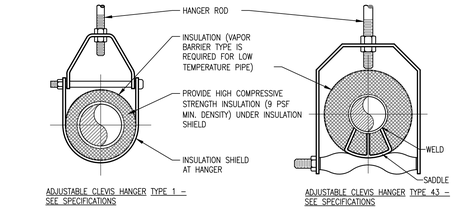
PIPE ANCHOR SCHEDULE

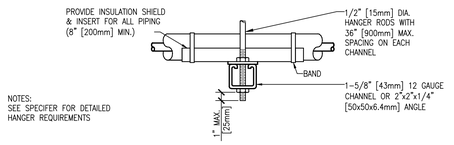
D		P		C		N		S		BOLT PATTERN
IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
4"	102	5/8"	16	3/4"	19	4"	102	3/4"	19	
3"	76	1 1/2"	13	1/2"	13	4"	102	5/8"	16	
2 1/2"	64	5/8"	10	5/8"	10	4"	102	5/8"	16	
2"	51	5/8"	10	5/8"	10	4"	102	5/8"	16	
1 1/2"	38	5/8"	10	1/4"	6	4"	102	1/2"	13	



NOTE:
a.WHERE USED FOR COPPER TUBE OR PIPE, BRAZE TO FABRICATED STEEL ANCHOR

D3 SMALL PIPE ANCHOR 1 1/2"- 4"
NOT TO SCALE





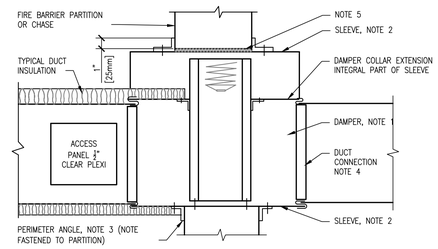
SIDE VIEW TRAPEZE HANGER FOR UP TO 1000 LB. [453KG] UNIFORM LOAD

MAXIMUM PIPE/TUBING SUPPORT SPACING

NOM. SIZE	IN. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]	10 [250]	12 [300]	14 [350]	16 [400]	18 [450]	20 [500]	24 [600]
PIPE	FT. [mm]	7 [2100]	7 [2100]	7 [2100]	9 [2700]	10 [3000]	11 [3400]	12 [3700]	14 [4100]	16 [4900]	17 [5200]	19 [5800]	22 [6700]	23 [7000]	25 [7600]	27 [8200]	28 [8500]	30 [9100]	32 [9600]
TUBING	FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]	– –	– –	– –	– –	– –	– –	– –

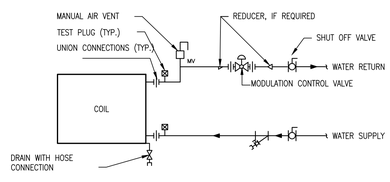
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

D5 PIPE HANGERS
NOT TO SCALE

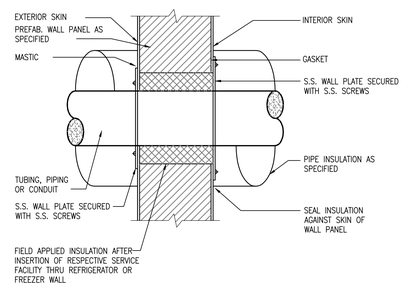


NOTE:
1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGELS: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2" [40x40mm], 14 GAGE, TO PROVIDE 1" [25mm] MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
5. PROVIDE 1/4" TO 1/2" [6 TO 15mm] CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.
6. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" [75mm] HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

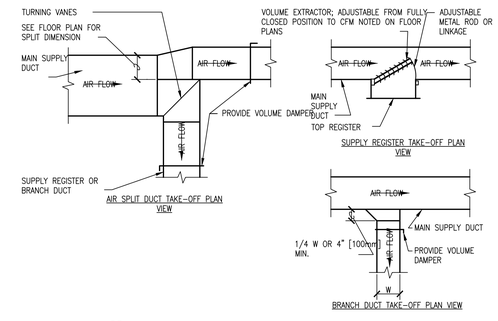
D7 SECTION THRU FIRE DAMPER INSTALLATION
NOT TO SCALE



F3 TERMINAL UNIT WATER COILS PIPING CONNECTIONS
NOT TO SCALE



F5 TUBING, PIPING, AND CONDUITS PASSING THROUGH PRE-FAB INSULATED WALL PANELS
NOT TO SCALE



F7 SUPPLY DUCTWORK TAKE-OFFS
NOT TO SCALE

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:
PARADIGM ENGINEERS AND CONSTRUCTORS
PO BOX 436223 Louisville, Kentucky 40253 – PH: 502.339.8511 – www.paradigmusa.com

