ABBREVIATIONS

AD	ACCESS DOOR
AF	AFTER FILTER
AFCE	AIR FLOW CONTROL VALVE
AFMS	AIR FLOW MEASURING STATION
AF	AIR FOIL WHEEL
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BIW	BACKWARD INCLINED WHEEL
BG	BOTTOM GRILLE (WALL TYPE)
BR	BOTTOM REGISTER (WALL TYPE)
Db	DRY BULB TEMPERATURE
dB	DECIBELS
Dp	DEWPOINT TEMPERATURE
E/A	EXHAUST AIR
ECC	ENGINEERING CONTROL CENTER
EF	EXHAUST FAN
EX.	EXISTING
FC	FLEXIBLE CONNECTION
FL	FLOOR
FD	FIRE DAMPER
HF	HEPA FILTER
HP	HORSEPOWER
LBS/HR	POUNDS PER HOUR
MPC	MEDIUM PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM
MAX.	MAXIMUM
MIN.	MINIMUM
NOM.	NOMINAL
O/A	OUTDOOR AIR
PD	PRESSURE DROP
PF	PRE-FILTER
PH	PREHEAT
R/A	RETURN AIR
RF	RETURN FAN
RH	REHEAT COIL
Rh	RELATIVE HUMIDITY
RV	POWER TYPE ROOF VENTILATOR
S/A	SUPPLY AIR
SA	SOUND ATTENUATING UNIT
SCD	SMOKE CONTROL DAMPER
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SPS	STATIC PRESSURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE
Wb	WET BULB TEMPERATURE

DRAWING SYMBOLS

A2C / 250
- INDICATES AIR DISTRIBUTION DEVICE TYPE (SEE SCHEDULE)
- FRAME SIZE (SEE SCHEDULE)
- NECK SIZE (SEE SCHEDULE)
- CFM

V 1 -1.A5 / 500/150
- INDICATES SINGLE DUCT AIR TERMINAL UNIT
- AIR HANDLING UNIT NUMBER
- SINGLE DUCT AIR TERMINAL UNIT NUMBER
- TERMINAL UNIT SIZE (SEE SCHEDULE)
- LEAVING AIR TEMPERATURE (SEE SCHEDULE)
- CFM (MAXIMUM/MINIMUM) – DUCTWORK PLANS

V 1 -1.A5 / 1 GPM — MAXIMUM REHEAT GPM – PIPING PLANS

100 — UNDERCUT DOOR BY GENERAL CONTRACTOR

- SUPPLY DIFFUSER (4-WAY)
- SUPPLY DIFFUSER (3-WAY)
- SUPPLY DIFFUSER (2-WAY ADJACENT)
- SUPPLY DIFFUSER (2-WAY OPPOSITE)
- SUPPLY DIFFUSER (1-WAY)
- RETURN/TRANSFER GRILLE
- EXHAUST GRILLE
- SIDEWALL SUPPLY
- SIDEWALL RETURN/EXHAUST
- FIRE DAMPER W/ACCESS DOOR
- MANUAL VOLUME DAMPER
- MOTOR OPERATED DAMPER W/ACCESS DOOR
- MOTOR OPERATED SMOKE DAMPER W/ ACCESS DOOR
- COMBINATION FIRE/SMOKE DAMPER W/ACCESS DOOR
- UL RADIATION DAMPER
- DUCT MOUNTED SMOKE DETECTOR
- ACCESS DEVICE – SEE SPECIFICATIONS
- STOP DUCT LINER HERE – LINER TOWARDS SHADED SIDE
- FLEXIBLE DUCT CONNECTION (EQUIPMENT)
- RISE IN ELEVATION OF HORIZONTAL DUCTWORK IN DIRECTION OF AIRFLOW
- DROP IN ELEVATION OF HORIZONTAL DUCTWORK IN DIRECTION OF AIRFLOW
- SUPPLY DUCT TURNING UP THROUGH FLOOR
- RETURN DUCT TURNING UP THROUGH FLOOR
- EXHAUST DUCT TURNING UP THROUGH FLOOR
- SUPPLY DUCT TURNING DOWN THROUGH FLOOR
- RETURN DUCT TURNING DOWN THROUGH FLOOR
- EXHAUST DUCT TURNING DOWN THROUGH FLOOR
- FLEXIBLE DUCT (RUNOUTS)
- ELBOW WITH TURNING VANES

GENERAL SYMBOLS

- 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
- ORIFICE UNION
- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- LIMIT OF DEMOLITION
- BLAST THERMOSTATIC TRAP
- INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES
- STRAINER
- THERMOMETER
- PRESSURE GAGE
- WATER FLOW MEASURING DEVICE
- EXISTING PIPE TO BE REMOVED

PIPING SYMBOLS

HEATING

- MPS — MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
- MPC — MEDIUM PRESSURE STEAM CONDENSATE RETURN
- HWS — HOT WATER HEATING SUPPLY
- HWR — HOT WATER HEATING RETURN

AIR CONDITIONING

- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN

CONTROLS SYMBOLS

- T — ROOM CONTROL: THERMOSTAT (ROOM ADJUSTABLE)
- T S — ROOM CONTROL: TEMPERATURE SENSOR (NON-ADJSUTABLE TYPE)

SEE SHEET A-502 FOR MOUNTING HEIGHT OF THERMOSTATS.

