PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

OWNER CONTACTS

HCA TEAM CONTACTS

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CONSTRUCTION MANAGER:
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GENERAL CONTRACTOR
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GENERAL NOTES:

A. THE DEMOLITION DRAWINGS INDICATE EXISTING SERVICES WHICH ARE TO BE RELOCATED, TERMINATED, OR MAINTAINED. THE EXISTING SERVICES REPRESENTED ON THE DRAWINGS WERE GATHERED FROM PREVIOUS DESIGN DRAWINGS AND FIELD OBSERVATIONS. ALL EXISTING SERVICES WHETHER SPECIFICALLY SHOWN OR NOT, ARE ALSO REQUIRED TO BE MAINTAINED, RELOCATED, TERMINATED AS REQUIRED TO PROVIDE A COMPLETE PROJECT.

B. SOME EXISTING SERVICES NOT OTHERWISE DISTURBED MAY ALSO REQUIRE RELOCATION IN ORDER TO ACCOMMODATE NEW DUCTWORK, PIPING, ETC... FOR EXAMPLE RELOCATING OF EXISTING BRANCH CONDUITS, PLUMBING, AND FIRE PROTECTION PIPING MAY BE REQUIRED TO ACCOMMODATE MAJOR DUCT RUNS. OTHER EXISTING SERVICES MAY BE REQUIRED TO BE RELOCATED DUE TO NEW CEILING HEIGHTS IN EXISTING AREAS, REFER TO ARCHITECTURAL REFLECTED CEILING PLAN DRAWINGS.

C. CONTRACTOR SHALL FIELD VERIFY BY MEASUREMENT THE EXACT LOCATIONS OF EXISTING EQUIPMENT, PIPING STRUCTURE, ETC... AND OTHER CONDITIONS WHICH AFFECT INSTALLATION. THE CONTRACTOR SHALL LOCATE NEW EQUIPMENT, PIPING, DUCTWORK, ETC... SO AS TO AVOID CONFLICTS AND INTERFERENCE WITH EXISTING FIELD CONDITIONS. FINAL COORDINATION WITH OTHER FIELDS IS THE RESPONSIBILITY OF THE CONTRACTOR.

D. THE LOGICAL PHASING OF THE PROJECT MAY REQUIRE TEMPORARY WORK OR PREMIUM LABOR COST IN ORDER TO MAINTAIN SERVICE TO THE OCCUPIED AREAS, AND PREVENT INCONVENIENCING THE OWNER.

E. THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.

F. CONTRACTOR TO INSPECT AND FILL AS REQUIRED, ANY EXISTING PIPE PENETRATIONS THROUGH SMOKE RATED WALLS IN AREA OF RENOVATION WITH CAULK AS SPECIFIED.

G. CONTRACTOR TO PERFORM PRE-CONSTRUCTION TEST AND BALANCE ON ALL AIR AND WATER SYSTEMS TO BE AFFECTED BY RENOVATIONS, AND PROVIDE A REPORT TO THE OWNER AND DESIGN TEAM. CONTRACTOR SHALL BE REQUIRED TO BALANCE SYSTEM TO MAINTAIN EXISTING AIR BALANCE IN RENOVATED AREAS AT EACH PHASE OF CONSTRUCTION AND AT COMPLETION OF CONSTRUCTION.

H. WHERE WORK REQUIRES ACTIVE HVAC SYSTEMS IN AREA OF CONSTRUCTION SUCH AS MULTI PHASE OR RENOVATION IN OCCUPIED AREA, AIR DEVICES IN CONSTRUCTION AREA SHALL BE SEALED TO KEEP CONSTRUCTION DEBRIS OUT OF EXISTING AND/OR NEW AIR HANDLING SYSTEMS. SIMILARLY, ALL DUCT, DEVICE AND EQUIPMENT OPENINGS SHALL BE SEALED AT ALL TIMES DURING STORAGE AND AFTER INSTALLATION TO PREVENT CONTAMINATION ON THE INTERIOR OF DUCT AND AIR MOVING EQUIPMENT. DUCT AND EQUIPMENT SURFACES SHALL BE CLEANED PRIOR TO INSTALLATION AND PRIOR TO UNIT START-UP IN ACCORDANCE WITH SPECIFICATIONS.

I. WHERE REQUIRED BY FACILITY'S INFECTION CONTROL RISK ASSESSMENT, ICRA, CONTRACTOR TO MAINTAIN NEGATIVE PRESSURE IN CONSTRUCTION AREAS DURING RENOVATION WORK. PROVIDE A MINIMUM OF 0.05 " W.C. NEGATIVE PRESSURE WITH MAGNEHELIC GAUGE LOCATED ACROSS CONSTRUCTION BARRIER. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF TEMPORARY CONSTRUCTION BARRIERS WHERE REQUIRED. REFER TO ICRA FOR ADDITIONAL REQUIREMENTS. WHERE FACILITY GENERAL EXHAUST SYSTEMS ARE UTILIZED, EXHAUST INLETS SHALL BE COVERED WITH MINIMUM 30% EFFICIENCY FILTER MEDIA TO RETARD CONSTRUCTION DEBRIS.

K. FOR RENOVATION ON INTERIOR OF BUILDING, ADJACENT OCCUPIED AREAS, OR WHERE NEGATIVE
PRESSURE WILL ADVERSELY AFFECT BUILDING PRESSURE RELATIONSHIPS, CONDITIONED MAKEUP AIR SHALL BE PROVIDED. MAKEUP AIR SHALL BE PROVIDED FROM ADJACENT ACTIVE HVAC SYSTEM WHEN SHOWN ON DRAWINGS OR FROM TEMPORARY AIR CONDITIONING UNIT WITH MAKEUP AIR OBTAINED FROM BUILDING EXTERIOR. CONDITIONED MAKEUP AIR OR OTHER MEANS SHALL BE PROVIDED AT ANY LOCATION WHERE ACTIVE CHILLED WATER PIPING, EQUIPMENT OR COOLING DUCT IS LOCATED WITHIN THE AREA OF CONSTRUCTION AS REQUIRED TO PREVENT CONDENSATION ON COLD SURFACES INCLUDING INSULATED SURFACES.

LINEAR SLOT DIFFUSER/RETURN SCHEDULE

SYMBOL	ADAPTOR/ NECK SIZE	LENGTH	SLOT QUANTITY	SLOT WIDTH	MAX CFM	MAX NC	MAX PD
LS1	8"	24"	3	3/4"	110	25	.08
LS2	8"	48"	3	3/4"	175	25	.08
LS3	12"	48"	3	3/4"	240	25	.08
LS4	12", NOTE 5	48"	3	3/4"	240	25	.08
LR1/LE1	12"/16"x8"	48"	3	3/4"	480	27	.11
LR2/LE2	14"/22"x8"	48"	3	3/4"	640	28	.11

1. THE ABOVE BASED ON TITUS ML/MP-38 PLENUM SLOT DIFFUSER WITH PATTERN CONTROLLER.
2. TYPE LR TO BE INSTALLED WITHOUT PATTERN CONTROLLER FOR RETURN AIR.
3. CONTRACTOR TO PROVIDE VOLUME DAMPER AT BRANCH TAKEOFFS FROM MAIN. BALANCING DAMPERS AT FACE OF DIFFUSERS ARE NOT ACCEPTABLE. PROVIDE DAMPER REMOTE OPERATOR WHERE VOLUME DAMPER MUST BE INSTALLED ABOVE RIGID CEILING.
4. FINISH TO BE WHITE ENAMEL. INTERIOR SURFACES TO BE FLAT BLACK.
5. TYPE LSC IS A CONTINUOUS SLOT DIFFUSER WITH A TOTAL LENGTH AS NOTED ON PLAN. PROVIDE 4'-0" PLENUM WITH 12" DUCT CONNECTION PER 4'-0" ACTIVE SECTION, MAX. CFM VALUE IS PER 4'-0" ACTIVE SECTION.

CEILING SUPPLY DIFFUSERS

SYMBOL	NECK SIZE	FACE	MAX CFM	MAX N.C.	MAX SP	THROW	RUNOUT SIZE
SA	6"Ø/6"x6"	24"x24"	110	20	.10	NOTE 4	6"Ø/8"x4"
SAA	6"Ø/6"x6"	12"x12"	110	20	.10	NOTE 4	6"Ø/8"x4"
SB	8"Ø/9"x9"	24"x24"	230	20	.10	NOTE 4	8"Ø/10"x6"
SBB	8"Ø/9"x9"	12"x12"	230	20	.10	NOTE 4	8"Ø/10"x6"
SC	10"Ø/12"x12"	24"x24"	420	25	.10	NOTE 4	10"Ø/12"x8"
SD	12"Ø/12"x12"	24"x24"	500	28	.10	NOTE 4	12"Ø/16"x8"
SE	14"Ø/15"x15"	24"x24"	650	26	.10	NOTE 4	14"Ø/18"x8"
SF	6"Ø/6"x6"	24"x24"	100	26	.10	NOTE 4	6"Ø/8"x4"
SG	8"Ø/9"x9"	24"x24"	220	27	.10	NOTE 4	8"Ø/10"x6"
SH	10"Ø/12"x12"	24"x24"	400	30	.12	NOTE 4	10"Ø/12"x8"
SJ	8"Ø	48"x12"	150	30	.10	LAMINAR	8"Ø
SK	10"Ø	48"x24"	250	30	.09	LAMINAR	10"Ø
SL	10"Ø	24"x24"	300	21	.07	PERFORATED	10"Ø/10"x8"
SM	12"Ø	24"x24"	300	20	.07	PERFORATED	12"Ø/12"x8"
SN	14"Ø	24"x24"	450	22	.07	PERFORATED	14"Ø/16"x8"

PERFORMANCE BASIS:

1. SA THRU SH CEILING DIFFUSERS BASED ON TITUS TDC LOUVER FACE ALL ALUMINUM DIFFUSERS WITH ROUND INLET. PROVIDE LAY-IN CEILINGS AND SURFACE MOUNTING FRAME IN HARD CEILINGS.
2. DIFFUSER TYPE SJ AND SK BASED ON TITUS TLF-AA ALUMINUM LAMINAR FLOW CRITICAL ENVIRONMENT DIFFUSER.
3. CONTRACTOR TO PROVIDE DUCT SPIN-IN FITTING WITH EXTRACTOR AND MANUAL VOLUME DAMPER EQUAL TO FLEXMASTER FLD (OR APPROVED EQUAL) AT ALL BRANCH TAKE-OFFS TO AIR DISTRIBUTION DEVICES. PROVIDE REMOTE DAMPER OPERATOR AS SPECIFIED IN AREAS WITH HARD CEILINGS. BALANCING DAMPERS AT FACE OR INLET OF DIFFUSER ARE NOT ACCEPTABLE.
4. DIFFUSER THROW TO BE 4-WAY UNLESS OTHERWISE IDENTIFIED ON DRAWINGS.

CEILING RETURN/EXHAUST REGISTERS

SYMBOL	NECK SIZE	FACE	MAX CFM	MAX N.C.	MAX SP	RUNOUT SIZE
RA/EA	6" SQ	24"x24"	75	.04	28	8"x4"/6"Ø
RAA/EAA	6" SQ	12"x12"	75	.04	28	8"x4"/6"Ø
RB/EB	8" SQ	24"x24"	200	.05	28	10"x6"/8"Ø
RBB/EBB	8" SQ	12"x12"	200	.05	28	10"x6"/8"Ø
RC/EC	10" SQ	24"x24"	300	.05	27	14"x6"/10"Ø
RD/ED	12" SQ	24"x24"	540	.06	28	16"x8"/12"Ø
RE/EE	14" SQ	24"x24"	700	.07	28	18"x8"/14"Ø
RF/EF	18" SQ	24"x24"	1250	.07	27	24"x10"/16"Ø
RG/EG	22" SQ	24"x24"	1600	.06	25	24"x12"/18"Ø
RJ/EJ	22"x10"	24"x12"	700	.05	27	22"x8"/14"Ø

PERFORMANCE BASIS:

1. RA/EA THRU RG/EG SHALL BE TITUS MODEL 50F OR APPROVED EQUAL WITH 1/2"x1/2"x1/2" EGG-CRATE CORE.
2. RJ/EJ SHALL BE TITUS MODEL 350RL OR APPROVED EQUAL 1/2" BLADE SPACING.
3. CONTRACTOR TO PROVIDE DUCT SPIN-IN FITTING WITH EXTRACTOR AND MANUAL VOLUME DAMPER EQUAL TO FLEXMASTER FLD (OR APPROVED EQUAL) AT ALL BRANCH TAKE-OFFS TO AIR DISTRIBUTION DEVICES. PROVIDE REMOTE DAMPER OPERATOR AS SPECIFIED IN AREAS WITH HARD CEILINGS. BALANCING DAMPERS AT FACE OR INLET OF DIFFUSER ARE NOT ACCEPTABLE.

SIDEWALL SUPPLY REGISTER SCHEDULE

SYMBOL	NOMINAL DUCT SIZE	MAX CFM	MAX N.C.
SSA	8"x6"	180	21
SSB	12"x6"	275	23
SSC	18"x6"	360	20
SSD	12"x10"	415	21
SSE	12"x12"	540	24
SSF	18"x10"	640	23
SSG	18"x12"	800	24
SSH	30"x12"	1040	20
SSJ	36"x12"	1400	22
SSL	36"x24"	3000	28
SSK	20"x10"	750	25

PERFORMANCE BASIS:

1. TITUS MODEL 300FL - DOUBLE DEFLECTION WITH 22.5 DEG DEFLECTION.
2. CONTRACTOR TO USE DUCT SPIN-IN FITTING AND A MANUAL VOLUME DAMPER EQUAL TO GENFLEX MODEL SM-2DEL (OR APPROVED EQUAL).
3. TYPE "SSK" EQUAL TO TITUS MODEL 'DL', DRUM LOUVER.

SIDEWALL RETURN/EXHAUST REGISTER SCHEDULE

SYMBOL	NOMINAL DUCT SIZE	MAX CFM	MAX N.C.
SRA/SEA	8"x6"	180	25
SRB/SEB	12"x6"	275	27
SRC/SEC	16"x6"	360	28
SRD/SED	12"x10"	415	28
SRE/SEE	18"x10"	540	28
SRF/SEF	18"x12"	640	29
SRG/SEG	18"x18"	800	28
SRH/SEH	36"x12"	1040	30
SRJ/SEJ	36"x20"	1400	29
SRK/SEK	24"x24"	2000	25

PERFORMANCE BASIS:

1. TITUS MODEL 350FL - WITH 35 DEG DEFLECTION.
2. CONTRACTOR TO USE DUCT SPIN-IN FITTING AND A MANUAL VOLUME DAMPER EQUAL TO GENFLEX MODEL SM-2DEL (OR APPROVED EQUAL)

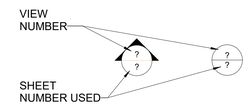
DUCTWORK LEGEND

- RECTANGULAR SUPPLY DUCT TURNING DOWN
- RECTANGULAR SUPPLY DUCT TURNING UP
- RECTANGULAR RETURN DUCT TURNING DOWN
- RECTANGULAR RETURN DUCT TURNING UP
- RECTANGULAR EXHAUST DUCT TURNING DOWN
- RECTANGULAR EXHAUST DUCT TURNING UP
- ROUND SUPPLY DUCT TURNING DOWN
- ROUND SUPPLY DUCT TURNING UP
- ROUND RETURN DUCT TURNING DOWN
- ROUND RETURN DUCT TURNING UP
- ROUND EXHAUST DUCT TURNING DOWN
- ROUND EXHAUST DUCT TURNING UP
- MVD — MANUAL VOLUME DAMPER
- RAR — SIDEWALL RETURN REGISTER
- SAR — SIDEWALL SUPPLY REGISTER
- SD 400 — INDICATES A SIZE "D" SUPPLY DIFFUSER SET FOR 400 CFM
- RB 100 — INDICATES A SIZE "B" RETURN REGISTER SET FOR 100 CFM
- EA 50 — INDICATES A SIZE "A" EXHAUST REGISTER SET FOR 50 CFM
- SP-XX — STATIC PRESSURE SENSOR (XX - INDICATES UNIT NUMBER)
- DSD — DUCT SMOKE DETECTOR
- FD — FIRE DAMPER
- SD — SMOKE DAMPER
- FSD — FIRE/SMOKE DAMPER
- SUPPLY DIFFUSER (4-WAY)
- RETURN GRILLE
- EXHAUST GRILLE
- FLEXIBLE DUCTWORK
- ROOM BALANCE AIR FLOW (AIR TRANSFERRED BELOW DOOR)
- POINT OF CONNECTION TO EXISTING
- 100 — INDICATES THE DESIGNATED TERMINAL DEVICE TO BE REBALANCED TO 100 CFM
- TERMINAL DEVICE FLOW ARROW
- LOUVER FLOW ARROW

PIPING LEGEND

- PIPE GUIDE
- PIPE ANCHOR
- PIPE TURNING DOWN
- PIPE TURNING UP
- HOT WATER SUPPLY PIPE
- HOT WATER RETURN PIPE
- CHILLED WATER SUPPLY PIPE
- CHILLED WATER RETURN PIPE
- STEAM PIPE
- STEAM CONDENSATE PIPING
- GRAVITY CONDENSATE PIPING
- PUMPED CONDENSATE PIPING
- X.XX — CIRCUIT SETTER (X.XX INDICATES GPM)
- CO — CO SENSOR
- DPA — DIFFERENTIAL PRESSURE ALARM (SENSOR)
- EMD — END OF MAIN DRIP
- SHUTOFF-BALL/B-FLY VALVE
- T_C — THERMOSTAT WITH LOCKING COVER
- T — ADJUSTABLE T'STAT
- H — HUMIDITY SENSOR
- S — SENSOR

VIEW NAME LEGEND



DESIGN CONDITIONS

SEASON	DRY BULB TEMP	WET BULB TEMP
OUTDOOR SUMMER	94 °F	81 °F
OUTDOOR WINTER	21 °F	21 °F
INDOOR SUMMER	75 °F	63 °F
INDOOR WINTER	70 °F	53 °F
ELEVATION ABOVE SEA LEVEL	22 FT	

APPLICABLE CODES AND STANDARDS

MECHANICAL WORK SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS AS APPLICABLE:
THE GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITAL AND HEALTH CARE FACILITES (FGI, 2018 EDITION).
SOUTH CAROLINA BUILDING CODE (2018)
SOUTH CAROLINA MECHANICAL CODE (2018)
SOUTH CAROLINA FIRE CODE (2018)
SOUTH CAROLINA ENERGY CONSERVATION CODE (2009)

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

HCA Healthcare

I.C. Thomasson Associates, Inc.
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Seals

SOUTH CAROLINA — I.C. THOMASSON ASSOCIATES, INC. — No. C00075 — CERTIFICATE OF AUTHORIZATION

CHRISTOPHER A. PEREZ — No. 22507 — REGISTERED — STATE OF SOUTH CAROLINA — 2-8-23

Summerville Medical Center
Patient Tower Expansion
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date
Revision 1	02/08/23

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL SCHEDULES AND LEGENDS

Sheet Number

M0.01

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Summerville Medical Center

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CONTACT: DAVID SKIPPER

FAN SCHEDULE

FAN NUMBER	EF-21-1	IEF-21-2	EF-31-1	EF-31-2	IEF-31-3	IEF-31-4	IEF-31-5	IEF-31-6
SERVICE	GEN. EXH.	ISO. EXH.	GEN. EXH.	GEN. EXH.	ISO. EXH.	ISO. EXH.	ISO. EXH.	ISO. EXH.
TYPE	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
CFM	4500	950	1500	1950	700	700	750	750
SP-IN H2O	2	2	2	2	2	2	2	2
MAX FAN RPM	970	1800	1600	1700	1800	1800	1800	1800
MAX INLET/OUTLET dBA	69	68	67	69	68	68	68	68
MODEL/SIZE	USF-24-B2	USF-13-B1	USF-15-B2	USF-15-B1	USF-13-B1	USF-13-B1	USF-13-B1	USF-13-B1
MIN MOTOR HP	3	1	1	1-1/2	1	1	1	1
ELECTRICAL	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
INLET SCREEN	NO	NO	NO	NO	NO	NO	NO	NO
OUTLET SCREEN	YES	YES	YES	YES	YES	YES	YES	YES
INLET DAMPER-TYPE	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT
OUTLET DAMPER-TYPE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
DRIVE TYPE	BELT	BELT	BELT	BELT	BELT	BELT	BELT	BELT
OTHER			NOTE 1	NOTE 1				
POWER TYPE	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK

REMARKS:
1. OUTDOOR FANS TO MEET MIAMI-DADE NOA HURRICANE DESIGN WITH FINISH TO MEET 4,000 HOUR SALT SPRAY.
2. ALL ROOF MOUNTED FANS TO BE VERTICAL DISCHARGE UNLESS OTHERWISE INDICATED.
3. DIRECT DRIVE WITH EC MOTOR AND UNIT MOUNTED SPEED CONTROL.

FAN TYPE DESIGNATION:
(1) ROOF MOUNTED CENTRIFUGAL
(2) BELTED VENT SET
(3) INLINE CENTRIFUGAL
(4) SIDEWALL PROPELLER
(5) ROOF HOODED PROPELLER

FAN SCHEDULE

FAN NUMBER	EF-32-1	IEF-32-2	IEF-32-3	IEF-32-4		VF-1	VF-2	VF-3	HPF-1	HPF-2
SERVICE	GEN. EXH.	ISO. EXH.	ISO. EXH.	ISO. EXH.		VENT	VENT	VENT	ELEV. SHAFT	ELEV. SHAFT
TYPE	(2)	(2)	(2)	(2)		(4)	(5)	(5)	(2)	(2)
CFM	2100	600	750	750		18,000	13,000	5,000	10,000	5,000
SP-IN H2O	2	2	2	2		0.35	0.5	0.5	0.75	0.75
MAX FAN RPM	1400	1800	1800	1800		360	630	860	720	750
MAX INLET/OUTLET dBA	67	68	68	68		71	75	72	69	63
MODEL/SIZE	USF-16-B2	USF-13-B1	USF-13-B1	USF-13-B1		54XLWHS	42HXEM10B	30HEE8B	USF-30-B4	USF-24-B1
MIN MOTOR HP	1-1/2	1	1	1		3	3	1	3	1-1/2
ELECTRICAL	460/3/60	460/3/60	460/3/60	460/3/60		460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
INLET SCREEN	NO	NO	NO	NO		NO	NO	NO	NO	NO
OUTLET SCREEN	YES	YES	YES	YES		YES	YES	YES	YES	YES
INLET DAMPER-TYPE	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT		BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT	BACKDRAFT
OUTLET DAMPER-TYPE	NONE	NONE	NONE	NONE		FAN GUARD	NONE	NONE	NONE	NONE
DRIVE TYPE	BELT	BELT	BELT	BELT		BELT	BELT	BELT	BELT	BELT
OTHER										
POWER TYPE	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY		EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK		COOK	COOK	COOK	GREENHECK	GREENHECK

REMARKS:
1. OUTDOOR FANS TO MEET MIAMI-DADE NOA HURRICANE DESIGN WITH FINISH TO MEET 4,000 HOUR SALT SPRAY.
2. ALL ROOF MOUNTED FANS TO BE VERTICAL DISCHARGE UNLESS OTHERWISE INDICATED.
3. DIRECT DRIVE WITH EC MOTOR AND UNIT MOUNTED SPEED CONTROL.