Drawing Title: MECHANICAL DETAILS

Approved: Medical Center Director

Project Title: RENOVATE SECOND FLOOR FOR AMBULATORY CARE

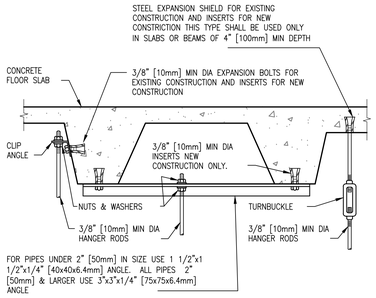
Location: HUNTINGTON VA MED. CENTER, 1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

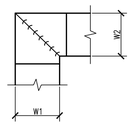
Project Number: 581-11-103
Building Number: 1W
Drawing Number: 1.MH501

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



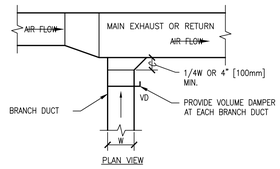
A1 SECURING HANGER RODS IN CONCRETE
NOT TO SCALE



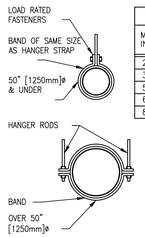
NOTE:

1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.

A3 DUCTWORK SQUARE VANE ELBOWS
NOT TO SCALE



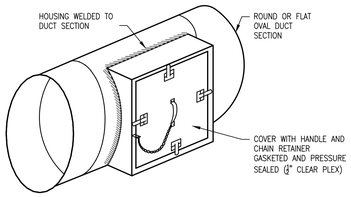
A6 EXHAUST OR RETURN BRANCH DUCTWORK
NOT TO SCALE



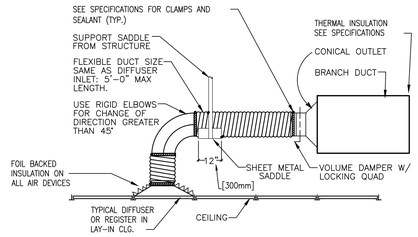
HANGER STRAPS OR RODS			
MAX. DUCT ø IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX. SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10]ø. RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13]ø RODS	2500 [1133]	144 [3600]

NOTE:
TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

D1 ROUND DUCT HANGERS
NOT TO SCALE

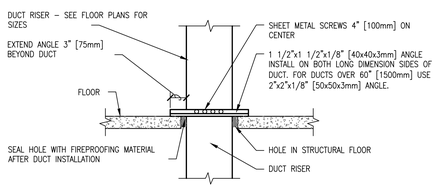


D6 ACCESS SECTION FOR ROUND/OVAL DUCT
NOT TO SCALE

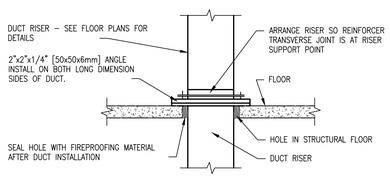


NOTE:
THE USE OF FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

D8 FLEXIBLE AIR DUCT CONNECTOR
NOT TO SCALE



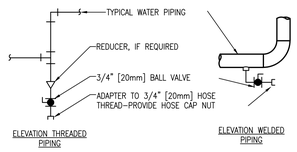
0.5 INCH WG [125Pa] TO 2 INCHES WG [500Pa] DUCT RISER SUPPORT



2 INCHES WG [500Pa] TO 4 INCHES WG [1000Pa] DUCT RISER SUPPORT

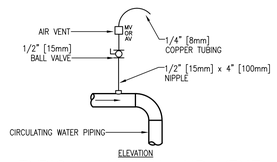
NOTE:
ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND FAN ROOM FLOORS SHALL BE PROVIDED WITH A 3" [75mm] HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

F1 DUCT RISER SUPPORTS
NOT TO SCALE



TYPICAL CHILLED AND HOT WATER PIPING DRAIN VALVE CONNECTIONS

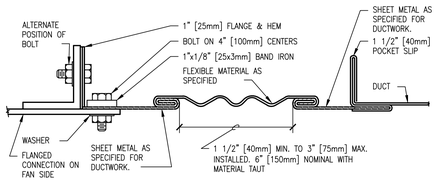
NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.