VALVE SYMBOLS

- GATE VALVE
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- BALANCING VALVE
- CIRCUIT SETTER
- STRAIGHT-THRU MODULATING CONTROL VALVE
- STRAIGHT-THRU TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- AUTOMATIC FLOW CONTROL VALVE
- SAFETY OR PRESSURE RELIEF VALVE
- PRESSURE REDUCING VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)
- STEAM TRAP (MEDIUM/HIGH PRESSURE)
- CIRCUIT SETTER (METERING AND BALANCING)

DUCTWORK SYMBOLS

- UP / DN — SUPPLY DUCT (UP & DOWN)
- UP / DN — RETURN DUCT (UP & DOWN)
- UP / DN — EXHAUST DUCT (UP & DOWN)
- SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
- 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)
- 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
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH AIRFOIL TYPE TURNING VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW (1.5 R)
- 10x8 — NEW DUCT (WIDTH x DEPTH)
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
- FLEXIBLE DUCTWORK (INSULATED)
- MANUAL SPLITTER DAMPER
- 45° SUPPLY / 45° RETURN — STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)

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.
3. ACCESS PANELS IN SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
4. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
5. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
6. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
7. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
9. MECHANICAL CONTRACTOR SHALL PERFORM DUCT PRESSURE/LEAKAGE TEST(S) FOR ALL DUCTWORK IN THE PRESENCE OF DESIGN ENGINEER AND/OR COTR PRIOR TO INSTALLING INSULATION. DUCTWORK SHALL MEET DUCT PRESSURE CLASS AND DUCT LEAKAGE CLASSIFICATION SPECIFIED ON SHEET M-601.
10. PRIOR TO CONTROLS PROGRAMMING, MECHANICAL CONTRACTOR SHALL PROVIDE TO CONTROLS VENDOR THE ACTUAL ROOM NUMBERS PROVIDED BY THE OWNER.
11. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PENETRATIONS THROUGH RATED BARRIERS MUST BE FILLED WITH A UL LISTED FIRE STOPPING ASSEMBLY.

HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES	96 °F Db SUMMER 79 °F Wb SUMMER 21 °F Db WINTER	DESIGN ALTITUDE: 215 FT.		
INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db °F	% HUMIDITY	Db °F	% HUMIDITY
EXAM ROOMS	75	50	75	50
AIRBORNE INFECTION ISOLATION ROOM	75	50	75	50
PROCEDURE ROOMS	75	50	70	50
SCOPE WASH	75	50	70	50

DRAWING SYMBOLS

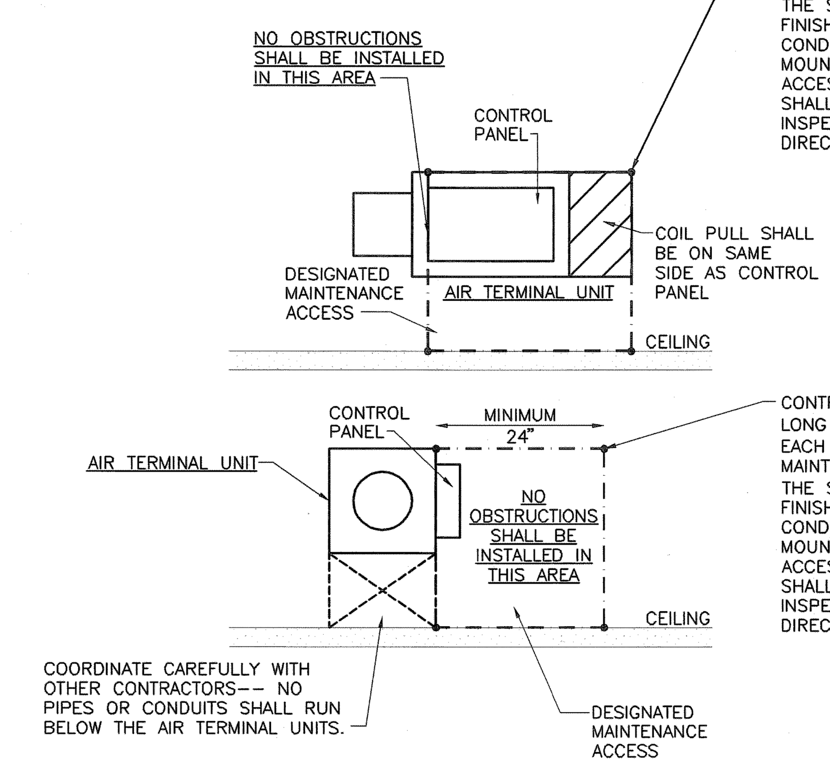
EF-13A-1
- EQUIPMENT ABBREVIATION (EXHAUST FAN)
- BUILDING AREA EQUIPMENT SERVES
- EQUIPMENT NUMBER
- TYPICAL UNIT NO.