FAN TYPE DESIGNATION:
(1) ROOF MOUNTED CENTRIFUGAL
(2) BELTED VENT SET
(3) INLINE CENTRIFUGAL
(4) SIDEWALL PROPELLER
(5) ROOF HOODED PROPELLER

AC UNIT SCHEDULE

DESIGNATION	AHU-1-2	AHU-2-1	AHU-3-1	AHU-3-2
TYPE	ROOFTOP	ROOFTOP	ROOFTOP	ROOFTOP
SERVICE	1ST FLOOR	2ND FLOOR	3RD, 4TH, 5TH FLOOR	3RD, 4TH, 5TH FLOOR
LOCATION	ROOF	ROOF	ROOF	ROOF
TOTAL CFM (DES./SET.)	15,000	24,000	31,000/24,750	42,000/32,800
OUTSIDE AIR CFM (MIN/MAX)	3,500/15,000	5,600/24,000	8,000/31,000	11,800/42,000
RETURN AIR CFM (DES./SET.)	11,500	18,400	23,000	38,200
UNIT DIMENSIONS - LxWxH	512"x108"x75"	489"x126"x90"	488"x144"x102"	578"x180"x124"
UNIT WEIGHT -LBS	16,700	18,700	20,500	46,300
MAX FACE VELOCITY	425	425	425	425
SUPPLY FAN				
INTERNAL S.P. (IN. W.C.)	4.95	4.70	4.49	3.53
EXTERNAL S.P. (IN. W.C.)	3.00	3.00	3.00	4.50
TOTAL S.P. (IN. W.C.)	7.95	7.70	7.49	8.03
MAX RPM	3,100	2,500	2,500	2,500
MIN. MOTOR HORSEPOWER	2@ 20	2@ 25	2@ 30	6@ 20
ELECTRICAL	460/3/60	460/3/60	460/3/60	460/3/60
VFD	2@ 20	2@ 25	2@ 30	2@ 60
RETURN FAN				
CFM	11,500	18,400	23,000	38,200
EXTERNAL S.P. (IN. W.C.)	2.00	2.00	2.00	2.00
MAX RPM	2,700	2,400	2,200	2,700
MIN. MOTOR HORSEPOWER	2@ 5	2@ 7.5	2@ 10	6@ 7.5
ELECTRICAL	460/3/60	460/3/60	460/3/60	460/3/60
VFD	2@ 5	2@ 7.5	2@ 10	2@ 22.5
COOLING COIL				
TOTAL CAPACITY (MBH)	797	1,309	1,701	2,784
SENSIBLE CAPACITY (MBH)	504	836	1,078	1,756
ENT AIR DB/WB	80.0°/67.0°	80.0°/67.0°	80.0°/67.0°	80.0°/67.0°
LVG AIR DB/WB	47.4°/47.2°	48.6°/48.3°	47.8°/47.6°	47.5°/47.3°
AIR PRESS. DROP (IN. W.C.)	0.75	0.75	0.75	1.0
EWT/LWT	42°/54°	42°/54°	42°/54°	42°/54°
WATER FLOW (GPM)	138	418	283	462
ROWS/FPI	8/10	8/10	8/10	8/10
MAX WTR PRESS DROP (FT)	14.2	8.3	12.1	13.8
PIPE RUN-OUT SIZE	3"	6"	6"	6"
UV SECTION				YES

REMARKS:
1. ALL UNITS TO BE SELECTED WITH INTERNAL STATIC PRESSURE TO INCLUDE DIRTY PRE-FILTER, DIRTY FINAL FILTERS, ALL PLENUM LOSSES, SYSTEM EFFECTS, DIFFUSER PLATES, WET COILS, DAMPERS, ETC. FANS TO BE SELECTED THAT OPERATE AT NO GREATER THAN 80% OF THEIR MAX CAPACITY WITH DIRTY FILTERS AT THE OPERATING POINTS SCHED. ABOVE. SUBMITTALS TO INCLUDE THE FOLLOWING INFORMATION:
   A. FOR FAN SELECTIONS OVER 12,000 CFM, THE FAN ASSEMBLY SHALL BE PROVIDED WITH A MINIMUM OF 2 FANS AND THE QUANTITY AND MOTOR HORSEPOWER SELECTION SHALL BE SUCH THAT WITH 1 FAN DISABLED THE FAN ASSEMBLY SHALL BE ABLE TO MAINTAIN 70% OF THE TOTAL AIRFLOW.
   B. FANS SHALL OPERATE AT NO GREATER THAN 80% OF THEIR MAX FAN RPM.
2. ALL FANS SHALL BE PROVIDED WITH VARIABLE FREQUENCY DRIVES HARDWIRED FROM THE FACTORY.
   A. FOR FAN ASSEMBLIES WITH ONLY 1 FAN THE ASSOCIATED VFD SHALL BE PROVIDED WITH A BYPASS.
   B. FOR FAN ASSEMBLIES PROVIDED WITH MORE THAN 1 FAN A MIN. OF 2 VFDS WITHOUT BYPASSES SHALL BE PROVIDED FOR THE OVERALL FAN ASSEMBLY. THE VFDS SHALL BE SELECTED SUCH THAT A SINGLE VFD SHALL SERVE HALF OF THE OVERALL FAN ASSEMBLY HORSEPOWER.
   C. VFD'S SHALL BE PROVIDED WITH A BACNET INTERFACE TO THE BUILDING AUTOMATION SYSTEM.
3. PROVIDE PLENUM LIGHTS IN FAN SECTIONS AND ALL ACCESS SECTIONS. ALL LIGHTS ARE TO BE PREWIRED INSIDE THE UNIT CASING FROM THE FACTORY TO JUNCTION BOXES ON THE OUTSIDE OF THE UNIT CASING. LIGHTS TO BE PROVIDED WITH LIGHT TIMER SWITCH.
4. BASIS OF DESIGN IS YORK.
5. ALL FILTERS ARE TO BE FRONT LOADING TYPE WITH GAUGES PROVIDING CLEAN AND DIRTY INDICATORS.
6. PROVIDE EACH FAN WITH BLANKOFF PLATES.

FILTER SCHEDULE

1 4" THICK CARTRIGE
2 12" THICK CARTRIDGE

SYSTEM	AHU-1-2	AHU-1-2	AHU-2-1	AHU-2-1	AHU-3-1	AHU-3-1	AHU-3-2	AHU-3-2
UNIT DESIGNATION	PF	FF	PF	FF	PF	FF	PF	FF
TYPE	1	2	1	2	1	2	1	2
FILTER POSITION	PRE	FINAL	PRE	FINAL	PRE	FINAL	PRE	FINAL
CFM	15,000	15,000	24,000	24,000	31,000	31,000	42,000	42,000
INITIAL RESISTANCE - H2O	0.26"	0.38"	0.30"	0.44"	0.29"	0.43"	0.30"	0.43"
FINAL RESISTANCE - H2O	0.85"	1.5"	0.85"	1.5"	0.85"	1.5"	0.85"	1.5"
MAX FACE VELOCITY	430	430	430	430	430	430	430	430
MIN. MERV RATING	11	14	11	14	11	14	11	14
SIZE/NUMBER OF FILTERS	REMARK 1	REMARK 1	REMARK 1	REMARK 1	REMARK 1	REMARK 1	REMARK 1	REMARK 1

REMARKS:
1. PROVIDE NUMBER AND SIZE OF FILTERS THAT WILL FIT IN RESPECTIVE AHU FILTER RACKS.
2. AHU FILTERS TO BE FRONT-LOADING TYPE.

ELECTRIC HUMIDIFIER SCHEDULE

DESIGNATION	H-1	H-2	
SERVES	ICU	ICU	
TYPE	ELECTRIC	ELECTRIC	
CAPACITY - LB/HR	60	40	
STEAM PSIG	5	5	
VOLTAGE/PHASE	460/3	460/3	
KW	20	14	
MODEL NUMBER	SKE4-N20	SKE4-N14	

REMARKS:
1. ELECTRIC STEAM HUMIDIFIER EQUAL TO NEPTRONIC MODELS LISTED ABOVE.
2. PROVIDE UNIT WITH SCR CONTROL, 2% ACCURACY HUMIDISTAT, MICROPROCESSOR CONTROL WITH INTERFACE TO BAS.
3. THE UNIT SHALL BE PROVIDED WITH DISPERSION ARRAY WITH 12" CAPTURE DISTANCE.
4. INJECTION TUBE ASSEMBLY SHALL BE PROVIDED WITH DUAL-INLET HEADER.
5. PROVIDE INTEGRAL MAIN DISCONNECT.
6. PROVIDE WALL-MOUNTING BRACKETS.

DA PUMP SCHEDULE

(1) 3600 RPM PUMPS

TYPE	BF-1	BF-3		
PUMP NUMBER	#1	#2		
BOILER SERVED	B-1, B-2	B-1, B-2		
PUMP TYPE	(1)	(1)		
PUMP GPM	21	21		
PUMP DISGHARGE PSI	100	100		
PUMP HP	3✳	3✳		
PUMP ELECTRICAL	460-3	460-3		
EMERGENCY POWER	YES	YES		
RECEIVER SIZE	EXISTING TANK TO REMAIN			
APPROX. SIZE	EXISTING TANK TO REMAIN			
FEEDWATER TEMP.	212°F			
HEATER #/hr @80 PSI	EXISTING HEATER TO REMAIN			
ELECTRICAL	480/3/60 (SINGLE POINT CONNECTION)			

REMARKS:
1. UNIT TO HAVE 4 PUMPS, ONE PER BOILER AND ONE SPARE. PUMPS 2 & 4 ARE EXISTING TO REMAIN. UNIT TO BE COMPLETE WITH CONTROL PANEL. CONTROL PANEL TO HAVE H.O.A.'S, STARTERS, DISCONNECT AND FLOW SWITCH.
2. UNIT TO PROVIDE MODULATING CONTROL FOR ALL PUMPS. SEQUENCE TO BE PRE-PROGRAMMED FROM THE FACTORY.
3. PROVIDE LOW NPSH PUMPS.
4. ✳ INDICATES PREMIUM EFFICIENCY MOTORS.
5. WORK AT EXISTING DEAERATOR, DA SYSTEM SHALL INCLUDE:
   A. EXISTING TRANSFER PUMPS TO REMAIN.
   B. EXISTING FEED PUMP SERVING B-2 AND BACK UP FEED PUMP TO REMAIN.
   C. PROVIDE NEW FEED PUMP TO SERVE B-1 AND NEW FEED PUMP TO SERVE B-3.
   D. PROVIDE REPLACEMENT OF EXISTING PRESSURE REDUCING VALVE FISHER #667EZ, 80psi INLET.
   E. PROVIDE A NEW 2 1/2" HEADER WITH PRESSURE TRANSMITTER.
   F. PROVIDE NEW CLEAVER BROOKS ADAC PUMP CONTROL PANEL WITH FEED PUMP CONTROL, DA SYSTEM CONTROL AND INTERFACE TO BAS.

BOILER SCHEDULE

(1) 125 HP, VERTICAL FIRE-TUBE, 2-PASS

DESIGNATION	B-1	B-3
TYPE	(1)	(1)
OUTPUT STEAM (#/HR)	3,960	3,960
NO. 2 FUEL OIL (GPH)	35.4	35.4
NATURAL GAS (CFH) MBTU	4,950	4,950
DESIGN PRESSURE PSI	150	150
OPERATING PRESS PSI	70	70
FUEL	NOTE 4	NOTE 2
BLOWER MOTOR HP	7.5	7.5
BLOWER VOLTAGE/PHASE	460/3	460/3
CONTROL VOLTAGE	120/1	120/1
TYPE OF CONTROL	5:1 TURN DOWN	5:1 TURN DOWN
POWER TYPE	EMERGENCY	EMERGENCY
MANUFACTURER	HURST	HURST
APPROXIMATE SIZE	81"Lx78"Wx102"H	81"Lx78"Wx102"H

ACCESSORIES:
1. REFER TO SPECIFICATIONS FOR ACCESSORIES.
2. IF BOILER IS OTHER THAN SPECIFIED, CONTRACTOR TO ENSURE THAT PROPOSED BOILER WILL FIT IN SPACE ALLOTED WITH 3'-0" CLEAR ON ALL SIDES.
3. PROVIDE MODULATING BOILER FEED WATER CONTROLS.
4. BOILER B-1 AND B-3 SHALL BE DUAL FUEL, USING NATURAL GAS OR LOW LUBRICITY NO. 2 FUEL OIL. BOILER TO BE RATED FOR 60 PPM NOX NATURAL GAS FIRING. PROVIDE 1/2 HP FUEL PUMP AND 5 HP AIR COMPRESSOR, PRE-WIRED. BOILER FAN MOTOR SHALL BE HIGH EFFICIENCY TYPE. PROVIDE SINGLE POINT POWER CONNCTION FOR FAN AND CONTROLS.
5. PROVIDE A 6" STEAM NOZZLE SELECTED FOR OPERATING PRESSURE. PROVIDE ASME SPOOL. 4" NON-RETURN VALVE AND OS&Y VALVE SELECTED BY MANUFACTURER.
6. WORK SHALL INCLUDE UPGRADE OF EXISITNG CLEAVER BROOKS BOILER, B-2, CONTROLS TO BE A HAWK 1000 WITH BACNET INTERFACE TO BAS.
7. PORTIONS OF BOILER SHALL BE REMOVED AS REQUIRED AND REASSEMBLED IN PLACE IN ORDER TO PASS BELOW EXISITNG STEAM HEADER AT 93" A.F.F. AND EXISTING ENTRY DOOR WITH FRAME REMOVED. MANUFACTURER REPRESENTATIVE SHALL BE ON-SITE DURING REASSEMBLY TO VERIFY INSTALLATION AND MAINTAIN EQUIPMENT WARRANTY.
8. PROVIDE A HURST FIREMASTER CONTROL PANEL WITH PARALLEL POSITIONING, LEVEL WATER MONITOR AND LEAD-LAG SEQUENCING. PROVIDE BACNET INTERFACE TO BAS.
9. PROVIDE MASTER CONTROL PANEL FOR LEAD-LAG OPERATION OF 3 BOILERS WITH BACNET INTERFACE TO BAS.

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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Seals

SOUTH CAROLINA I.C. THOMASSON ASSOCIATES, INC. No. C00075 CERTIFICATE OF AUTHORIZATION

JAMES BOYD No. 22967 REGISTERED PROFESSIONAL ENGINEER 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL SCHEDULES

Sheet Number

M0.02

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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AHU-3-2 VAV Schedule

Mark	CFM	Min. CFM	Max. Terminal APD (In WG)	Max Sound Power Level	Duct Run-Out	Reheat Coil	Rows	Max Water PD (Ft.)	Entering Water Temp	BTUH	GPM	EAT DB	LAT DB	Pipe Run-Out NPS	Comments
3-2-1	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	3-WAY VALVE
3-2-2	450	450	0.5	30	10"	Yes	2-Rows	5' - 0"	140	17200	1.4	55	90	1/2"	
3-2-3	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-4	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	8500	0.7	55	85	1/2"	
3-2-5	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-6	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-7	150	100	0.5	30	8"	Yes	2-Rows	5' - 0"	140	3200	0.5	55	85	1/2"	
3-2-8	150	150	0.5	30	8"	Yes	2-Rows	5' - 0"	140	4900	0.5	55	85	1/2"	
3-2-9	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-10	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	3-WAY VALVE
3-2-11	1000	500	0.5	30	12"	Yes	2-Rows	5' - 0"	140	21800	1.7	55	95	1/2"	
3-2-12	250	130	0.5	30	8"	Yes	2-Rows	5' - 0"	140	4100	0.5	55	85	1/2"	
3-2-13	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-14	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-15	550	360	0.5	30	10"	Yes	2-Rows	5' - 0"	140	11700	0.9	55	85	1/2"	
3-2-16	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-17	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	3-WAY VALVE
3-2-18	900	590	0.5	30	12"	Yes	2-Rows	5' - 0"	140	22300	1.8	55	90	1/2"	
3-2-19	600	300	0.5	30	10"	Yes	2-Rows	5' - 0"	140	11400	0.9	55	90	1/2"	
3-2-20	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-21	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-22	600	390	0.5	30	10"	Yes	2-Rows	5' - 0"	140	14900	1.2	55	90	1/2"	
3-2-23	150	100	0.5	30	8"	Yes	2-Rows	5' - 0"	140	3200	0.5	55	85	1/2"	
3-2-24	150	150	0.5	30	8"	Yes	2-Rows	5' - 0"	140	5700	0.5	55	90	1/2"	
3-2-25	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-26	150	100	0.5	30	8"	Yes	2-Rows	5' - 0"	140	3700	0.5	55	90	1/2"	
3-2-27	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-28	600	390	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12800	1.0	55	85	1/2"	
3-2-29	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-30	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-2-31	300	300	0.5	30	8"	Yes	2-Rows	5' - 0"	140	9800	0.8	55	85	1/2"	
3-2-32	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-33	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	8500	0.7	55	85	1/2"	
3-2-34	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-35	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	6400	0.5	55	85	1/2"	
3-2-36	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-37	150	150	0.5	30	8"	Yes	2-Rows	5' - 0"	140	4900	0.5	55	85	1/2"	
3-2-38	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-39	150	100	0.5	30	8"	Yes	2-Rows	5' - 0"	140	3200	0.5	55	85	1/2"	
3-2-40	600	600	0.5	30	10"	Yes	2-Rows	5' - 0"	140	26200	2.1	55	95	3/4"	3-WAY VALVE
3-2-41	600	300	0.5	30	10"	Yes	2-Rows	5' - 0"	140	11400	0.9	55	90	1/2"	
3-2-42	450	230	0.5	30	10"	Yes	2-Rows	5' - 0"	140	7400	0.6	55	85	1/2"	
3-2-43	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-44	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-45	600	600	0.5	30	10"	Yes	2-Rows	5' - 0"	140	26200	2.1	55	95	3/4"	3-WAY VALVE
3-2-46	1050	530	0.5	30	12"	Yes	2-Rows	5' - 0"	140	20000	1.6	55	90	1/2"	
3-2-47	900	590	0.5	30	12"	Yes	2-Rows	5' - 0"	140	19100	1.5	55	85	1/2"	
3-2-48	600	390	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12800	1.0	55	85	1/2"	
3-2-49	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-50	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	6400	0.5	55	85	1/2"	
3-2-51	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-52	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-53	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-54	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-55	400	270	0.5	30	10"	Yes	2-Rows	5' - 0"	140	10400	0.8	55	90	1/2"	
3-2-56	800	520	0.5	30	12"	Yes	2-Rows	5' - 0"	140	17000	1.4	55	85	1/2"	
3-2-57	1300	850	0.5	30	14"	Yes	2-Rows	5' - 0"	140	32200	2.6	55	90	3/4"	
3-2-58	1300	850	0.5	30	14"	Yes	2-Rows	5' - 0"	140	32200	2.6	55	90	3/4"	
3-2-59	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	7400	0.6	55	90	1/2"	3-WAY VALVE
3-2-60	1300	850	0.5	30	14"	Yes	2-Rows	5' - 0"	140	32200	2.6	55	90	3/4"	
3-2-61	1300	850	0.5	30	14"	Yes	2-Rows	5' - 0"	140	32200	2.6	55	90	3/4"	
3-2-62	1300	850	0.5	30	14"	Yes	2-Rows	5' - 0"	140	32200	2.6	55	90	3/4"	
3-2-63	900	590	0.5	30	12"	Yes	2-Rows	5' - 0"	140	19100	1.5	55	85	1/2"	
3-2-64	600	390	0.5	30	10"	Yes	2-Rows	5' - 0"	140	14900	1.2	55	90	1/2"	
Grand total: 64	32800									749400	61.5				

AHU-3-1 VAV Schedule

Mark	CFM	Min. CFM	Max. Terminal APD (In WG)	Max Sound Power Level	Duct Run-Out	Reheat Coil	Rows	Max Water PD (Ft.)	Entering Water Temp	BTUH	GPM	EAT DB	LAT DB	Pipe Run-Out NPS	Comments
3-1-1	900	450	0.5	30	12"	Yes	2-Rows	5' - 0"	140	17200	1.4	55	90	1/2"	
3-1-2	200	100	0.5	30	8"	Yes	2-Rows	5' - 0"	140	4400	0.5	55	95	1/2"	3-WAY VALVE
3-1-3	500	330	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12400	1.0	55	90	1/2"	
3-1-4	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	6400	0.5	55	85	1/2"	
3-1-5	200	130	0.5	30	8"	Yes	2-Rows	5' - 0"	140	5000	0.5	55	90	1/2"	
3-1-6	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-7	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-8	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-9	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-10	1000	500	0.5	30	12"	Yes	2-Rows	5' - 0"	140	19100	1.5	55	90	1/2"	
3-1-11	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-12	500	330	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12400	1.0	55	90	1/2"	
3-1-13	550	550	0.5	30	10"	Yes	2-Rows	5' - 0"	140	21000	1.7	55	90	1/2"	
3-1-14	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-15	300	300	0.5	30	8"	Yes	2-Rows	5' - 0"	140	11400	0.9	55	90	1/2"	
3-1-16	550	550	0.5	30	10"	Yes	2-Rows	5' - 0"	140	21000	1.7	55	90	1/2"	
3-1-17	300	300	0.5	30	8"	Yes	2-Rows	5' - 0"	140	11400	0.9	55	90	1/2"	
3-1-18	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-19	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-20	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-21	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-22	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-23	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-24	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-25	150	100	0.5	30	8"	Yes	2-Rows	5' - 0"	140	4300	0.5	55	95	1/2"	
3-1-26	450	290	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12800	1.0	55	95	1/2"	3-WAY VALVE
3-1-27	150	150	0.5	30	8"	Yes	2-Rows	5' - 0"	140	4900	0.5	55	85	1/2"	
3-1-28	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-29	600	390	0.5	30	10"	Yes	2-Rows	5' - 0"	140	14900	1.2	55	90	1/2"	
3-1-30	400	260	0.5	30	10"	Yes	2-Rows	5' - 0"	140	9900	0.8	55	90	1/2"	
3-1-31	300	300	0.5	30	8"	Yes	2-Rows	5' - 0"	140	11400	0.9	55	90	1/2"	
3-1-32	600	390	0.5	30	10"	Yes	2-Rows	5' - 0"	140	14900	1.2	55	90	1/2"	
3-1-33	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-34	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-35	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-36	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-37	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-38	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-39	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-40	1000	500	0.5	30	12"	Yes	2-Rows	5' - 0"	140	19100	1.5	55	90	1/2"	
3-1-41	900	450	0.5	30	12"	Yes	2-Rows	5' - 0"	140	17200	1.4	55	90	1/2"	
3-1-42	500	330	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12400	1.0	55	90	1/2"	
3-1-43	200	130	0.5	30	8"	Yes	2-Rows	5' - 0"	140	5700	0.5	55	95	1/2"	3-WAY VALVE
3-1-44	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-45	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	6400	0.5	55	85	1/2"	
3-1-46	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	6400	0.5	55	85	1/2"	
3-1-47	400	160	0.5	30	10"	Yes	2-Rows	5' - 0"	140	6100	0.5	55	90	1/2"	
3-1-48	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	8500	0.7	55	95	1/2"	
3-1-49	500	330	0.5	30	10"	Yes	2-Rows	5' - 0"	140	12400	1.0	55	90	1/2"	
3-1-50	1000	650	0.5	30	12"	Yes	2-Rows	5' - 0"	140	24800	2.0	55	90	1/2"	3-WAY VALVE
3-1-51	575	370	0.5	30	10"	Yes	2-Rows	5' - 0"	140	18300	1.5	55	100	1/2"	
3-1-52	300	200	0.5	30	8"	Yes	2-Rows	5' - 0"	140	7400	0.6	55	90	1/2"	
3-1-53	575	370	0.5	30	10"	Yes	2-Rows	5' - 0"	140	18300	1.5	55	100	1/2"	
3-1-54	575	370	0.5	30	10"	Yes	2-Rows	5' - 0"	140	18300	1.5	55	100	1/2"	
3-1-55	575	370	0.5	30	10"	Yes	2-Rows	5' - 0"	140	18300	1.5	55	100	1/2"	
Grand total: 55	24750									590500	47.9				

NOTES:

1. ALL BOXES TO BE PRESSURE INDEPENDENT.
2. DUCT RUN-OUT SIZE DOES NOT MEAN INLET BOX SIZE. A TRANSITION MAY BE REQUIRED.
3. REHEAT COILS BASED ON A 25 DEG F TEMPERATURE DROP.
4. ALL TERMINALS TO BE RATED AT 1.5" INLET STATIC PRESSURE, MAX NCIS RADIATED AND DISCHARGE WITHOUT ATTENUATION.
5. ALL BOXES TO BE 120/1/60 AND ON EMERGENCY POWER.

ELECTRIC HEATER SCHEDULE

IDENTIFICATION	EUH-1	EUH-2	EUH-3	EUH-4	EUH-5	EUH-6
TYPE	WALL	WALL	WALL	WALL	WALL	WALL
CAPACITY KW	3	3	3	3	3	3
ELECTRICAL	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60
MANUFACTURER	MARKEL	MARKEL	MARKEL	MARKEL	MARKEL	MARKEL
MODEL	3450	3450	3450	3450	3450	3450

REMARKS:

1. WALL HEATERS TO BE COMPLETE WITH SURFACE MOUNTING BOX, X-FORMER AND LOW VOLTAGE UNIT MOUNTED TAMPER-PROOF T'STAT.

HCA Healthcare
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I.C. Thomasson Associates, Inc.
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Seals

SOUTH CAROLINA — I.C. THOMASSON ASSOCIATES, INC. — No. C00675 — CERTIFICATE OF AUTHORIZATION

JAMES BOYD ARMISTEAD — No. 22967 — REGISTERED PROFESSIONAL ENGINEER — 8-26-22

Summerville Medical Center
Patient Tower Expansion
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL SCHEDULES