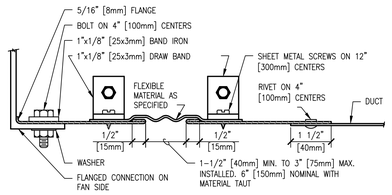
TYPICAL MANUAL AIR VENT

NOTES:
1. VENT ALL HIGH POINTS INDICATED ABOVE.
2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN.

F3 DRAIN VALVE AND AIR VENT CONNECTIONS (HYDRONIC SYSTEMS)
NOT TO SCALE

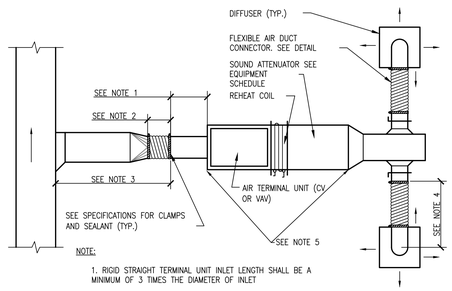


RECTANGULAR FLEXIBLE CONNECTION



ROUND FLEXIBLE CONNECTION

F6 FLEXIBLE DUCT CONNECTIONS
NOT TO SCALE



NOTE:

1. RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET
2. A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0" [900mm].
3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET (3 METERS). FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100' [1.64Pa/m].
4. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0" [1500mm]. USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.
5. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.
6. USE OF THE FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

F8 DUCT CONNECTIONS - AIR TERMINAL UNITS
NOT TO SCALE

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

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PO BOX 436223 Louisville, Kentucky 40253 - PH: 502.339.8511 - www.paradigmuso.com

Drawing Title: MECHANICAL DETAILS 2

Approved: Medical Center Director

Project Title: RENOVATE SECOND FLOOR FOR AMBULATORY CARE

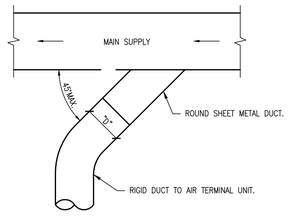
Location: HUNTINGTON VA MED. CENTER
1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

Project Number: 581-11-103
Building Number: 1W
Drawing Number: 1.MH502

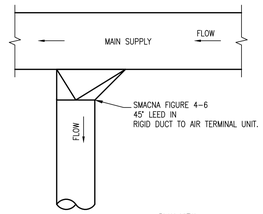
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



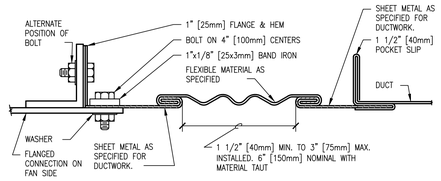
PLAN VIEW

B1 SUPPLY DUCT TAKEOFF - AIR TERMINAL UNIT
NOT TO SCALE

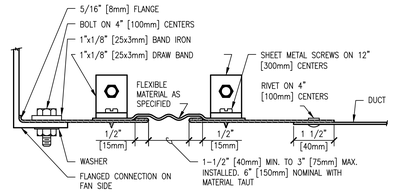


PLAN VIEW

B3 ALTERNATE SUPPLY DUCT TAKEOFF AIR TERMINAL UNITS
NOT TO SCALE

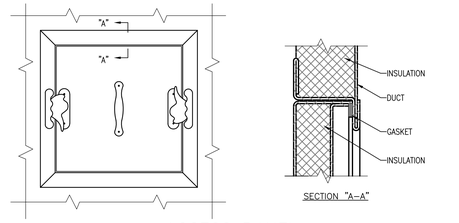


RECTANGULAR FLEXIBLE CONNECTION



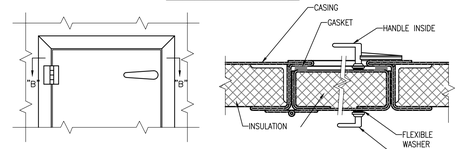
ROUND FLEXIBLE CONNECTION

B5 FLEXIBLE DUCT CONNECTIONS
NOT TO SCALE



SECTION "A-A"

ACCESS PANEL

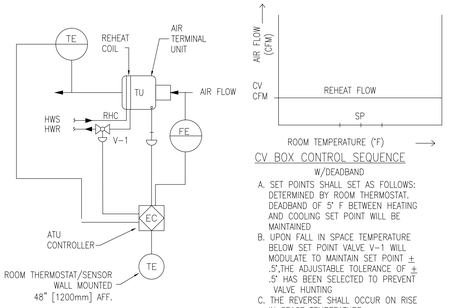


SECTION "B-B"