SEISMIC PERFORMANCE CRITERIA

SEISMIC USE GROUP	SEISMIC DESIGN CATEGORY	OCCUPANCY CATEGORY
III	C	III
IMPORTANCE FACTOR = 1.25		

SEISMIC RESTRAINT IS REQUIRED FOR ELECTRICAL, MECHANICAL, PLUMBING AND FIRE PROTECTION SYSTEM COMPONENTS,

SYSTEM COMPONENTS SHALL INCLUDE: MEDICAL GAS PIPING, SANITARY PIPING, FIRE PROTECTION PIPING, PLUMBING WATER PIPING, ELECTRICAL CONDUIT, DUCTWORK, MECHANICAL EQUIPMENT, AND MECHANICAL PIPING.



CONTRACTOR SHALL ATTACH MINIMUM 3'-0" LONG x 2" WIDE ORANGE PLASTIC STREAMER TO EACH "CORNER" OF DESIGNATED TERMINAL UNIT MAINTENANCE ACCESS LOCATED ABOVE CEILING. THE STREAMER SHALL EXTEND TO 8'-0" ABOVE FINISHED FLOOR. NO PIPING, DUCTWORK, CONDUIT, OR SIMILAR EQUIPMENT SHALL BE MOUNTED UNDER OR OTHERWISE OBSTRUCT ACCESS TO MAINTENANCE AREA. STREAMER SHALL REMAIN IN PLACE UNTIL ABOVE CEILING INSPECTION IS COMPLETED AND CONTRACTOR IS DIRECTED TO REMOVE STREAMER BY COTR.

CONTRACTOR SHALL ATTACH MINIMUM 3'-0" LONG x 2" WIDE ORANGE PLASTIC STREAMER TO EACH "CORNER" OF DESIGNATED TERMINAL UNIT MAINTENANCE ACCESS LOCATED ABOVE CEILING. THE STREAMER SHALL EXTEND TO 8'-0" ABOVE FINISHED FLOOR. NO PIPING, DUCTWORK, CONDUIT, OR SIMILAR EQUIPMENT SHALL BE MOUNTED UNDER OR OTHERWISE OBSTRUCT ACCESS TO MAINTENANCE AREA. STREAMER SHALL REMAIN IN PLACE UNTIL ABOVE CEILING INSPECTION IS COMPLETED AND CONTRACTOR IS DIRECTED TO REMOVE STREAMER BY COTR.

TEST AND BALANCE CONTRACTOR SHALL BE SUB-CONTRACTOR TO MECHANICAL CONTRACTOR.

100% SUBMITTAL

REVISION NO.	REVISION DESCRIPTION	By	Date
Revisions			

Department of Veterans Affairs
Medical Center
1826 Veterans Blvd.
Dublin, Ga. 31021

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 7586 ENGINEER HENRY L. HOPPER — 6/10/2011

Architect/Engineer Address
Harrell, Saltrick & Hopper
Design & Management Solutions for the Built Environment
151 LOCUST STREET, SUITE #1
AVONDALE ESTATES, GA 30002
P 704.814.1325
F 704.321.0833
WWW.HSHPC.COM

COPYRIGHT © 2011 HARRELL SALTRICK & HOPPER, PC
HSH PROJECT # 10004

Recommended Approvals:	
1. MEDICAL DIRECTOR	6. OPERATIONS SERVICE LINE MANAGER
2. ASSOCIATE DIRECTOR	7. INFECTION CONTROL SAFETY MANAGER
3. CHIEF OF STAFF	8. SAFETY MANAGER
4. ASSOC. DIRECTOR	9. GENERAL ENGINEER
5. SERVICE LINE MGRS.	10. COTR

Drawing Title: MECHANICAL LEGEND AND NOTES	Project Title: RENOVATE 13A FOR ENDOSCOPY SUITE			Date: June 10, 2011 Project Number: 557-10-108
FULLY SPRINKLERED	Drawn: AGT	Building Number	AutoCAD File Name	DRAWING No. M-001
	Checked: LEH/HLH	Reviewed	Const. Contract No.	

Veterans Affairs