Sheet Number

M0.03

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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ROOM NUMBER	ROOM NAME	ROOM TYPE	AREA, A, (SQ FT)	ROOM CEILING HEIGHT (FT)	ROOM VOLUME (CU FT)	OCCUP # PERSONS	FMC 403.3 CFM/PERS	FMC 403.3 CFM/	REQ TOTAL (ACH/HR)	REQ OA (ACH/HR)	MAX OA REQ (CFM)	DESIGN TOTAL (ACH/HR)	DESIGN SUPPLY CFM	DESIGN RETURN CFM	DESIGN EXHAUST CFM	Zp per IMC	ROOM PRESSURE
3-MS144	PAT RM	PATIENT ROOM	243	9	2187	0	0	0	4	2	73	11.0	400	300	0	0.01	(0)
3-MS145	PAT TLT	TOILET	52	8	416	0	0	0	10	0	0	14.4	0	0	100	0.10	(0)
3-MS146	PAT RM	PATIENT ROOM	243	9	2187	0	0	0	4	2	73	11.0	400	300	0	0.01	(0)
3-MS147	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS148	PAT RM	PATIENT ROOM	244	9	2196	0	0	0	4	2	73	10.9	400	300	0	0.01	(0)
3-MS149	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS150	PAT RM	PATIENT ROOM	243	9	2187	0	0	0	4	2	73	11.0	400	300	0	0.01	(0)
3-MS151	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS152	PAT RM	PATIENT ROOM	244	9	2196	0	0	0	4	2	73	10.9	400	300	0	0.01	(0)
3-MS153	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS154	PAT RM	PATIENT ROOM	243	9	2187	0	0	0	4	2	73	11.0	400	300	0	0.01	(0)
3-MS155	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS156	PAT RM	PATIENT ROOM	249	9	2241	0	0	0	4	2	75	10.7	400	300	0	0.01	(0)
3-MS157	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS158	CORR	CORRIDOR	875	9	7875	0	0	0.06	2	0	53	4.6	600	600	0	0.00	(0)
3-MS159	SOIL UTIL.	SOIL UTILITY	142	8	1136	0	0	0	10	2	38	13.2	150	0	250	0.04	(-)
3-MS160	EVS	JANITOR	60	8	480	0	0	0	10	0	0	12.5	0	0	100	0.10	(-)
3-MS161	PHYS. WORK	OFFICE	104	8	832	0.52	5	0.06	0	0	9	10.8	150	150	0	0.00	(0)
3-MS163	MEDS	OFFICE	132	8	1056	0.66	5	0.06	0	0	11	8.5	150	150	0	0.00	(0)
3-MS164	N.S.	OFFICE	532	8	4256	2.66	5	0.06	0	0	45	8.5	600	600	0	0.00	(0)
3-MS165	CLEAN UTILITY	CLEAN WORK	326	8	2608	0	0	0	4	2	87	6.9	300	200	0	0.01	(+)
3-MS166	MANAGER OFFICE	OFFICE	95	8	760	0.475	5	0.06	0	0	8	11.8	150	150	0	0.00	(0)
3-MS167	COMM	EQUIPMENT	136	9	1224	0	0	0	0	0	0	29.4	600	600	0	0.00	(0)
3-MS168	ELEC	EQUIPMENT	82	9	738	0	0	0	0	0	0	65.0	800	800	0	0.00	(0)
3-MS169	ELEC	EQUIPMENT	17	9	153	0	0	0	0	0	0	39.2	100	100	0	0.00	(0)
3-MS170	CORR	CORRIDOR	262	8	2096	0	0	0.06	2	0	16	7.2	250	250	0	0.01	(0)
3-MS172	STAFF LOUNGE	BREAK	302	8	2416	7.55	5	0.06	0	0	56	12.4	500	500	0	0.00	(0)
3-MS174	STAFF TLT	TOILET	73	8	584	0	0	0	10	0	0	15.4	50	0	150	0.07	(-)
3-MS175	NOUR	NOURISHMENT	108	8	864	0	0	0	2	0	0	10.4	150	150	0	0.01	(0)
3-MS177	PT GYM	PHYSICAL THERAPY	364	10	3640	0	0	0	6	2	121	6.6	400	400	0	0.02	(0)
3-MS178	CORR	CORRIDOR	985	8	7880	0	0	0.06	2	0	59	4.6	600	600	0	0.00	(0)
3-MS179	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS180	PAT RM	PATIENT ROOM	252	9	2268	0	0	0	4	2	76	10.6	400	300	0	0.01	(0)
3-MS181	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS182	PAT RM	PATIENT ROOM	252	9	2268	0	0	0	4	2	76	10.6	400	300	0	0.01	(0)
3-MS183	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS184	PAT RM	PATIENT ROOM	250	9	2250	0	0	0	4	2	75	10.7	400	300	0	0.01	(0)
3-MS185	PAT TLT	TOILET	48	8	384	0	0	0	10	0	0	15.6	0	0	100	0.10	(-)
3-MS186	PAT RM	PATIENT ROOM	248	9	2232	0	0	0	4	2	74	10.8	400	300	0	0.01	(0)
3-MS187	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS188	PAT RM	PATIENT ROOM	252	9	2268	0	0	0	4	2	76	10.6	400	300	0	0.01	(0)
3-MS189	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS190	PAT RM	PATIENT ROOM	250	9	2250	0	0	0	4	2	75	10.7	400	300	0	0.01	(0)
3-MS191	PAT TLT	TOILET	49	8	392	0	0	0	10	0	0	15.3	0	0	100	0.10	(-)
3-MS192	PAT RM	PATIENT ROOM	254	9	2286	0	0	0	4	2	76	10.5	400	300	0	0.01	(+)
3-MS193	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.10	(-)
3-MS194	PAT RM	PATIENT ROOM	257	9	2313	0	0	0	4	2	77	10.4	400	300	0	0.01	(0)
3-MS195	CORR	CORRIDOR	545	8	4360	0	0	0.06	2	0	33	5.5	400	400	0	0.01	(0)
3-MS196	PAT TLT	PATIENT ROOM	52	8	416	0	0	0	4	2	14	14.4	0	0	100	0.04	(-)
3-MS197	PAT RM	PATIENT ROOM	240	9	2160	0	0	0	4	2	72	11.1	400	300	0	0.01	(0)
3-MS198	ACC. PAT TLT	TOILET	58	9	522	0	0	0	10	0	0	11.5	0	0	100	0.10	(-)
3-MS199	ACC. ISOL. PAT. RM.	ISOLATION	230	9	2070	0	0	0	12	2	69	14.5	450	0	500	0.02	(-)
4-ES102	EVS	JANITOR	41	9	369	0	0	0	10	0	0	16.3	0	0	100	0.10	(-)
4-IC100	PAT RM	ICU	296	9	2664	0	0	0	6	2	89	9.0	400	400	0	0.02	(0)
4-IC101	PAT TLT	TOILET	72	9	648	0	0	0	10	0	0	9.3	0	0	100	0.10	(-)
4-IC104	PAT RM	ICU	298	9	2682	0	0	0	6	2	89	8.9	400	280	0	0.02	(0)
4-IC105	PAT RM	ICU	296	9	2664	0	0	0	6	2	89	9.0	400	280	0	0.02	(0)
4-IC106	PAT TLT	TOILET	33	9	297	0	0	0	10	0	0	20.2	0	0	100	0.10	(-)
4-IC108	PAT TLT	TOILET	34	9	306	0	0	0	10	0	0	19.6	0	0	100	0.10	(-)
4-IC109	PAT RM	ICU	297	9	2673	0	0	0	6	2	89	9.0	400	280	0	0.02	(0)
4-IC110	PAT RM	ICU	295	9	2655	0	0	0	6	2	89	9.0	400	280	0	0.02	(0)
4-IC111	PAT TLT	TOILET	31	9	279	0	0	0	10	0	0	21.5	0	0	100	0.10	(-)
4-IC113	PAT TLT	TOILET	40	9	360	0	0	0	10	0	0	16.7	0	0	100	0.10	(-)
4-IC114	PAT RM	PATIENT ROOM	300	9	2700	0	0	0	4	2	90	8.9	400	280	0	0.01	(0)
4-IC115	PAT TLT	TOILET	35	9	315	0	0	0	10	0	0	19.0	0	0	100	0.10	(-)
4-IC116	ISO PAT RM	ISOLATION	297	9	2673	0	0	0	12	2	89	14.6	600	0	650	0.02	(-)
4-IC118	CORR	CORRIDOR	980	9	8820	0	0	0.06	2	0	59	4.1	600	600	0	0.00	(0)
4-IC120	STAFF TLT	TOILET	69	9	621	0	0	0	10	0	0	14.5	0	0	150	0.07	(-)
4-IC121	CORR	CORRIDOR	268	9	2412	0	0	0.06	2	0	16	5.0	150	200	0	0.01	(0)
4-IC122	ICU MANAGER OFFICE	OFFICE	81	9	729	0.405	5	0.06	0	0	7	12.3	150	150	0	0.00	(0)
4-IC123	SOIL UTIL.	SOIL UTILITY	98	9	882	0	0	0	10	2	29	17.0	150	0	250	0.04	(-)
4-IC124	MEDS	OFFICE	112	9	1008	0.56	5	0.06	0	0	10	8.9	150	150	0	0.00	(0)
4-IC126	NURSE STATION	OFFICE	517	9	4653	2.585	5	0.06	0	0	44	10.3	800	600	0	0.01	(0)
4-IC127	CLEAN UTILITY	CLEAN WORK	296	9	2664	0	0	0	4	2	89	6.8	300	200	0	0.01	(0)
4-IC128	COMM	EQUIPMENT	133	9	1197	0	0	0	0	0	0	30.1	600	600	0	0.00	(0)
4-IC129	ELEC	EQUIPMENT	84	9	756	0	0	0	0	0	0	63.5	800	800	0	0.00	(0)
4-IC130	ELEC	EQUIPMENT	21	9	189	0	0	0	0	0	0	31.7	100	100	0	0.00	(0)
4-IC131	CORR	CORRIDOR	292	9	2628	0	0	0.06	2	0	18	5.7	250	250	0	0.01	(0)
4-IC133	EQUIPMENT STORAGE	STORAGE	183	9	1647	0	0	0	0	0	0	7.3	200	200	0	0.00	(0)
4-IC134	NOUR	NOURISHMENT	83	9	747	0	0	0	2	0	0	12.0	150	150	0	0.01	(0)
4-IC135	RT CLEAN STG	CLEAN SUPPLY	123	9	1107	0	0	0	4	2	37	13.6	250	50	0	0.02	(+)
4-IC136	DECON	DECONTAM	75	9	675	0	0	0	6	2	23	22.2	50	0	250	0.02	(-)
4-IC138	CORR	CORRIDOR	1024	9	9216	0	0	0.06	2	0	61	3.9	600	600	0	0.00	(0)
4-IC140	ISOLATION PAT RM	ISOLATION	310	9	2790	0	0	0	12	2	93	15.1	600	0	700	0.02	(-)
4-IC141	PAT TLT	TOILET	37	9	333	0	0	0	10	0	0	18.0	0	0	100	0.10	(-)
4-IC142	PAT RM	ICU	307	9	2763	0	0	0	6	2	92	8.7	400	300	0	0.02	(0)
4-IC143	PAT TLT	TOILET	30	9	270	0	0	0	10	0	0	22.2	0	0	100	0.10	(-)
4-IC145	PAT TLT	TOILET	35	9	315	0	0	0	10	0	0	19.0	0	0	100	0.10	(-)
4-IC146	PAT RM	ICU	311	9	2799	0	0	0	6	2	93	8.6	400	300	0	0.02	(0)
4-IC147	PAT RM	ICU	301	9	2709	0	0	0	6	2	90	8.9	400	300	0	0.02	(0)
4-IC148	PAT TLT	TOILET	30	9	270	0	0	0	10	0	0	22.2	0	0	100	0.10	(-)
4-IC150	PAT TLT	TOILET	29	9	261	0	0	0	10	0	0	23.0	0	0	100	0.10	(-)
4-IC151	PAT RM	ICU	310	9	2790	0	0	0	6	2	93	8.6	400	300	0	0.02	(0)
4-IC152	PAT RM	ICU	289	9	2601	0	0	0	6	2	87	9.2	400	300	0	0.02	(0)
4-IC153	PAT TLT	TOILET	28	9	252	0	0	0	10	0	0	23.8	0	0	100	0.10	(-)
4-IC155	PAT TLT	TOILET	31	9	279	0	0	0	10	0	0	21.5	0	0	100	0.10	(-)
4-IC156	PAT RM	ICU	302	9	2718	0	0	0	6	2	91	8.8	400	300	0	0.02	(0)
4-IC163	ICU/ PCU STAFF LOUNGE	OFFICE	253	9	2277	1.265	5	0.06	0	0	22	10.5	400	400	0	0.00	(0)
5-MS104	SHELL SPACE	NONE	12968	9	116712	0	0	0	0	0	0	3.3	6500	6500	0	0.00	(0)
5-MS105	COMM	EQUIPMENT	132	9	1188	0	0	0	0	0	0	30.3	600	600	0	0.00	(0)
5-MS106	ELEC	EQUIPMENT	83	9	747	0	0	0	0	0	0	64.3	800	800	0	0.00	(0)
5-MS107	ELEC	EQUIPMENT	21	9	189	0	0	0	0	0	0	31.7	100	100	0	0.00	(0)
5-MS109	VEST	CORRIDOR	83	9	747	0	0	0.06	2	0	5	4.0	50	0	0	0.04	(+)
5-MS110	VEST	CORRIDOR	416	9	3744	0	0	0.06	2	0	25	2.4	150	150	0	0.01	(0)
										OA REQUIRED:	3440			OA MINIMUM:	6100		

OA Calculation	
Max Zp per FMC 403.3.1.1.2	0.10
Ev per FMC Table 403.3.1.1.2.3.2	1
Minimum System OA per FMC (CFM)	3440
Provided OA	6100

ROOM NUMBER	ROOM NAME	ROOM TYPE	AREA, A, (SQ FT)	ROOM CEILING HEIGHT (FT)	ROOM VOLUME (CU FT)	OCCUP # PERSONS	FMC 403.3 CFM/PERS	FMC 403.3 CFM/	REQ TOTAL (ACH/HR)	REQ OA (ACH/HR)	MAX OA REQ (CFM)	DESIGN TOTAL (ACH/HR)	DESIGN SUPPLY CFM	DESIGN RETURN CFM	DESIGN EXHAUST CFM	Zp per IMC	ROOM PRESSURE
3-MS100	PUBLIC ELEVATOR LOBBY	CORRIDOR	237	8.5	2014.5	0	0	0.06	2	0	14	11.9	400	400	0	0.04	(0)
3-MS101	OFFICE	OFFICE	116	8	928	0.58	5	0.06	0	0	10	12.9	200	200	0	0.05	(0)
3-MS102	MED/ SURG WAIT	WAITING	170	8.5	1445	5.1	5	0.06	0	0	36	4.2	100	100	0	0.36	(0)
3-MS103	CONFERENCE/ MULTI-PURPOSE	CONFERENCE	258	9	2322	12.9	5	0.06	0	0	80	12.9	500	500	0	0.16	(0)
3-MS104	LOBBY	CORRIDOR	483	8.5	4105.5	0	0	0.06	2	0	29	5.8	400	400	0	0.07	(0)
3-MS105	CONSULT	CONFERENCE	135	9	1215	6.75	5	0.06	0	0	42	14.8	300	300	0	0.14	(0)
3-MS106	PUB TLT	TOILET	48	8	384	0	0	0	10	0	0	15.6	0	0	100	0.00	(-)
3-MS107	PUB TLT	TOILET	48	8	384	0	0	0	10	0	0	15.6	0	0	100	0.00	(-)
3-MS108	STOR.	STORAGE	186	9	1674	0	0	0	0	0	0	7.2	200	200	0	0.00	(0)
3-MS109	PAT RM	PATIENT ROOM	234	9	2106	0	0	0	6	2	70	11.4	400	300	0	0.18	(+)
3-MS110	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.00	(-)
3-MS111	PAT RM	PATIENT ROOM	241	9	2169	0	0	0	6	2	72	11.1	400	300	0	0.18	(+)
3-MS112	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.00	(-)
3-MS113	PAT RM	PATIENT ROOM	238	9	2142	0	0	0	6	2	71	11.2	400	300	0	0.18	(+)
3-MS114	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.00	(-)
3-MS115	PAT RM	PATIENT ROOM	232	9	2088	0	0	0	6	2	70	11.5	400	300	0	0.17	(+)
3-MS116	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.00	(-)
3-MS117	CLEAN SUPPLY	CLEAN SUPPLY	270	9	2430	0	0	0	4	2	81	7.4	300	250	0	0.27	(+)
3-MS119	MEDS	OFFICE	141	8	1128	0.705	5	0.06	0	0	12	16.0	300	300	0	0.04	(0)
3-MS120	NOUR	NOURISHMENT	114	8	912	0	0	0	2	0	0	26.3	400	400	0	0.00	(0)
3-MS122	NS/ UNIT CLERK	OFFICE	268	9	2412	1.34	5	0.06	0	0	23	10.0	400	400	0	0.06	(0)
3-MS123	CORR	CORRIDOR	215	9	1935	0	0	0.06	2	0	13	7.8	250	250	0	0.05	(0)
3-MS124	EQUIP. STOR.	STORAGE	162	8	1296	0	0	0	0	0	0	6.9	150	0.00	(0)	0.11	(+)
3-MS125	CORR	CORRIDOR	1131	8	9048	0	0	0.06	2	0	68	4.0	600	600	0	0.18	(0)
3-MS126	PAT RM	PATIENT ROOM	237	9	2133	0	0	0	6	2	71	11.3	400	300	0	0.00	(+)
3-MS127	PAT TLT	TOILET	43	8	344	0	0	0	10	0	0	17.4	0	0	100	0.18	(-)
3-MS128	PAT RM	PATIENT ROOM	243	9	2187	0	0	0	6	2	73	11.0	400	300	0	0.00	(+)
3-MS129	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.18	(-)
3-MS130	PAT RM	PATIENT ROOM	238	9	2142	0	0	0	6	2	71	11.2	400	300	0	0.00	(+)
3-MS131	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.18	(-)
3-MS132	PAT RM	PATIENT ROOM	243	9	2187	0	0	0	6	2	73	11.0	400	300	0	0.00	(+)
3-MS133	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.18	(-)
3-MS134	PAT RM	PATIENT ROOM	239	9	2151	0	0	0	6	2	72	11.2	400	300	0	0.00	(+)
3-MS135	PAT TLT	TOILET	45	8	360	0	0	0	10	0	0	16.7	0	0	100	0.18	(-)
3-MS136	PAT RM	PATIENT ROOM	237	9	2133	0	0	0	6	2	71	11.3	400	300	0	0.00	(+)
3-MS137	PAT TLT	TOILET	50	8	400	0	0	0	10	0	0	15.0	0	0	100	0.18	(-)
3-MS138	PAT RM	PATIENT ROOM	246	9	2214	0	0	0	6	2	74	10.8	400	300	0	0.00	(+)
3-MS139	PAT TLT	TOILET	47	8	376	0	0	0	10	0	0	16.0	0	0	100	0.13	(-)
3-MS140	ACC. ISOL. PAT. RM.	PATIENT ROOM	267	9	2403	0	0	0	6	2	80	15.0	550	0	600	0.00	(-)
3-MS141	ACC. PAT TLT	TOILET	59	8	472	0	0	0	10	0	0	12.7	0	0	100	0.13	(-)
3-MS142	ACC. ISOL. PAT. RM.	PATIENT ROOM	269	9	2421	0	0	0	6	2	81	14.9	550	0	600	0.00	(-)
3-MS143	ACC. PAT TLT	TOILET	59	8	472	0	0	0	10	0	0	12.7	0	0	100	0.00	(-)
4-ES101	EVS	JANITOR	52	9	468	0	0	0	10	0	0	12.8	0	0	100	0.03	(-)
4-PC100	PUBLIC ELEVATOR LOBBY	CORRIDOR	187	9	1683	0	0	0.06	2	0	11	14.3	400	400	0	0.05	(0)
4-PC101	R.T. DIRECTOR OFFICE	OFFICE	122	9	1098	0.61	5	0.06	0	0	10	10.9	200	200	0	0.38	(0)
4-PC102	PCU WAITING	WAITING	181	9	1629	5.43	5	0.06	0	0	38	3.7	100	100	0	0.08	(0)
4-PC103	LOBBY	CORRIDOR	544	9	4896	0	0	0.06	2	0	33	4.9	400	400	0	0.10	(0)
4-PC104	ICU WAITING	WAITING	245	9	2205	7.35	5	0.06	0	0	51	13.6	500	500	0	0.14	(0)
4-PC105	CONS./ MULTI-PURPOSE	CONFERENCE	136	9	1224	6.8	5	0.06	0	0	42	14.7	300	300	0	0.00	(0)
4-PC106	PUB. TLT	TOILET	62	9	558	0	0	0	10	0	0	10.8	0	0	100	0.00	(-)
4-PC107	PUB. TLT	TOILET	77	9	693	0	0	0	10	0	0	8.7	0	0	100	0.00	(-)
4-PC108	NOUR	NOURISHMENT	67	9	603	0	0	0	2	0	0	29.9	300	300	0	0.26	(0)
4-PC109	CLEAN UTIL.	CLEAN SUPPLY	256	9	2304	0	0	0	4	2	77	7.8	300	200	0	0.00	(+)
4-PC112	PAT TLT	TOILET	52	9	468	0	0	0	10	0	0	12.8	0	0	100	0.18	(-)
4-PC113	PAT RM	PATIENT ROOM	240	9	2160	0	0	0	6	2	72	11.1	400	300	0	0.18	(+)
4-PC114	PAT RM	PATIENT ROOM	237	9	2133	0	0	0	6	2	71	11.3	400	300	0	0.00	(+)
4-PC115	PAT TLT	TOILET	50	9	450	0	0	0	10	0	0	13.3	0	0

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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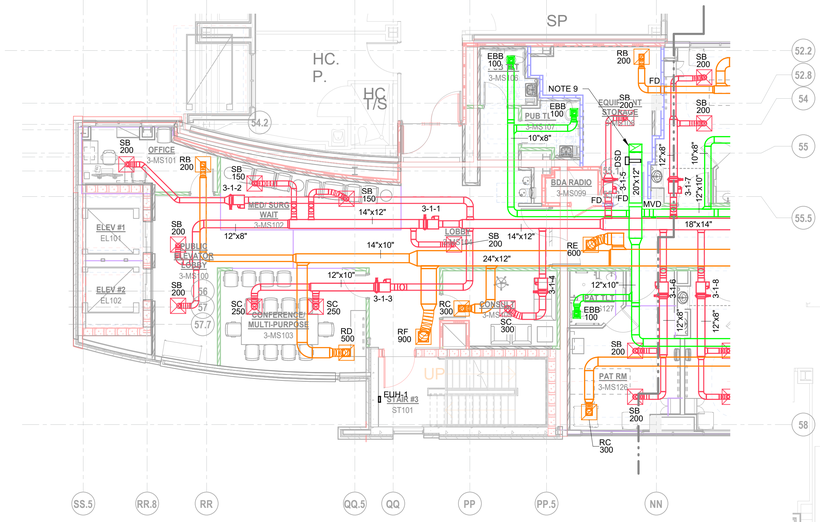
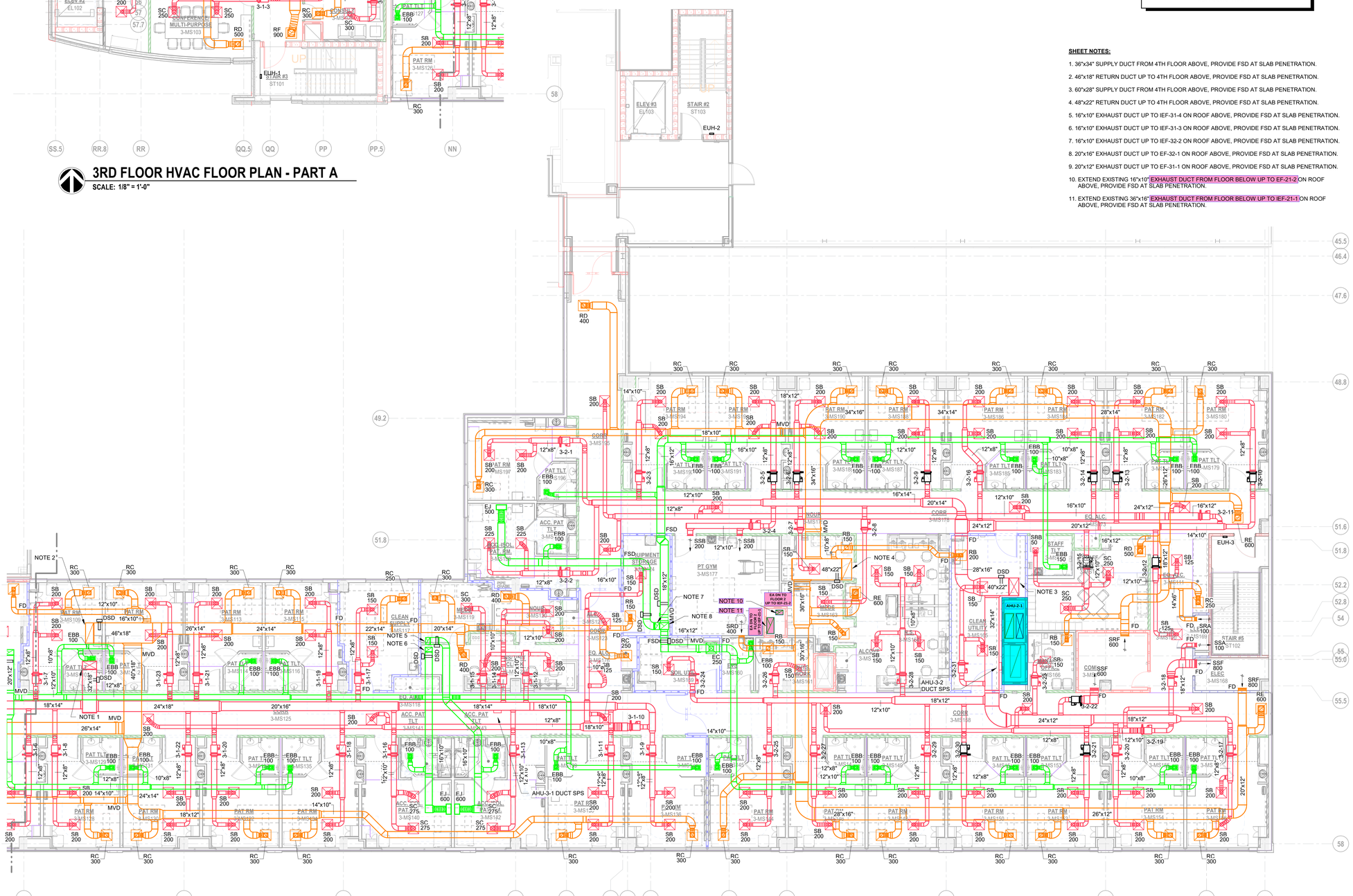


3RD FLOOR HVAC FLOOR PLAN - PART A

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



3RD FLOOR HVAC FLOOR PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION

SHEET NOTES:

1. 36"x34" SUPPLY DUCT FROM 4TH FLOOR ABOVE, PROVIDE FSD AT SLAB PENETRATION.
2. 46"x18" RETURN DUCT UP TO 4TH FLOOR ABOVE, PROVIDE FSD AT SLAB PENETRATION.
3. 60"x28" SUPPLY DUCT FROM 4TH FLOOR ABOVE, PROVIDE FSD AT SLAB PENETRATION.
4. 48"x22" RETURN DUCT UP TO 4TH FLOOR ABOVE, PROVIDE FSD AT SLAB PENETRATION.
5. 16"x10" EXHAUST DUCT UP TO IEF-31-4 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
6. 16"x10" EXHAUST DUCT UP TO IEF-31-3 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
7. 16"x10" EXHAUST DUCT UP TO IEF-32-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
8. 20"x16" EXHAUST DUCT UP TO EF-32-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
9. 20"x12" EXHAUST DUCT UP TO EF-31-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
10. EXTEND EXISTING 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO EF-21-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
11. EXTEND EXISTING 36"x16" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-21-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.