ACCESS DOOR

NOTES:
1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9-15

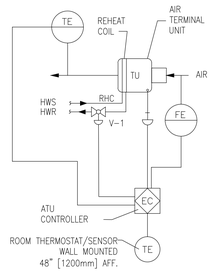
B8 ACCESS PANEL AND DOOR DETAIL
NOT TO SCALE

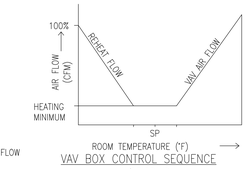


CV BOX CONTROL SEQUENCE
W/DEADBAND

A. SET POINTS SHALL SET AS FOLLOWS: DETERMINED BY ROOM THERMOSTAT. DEADBAND OF 5° F BETWEEN HEATING AND COOLING SET POINT WILL BE MAINTAINED
B. UPON FALL IN SPACE TEMPERATURE BELOW SET POINT VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT ± .5°,THE ADJUSTABLE TOLERANCE OF ± .5° HAS BEEN SELECTED TO PREVENT VALVE HUNTING
C. THE REVERSE SHALL OCCUR ON RISE IN SPACE TEMPERATURE.

E1 CAV AIR TERMINAL UNIT CONTROL DIAGRAM
N.T.S.





VAV BOX CONTROL SEQUENCE
W/DEADBAND

A. SET POINTS SHALL BE SET AS FOLLOWS: COOLING 75°F (ADJ) HEATING 70°F(ADJ) DEADBAND OF 5° F BETWEEN HEATING AND COOLING SET POINTS WILL BE MAINTAINED.
B. UPON FALL IN SPACE TEMPERATURE THE VAV DAMPER WILL MODULATE TO MINIMUM POSITION.
C. UPON FURTHER DROP IN SPACE TEMPERATURE VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT ± .5° F. THE ADJUSTABLE TOLERANCE OF ± .5° F HAS BEEN SELECTED TO PREVENT VALVE HUNTING
D. THE REVERSE SHALL OCCUR ON THE RISE IN SPACE TEMPERATURE.
E. MAXIMUM AIR DISCHARGE TEMPERATURE SHALL BE 90 DEG. F, EXCEPT DURING MORNING WARMUP. DISCHARGE TEMPERATURE SHALL BE MAINTAINED BY INCREASING AIRFLOW TO PREVENT STRATIFICATION.

D3 VAV AIR TERMINAL UNIT CONTROL DIAGRAM
N.T.S.

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

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Drawing Title: MECHANICAL DETAILS 3

Approved: Medical Center Director

Project Title: RENOVATE SECOND FLOOR FOR AMBULATORY CARE

Location: HUNTINGTON VA MED. CENTER
1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

Project Number: 581-11-103
Building Number: 1W
Drawing Number: 1.MH503

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

AIR DEVICE SCHEDULE (RETURN)

MARK	TYPE	AIR FLOW MIN. CFM	AIR FLOW MIN. [L/s]	AIR FLOW MAX. CFM	AIR FLOW MAX. [L/s]	MAX APD IN WG	MAX APD [Pa]	MOUNTING	PANEL/ FRAME SIZE IN x IN	NECK SIZE IN	NC	DAMPER	FINISH	REMARKS
RG-1	PERFORATED	40	–	150	–	0.088	22.000	CEILING	12 x12	8 x 8	12	YES	WHITE	NOTES 1, 2
RG-2	PERFORATED	100	–	225	–	0.088	22.000	CEILING	24 x 12	10 x 8	12	YES	WHITE	NOTES 1, 2
RG-3	PERFORATED	150	–	400	–	0.088	22.000	CEILING	24 x 24	12 x 12	12	YES	WHITE	NOTES 1, 2

NOTES: 1. PROVIDE SQUARE TO ROUND ADAPTER WHEN REQUIRED.
2. SCHEDULE SHALL BE ADJUSTED FOR PROJECT-SPECIFIC REQUIREMENTS.

AIR DEVICE SCHEDULE (EXHAUST)

MARK	TYPE	AIR FLOW (SEE PLANS) MIN. CFM	AIR FLOW (SEE PLANS) MIN. [L/s]	AIR FLOW (SEE PLANS) MAX. CFM	AIR FLOW (SEE PLANS) MAX. [L/s]	MAX APD IN WG	MAX APD [Pa]	MOUNTING	PANEL/ FRAME SIZE IN x IN	NECK SIZE IN	NC	DAMPER	FINISH	REMARKS
EG-1	PERFORATED	30	–	75	–	0.088	22.000	CEILING	12 x 12	8 x 8	13	YES	WHITE	NOTES 1, 2
EG-2	PERFORATED	75	–	150	–	0.088	22.000	CEILING	24 x 12	16 x 8	13	YES	WHITE	NOTES 1, 2

NOTES: 1. PROVIDE SQUARE TO ROUND ADAPTER WHEN REQUIRED.
2. SCHEDULE SHALL BE ADJUSTED FOR PROJECT-SPECIFIC REQUIREMENTS.

AIR DEVICE SCHEDULE (SUPPLY)

MARK	TYPE	AIR FLOW MIN. CFM	AIR FLOW MIN. [L/s]	AIR FLOW MAX. CFM	AIR FLOW MAX. [L/s]	MAX APD IN WG	MAX APD [Pa]	MOUNTING	PANEL/ FRAME SIZE IN x IN	NECK SIZE IN	NC	DAMPER	FINISH	REMARKS
CD-1	LOUVERED FACE	100	–	200	–	0.100	[23]	CEILING	24 x 12	6ø	19	NONE	WHITE	NOTES 1, 2, 3
CD-2	LOUVERED FACE	140	–	240	–	0.100	[23]	CEILING	24 x 24	8ø	19	NONE	WHITE	NOTES 1, 2, 3
CD-2	LOUVERED FACE	240	–	400	–	0.100	[23]	CEILING	24 x 24	10ø	19	NONE	WHITE	NOTES 1, 2, 3

NOTES:

1. SEE FLOOR PLAN FOR THROW PATTERN.
2. SEE DETAIL FOR DAMPER IN BRANCH DUCT SERVING EACH DIFFUSER.
3. PROVIDE SQUARE TO ROUND ADAPTER WHEN REQUIRED.

SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	LOCATION	AREA AND/OR ROOM SERVED	SYSTEM AIR HANDLING	SIZE	AIR FLOW MAX CFM	AIR FLOW MAX [L/s]	AIR FLOW MIN CFM	AIR FLOW MIN [L/s]	ADDITIONAL SOUND ATTUNATION REQUIRED	CONTROL TYPE	CONTROL SEQUENCE	REHEAT HW	REHEAT ELEC	REHEAT NONE	PERIMETER SUPPLEMENTAL HEAT LINK	REMARKS
TU-2-1	–	204-205	–	D	395	190	200	34	NONE	VAV	5° DEADBAND	X			–	–
TU-2-2		201	–	B	175	83	–	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-3	–	202-203	–	A	135	64	55	26	NONE	VAV	5° DEADBAND			X	–	–
TU-2-4	–	206-207	–	C	360	170	160	76	NONE	VAV	5° DEADBAND	X			–	–
TU-2-5	–	210-210.1	–	B	185	87	75	35	NONE	VAV	5° DEADBAND			X	–	–
TU-2-6	–	208-209	–	C	345	160	160	76	NONE	VAV	5° DEADBAND	X			–	–
TU-2-7	–	211	–	B	250	120	–	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-8	–	213-216	–	C	335	–	95	–	NONE	CV	5° DEADBAND			X	–	–
TU-2-9	–	217	–	A	105	50	35	34	NONE	VAV	5° DEADBAND	X			–	–
TU-2-10		218	–	B	245	120	–	–	NONE	CV	5° DEADBAND			X	–	–
TU-2-11	–	227	–	C	280	130	–	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-12	–	218-220	–	C	310	150	–	–	NONE	CV	5° DEADBAND			X	–	–
TU-2-13	–	221-222	–	C	185	87	75	35	NONE	VAV	5° DEADBAND	X			–	–
TU-2-14	–	223-225	–	C	280	130	–	–	NONE	CV	5° DEADBAND			X	–	–
TU-2-15	–	226	–	A	60	28	25	–	NONE	VAV	5° DEADBAND	X			–	–
TU-2-16	–	228	–	A	80	38	30	–	NONE	VAV	5° DEADBAND			X	–	–
TU-2-17	–	227	–	C	280	130	60	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-18		234-2351	–	A	160	76	60	–	NONE	VAV	5° DEADBAND	X			–	–
TU-2-19	–	236-237	–	C	265	130	55	–	NONE	VAV	5° DEADBAND	X			–	–
TU-2-20	–	238-239	–	C	265	170	160	–	NONE	VAV	5° DEADBAND	X			–	–
TU-2-21	–	245-247	–	B	190	90	90	–	NONE	VAV	5° DEADBAND			X	–	–
TU-2-22	–	231-232	–	A	140	68	–	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-23	–	241	–	A	130	61	–	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-24	–	240-241	–	C	265	130	160	–	NONE	VAV	5° DEADBAND	X			–	–
TU-2-25	–	242-243	–	C	370	130	165	78	NONE	VAV	5° DEADBAND	X			–	–
TU-2-26		232	–	D	400	190	200	94	NONE	CV	5° DEADBAND	X			–	–
TU-2-27	–	BREAK	–	C	280	130	130	61	NONE	VAV	5° DEADBAND			X	–	–
TU-2-28	–	212	–	C	290	140	100	47	NONE	VAV	5° DEADBAND			X	–	–
TU-2-29	–	250-251	–	A	100	47	–	–	NONE	CV	5° DEADBAND	X			–	–
TU-2-30	–	212.1	–	B	115	54	60	28	NONE	VAV	5° DEADBAND			X	–	–