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Seals

SOUTH CAROLINA — I.C. THOMASSON ASSOCIATES, INC. — No. C00675 — CERTIFICATE OF AUTHORIZATION

JAMES BOYD — No. 22967 — REGISTERED PROFESSIONAL ENGINEER — 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

3RD FLOOR HVAC FLOOR PLAN - PART A & B

Sheet Number

M1.03A

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FACILITY NAME:
Summerville Medical Center

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Patient Tower Expansion

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3400100049

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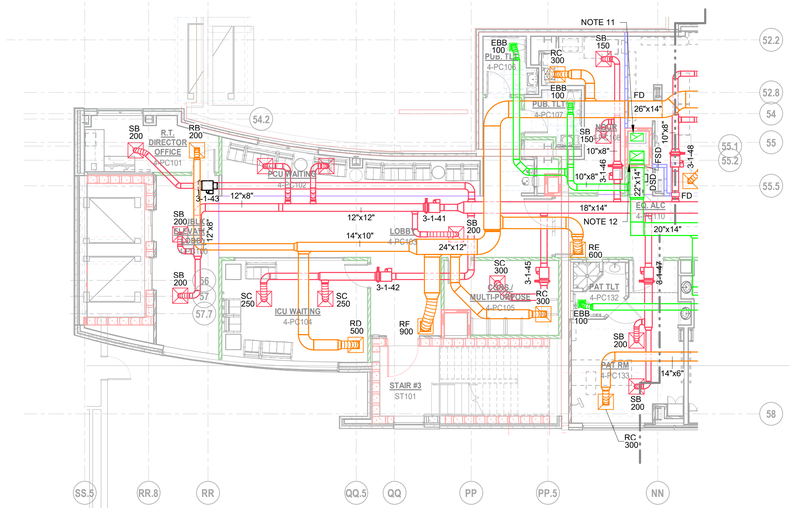
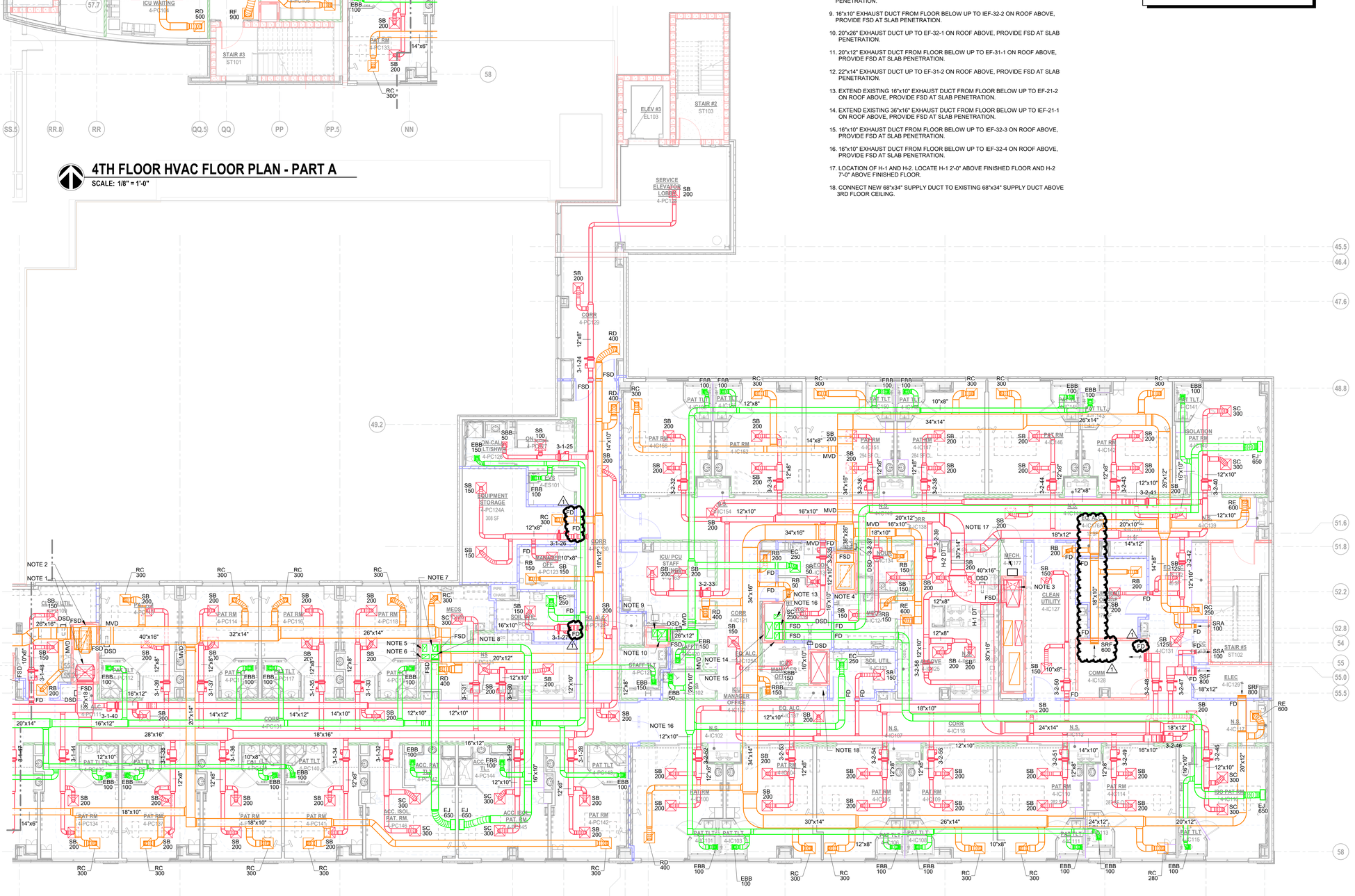


4TH FLOOR HVAC FLOOR PLAN - PART A

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



4TH FLOOR HVAC FLOOR PLAN - PART B

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

SHEET NOTES:

1. 36"x34" SUPPLY DUCT FROM AHU-3-1 ON ROOF ABOVE, TRANSITION TO 36"x16" AFTER 4TH FLOOR BRANCH TAKEOFFS, PROVIDE FSD AT SLAB PENETRATION.
2. 42"x28" RETURN DUCT UP FROM FLOOR BELOW, TRANSITION TO 60"x18" BEFORE 4TH FLOOR BRANCH TAKEOFFS UP TO AHU-3-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
3. 60"x28" SUPPLY DUCT FROM AHU-3-2 ON ROOF ABOVE,TRANSITION TO 40"x22" AFTER 4TH FLOOR BRANCH TAKEOFFS, PROVIDE FSD AT SLAB PENETRATION.
4. 48"x22" RETURN DUCT UP FROM FLOOR BELOW, TRANSITION TO 60"x42" BEFORE 4TH FLOOR BRANCH TAKEOFFS UP TO AHU-3-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
5. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-31-4 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
6. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-31-3 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
7. 16"x10" EXHAUST DUCT UP TO IEF-31-6 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
8. 16"x10" EXHAUST DUCT UP TO IEF-31-5 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
9. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-32-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
10. 20"x26" EXHAUST DUCT UP TO EF-32-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
11. 20"x12" EXHAUST DUCT FROM FLOOR BELOW UP TO EF-31-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
12. 22"x14" EXHAUST DUCT UP TO EF-31-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
13. EXTEND EXISTING 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO EF-21-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
14. EXTEND EXISTING 36"x16" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-21-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
15. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-32-3 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
16. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-32-4 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
17. LOCATION OF H-1 AND H-2. LOCATE H-1 2'-0" ABOVE FINISHED FLOOR AND H-2 7'-0" ABOVE FINISHED FLOOR.
18. CONNECT NEW 68"x34" SUPPLY DUCT TO EXISTING 68"x34" SUPPLY DUCT ABOVE 3RD FLOOR CEILING.

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION

HCA Healthcare

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I.C. THOMASSON ASSOCIATES, INC.
No. C00075

STATE OF SOUTH CAROLINA
No. 22507
REGISTERED
PROFESSIONAL
ENGINEER
2/8/23

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date
Revision 1	02/08/23

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

4TH FLOOR HVAC FLOOR PLAN - PART A & B

Sheet Number

M1.04A

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

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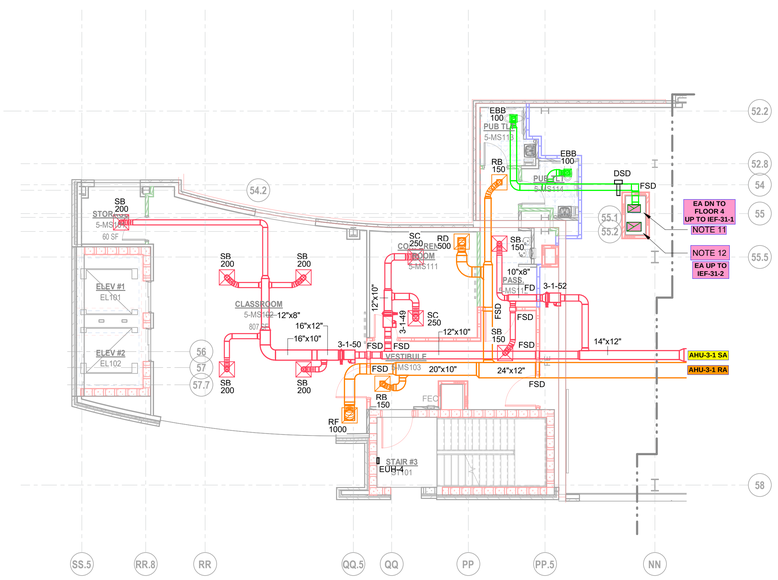
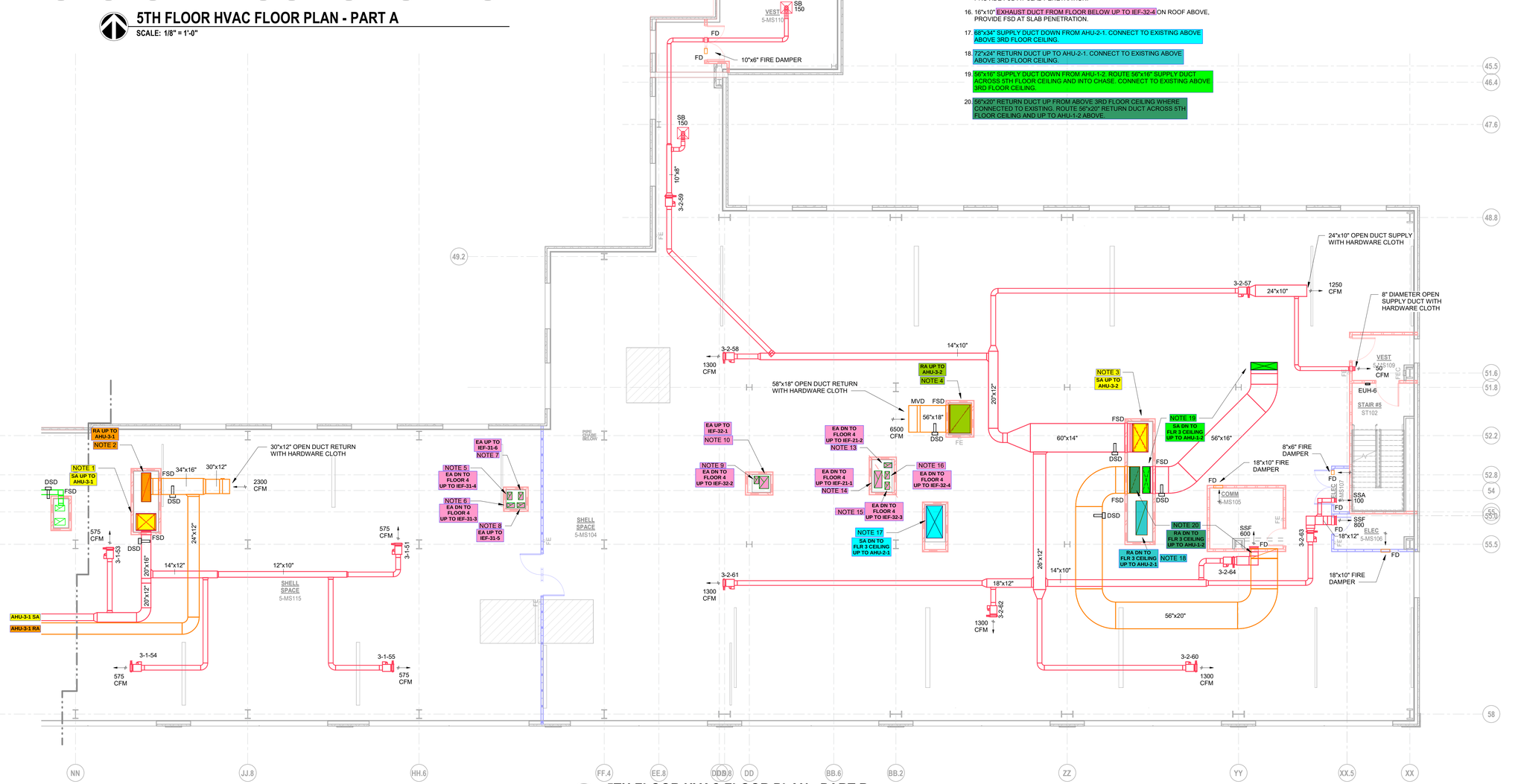


5TH FLOOR HVAC FLOOR PLAN - PART A

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



5TH FLOOR HVAC FLOOR PLAN - PART B

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

SHEET NOTES:

1. 42"x36" SUPPLY DUCT FROM AHU-3-1 ON ROOF ABOVE, TRANSITION TO 36"x34" AFTER 5TH FLOOR BRANCH TAKEOFFS, PROVIDE FSD AT SLAB PENETRATION.
2. 60"x18" RETURN DUCT UP FROM FLOOR BELOW, TRANSITION TO 60"x20" BEFORE 5TH FLOOR BRANCH TAKEOFFS UP TO AHU-3-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
3. 60"x34" SUPPLY DUCT FROM AHU-3-2 ON ROOF ABOVE,TRANSITION TO 60"x28" AFTER 5TH FLOOR BRANCH TAKEOFFS, PROVIDE FSD AT SLAB PENETRATION.
4. 60"x42" RETURN DUCT UP FROM FLOOR BELOW, TRANSITION TO 60"x46" BEFORE 5TH FLOOR BRANCH TAKEOFFS UP TO AHU-3-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
5. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-31-4 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
6. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-31-3 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
7. 16"x10" EXHAUST DUCT UP TO IEF-31-6 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
8. 16"x10" EXHAUST DUCT UP TO IEF-31-5 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
9. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-32-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
10. 20"x26" EXHAUST DUCT UP TO EF-32-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
11. 20"x12" EXHAUST DUCT FROM FLOOR BELOW UP TO EF-31-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
12. 22"x14" EXHAUST DUCT UP TO EF-31-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
13. EXTEND EXISTING 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO EF-21-2 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
14. EXTEND EXISTING 36"x16" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-21-1 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
15. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-32-3 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
16. 16"x10" EXHAUST DUCT FROM FLOOR BELOW UP TO IEF-32-4 ON ROOF ABOVE, PROVIDE FSD AT SLAB PENETRATION.
17. 68"x34" SUPPLY DUCT DOWN FROM AHU-2-1. CONNECT TO EXISTING ABOVE ABOVE 3RD FLOOR CEILING.
18. 72"x24" RETURN DUCT UP TO AHU-2-1. CONNECT TO EXISTING ABOVE ABOVE 3RD FLOOR CEILING.
19. 56"x16" SUPPLY DUCT DOWN FROM AHU-1-2. ROUTE 56"x16" SUPPLY DUCT ACROSS 5TH FLOOR CEILING AND INTO CHASE. CONNECT TO EXISTING ABOVE 3RD FLOOR CEILING.
20. 56"x20" RETURN DUCT UP FROM ABOVE 3RD FLOOR CEILING WHERE CONNECTED TO EXISTING, ROUTE 56"x20" RETURN DUCT ACROSS 5TH FLOOR CEILING AND UP TO AHU-1-2 ABOVE.

WALL LEGEND (EXISTING HALFTONED)

	NON-RATED PARTITION TO 4" ABOVE CEILING
	NON-RATED PARTITION TO DECK
	SMOKE PARTITION TO DECK
	1-HOUR FIRE BARRIER
	1-HOUR SMOKE BARRIER
	1-HOUR RATED SHAFT WALL BARRIER
	2-HOUR FIRE BARRIER
	2-HOUR SMOKE BARRIER
	2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

	EXISTING TO REMAIN
	NEW CONSTRUCTION

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JAMES BOYD — No. 22967 — 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

5TH FLOOR HVAC FLOOR PLAN - PART A & B

Sheet Number

M1.05A

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
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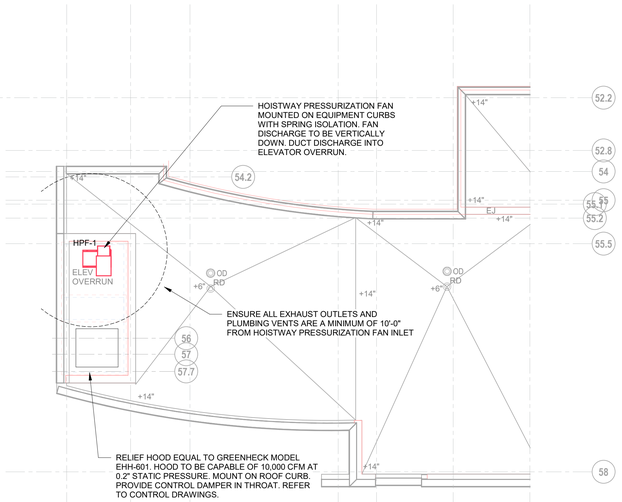
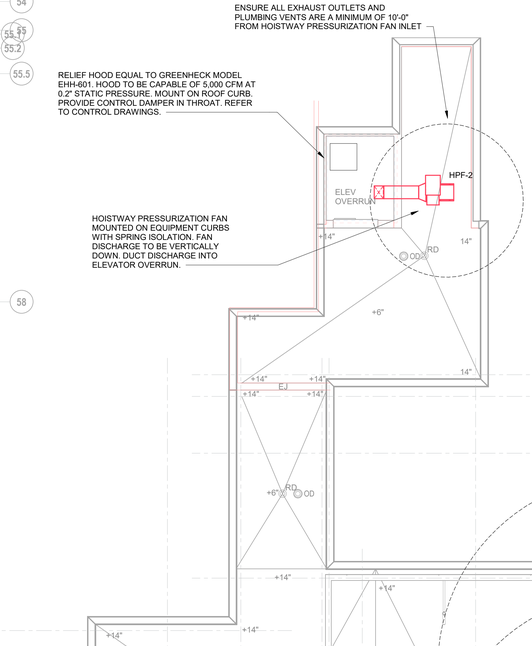


ROOF HVAC PLAN - PART A

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



ROOF HVAC PLAN - PART B

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

SHEET NOTES:

1. 42"x36" SUPPLY DUCT DOWN TO FLOOR BELOW.
2. 60"x20" RETURN DUCT UP FROM FLOOR BELOW.
3. 60"x34" SUPPLY DUCT DOWN TO FLOOR BELOW.
4. 60"x46" RETURN DUCT UP FROM FLOOR BELOW.
5. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW .
6. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW.
7. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW.
8. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW.
9. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW .
10. 20"x26" EXHAUST DUCT UP FROM FLOOR BELOW.
11. 20"x12" EXHAUST DUCT UP FROM FLOOR BELOW.
12. 22"x14" EXHAUST DUCT UP FROM FLOOR BELOW.
13. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW.
14. 36"x16" EXHAUST DUCT UP FROM FLOOR BELOW.
15. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW.
16. 16"x10" EXHAUST DUCT UP FROM FLOOR BELOW.
17. 68"x34" SUPPLY DUCT DOWN TO FLOOR BELOW.
18. 72"x24" RETURN DUCT UP FROM FLOOR BELOW.
19. 56"x16" SUPPLY DUCT DOWN TO FLOOR BELOW.
20. 56"x20" RETURN DUCT UP FROM FLOOR BELOW.

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION

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SOUTH CAROLINA I.C. THOMASSON ASSOCIATES, INC. No. C00675 CERTIFICATE OF AUTHORIZATION

JAMES BOYD No. 22967 REGISTERED PROFESSIONAL ENGINEER 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

ROOF HVAC PLAN - PART A & B

Sheet Number

M1.06A

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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BRENTWOOD, TN 37027
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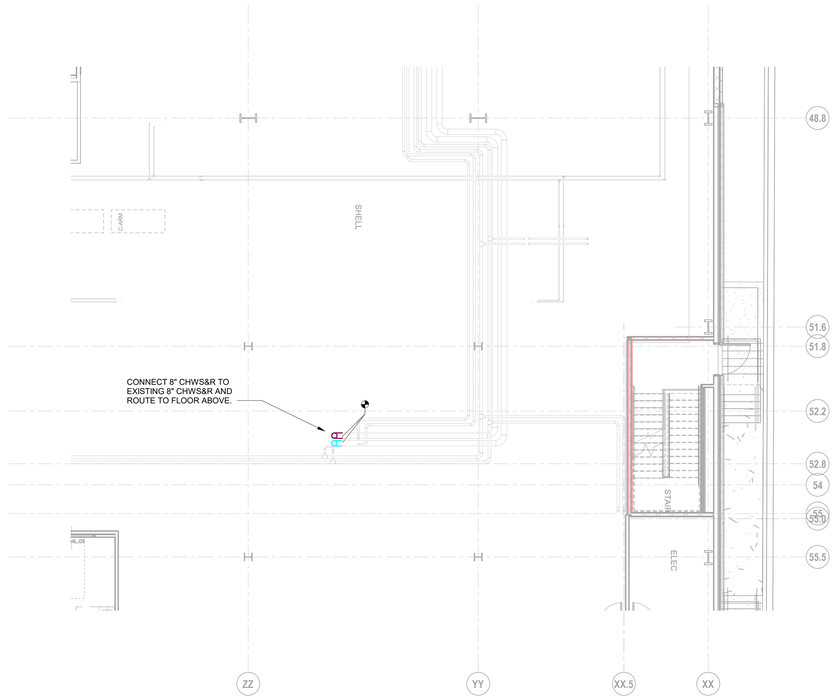
CONTACT: DAVID SKIPPER

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION



1ST FLOOR PIPING FLOOR PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

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TRIDENT HEALTH

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Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

1ST FLOOR PIPING FLOOR PLAN

Sheet Number

M2.01A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
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AHJ PROJECT NUMBERS :
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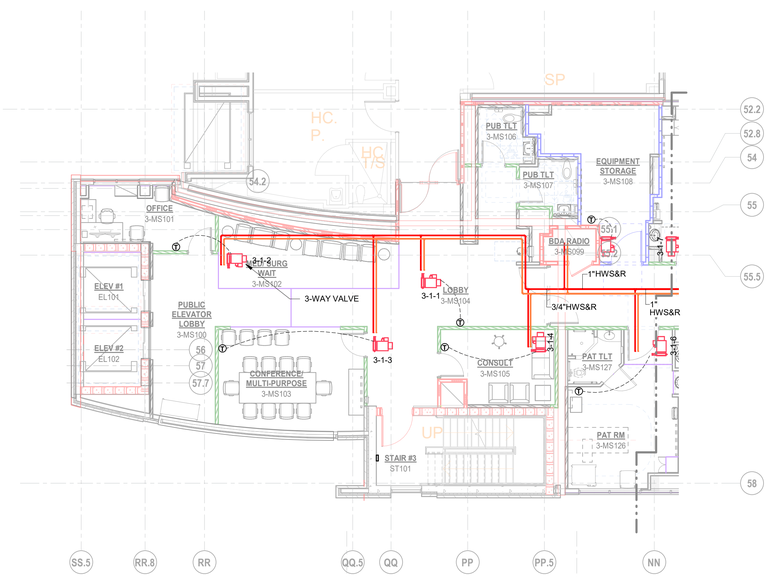


3RD FLOOR PIPING FLOOR PLAN - PART A

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

GENERAL NOTES:

A. DIFFERENTIAL PRESSURE ALARMS (DPA) TO BE EQUAL TO TSI MODEL RP-10 WHERE SHOWN. PROVIDE UNIT WITH AUDIAL AND VISUAL ALARM PANEL COMPLETE WITH THROUGH-THE-WALL PRESSURE SENSOR, DOOR SWITCH, DISPLAY MODULE, AND TRANSFORMER. PROVIDE BACNET INTERFACE. RPM'S TO BE MONITOR TO BAS AND ALARM.

SHEET NOTES:

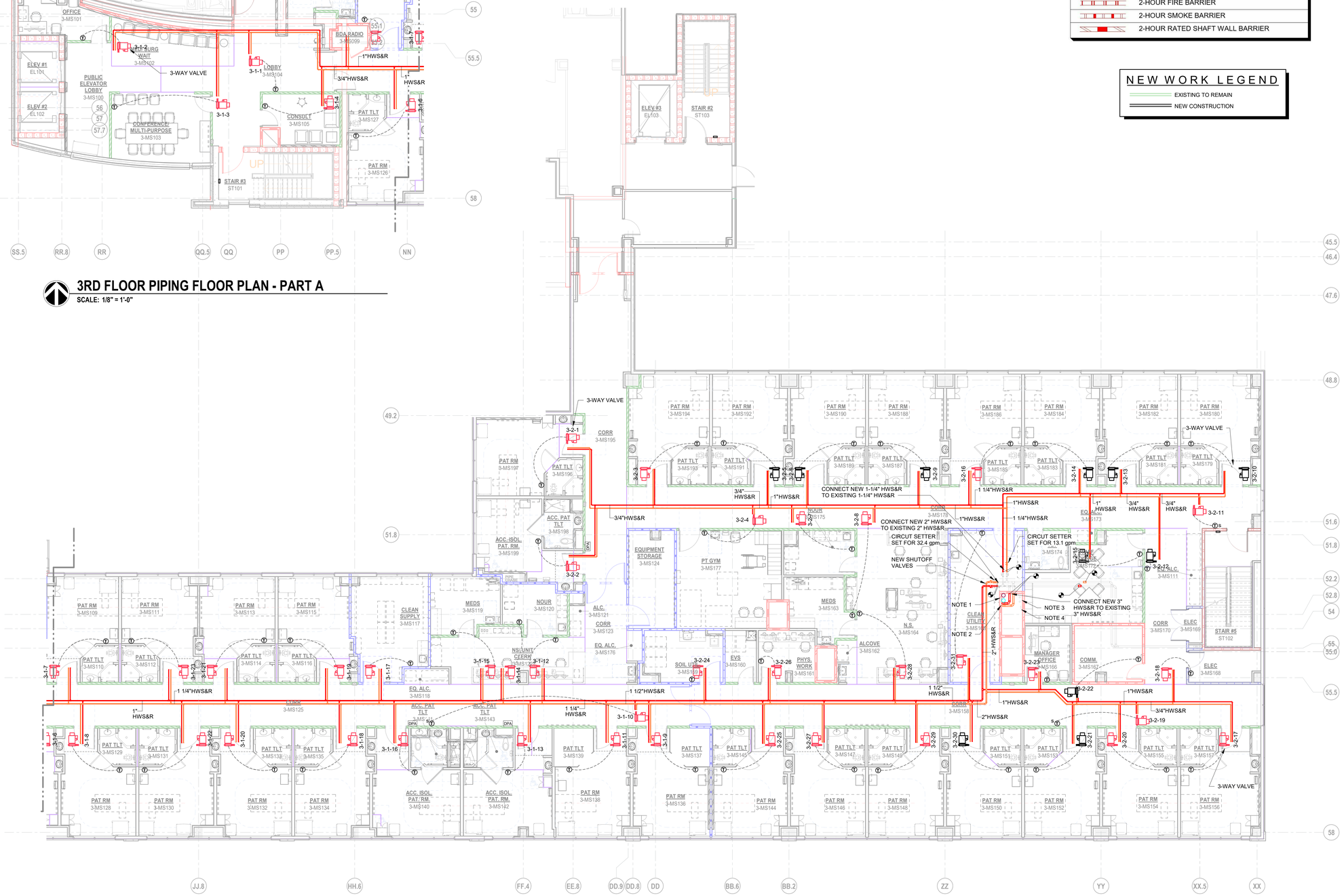
1. 8" CHWS&R UP FROM 1ST FLOOR TO ROOF ABOVE.
2. 3" HWS&R FROM EXISTING MAINS 3" HWS&R UP TO FLOOR ABOVE.
3. EXISTING 3" CHWS&R UP FROM FLOOR BELOW.
4. EXISTING 1" REFRIGERANT PIPING FROM FLOOR BELOW.