AIR TERMINAL UNIT SIZING SCHEDULE

SIZE	MIN ALLOWABLE AIR FLOW CFM	MIN [L/s]	MAX ALLOWABLE AIR FLOW CFM	MAX [L/s]	DUCT INLET SIZE IN	DUCT INLET SIZE [mm]	MAX APD IN WG	MAX APD [Pa]	MAXIMUM SOUND POWER LEVEL (Re: 10^(-12) WATTS) FOR DISCHARGE AT MAXIMUM INLET DUCT OCTAVE BANDS 2	3	4	5	6	7	HOT WATER HEATING COIL EAT F	[C]	EWT F	[C]	FLOW GPM	[L/m]	MAXWPD FT	[kPa]	PIPE RUNOUT SIZE TO COIL IN	[mm]	REMARKS
A	60	[28]	170	[80]	4	[100]	0.4	[100]	69	65	58	52	51	47	55	[13]	140	[60]	0.5	[2]	3	[9]	0.75	[19]	
B	90	[42]	260	[120]	5	[130]	0.4	[100]	69	63	59	52	51	47	55	[13]	140	[60]	0.5	[2]	3	[9]	0.75	[19]	
C	130	[61]	380	[180]	6	[150]	0.4	[100]	69	63	59	52	51	47	55	[13]	140	[60]	0.7	[3]	4	[12]	0.75	[19]	
D	160	[76]	490	[230]	7	[180]	0.4	[100]	70	68	63	57	53	49	55	[13]	140	[60]	0.7	[3]	4	[12]	0.75	[19]	
E	230	[110]	680	[320]	8	[200]	0.4	[100]	71	68	59	53	51	47	55	[13]	140	[60]	1	[4]	3	[9]	0.75	[19]	
F	270	[130]	790	[370]	9	[230]	0.4	[100]	71	69	60	54	51	47	55	[13]	140	[60]	1.5	[6]	4	[12]	1	[25]	

NOTES: 1. INLET STATIC BASED ON ARI
2. THIS SCHEDULE IS USED WITH THE TERMINAL UNIT SCHEDULE.
3. CONTROL SEQUENCE SHALL BE AS INDICATED ON THE AIR TERMINAL UNIT SCHEDULE.
4. PROVIDE SOUND ATTENUATION AFTER-SECTION AS REQUIRED TO MEET ROOM NC LEVEL.

NOT FOR CONSTRUCTION
FULLY SPRINKLERED BUILDING
100% CONSTRUCTION DOCUMENTS

Revisions: Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

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Drawing Title: MECHANICAL SCHEDULES

Approved: Medical Center Director

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Location: HUNTINGTON VA MED. CENTER
1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

Date: 05-04-2012 | Checked: KLP | Drawn: JDM

Project Number: 581-11-103

Building Number: 1W

Drawing Number: 1.MH601

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

ROOM AIR BALANCE SCHEDULE

ROOM NO	ROOM NAME	AIR HANDLING UNIT NO	INDIVIDUAL ROOM TEMP CONTROL	SUPPLY: ROOM AIR FLOW CFM	SUPPLY: # OF AIR DEVICES	SUPPLY: AIR DEVICE MARK	SUPPLY: SUPPLY FAN	RETURN OR EXHAUST: RETURN OR EXHAUST [R/E]	RETURN OR EXHAUST: ROOM AIR FLOW CFM	RETURN OR EXHAUST: # OF AIR DEVICES	RETURN OR EXHAUST: AIR DEVICE MARK	RETURN OR EXHAUST: RETURN OR EXHAUST FAN	ROOM AIR FLOW: CV	ROOM AIR FLOW: VAV	ROOM AIR BALANCE	NET INFILTRATION CFM	NET EXFILTRATION CFM	REMARKS
L1	ELEV LOBBY	AHU-1	Y	200	1	CD-2	SF-1	R	200	1	RG-3	1-RFBW	CV	–	0	–	–	
C1	CORRIDOR	AHU-1	Y	175	1	CD-2	SF-1	R	150	1	RG-2	1-RFBW	CV	–	+	–	25	
2C128	EXAM 1	AHU-1	Y	170	1	CD-2	SF-1	R	170	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C127	EXAM 1	AHU-1	Y	175	1	CD-2	SF-1	R	175	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C126	EXAM 1	AHU-1	Y	185	1	CD-2	SF-1	R	185	1	RG-2	1-EFBW	–	VAV	0	–	–	
2C125	EXAM 1	AHU-1	Y	175	1	CD-2	SF-1	R	175	1	RG-2	1-EFBW	–	VAV	0	–	–	
2C124	EXAM 2	AHU-1	Y	170	1	CD-2	SF-1	R	170	1	RG-2	1-RFBW	–	–	0	–	–	
2C123	EXAM 2	AHU-1	Y	225	1	CD-2	SF-1	R	225	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C122	EXAM 2	AHU-1	Y	60	1	CD-1	SF-1	R	60	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C121	EXAM 2	AHU-1	Y	75	1	CD-1	SF-1	R	75	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C120	RECEPTION 1&2	AHU-1	Y	130	1	CD-2	SF-1	R	130	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C102A	CLERKS 1&2	AHU-1	N	65	1	CD-1	SF-1	R	65	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C173	RECEPTION 5,6,7	AHU-1	Y	290	1	CD-2	SF-1	R	290	1	RG-3	1-RFBW	–	VAV	0	–	–	
2C169	CLERKS 5,6,7	AHU-1	N	115	2	CD-2	SF-1	R	115	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C176	EXAM 5	AHU-1	Y	95	1	CD-1	SF-1	R	95	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C174	EXAM 5	AHU-1	Y	180	1	CD-2	SF-1	R	180	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C172	EXAM 5	AHU-1	Y	95	1	CD-1	SF-1	R	95	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C170	EXAM 5	AHU-1	Y	180	1	CD-2	SF-1	R	185	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C166	EXAM 6	AHU-1	Y	80	1	CD-1	SF-1	R	80	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C164	EXAM 6	AHU-1	Y	185	1	CD-2	SF-1	R	185	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C163	EXAM 6	AHU-1	Y	185	1	CD-2	SF-1	R	185	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C162	EXAM 6	AHU-1	Y	80	1	CD-1	SF-1	R	80	1	RG-1	1-RFBW		VAV	0	–	–	
2C158	EXAM 7	AHU-1	Y	80	1	CD-1	SF-1	R	80	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C156	EXAM 7	AHU-1	Y	80	1	CD-1	SF-1	R	80	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C154	EXAM 7	AHU-1	Y	80	1	CD-1	SF-1	R	80	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C153	SOILED UTILITY	AHU-1	N	100	1	CD-1	SF-1	E	140	1	EG-2	1-RFBW	CV	–	--	40	–	
2C160	EXAM 7	AHU-1	Y	185	1	CD-2	SF-1	R	185	1	RG-2	1-RFBW	–	VAV	0	–	–	
2C163	NURSE MANAGER	AHU-1	N	40	1	CD-1	SF-1	R	40	1	RG-1	1-RFBW	CV	–	0	–	–	
2C157	OPEN OFFICE	AHU-1	N	35	1	CD-1	SF-1	R	35	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C167	STAFF TOILET	AHU-1	N	0	0	–	–	E	75	1	EG-1	1-RFBW	CV	–	--	75	–	
2C165	CLEAN SUPPLY	AHU-1	N	40	1	CD-1	SF-1	–	–	–	–	–	CV	–	+	–	40	
2C155	MENTAL HEALTH	AHU-1	N	55	1	CD-1	SF-1	R	55	1	RG-1	1-RFBW	–	VAV	0	–	–	
2C161	MEDICATION RM	AHU-1	N	30	1	CD-1	SF-1	R	–	–	–	–	CV	–	+	–	30	
2C159	CLEAN LINEN	AHU-1	N	45	1	CD-1	SF-1	–	–	–	–	–	CV	–	+	–	45	
C4	CORRIDOR	AHU-1	Y	400	1	CD-2	SF-1	R	150	1	RC-2	1-RFBW	CV	–	+	–	250	
C5	CORRIDOR	AHU-1	Y	130	1	CD-2	SF-1	R	90	1	RG-1	1-RFBW	CV		+		40	