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION



3RD FLOOR PIPING FLOOR PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

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JAMES BOYD No. 22967 REGISTERED PROFESSIONAL ENGINEER 8-26-22

Summerville Medical Center

Patient Tower Expansion

295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

3RD FLOOR PIPING FLOOR PLAN - PART A & B

Sheet Number

M2.03A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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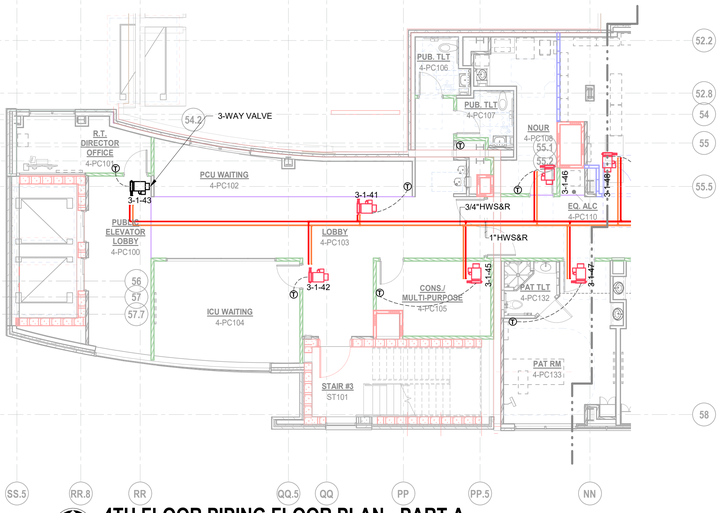


4TH FLOOR PIPING FLOOR PLAN - PART A

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

GENERAL NOTES:

A. DIFFERENTIAL PRESSURE ALARMS (DPA) TO BE EQUAL TO TSI MODEL RP-10 WHERE SHOWN. PROVIDE UNIT WITH AUDIAL AND VISUAL ALARM PANEL COMPLETE WITH THROUGH-THE-WALL PRESSURE SENSOR, DOOR SWITCH, DISPLAY MODULE, AND TRANSFORMER. PROVIDE BACNET INTERFACE. RPM'S TO BE MONITOR TO BAS AND ALARM.

SHEET NOTES:

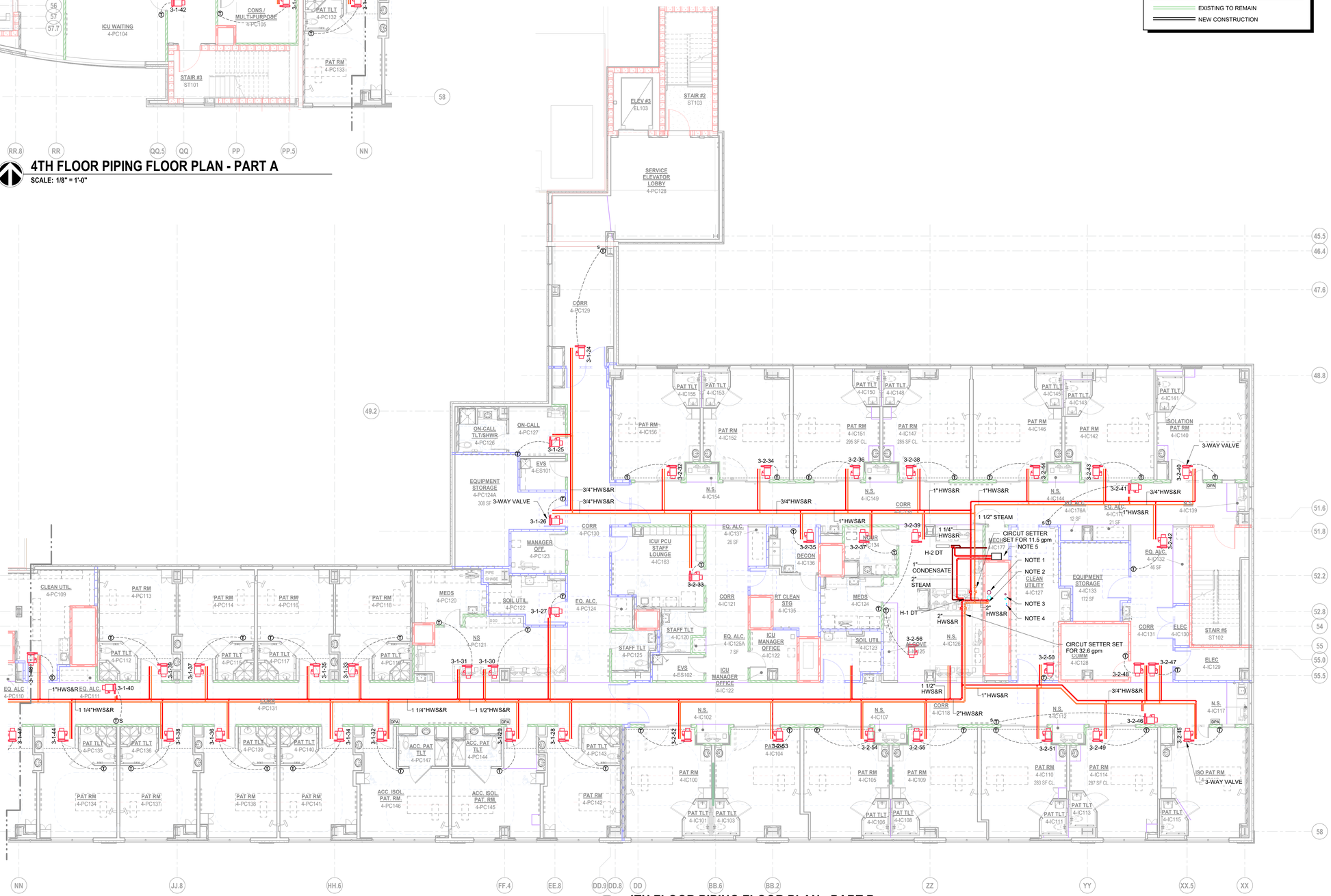
1. 8" CHWS&R UP TO FLOOR ABOVE.
2. 3" HWS&R FROM FLOOR BELOW WITH 3" HWS&R UP TO FLOOR ABOVE AFTER BRANCH TAKOFFS.
3. CONNECT NEW 3" CHWS&R TO EXISTING 3" CHWS&R AND ROUTE TO FLOOR ABOVE.
4. CONNECT NEW 1" REFRIGERANT PIPING TO EXISTING 1" REFRIGERANT PIPING AND ROUTE TO FLOOR ABOVE.
5. H-1 AND H-2 LOCATED 2'-0" AND 7'-0" ABOVE FINISHED FLOOR, RESPECTIVELY. ROUTE 2" STEAM FROM H-1 TO H-1 DISPERSION TUBES. ROUTE 1-1/2" STEAM FROM H-2 TO H-2 DISPERSION TUBE. ROUTE 1" CONDENSATE FROM DISPERSION TUBES TO CONDENSATE COOLER AT FLOOR DRAIN IN MECHANICAL ROOM.

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION



4TH FLOOR PIPING FLOOR PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

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Summerville Medical Center

Patient Tower Expansion

295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

4TH FLOOR PIPING FLOOR PLAN - PART A & B

Sheet Number

M2.04A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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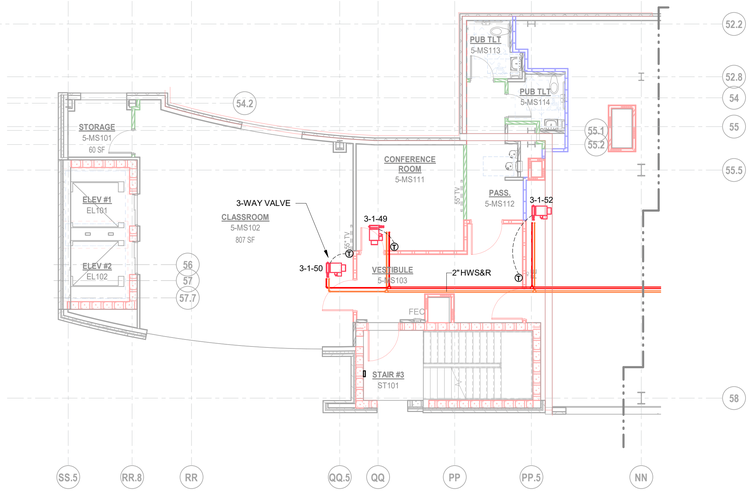


5TH FLOOR PIPING FLOOR PLAN - PART A

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

SHEET NOTES:

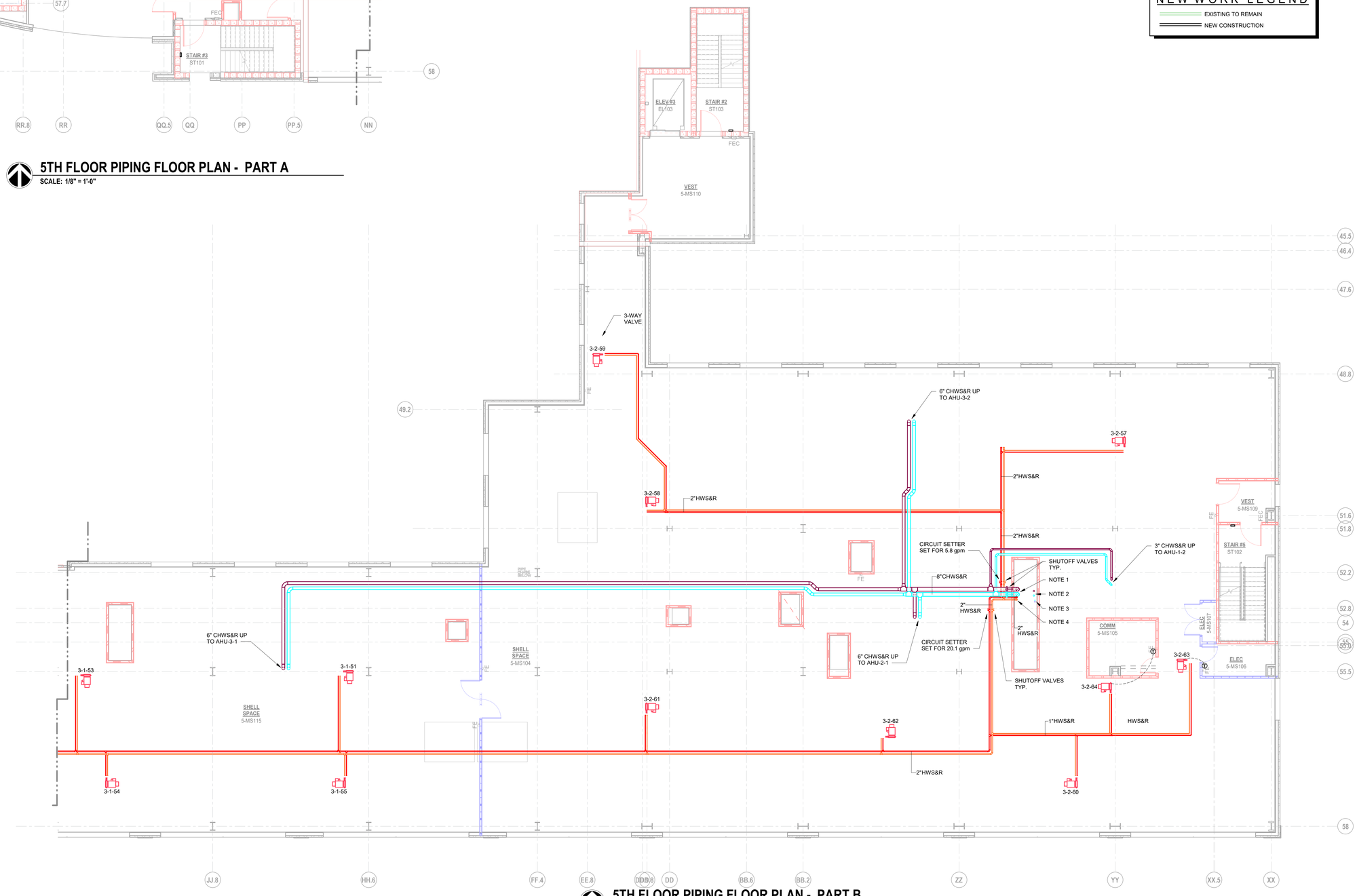
1. 8" CHWS&R FROM FLOOR BELOW.
2. 3" CHWS&R UP TO ROOF ABOVE.
3. 1" REFRIGERANT PIPING UP TO ROOF ABOVE.
4. 3" HWS&R FROM FLOOR BELOW CAPPED FOR FUTURE AFTER BRANCH TAKEOFFS.

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION



5TH FLOOR PIPING FLOOR PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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JAMES BOYD — No. 22967 — REGISTERED PROFESSIONAL ENGINEER — 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

5TH FLOOR PIPING FLOOR PLAN - PART A & B

Sheet Number

M2.05A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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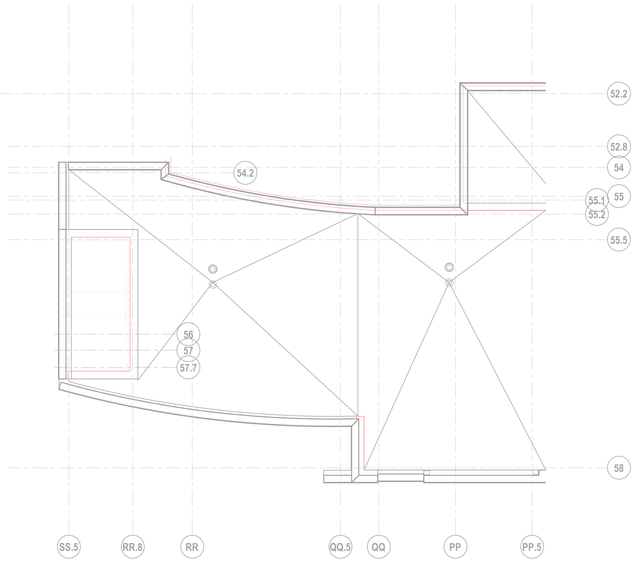
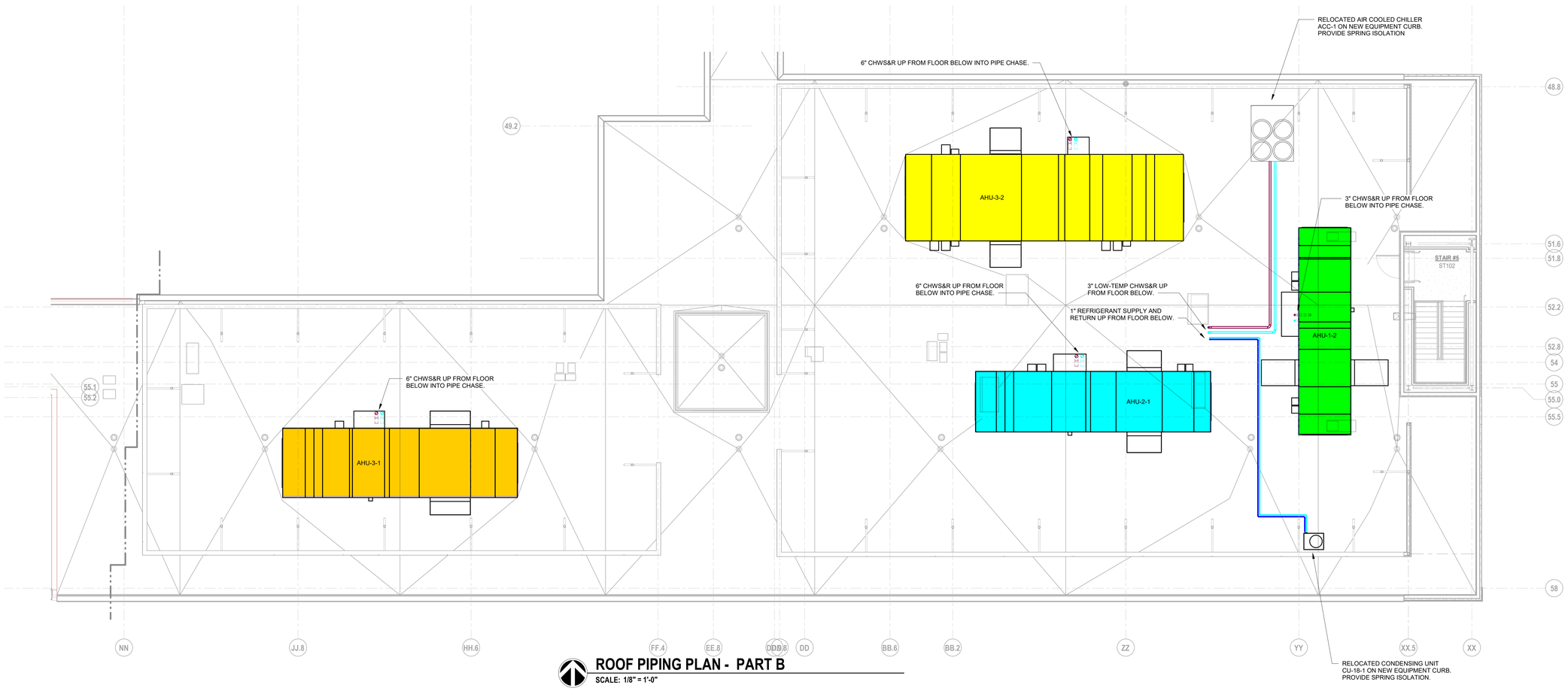


ROOF PIPING PLAN - PART A

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



ROOF PIPING PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

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SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

ROOF PIPING FLOOR PLAN - PART A & B

Sheet Number

M2.06A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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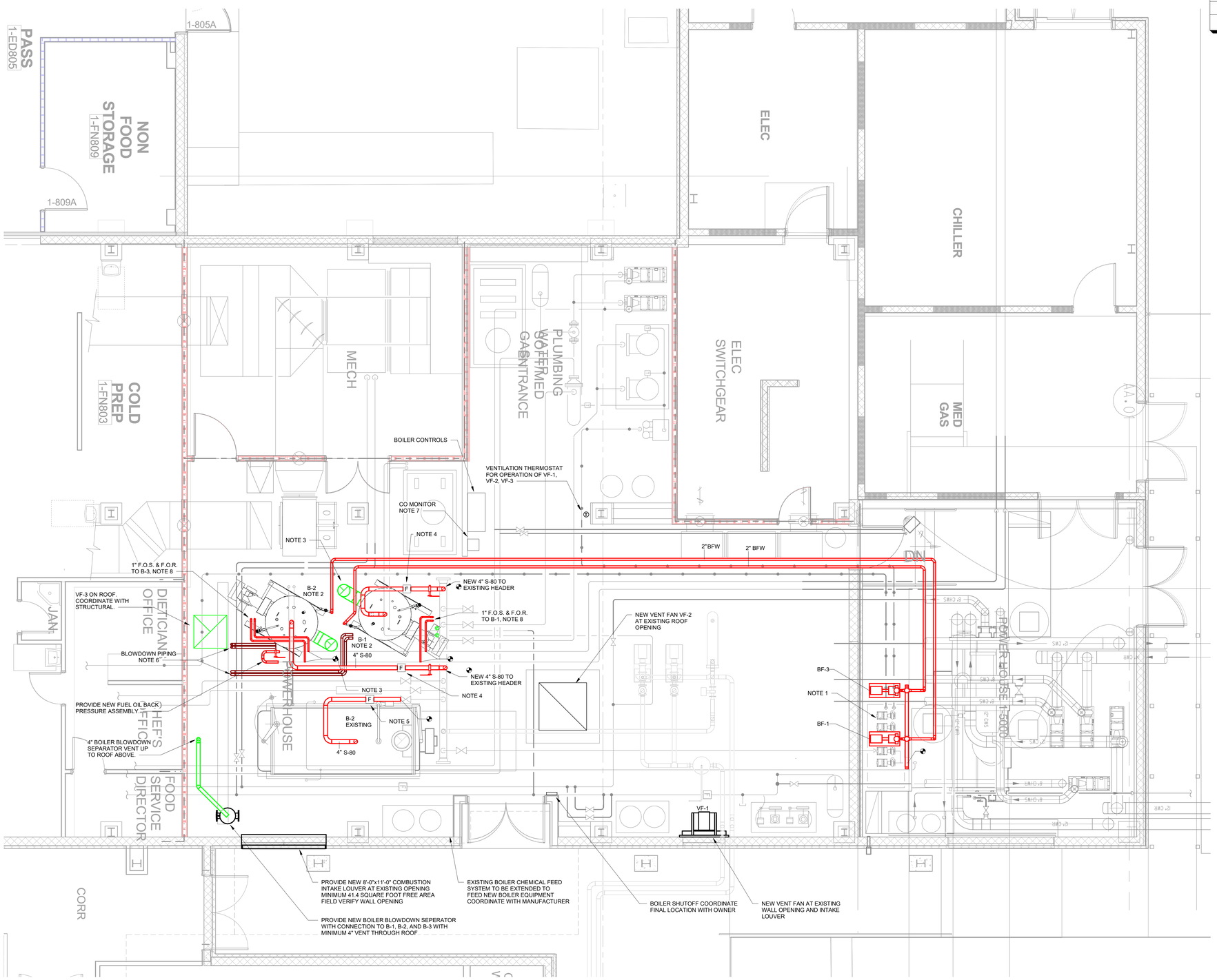

ENLARGED POWERHOUSE PLAN

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

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION

SHEET NOTES:

1. WORK AT EXISTING DEAERATOR, DA SYSTEM SHALL INCLUDE:
   A. EXISTING TRANSFER PUMPS TO REMAIN.
   B. EXISTING FEED PUMP SERVING B-2 AND BACK UP FEED PUMP TO REMAIN.
   C. PROVIDE NEW FEED PUMP TO SERVE B-1 AND NEW FEED PUMP TO SERVE B-3.
   D. PROVIDE REPLACEMENT OF EXISTING PRESSURE REDUCING VALVE FISHER #667EZ, 80psi INLET.
   E. PROVIDE A NEW 2 1/2" HEADER WITH PRESSURE TRANSMITTER.
   F. PROVIDE NEW CLEAVER BROOKS ADAC PUMP CONTROL PANEL WITH FEED PUMP CONTROL, DA SYSTEM CONTROL AND INTERFACE TO BAS.
2. NEW BOILER TO BE MOUNTED ON EXISTING 4" HOUSEKEEPING PAD. EXTEND EXISTING HOUSEKEEPING PAD AS NECESSARY TO ACCOMMODATED NEW BOILER.
3. PROVIDE NEW 16" FLUE UP THRU ROOF.
4. PROVIDE NEW STEAM FLOW METER WITHIN 4" STEAM PIPING AT NEW BOILER PROVIDE 40" STRAIGHT PIPE UP STREAM AND 20" STRAIGHT PIPE DOWN STREAM EACH FLOW METER.
5. PROVIDE NEW STREAM FLOW METER WITHIN 4" S-80 STEAM SUPPLY PIPING AT EXISTING B-2. FIELD VERIFY AND EXTEND EXISTING SUPPLY PIPING AS REQUIRED TO OBTAIN MINIMUM 40" STRAIGHT PIPE UP STREAM AND 20" STRAIGHT PIPE DOWN STREAM EACH FLOW METER.
6. PROVIDE NEW 1 1/4" HIGH PRESSURE BLOWDOWN PIPING AND 1 1/2" LOW PRESSURE BLOW DOWN PIPING ROUTED FROM B-1 AND B-3 TO NEW BLOWDOWN SEPARATOR IN BLOWDOWN TRENCH.
7. CARBON MONOXIDE MONITOR TO BE MOUNTED ON WALL AND CONNECTED TO BAS SENSOR TO ALARM LOCALLY AND AT FRONT END UPON DETECTION OF CARBON MONOXIDE.
8. PROVIDE 1" PROPANE PILOT CONNECTION FOR SUE DURING FUEL OIL OPERATION. REFER TO DETAIL 4 ON SHEET M4.08.

GENERAL NOTES:

A. REFER TO DETAILS FOR PIPING AND VALVE REQUIREMENTS AT BOILERS, DEAERATORS, BLOWDOWN SEPARATORS, FUEL TANK, FUEL PUMPS, ETC.