ROOM AIR BALANCE SCHEDULE (CONTINUED)

ROOM NO	ROOM NAME	AIR HANDLING UNIT NO	INDIVIDUAL ROOM TEMP CONTROL	SUPPLY: ROOM AIR FLOW CFM	SUPPLY: # OF AIR DEVICES	SUPPLY: AIR DEVICE MARK	SUPPLY: SUPPLY FAN	RETURN OR EXHAUST: RETURN OR EXHAUST [R/E]	RETURN OR EXHAUST: ROOM AIR FLOW CFM	RETURN OR EXHAUST: # OF AIR DEVICES	RETURN OR EXHAUST: AIR DEVICE MARK	RETURN OR EXHAUST: RETURN OR EXHAUST FAN	ROOM AIR FLOW: CV	ROOM AIR FLOW: VAV	ROOM AIR BALANCE	NET INFILTRATION CFM	NET EXFILTRATION CFM	REMARKS
2C131	PHARMACY OFFICE	AHU-2	N	60	1	CD-1	SF-2	R	60	1	RG-1	RF-1	–	VAV	0	–	–	
2C132	EXAM 3	AHU-2	Y	100	1	CD-1	SF-2	R	100	1	RG-1	RF-1	–	VAV	0	–	–	
2C133	EXAM 3	AHU-2	Y	75	1	CD-1	SF-2	R	75	1	RG-1	RF-1	–	VAV	0	–	–	
2C134	EXAM 3	AHU-2	Y	100	1	CD-1	SF-2	R	100	1	RG-1	RF-1	–	VAV	0	–	–	
2C135	EXAM 3	AHU-2	Y	105	1	CD-1	SF-2	R	105	1	RG-1	RF-1	–	VAV	0	–	–	
2C136	RECEPTION 3,4	AHU-2	Y	245	1	CD-2	SF-2	R	245	1	RG-3	RF-1	–	VAV	0	–	–	
2C138	CLERKS 3,4	AHU-2	N	80	1	CD-1	SF-2	R	80	1	RG-1	RF-1	–	VAV	0	–	–	
2C142	EXAM 4	AHU-2	Y	120	1	CD-1	SF-2	R	120	1	RG-1	RF-1	–	VAV	0	–	–	
2C144	EXAM 4	AHU-2	Y	125	1	CD-1	SF-2	R	125	1	RG-1	RF-1	–	VAV	0	–	–	
2C146	BARIATRIC EXAM	AHU-2	Y	110	1	CD-1	SF-2	R	110	1	RG-1	RF-1	–	VAV	0	–	–	
2C148	PHARMACY OFFICE	AHU-2	N	165	1	CD-1	SF-2	R	165	1	RG-2	RF-1	–	VAV	0	–	–	
2C150	DIETICIAN OFFICE	AHU-2	N	60	1	CD-1	SF-2	R	60	1	RG-1	RF-1	–	VAV	0	–	–	
2C151	SOCIAL WORK OFFICE	AHU-2	N	55	1	CD-1	SF-2	R	55	1	RG-1	RF-1	–	VAV	0	–	–	
2C152	TELEHEALTH OFFICE	AHU-2	N	60	2	CD-1	SF-2	R	60	1	RG-1	RF-1	–	VAV	0	–	–	
C3	CORRIDOR	AHU-2	Y	560	4	CD-2	SF-2	R	560	2	RG-3	RF-1	CV	–	+	–	–	
2C137	MEN'S TOILET	AHU-2	N	0	0	–	–	E	180	1	EG-2	RF-1	CV	–	--	180	–	
2C139	WOMEN'S TOILET	AHU-2	N	0	0	–	–	E	110	1	EG-2	RF-1	CV	–	--	110	–	
2C141	PHLEBOTOMY TOILET	AHU-2	N	0	0	–	–	E	75	1	EG-1	RF-1	CV	–	--	75	–	
2C143	PHLEBOTOMY EXG	AHU-2	Y	65	1	CD-1	SF-2	R	65	1	RG-1	RF-1	CV	–	0	–	–	
2C140	EXAM 4	AHU-2	Y	110	1	CD-1	SF-2	E	110	1	RG-1	RF-1	–	VAV	0	–	–	

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FULLY SPRINKLERED BUILDING
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Approved: Medical Center Director

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1540 SPRING VALLEY DRIVE, HUNTINGTON WV 24704

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