B. PROVIDE ONE GAS METER PER BOILER.

C. PROVIDE ONE STEAM BTU/FLOW METER PER BOILER.

D. PROVIDE ONE WATER METER AT DEAERATOR MAKE-UP WATER.

E. PROVIDE EMERGENCY SHUT-OFF SWITCH AT DOOR TO DE-ENERGIZE BOILERS. PROVIDE ENGRAVED PLATE ABOVE SWITCH THAT STATES THE FOLLOWING
"BOILER EMERGENCY SHUT-OFF"

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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Patient Tower Expansion

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SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

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Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

ENLARGED POWERHOUSE PLAN

Sheet Number

M3.01

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
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AHJ PROJECT NUMBERS :
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CON NUMBER:
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ARCHITECT PROJECT NUMBER:
220133

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CONSTRUCTION MANAGER:
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CONTACT: JACK PARKER

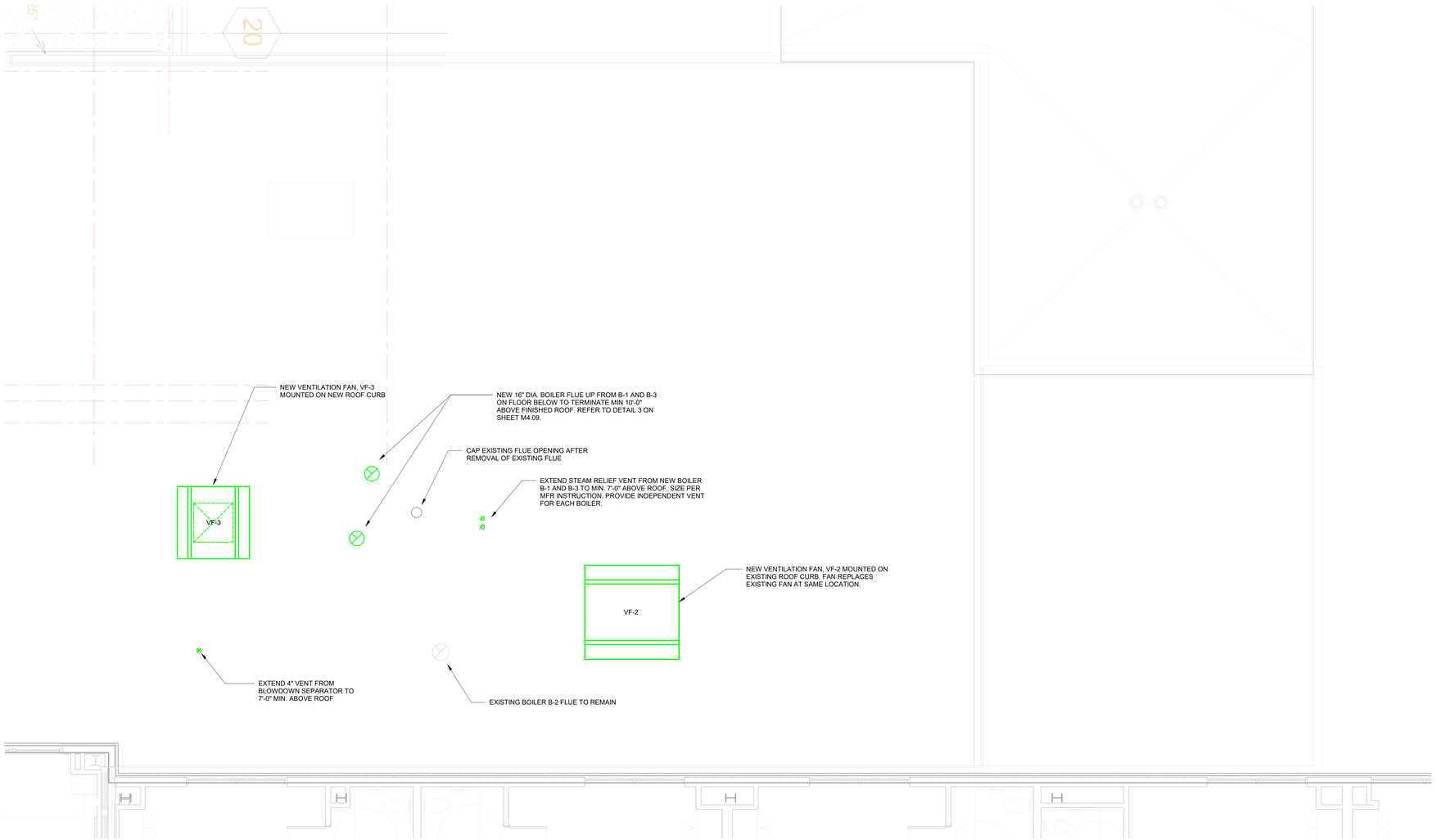
GENERAL CONTRACTOR
ROBINS & MORTON
5500 MARYLAND WAY #100
BRENTWOOD, TN 37027
PHONE: 615.377.3866
CONTACT: DAVID SKIPPER

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

NEW WORK LEGEND

- EXISTING TO REMAIN
- NEW CONSTRUCTION



ENLARGED POWERHOUSE ROOF PLAN

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

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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Seals

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION I.C. THOMASSON ASSOCIATES, INC. No. C00675

JAMES BOYD No. 22967 REGISTERED PROFESSIONAL ENGINEER 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

ENLARGED POWERHOUSE ROOF PLAN

Sheet Number

M3.02

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

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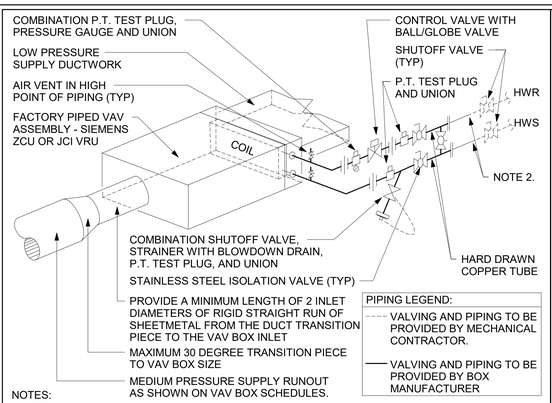
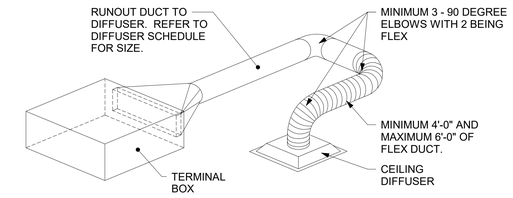


NOTES:

1. IF RUNOUT PIPING FROM RESPECTIVE HOT WATER MAIN TO TERMINAL BOX FLEX CONNECTION IS HIGHER THAN BOX AT ANY POINT, AN ADDITIONAL MANUAL AIR VENT MUST BE PROVIDED AT HIGH POINT OF THE RUNOUT PIPE.
2. CONTRACTOR TO COORDINATE CONNECTION TYPE WITH BOX MANUFACTURER.
3. BOX MANUFACTURER TO PROVIDE FULL-SIZE SYSTEM FLUSH LOOP WITH BALL VALVES. CONTRACTOR TO CLOSE VALVE AND REMOVE HANDLE ONCE SYSTEM IS PROVEN CLEAN FROM FLUSHING.

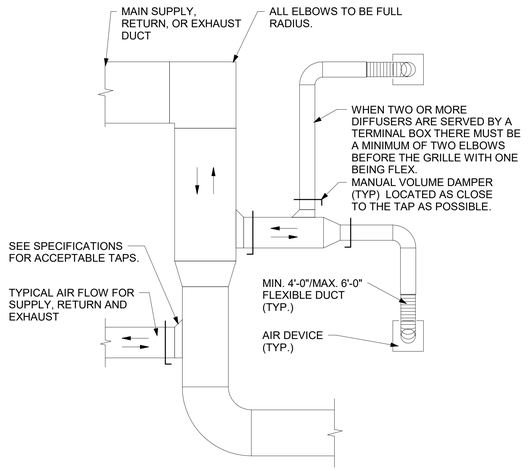
VARIABLE VOLUME BOX CONNECTION DETAIL — 4
No Scale



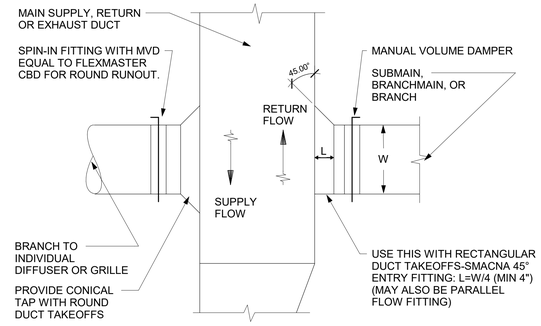
NOTES:

1. 90 DEGREE ELBOWS IN FLEX DUCT TO HAVE NOT LESS THAN 1.5 DUCT DIAMETER CENTERLINE RADIUS.

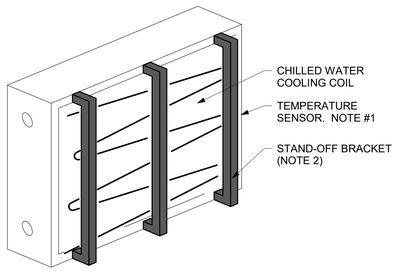
BOX SERVING ONE DIFFUSER DETAIL — 3
No Scale



TYPICAL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCT DETAIL — 2
No Scale



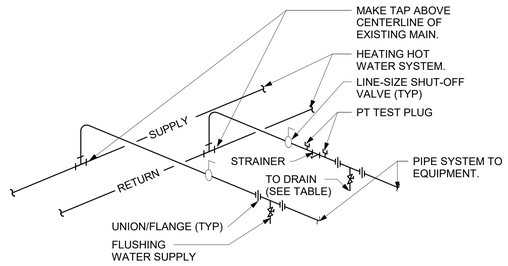
LOW PRESSURE ROUND BRANCH DUCT RUNOUT — 1
No Scale



NOTES:

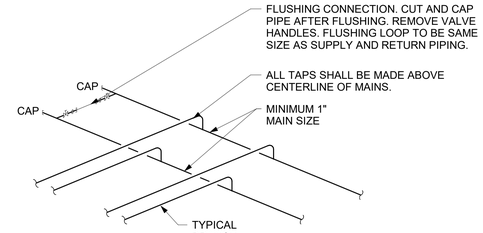
1. PROVIDE MINIMUM 1 LINEAR FOOT OF TEMPERATURE SENSOR PER SQUARE FOOT OF COIL.
2. TEMPERATURE SENSOR TO BE MOUNTED A MIN. OF 2" FROM COOLING COIL W/ PLASTIC HOLD-OFF STANDS
3. SECURE THE SENSOR ELEMENT BY PROVIDING AN ARRAY TO SUPPORT THE CAPILLARY TUBE ACROSS THE FACE OF THE COIL
4. IF DISSIMILAR METALS ARE USED IN THIS PROCESS, ENSURE THE ELEMENT IS SECURED AND ISOLATED TO PREVENT DAMAGE TO THE CAPILLARY AT ALL JUNCTIONS
5. THERE SHOULD BE ADEQUATE SPACE BETWEEN THE COIL AND ELEMENT TO ALLOW FOR COIL CLEANING WITHOUT REMOVING THE CAPILLARY TUBE.
6. MIXED AIR TEMPERATURE SENSOR TO BE MOUNTED ON ENTERING SIDE OF COIL. FREEZESTAT SENSOR TO BE MOUNTED ON LEAVING SIDE OF COIL.

TEMPERATURE SENSOR MOUNTING DETAIL — 8
No Scale

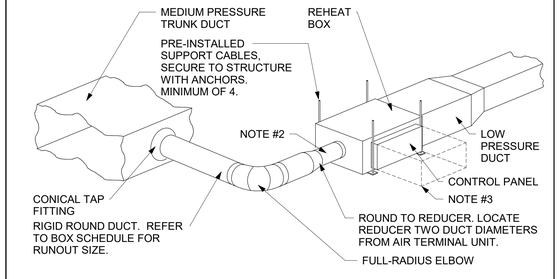


HOSE END DRAIN VALVE SCHEDULE	
PIPE SIZE	DRAIN VALVE SIZE
UP TO 2"	3/4"
2 1/2" TO 4"	1 1/4"
5" TO 8"	2"
OVER 8"	2 1/2"

DETAIL OF PIPING AT BRANCH TAKE-OFF — 7
No Scale



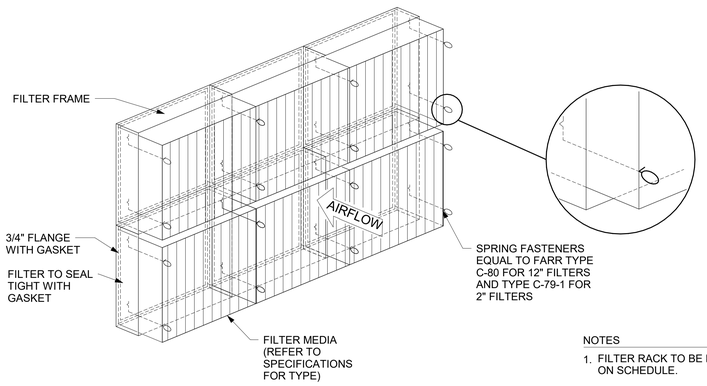
HVAC HOT WATER END OF MAIN FLUSHING DETAIL — 6
No Scale



NOTES:

1. COORDINATE REQUIREMENT FOR CEILING ACESS PANELS WITH DIVISION 8.
2. PROVIDE A MINIMUM LENGTH OF 2 INLET DIAMETER OF STRAIGHT RIGID SHEETMETAL FROM THE DUCT TRANSITION PIECE TO THE VAV BOX INLET.
3. BOXES WITH ELECTRICAL REHEAT COILS TO HAVE 3'-6" MINIMUM WORKING CLEARANCE ON CONTROL PANEL SIDE.
4. TAP FITTING TO RECTANGULAR MEDIUM PRESSURE DUCT MAY ALSO BE RECTANGULAR 45° ENTRY, SIZED PER SMACNA RECOMMENDATIONS, AND THEN TRANSITIONING TO ROUND.
5. MEDIUM PRESSURE ROUND TRUNK DUCT TO HAVE CONICAL TEE FITTING, WITH OTHER REQUIREMENTS AS SHOWN.

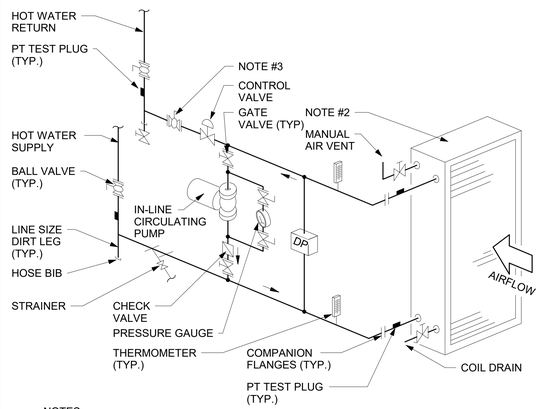
VARIABLE VOLUME BOX CONNECTION DETAIL — 5
No Scale



NOTES

1. FILTER RACK TO BE BUILT TO MATCH FILTER SIZE INDICATED ON SCHEDULE.
2. RACK TO BE EQUAL TO CAMFIL FARR "TYPE 8" FRAME. INSTALL SO THAT FILTERS ARE REMOVED FROM THE DIRTY SIDE.
3. INSTALL VERTICAL OR HORIZONTAL SUPPORT STEEL ON BANKS GREATER THAN 4 RACKS HIGH OR 4 RACKS WIDE. REFER TO MANUFACTURER'S INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.

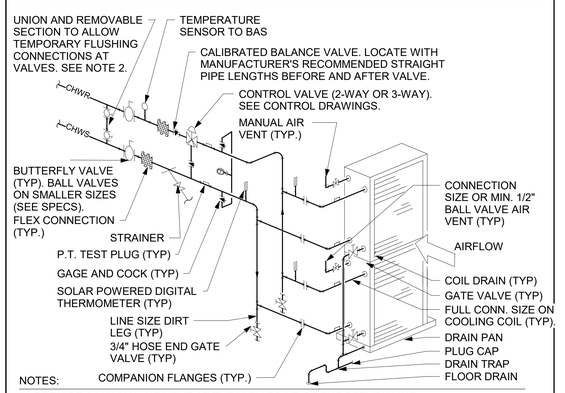
FRONT LOADING FILTER RACK DETAIL — 11
No Scale



NOTES

1. PROVIDE AUTOMATIC AIR VENT AT HIGH POINT OF RETURN LINE.
2. WATER TO ENTER COIL ON AIR LEAVING SIDE FOR COIL.
3. BALANCING AND SHUT-OFF VALVE, PROVIDE 3-PIPE DIAMETERS STRAIGHT LENGTH OF PIPE BEFORE AND AFTER VALVES.

PIPING AT PREHEAT HOT WATER COIL — 10
No Scale



NOTES:

1. PROVIDE A MANUAL AIR VENT AT THE HIGH POINT OF THE RETURN LINE.
2. PROVIDE MINIMUM 2" FLUSH CONNECTION WITH 2" BALL VALVES. CONNECT TO SUPPLY AND RETURN MAINS WITH TEMPORARY FLUSH PIPE. PIPE MAY BE CLEAR PLASTIC SECURED WITH RADIATOR CLAMPS. AFTER FLUSHING, REMOVE TEMPORARY PIPING, CAP EACH END OF PIPE, CLOSE FLUSHING VALVES AND REMOVE HANDLES.
3. WATER TO ENTER THE COIL ON THE AIR LEAVING SIDE. OFFSET PIPING AS SHOWN TO ALLOW COIL PULL WITHOUT DISMANTLING VERTICAL RISERS.

PIPING AT COOLING COIL — 9
No Scale

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JAMES BOYD ATKINSON — No. 22967 — 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.01

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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CONSTRUCTION MANAGER:
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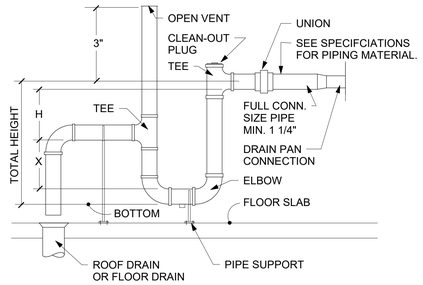
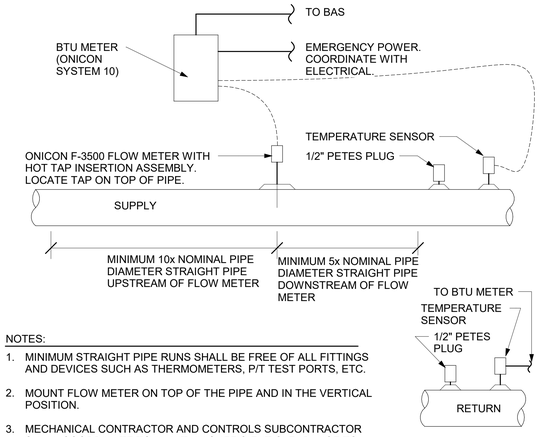
NOTES:
1. SLOPE DRAIN LINE MINIMUM OF 1/8" PER FOOT TO DRAIN.
2. ELEVATED A/C UNIT SUFFICIENT DISTANCE ABOVE FLOOR OR ROOF TO ALLOW FOR INSTALLATION OF TRAP WITH ADEQUATE DIMENSIONS TO WITHSTAND SYSTEM OPERATING PRESSURE. COORDINATE WITH DETAIL FOR A/C UNIT MOUNTING.



TOTAL HEIGHT OF TRAP= X+H+ (1 1/2 x PIPE DIAMETER)

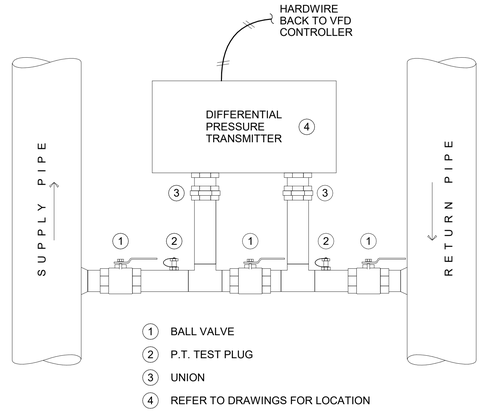
FOR DRAW THRU UNITS	FOR BLOW THRU UNITS
X= MIN. 1/2 H (PREFERRED X=H)	X= FAN STATIC PRESSURE +1"
H= NEGATIVE STATIC PRESSURE +1"	H= MIN 1"

CONDENSATE DRAIN TRAP — 4
No Scale



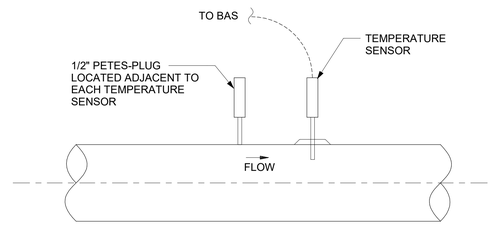
NOTES:
1. MINIMUM STRAIGHT PIPE RUNS SHALL BE FREE OF ALL FITTINGS AND DEVICES SUCH AS THERMOMETERS, P/T TEST PORTS, ETC.
2. MOUNT FLOW METER ON TOP OF THE PIPE AND IN THE VERTICAL POSITION.
3. MECHANICAL CONTRACTOR AND CONTROLS SUBCONTRACTOR SHALL COORDINATE TO MAINTAIN SUFFICIENT CLEARANCE TO PERMIT REMOVAL OF HOT TAP.

BTU AND FLOW METER INSTALLATION DETAIL — 3
No Scale

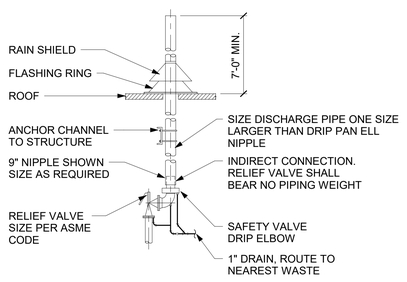


1. BALL VALVE
2. P.T. TEST PLUG
3. UNION
4. REFER TO DRAWINGS FOR LOCATION

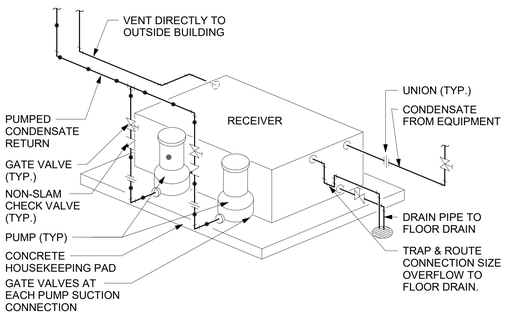
DIFFERENTIAL PRESSURE SENSOR DETAIL — 2
No Scale



TEMPERATURE SENSOR INSTALLATION DETAIL — 1
No Scale

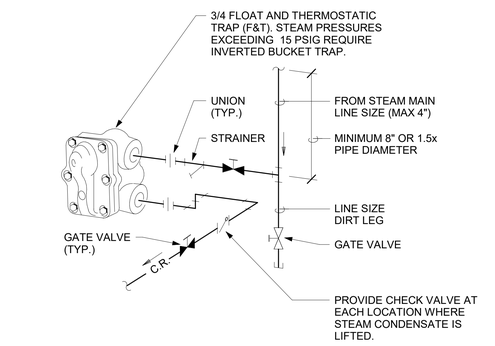


STEAM RELIEF VALVE — 8
No Scale

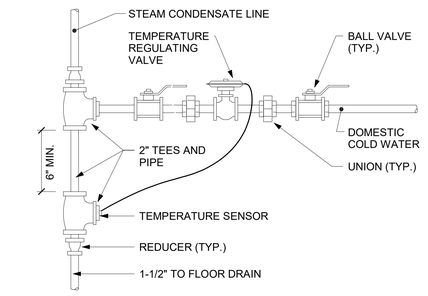


ANCHOR TO CONCRETE PAD PER SEISMIC DESIGN DETAILS, PAD MIN HEIGHT AND SIZE TO BE AS REQUIRED BY CONCRETE ANCHOR. REFER TO PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS.

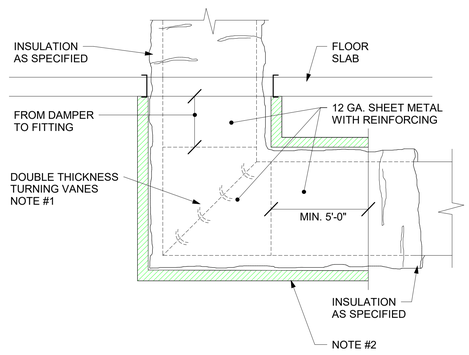
PIPING AT CONDENSATE RETURN UNIT — 7
No Scale



END OF MAIN DRIP (LOW PRESSURE STEAM) — 6
No Scale

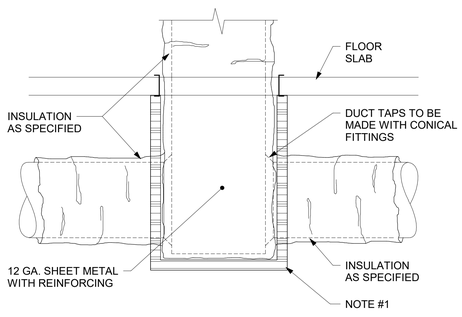


CONDENSATE COOLER — 5
No Scale



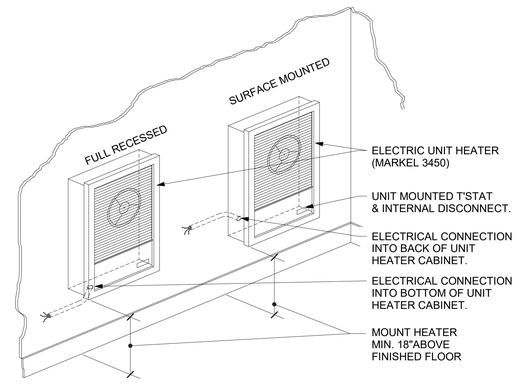
NOTES:
1. CONTRACTOR TO PROVIDE FULL RADIUS ELBOW WHERE CLEARANCE WILL ALLOW.
2. PROVIDE 1 LAYER OF 1" THICK KINETICS TYPE "PC-410 GBD" SOUND BARRIER WRAP.

BOTTOM OF RISER DUCT DROP WITH 90º ELBOW — 6
No Scale



NOTES:
PROVIDE 1 LAYER OF 1" THICK KINETICS TYPE "PC-410 GBD" SOUND BARRIER WRAP.

BOTTOM OF RISER DUCT DROP WITH TAPS ON BOTH SIDES — 5
No Scale



ELECTRIC UNIT HEATER MOUNTING DETAIL — 1
No Scale

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TRIDENT HEALTH

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Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.02

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

OWNER CONTACTS

HCA TEAM CONTACTS

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CONSTRUCTION MANAGER:
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T: 615.344.2341

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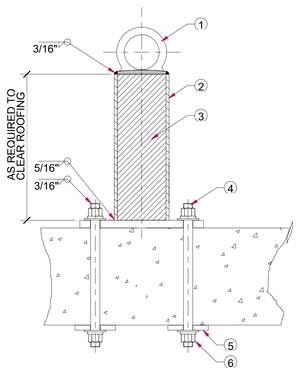
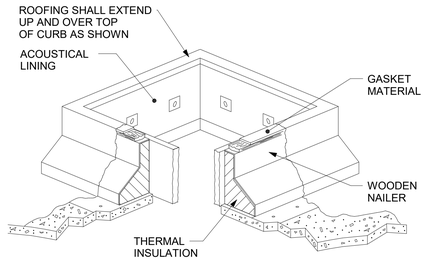


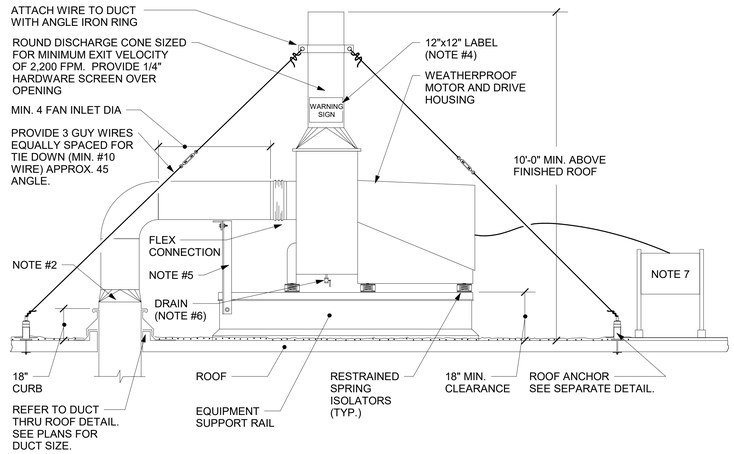
1. FORGED PAD EYE, QUENCHED AND TEMPERED, (ALSO AVAILABLE IN 304 STAINLESS STEEL, ANNEALED) WELDED TO HSS, ENTIRE ANCHOR HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. HSS WELDED TO BASE PLATE. BASE PLATE SIZE AND ANCHOR HEIGHT TO SUIT APPLICATION.
3. MOLDED URETHANE INSULATION TO REDUCE THERMAL TRANSFER AND CONDENSATION, COMMONLY USED IN GREEN CONSTRUCTION.
4. 5/8"ø 304 B8 STAINLESS STEEL THREADED RODS WELDED TO 304 B8 STAINLESS STEEL HEAVY HEX NUTS AND GALVANIZED HEAVY HEX NUTS.
5. 5/8" GALVANIZED FLAT WASHERS, STAINLESS STEEL LOCK WASHERS, AND 304 B8 STAINLESS STEEL HEAVY HEX NUTS.
6. 3/8" THICK, A 36 PLATES. SIZE DEPENDS ON SLAB THICKNESS. (BASED ON 3,000 PSI CONCRETE)

ROOF ANCHOR DETAIL — 4
No Scale



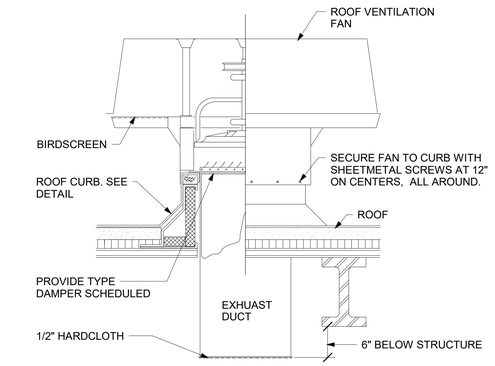
NOTES:
1. CURB HEIGHT SHALL BE AS SET FORTH IN MECH. SPECS.
   SECURE CURB TO ROOF STRUCTURE WITH LAG BOLTS,OR OTHER METHODS CONSISTENT WITH ROOF
2. COORDINATE FASTENING SPACING WITH LOCAL WIND
   LOADS AND SEISMIC REQUIREMENTS.

ROOF CURB ON CONCRETE DECK DETAIL — 3
No Scale

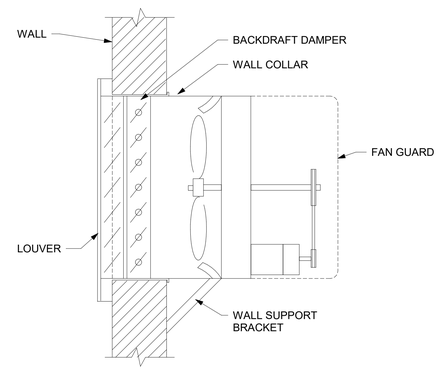


NOTES :
1. PROVIDE MEANS TO LUBRICATE BEARINGS EITHER BY ACCESS PANEL OR EXTERIOR MOUNTED GREASE FITTING.
2. TRANSITION FROM SQUARE TO ROUND FAN INLET SIZE. EXPOSED DUCT TO BE MINIMUM 16 GAUGE IN HURRICANE/ COASTAL REGIONS
3. FAN TO BE SECURED WITH GUY WIRES AND HOLD DOWN STRAPS SIMILAR TO ROOFTOP UNIT DETAIL ON THIS SHEET.
4. PROVIDE TWO SIGNS, ONE ON EACH SIDE OF FAN ON WHITE BACKGROUND WITH RED LETTERING TO READ "WARNING: PATIENT ISOLATION ROOM EXHAUST FAN. TAKE PROPER PRECAUTIONS PRIOR TO WORKING IN THIS AREA." MOUNT 5'-0" ABOVE FINISHED ROOF.
5. EXTEND EQUIPMENT CURB A SUFFICIENT LENGTH TO INSTALL 2"x2" ANGLE IRON DUCT SUPPORT TO INSURE STRAIGHT ALIGNMENT OF DUCT AND FAN INLET. SEE "DUCT SUPPORT ON ROOF" DETAIL.
6. PROVIDE BALL VALVE ON DRAIN OUTLET TO PREVENT CONTAMINATED AIR FROM BLOWING TO ROOF AREA.
7. PROVIDE COMBINATION STARTER OR DISCONNECT IN NOA RATED ENCLOSURE OR NOA RATED FAN HOUSING WHEN REQUIRED.

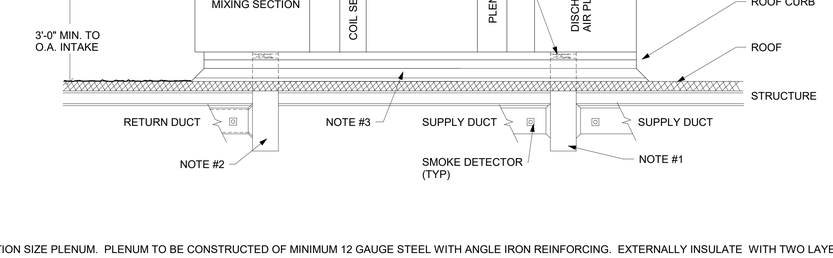
HIGH WIND ISOLATION ROOM EXHAUST FAN DETAIL — 1
No Scale



ROOF VENTILATION FAN — 8
No Scale

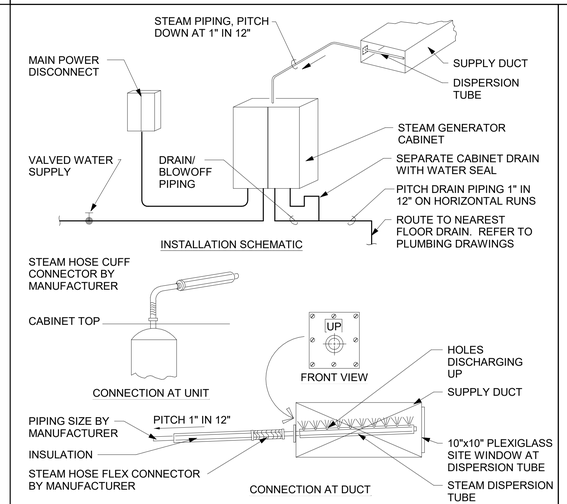


WALL MOUNTED VENT FAN DETAIL — 7
No Scale

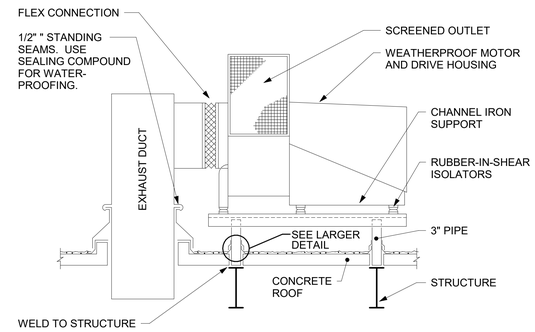


NOTES:
1. PROVIDE CONNECTION SIZE PLENUM. PLENUM TO BE CONSTRUCTED OF MINIMUM 12 GAUGE STEEL WITH ANGLE IRON REINFORCING. EXTERNALLY INSULATE WITH TWO LAYERS OF 1" DUCT BOARD.
2. PROVIDE CONNECTION SIZE PLENUM. PLENUM TO BE CONSTRUCTED OF MINIMUM 12 GAUGE STEEL WITH ANGLE IRON REINFORCING.

ROOFTOP UNIT DETAIL — 5
No Scale



ELECTRIC HUMIDIFIER PIPING — 10
No Scale



1. NOTE: PROVIDE MEANS TO LUBRICATE BEARINGS EITHER BY ACCESS PANEL OR EXTERIOR MOUNTED GREASE FITTING.
2. SECURE FAN TO ISOLATORS AND ISOLATORS TO FRAME BY BOLTING OR FIELD WELD.

BELTED VENT SET DETAIL — 9
No Scale

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SOUTH CAROLINA — I.C. THOMASSON ASSOCIATES, INC. — No. C00675 — CERTIFICATE OF AUTHORIZATION

JAMES BOYD THOMASSON — No. 22967 — REGISTERED PROFESSIONAL ENGINEER — 8-26-22

Summerville Medical Center
Patient Tower Expansion
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.03

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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Summerville Medical Center

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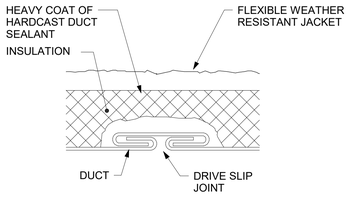
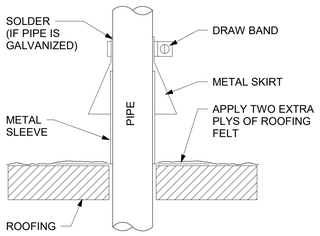


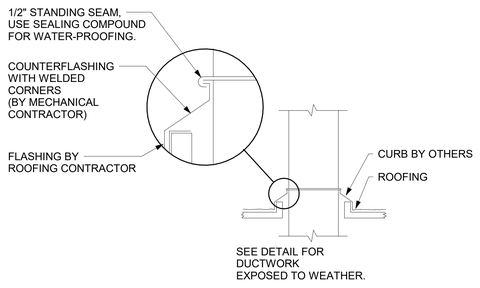
NOTES:

1. LOW PRESSURE SUPPLY AND RETURN DUCT TO HAVE DRIVE SLIP JOINTS.
2. APPLY HEAVY COAT OF HARDCAST DUCT SEALANT TO BOTH TRANSVERSE AND LONGITUDINAL JOINTS.
3. LONGITUDINAL JOINTS FOR DUCT CONSTRUCTION TO BE ON BOTTOM AND WATER TIGHT.

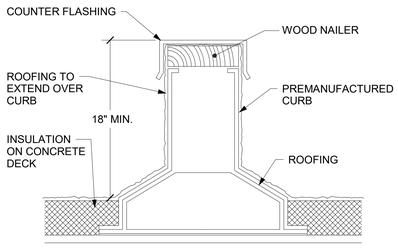
DUCT JOINT EXPOSED TO WEATHER — 4
No Scale



PIPING THRU ROOF DETAIL — 3
No Scale



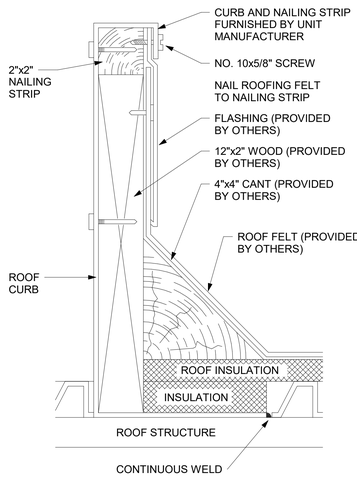
DETAIL OF DUCT THRU ROOF — 2
No Scale



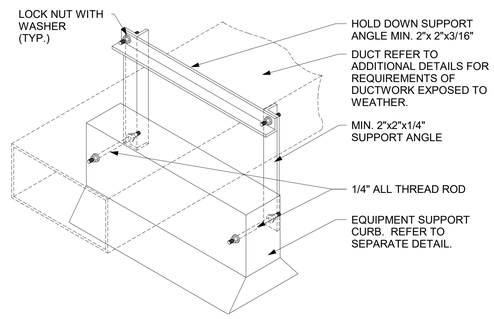
NOTES:

1. SECURE CURB TO ROOF WITH SHEET METAL SCREWS OR LAG BOLTS OR FIELD WELD CONSISTENT WITH ROOF STRUCTURE.
2. COORDINATE FASTENING SPACING WITH LOCAL WIND LOADS AND SIESMIC REQUIREMENTS.

EQUIPMENT SUPPORT CURB — 1
No Scale



ROOFTOP UNIT CURB DETAIL — 8
No Scale



DUCT SUPPORT ON ROOF DETAIL — 7
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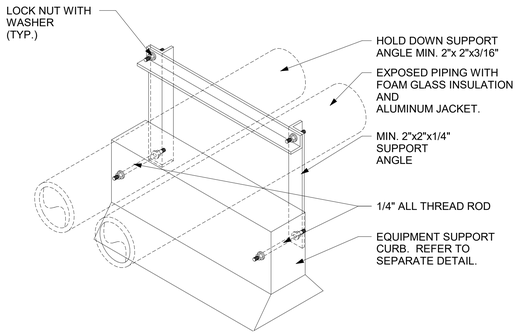
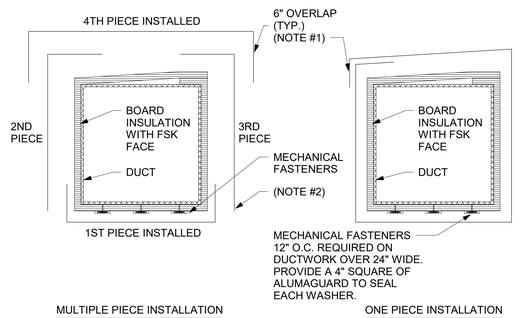


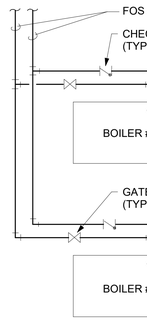
PIPE SUPPORT ON ROOF DETAIL — 6
No Scale



NOTE:

1. ALL OVERLAPS SHALL BE A MINIMUM OF 6".
2. SIDE PIECES SHOULD BE CUT FLUSH WITH THE BOTTOM CORNER AND SHOULD NOT BE FOLDED UNDER THE DUCT.
3. OVERLAP BOARD INSULATION ON TOP OF DUCT TO CREATE A SLOPED TOP TO PREVENT PONDING OF WATER. TAPE ALL INSULATION JOINTS BEFORE APPLYING WEATHER PROOFING MATERIAL.

DUCT EXPOSED TO WEATHER — 5
No Scale



BOILER OIL PIPING SCHEMATIC — 10
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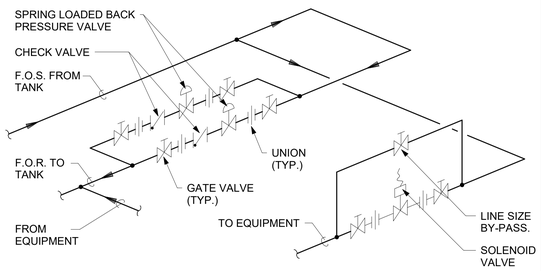

FUEL OIL BACK PRESSURE ASSEMBLY AT BOILER — 9
No Scale

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SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

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Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.04

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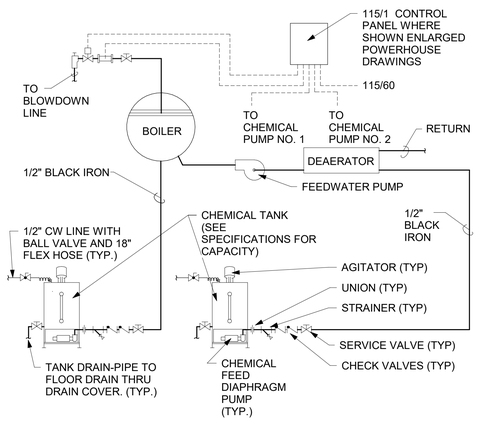
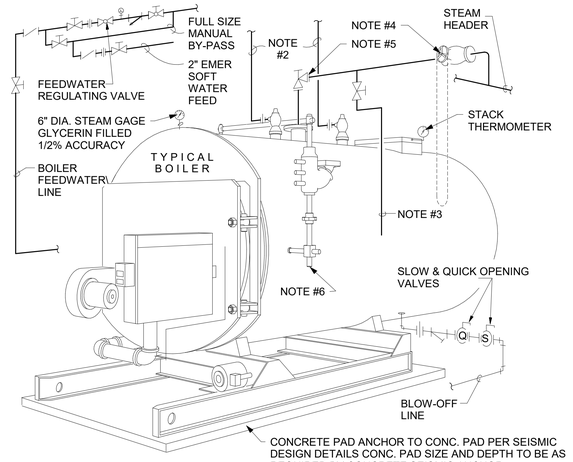


BOILER CHEMICAL FEED SYSTEM

No Scale

3



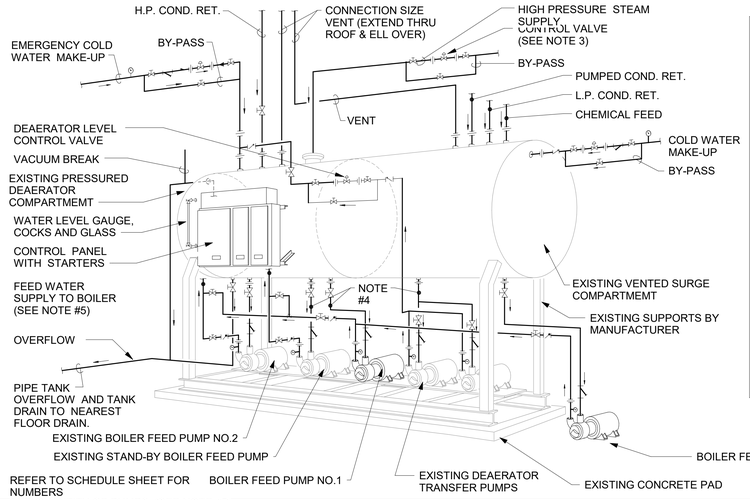
BOILER NOTES:

1. PIPING FROM BOILER OUTLET TO HEADER SHALL BE BOILER OUTLET CONNECTION SIZE OR SIZE SHOWN ON PLANS, WHICHEVER IS LARGER.
2. PIPE RELIEF VALVES DIRECTLY TO OUTSIDE BUILDING AT LEAST FULL SIZE OF RELIEF VALVE OUTLET. USE DRIP PAN ELL AT BASE OF RISE IN VENT LINE AND PIPE TO NEAREST FLOOR DRAIN. PIPE RELIEF VALVE BODY DRAINS TO FLOOR DRAIN. PIPING FROM MORE THAN ONE RELIEF VALVE MAY BE COMBINED PROVIDED RELIEF PIPING SIZE IS ADEQUATE FOR COMBINED CAPACITY OF THE CONNECTED VALVES. RELIEF VALVE PIPING SHALL BE ARRANGED SO THAT RELIEF VALVE BEARS NONE OF THE PIPING WEIGHT, WHEN EITHER HOT OR COLD.
3. FREE-BLOW DRAIN SHALL BE PIPED CLEAR OF BOILER AND VISIBLE TO OPERATOR WHILE MANIPULATING THE STOP VALVES. MINIMUM SIZE IS 1-1/2".
4. O.S.&Y RISING STEM CHAIN OPERATED GATE VALVE (150 PSI STEAM RATING FOR SYSTEMS UP TO 125 PSI AND 250 PSI STEAM RATING FOR SYSTEMS OVER 125 PSI). LOCATE VALVE SO CHAIN HANGS CLEAR OF BOILER
5. BOILER STOP VALVE SHALL BE ANGLE PATTERN CLASS 250 IBBM OS&Y RISING STEM AND SHALL BE LOCATED AS NEAR BOILER OUTLET AS IS CONVENIENT AND PRACTICAL. SIZE STOP CHECK VALVE IN ACCORDANCE WITH BOILER AND VALVE MANUFACTURER'S RECOMMENDATIONS TO INSURE PROPER OPERATION OF VALVES FROM FULL STEAM FLOW TO 10% OF FULL FLOW.
6. PIPE LOW WATER CUT-OUT DRAIN LINE TO FLOOR DRAIN IN BLOWDOWN TRENCH.
7. STEAM PIPING FROM THE BOILER TO THE FIRST STOP VALVE OF A SINGLE BOILER AND TO THE SECOND STOP VALVE IN MULTIPLE BOILER INSTALLATION IS SUBJECT TO THE REQUIREMENTS OF A.S.M.E. POWER BOILER CODE, SECTION 1. WELDING OF SUCH PIPING MUST BE PERFORMED BY CERTIFIED WELDERS.

STEAM BOILER

No Scale

1



NOTES

1. CONSULT MFR. EQUIPMENT SUBMITTAL FOR SIZE AND LOCATION OF PIPING CONNECTIONS.
2. SIZE STEAM SUPPLY LINE PER MANUFACTURER'S RECOMMENDATIONS.
3. CONTROL VALVE ASSEMBLY VALVE SHALL BE SIZED FOR PRESENT CAPACITY ONLY. VALVE SHALL BE CHANGED TO MEET FUTURE CAPACITY AS REQUIRED. SEE DETAIL.
4. DESIGN AND SIZING OF SUCTION PIPING FROM TANK TO PUMPS AND ELEVATION OF TANK ABOVE PUMPS SHALL BE DETERMINED BY THE MFR. TO ALLOW FULL FLOW TO THE PUMPS W/O CAVITATION. MFR. SHALL INCLUDE THE STRAINER DESIGN AND LOCATION IN THIS DESIGN.
5. BOILER FEED PUMPS SHALL BE SIZED FOR A MIN. OF 200% OF FULL BOILER MAKE-UP WATER DEMAND AT A MIN. DISCHARGE PRESSURE OF 3% ABOVE BOILER RELIEF VALVE SETTING. BOILER FEED LINES SHALL BE SIZED FOR THE FULL FLOW OF ALL CONNECTED PUMPS AT A MAXIMUM VELOCITY OF 6 FPS. IN CASE OF CONFLICT BETWEEN THE SIZE ARRIVED IN THIS MANNER AND THAT SHOWN ON THE PLANS. USE THE LARGER OF THE TWO.

TWO COMPARTMENT DEAERATOR TANK

No Scale

1

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Seals

SOUTH CAROLINA — I.C. THOMASSON ASSOCIATES, INC. — No. C00675 — CERTIFICATE OF AUTHORIZATION

JAMES BOYD JOHNSON — No. 22967 — REGISTERED PROFESSIONAL ENGINEER — 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.05

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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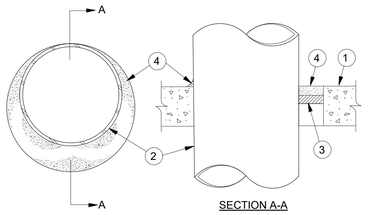
SYSTEM NO. C-AJ-1001
MARCH 05, 2007
F RATING - 3 HR
T RATING - 0 HR
W RATING - CLASS 1 (SEE ITEM 4)



SECTION A-A

1. FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. (114 MM) THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF CIRCULAR THROUGH OPENING IS 32-1/2 IN. (826 MM).

   SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT MAX 2 IN. (51 MM) FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL.

2. THROUGH - PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (0 MM, POINT CONTACT) TO MAX 1-3/8 IN. (35 MM). PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

   A. STEEL PIPE - NOM 30 IN. (762 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   A1. IRON PIPE - NOM 30 IN. (762 MM) DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.

   B. CONDUIT - NOM 6 IN. (152 MM) DIAM (OR SMALLER) RIGID STEEL CONDUIT.

   C. CONDUIT - NOM 4 IN. (152 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.

3. PACKING MATERIAL - POLYETHYLENE BACKER ROD OR NOM 1 IN. (25 MM) THICKNESS OF TIGHTLY-PACKED CERAMIC (ALUMINA SILICA) FIBER BLANKET, MINERAL WOOL BATT OR GLASS FIBER INSULATION MATERIAL USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF SOLID CONCRETE OR CONCRETE BLOCK WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM 4). AS AN ALTERNATE WHEN MAX PIPE SIZE IS 10 IN. (254 MM) DIAM AND WHEN MAX ANNULAR SPACE IS 1 IN. (25 MM), A MIN 1 IN. (25 MM) THICKNESS OF TIGHTLY-PACKED CERAMIC FIBER BLANKET OR MINERAL WOOL BATT PACKING MATERIAL MAY BE RECESSED MIN 1/2 IN. (13 MM) FROM BOTTOM SURFACE OF FLOOR OR FROM EITHER SIDE OF SOLID CONCRETE WALL.

4. FILL, VOID OR CAVITY MATERIALS* - CAULK - APPLIED TO FILL THE ANNULAR SPACE TO THE MIN THICKNESS SHOWN IN THE FOLLOWING TABLE:

Maximum Pipe Diameter Inches	Maximum Annular Space Inches	Packing Material Type (a)	Minimum Caulk Thickness Inches
10 (254)	1 (25)	BR, CF, GF or MW	1/2 (13) (B)
10 (254)	1 (25)	CF or MW	1/2 (13) (C)
30 (762)	2 1/2 (64)	BR, CF, GF or MW	1 (25) (B)

(A) BR=POLYETHYLENE BACKER ROD.
CF=CERAMIC FIBER BLANKET.
GF=GLASS FIBER INSULATION.
MW=MINERAL-WOOL BATT.
(B) CAULK INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL
(C) CAULK INSTALLED FLUSH WITH BOTTOM SURFACE OF FLOOR OR ONE SURFACE OF SOLID (NON-CONCRETE BLOCK) WALL

3M COMPANY - TYPE CP 25WB+ OR FB-3000 WT

(NOTE - W RATING APPLIES ONLY WHEN FB-3000 WT IS USED.)

*BEARING THE UL CLASSIFICATION MARK LAST UPDATED ON 2007-03-05

UL LISTED AND CLASSIFIED PRODUCTS UL RECOGNIZED COMPONENTS PRODUCTS CERTIFIED FOR CANADA

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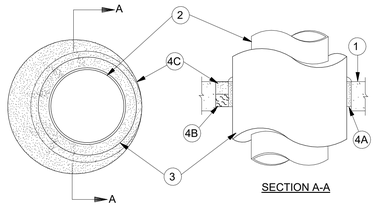
THROUGH-PENETRATION FIRESTOP SYSTEMS C-AJ-1001
No Scale
4

SYSTEM NO. C-AJ-5080
AUGUST 23, 2004
F RATING - 2 HR
T RATING - 0 HR
W RATING - CLASS 1 (SEE ITEM 4)



SECTION A-A

1. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 7-1/2 IN. SEE CONCRETE BLOCK (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

2. THROUGH-PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

   A. STEEL PIPE - NOM 4 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   B. COPPER TUBING - NOM 3 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

   C. COPPER PIPE - NOM 3 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. PIPE INSULATION - PLASTICS# - NOM 1/2 TO 3/4 IN. THICK ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. AN ANNULAR SPACE OF MIN 1/4 IN. TO MAX 1-1/4 IN. IS REQUIRED WITHIN THE FIRESTOP SYSTEM.
   SEE PLASTICS (QMFZ2) CATEGORY IN THE PLASTICS RECOGNIZED COMPONENT DIRECTORY FOR NAMES OF MANUFACTURERS. ANY RECOGNIZED COMPONENT PIPE INSULATION MATERIAL MEETING THE ABOVE SPECIFICATIONS AND HAVING A UL 94 FLAMMABILITY CLASSIFICATION OF 94-5VA MAY BE USED.

4. FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

   A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. WIDE STRIPS. ONE NOM 2 IN. WIDE STRIP TIGHTLY-WRAPPED AROUND PIPE INSULATION WITH THE FOIL SIDE EXPOSED AND SLID INTO THROUGH OPENING SUCH THAT THE TOP EDGE IS FLUSH WITH TOP SURFACE OF FLOOR OR EXTENDING A MAX OF 1 IN. ABOVE THE TOP SURFACE OF FLOOR. WHEN INSULATED PIPE IS INSTALLED IN THROUGH OPENINGS WITH A MAX ANNULAR SPACE BETWEEN THE INSULATED PIPE AND THE PERIPHERY OF THE OPENING OF 1/4 TO 3/8 IN., THE WRAP STRIP LAYER MAY BE SECURED IN PLACE WITH PRESSURE-SENSITIVE FOIL TAPE. IN ALL OTHER SITUATIONS, THE WRAP STRIP LAYER SHALL BE SECURED IN PLACE WITH MIN NO. 18 GAUGE GALV STEEL TIE WIRE. IN WALL ASSEMBLIES, THE WRAP STRIP LAYER IS TO BE INSTALLED ON THE INSULATED PIPE IN THE SAME MANNER USED FOR FLOOR ASSEMBLIES BUT SHALL BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL.

      3M COMPANY - TYPE FS-195+

   B. PACKING MATERIAL - MIN 1 IN. THICKNESS OF MIN 4 PCF MINERAL WOOL BATT INSULATION TIGHTLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

   C. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 1 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL ASSEMBLY. A MIN 1/4 IN. DIAM BEAD OF CAULK SHALL BE APPLIED TO EDGE OF WRAP STRIP ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL ASSEMBLY.
      3M COMPANY - CP 25WB+ OR FB-3000 WT

      (NOTE - W RATING APPLIES ONLY WHEN FB-3000 WT IS USED.)
      *BEARING THE UL CLASSIFICATION MARKING
      #BEARING THE UL RECOGNITION MARKING LAST UPDATED ON 2004-08-23

      UL LISTED AND CLASSIFIED PRODUCTS UL RECOGNIZED COMPONENTS PRODUCTS CERTIFIED FOR CANADA

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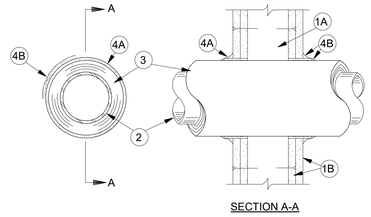
THROUGH-PENETRATION FIRESTOP SYSTEMS C-AJ-5080
No Scale
3

SYSTEM NO. W-L-5001
MAY 19, 2005
F RATINGS - 1 AND 2 HR (SEE ITEM 1)
T RATINGS - 3/4 , 1 AND 1 1/2 HR (SEE ITEM 3)
L RATING AT AMBIENT - 2 CFM/SQ FT
L RATING AT 400 F - LESS THAN 1 CFM/SQ FT



SECTION A-A

1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE-RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

   A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92 MM) WIDE BY 1-3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC.

   B. GYPSUM BOARD* - NOM 5/8 IN. (16 MM) THICK, 4 FT (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 14-1/2 (368MM) IN FOR WOOD STUD WALLS AND 18 IN. (457 MM) FOR STEEL STUD WALLS.
   THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS 1 HR WHEN INSTALLED IN A 1 HR FIRE RATED WALL AND 2 HR WHEN INSTALLED IN A 2 HR FIRE RATED WALL.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

   A. STEEL PIPE - NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   B. COPPER TUBING - NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

   C. COPPER PIPE - NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. PIPE COVERING* - NOM 1 OR 2 IN. (25 OR 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF OR 56 KG/M3) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT. WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED, THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE CIRCULAR CUTOUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/4 IN. (6 MM) TO MAX 3/8 IN. (10 MM) WHEN NOM 2 IN. (51 MM) THICK PIPE COVERING IS USED, THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE CIRCULAR CUTOUT IN THE GYPSUM BOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/2 IN. (13 MM) TO MAX 3/4 IN. (19 MM)
   SEE PIPE AND EQUIPMENT COVERING MATERIALS (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
   THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS 3/4 HR WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS 1 HR AND 1-1/2 HR WHEN NOM 2 IN. (52 MM) THICK PIPE COVERING IS USED WITH 1 HR AND 2 HR FIRE RATED WALLS, RESPECTIVELY.

4. FIRESTOP SYSTEM - INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

   A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. (6 MM) THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. (51 MM) WIDE STRIPS. NOM 2 IN. (51 MM) WIDE STRIP TIGHTLY WRAPPED AROUND PIPE COVERING (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROX 1-1/4 IN. (32 MM) SUCH THAT APPROX 3/4 IN. (19 MM) OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE. ONE LAYER OF WRAP STRIP IS REQUIRED WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED. TWO LAYERS OF WRAP STRIP ARE REQUIRED WHEN NOM 2 IN. (51 MM) THICK PIPE COVERING IS USED.

      3M COMPANY - FS-195+

   B. FILL, VOID OR CAVITY MATERIALS* - CAULK OR SEALANT 15/32 MIN 1/4 IN. (6 MM) DIAM CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF THE WRAP STRIP LAYER APPROX 3/4 IN. (19 MM) FROM THE WALL SURFACE.
      3M COMPANY - CP 25WB+, IC 15WB+, FIREDAM 150+ CAULK OR FB-3000 WT SEALANT

      *BEARING THE UL CLASSIFICATION MARK LAST UPDATED ON 2005-05-19

      UL LISTED AND CLASSIFIED PRODUCTS UL RECOGNIZED COMPONENTS PRODUCTS CERTIFIED FOR CANADA

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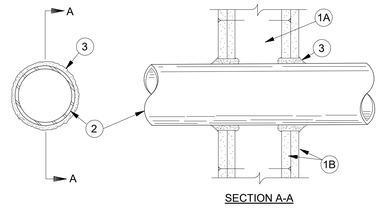
THROUGH-PENETRATION FIRESTOP SYSTEMS W-L-5001
No Scale
2

SYSTEM NO. W-L-1001
JUNE 15, 2005
F RATINGS - 1, 2, 3 AND 4 HR (SEE ITEMS 2 AND 3)
T RATINGS - 0, 1, 2, 3, AND 4 HR (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM/SQ FT
L RATING AT 400 F - LESS THAN 1 CFM/SQ FT



SECTION A-A

1. WALL ASSEMBLY - THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

   A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 H FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2
   BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92 MM) WIDE BY 1-3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC.

   B. GYPSUM BOARD* - NOM OR†IN. (13 OR 16 MM) THICK, 4 FT. (122 H 1/20CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN. (660 MM).

2. THROUGH-PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN / (0 MM). (POINT CONTACT) TO MAX 2 IN. (51 MM) PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

   A. STEEL PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   B. IRON PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN (305 MM) DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.

   C. CONDUIT - NOM 6 IN. (152 MM) DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING

   D. COPPER TUBING - NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING

   E. COPPER PIPE - NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

   F. THROUGH PENETRATING PRODUCT* - FLEXIBLE METAL PIPING THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

      1. NOM 2 IN. (51 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. OMEGA FLEX INC

      2. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OFFLOOR OR WALL ASSEMBLY. GASTITE, DIV OF TITEFLEX

      3. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. WARD MFG INC

3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 5/8. , 1-1/4,1-7/8 AND 2-1/2 IN. (16, 32, 48 AND 64 MM) THICKNESS OF CAULK FOR 1, 2, 3 AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH ¼ IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OFWALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

Maximum Pipe or Conduit Diameter Inches	F Rating Hours	F Rating Hours
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+WHEN COPPER PIPE IS USED, T RATING IS 0
H.3M COMPANY - CP 25WB+ OR FB-3000 WT.

*BEARING THE UL CLASSIFICATION MARK LAST UPDATED ON 2005-06-15

UL LISTED AND CLASSIFIED PRODUCTS UL RECOGNIZED COMPONENTS PRODUCTS CERTIFIED FOR CANADA

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THROUGH-PENETRATION FIRESTOP SYSTEMS W-L-1001
No Scale
1

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 3/16" = 1'-0" | 1/32" = 1'-0"

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Seals

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CERTIFICATE OF AUTHORIZATION

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No. 22967
REGISTERED
PROFESSIONAL
ENGINEER
8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.06

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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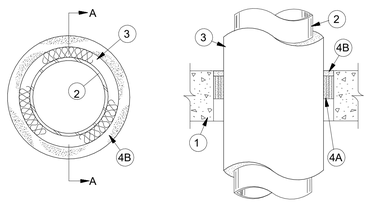
SYSTEM NO. C-AJ-5002
SEPTEMBER 03, 2004
(FORMERLY SYSTEM NO. 91-B)
F RATINGS - 2 AND 3 HR (SEE ITEMS 1A AND 4)
T RATINGS - 0, 1/2 AND 1 HR (SEE ITEMS 1A AND 4)
L RATING AT AMBIENT - 2 CFM/SQ FT
L RATING AT 400 F - LESS THAN 1 CFM/SQ FT



SECTION A-A

1. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 36 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 36 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO MIN 4-1/2 IN. THICK CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT MAX 2 IN. FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL. WHEN STEEL SLEEVE IS USED, F RATING IS 2 HR AND T RATING IS 0 HR.

2. PIPE - NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 15 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 30 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. PIPE COVERING* - NOM 1, 2 OR 3 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN. 3.5 PCF) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT.

SEE PIPE AND EQUIPMENT COVERING - MATERIALS* (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. WIDE BY 24 IN. LONG STRIPS. NOM 2 IN. WIDE STRIPS TIGHTLY-WRAPPED AROUND PIPE COVERING (FOIL SIDE EXPOSED) TO FILL ANNULAR SPACE. EACH LAYER OF WRAP STRIP IS TO BE INSTALLED WITH A BUTTED SEAM, WITH THE BUTTED SEAMS IN SUCCESSIVE LAYERS STAGGERED. WRAP STRIP LAYERS SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLIDE INTO ANNULAR SPACE SUCH THAT THE TOP EDGES ARE RECESSED MIN 1/2 IN. FORM TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, THE WRAP STRIP LAYERS SHALL BE INSTALLED IN THE SAME MANNER USED FOR FLOOR ASSEMBLIES BUT SHALL BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL. THE MIN NUMBER OF WRAP STRIP LAYERS REQUIRED IS DEPENDENT UPON THE MAX PIPE SIZE AND THE PIPE COVERING THICKNESS, AS SHOWN IN THE FOLLOWING TABLE:

Minimum Floor or Wall Thickness In.	Maximum Pipe Diameter Inches	Nominal Pipe Covering Thkns In.	Annular Space Inches	Min No. of Wrap Strip Layers	F Rating Hour	T Rating Hour
2-1/2	6	1	1/4 to 3/8	1	2	1
2-1/2	6	2	1/2 to 5/8	2	2	1
2-1/2	12	1	1/4 to 3/8	1	2	1/2
4-1/2	12	1	1/4 to 3/8	1	2	1
4-1/2	12	2	1/2 to 5/8	2	2	1
4-1/2	20	1	1/2 to 1	2	3	1
4-1/2	30	2	3/4 to 1 1/4	3	2	1
4-1/2	20	3	1 to 1 1/2	4	2	1

3M COMPANY - FS-195+

B. FILL, VOID OR CAVITY MATERIALS* - CAULK OR SEALANT - APPLIED TO FILL THE ANNULAR SPACE (OVER EDGES OF WRAP STRIP LAYERS) TO A MIN DEPTH OF 1/2 IN., FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL.

3M COMPANY - CP 25WB+ OR FB-3000 WT

*BEARING THE UL CLASSIFICATION MARK LAST UPDATED ON 2004-09-03

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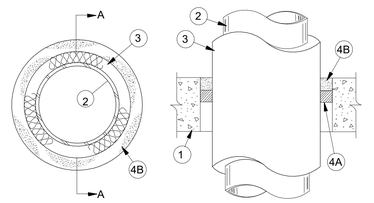
THROUGH-PENETRATION FIRESTOP SYSTEMS
C-AJ-5002
No Scale

2

SYSTEM NO. C-AJ-5001
MARCH 05, 2007
F RATINGS - 1 1/2 , 2 AND 3 HR (SEE ITEM 4)
T RATINGS - 0, 1/2 , 3/4 AND 1 HR (SEE ITEMS 1A AND 4)
L RATING AT AMBIENT - 2 CFM PER SQ FT
L RATING AT 400 F - LESS THAN 1 CFM PER SQ FT



SECTION A-A

1. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. (64 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/.M3) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 18 IN. (457 MM) SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 10 IN. (254 MM) (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. (51 MM) ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. T RATING IS 0 HR WHEN SLEEVE IS USED.

2. THROUGH PENETRANT - NOM 4 IN. (102 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. PIPE COVERING* - NOM 1/2 TO 2 IN. (13 TO 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN. 3.5 PCF OR 56 KG/M3) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT.
SEE PIPE AND EQUIPMENT COVERING - MATERIALS* (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

A. PACKING MATERIAL - MIN 1 IN. (25 MM) THICKNESS OF FIRMLY PACKED MINERAL WOOL BATT INSULATION USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR SLEEVE OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM B).

B. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SLEEVE OR FLUSH WITH BOTH SURFACES OF WALL. WHEN NOM PIPE COVERING THICKNESS IS 2 IN. (51 MM), MIN THICKNESS OF CAULK FILL MATERIAL IS 2 IN. (51 MM). WHEN NOM PIPE COVERING THICKNESS IS 1-1/2 IN. (38 MM) OR LESS, MIN THICKNESS OF CAULK FILL MATERIAL IS 1 IN. (25 MM). THE HOURLY F AND T RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE THICKNESS OF THE FLOOR OR WALL, THE SIZE OF PIPE, THE THICKNESS OF PIPE COVERING MATERIAL AND THE SIZE OF THE ANNULAR SPACE (BETWEEN THE PIPE COVERING MATERIAL AND THE EDGE OF THE CIRCULAR THROUGH OPENING), AS SHOWN IN THE FOLLOWING TABLE:

Minimum Floor or Wall Thickness In.	Maximum Pipe Diameter Inches	Nominal Pipe Covering Thkns In.	Annular Space Inches	F Rating Hour	T Rating Hour
2-1/2 (64)	4 (102)	1 or 1 1/2(25 or 38)	1/2 to 2 3/8 (13 to 60)	2	1
4-1/2 (114)	4 (102)	2 (51)	1/4 to 3 5/8 (6 to 92)	2	1/2
2-1/2 (64)	12 (305)	1 (25)	1/2 to 1 1/2(13 to 38)	2	1/2
4-1/2 (114)	12 (305)	1 (25)	1/2 to 2 3/8 (13 to 60)	3	1
2-1/2 (64)	12 (305)	1/2 (13)	1/2 to 2 3/8 (13 to 60)	2	0

3M COMPANY - CP 25WB+ OR FB-3000 WT

*BEARING THE UL CLASSIFICATION MARK LAST UPDATED ON 2007-03-05

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THROUGH-PENETRATION FIRESTOP SYSTEMS
C-AJ-5001
No Scale

1

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

HCA Healthcare
ICT
I.C. Thomasson Associates, Inc.
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Seals

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION I.C. THOMASSON ASSOCIATES, INC. No. C00675

JAMES BOYD ATKINSON No. 22967 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.07

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

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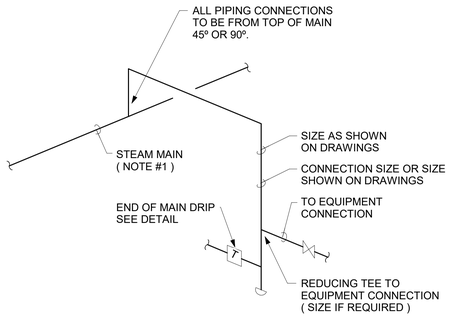
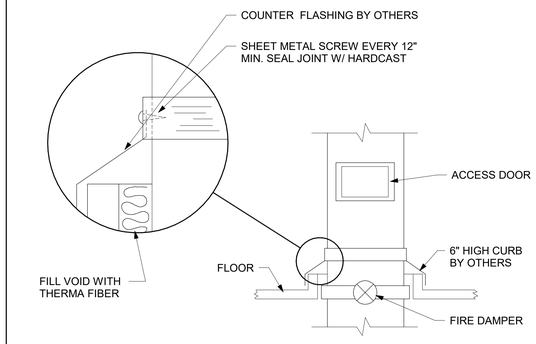
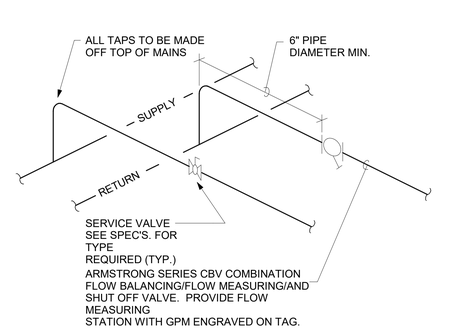


1. STEAM MAIN TO SLOPE IN DIRECTION OF FLOW 0.25" PER 10 FT. REFER TO SPECIFICATIONS FOR DRIP LEG REQUIREMENTS.

TYPICAL STEAM PIPING DROP TO EQUIPMENT — 4
No Scale



DETAIL OF DUCT THRU FLOOR SLAB — 3
No Scale



DETAIL OF PIPING AT FLOW MEASURING STATION — 2
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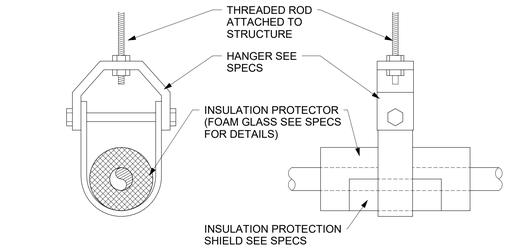
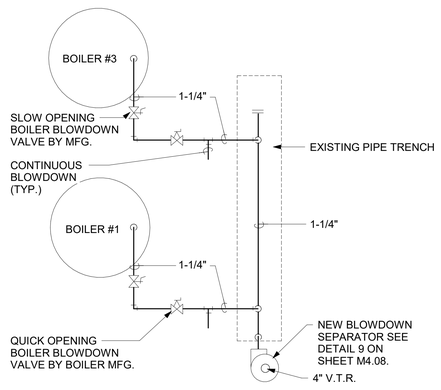


FRONT VIEW SIDE VIEW

PIPE HANGER DETAIL — 1
No Scale



BOILER BLOWDOWN SCHEMATIC — 8
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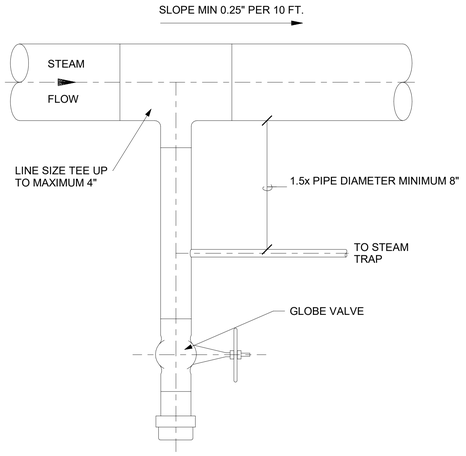

STEAM MAIN DRIP LEG — 7
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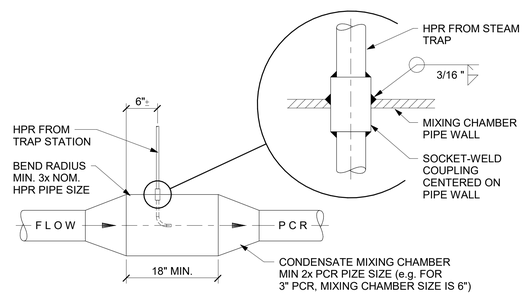
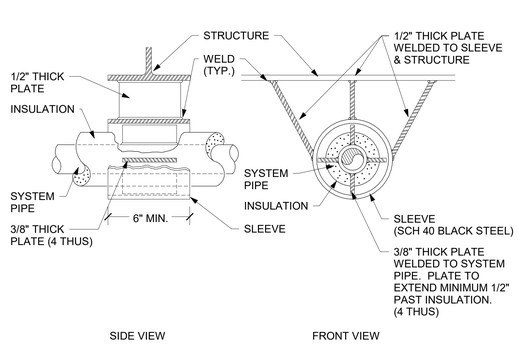
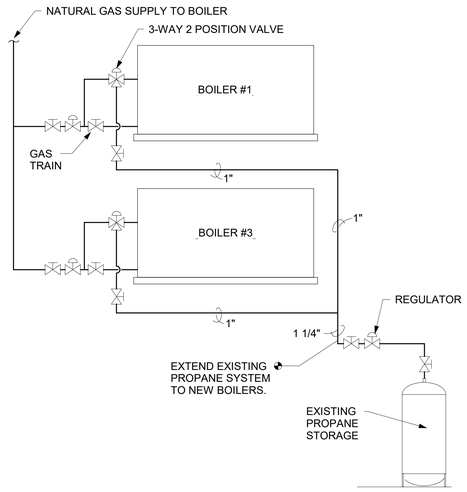


MIXING CHAMBER DETAIL — 6
No Scale

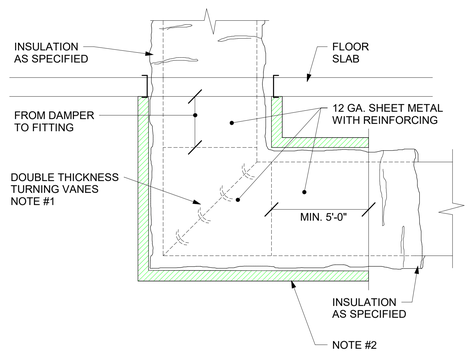


SIDE VIEW FRONT VIEW

PIPE GUIDE DETAIL — 5
No Scale

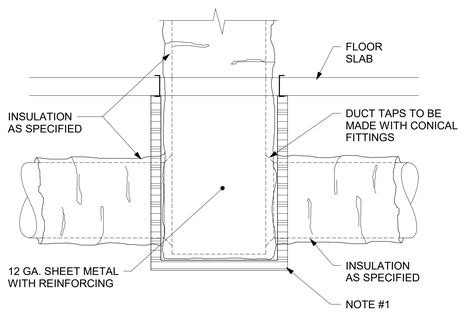


STANDBY BOILER PILOT PROPANE SYSTEM — 4
No Scale



NOTES:
1. CONTRACTOR TO PROVIDE FULL RADIUS ELBOW WHERE CLEARANCE WILL ALLOW.
2. PROVIDE 1 LAYER OF 1" THICK KINETICS TYPE "PC-410 GBD" SOUND BARRIER WRAP.

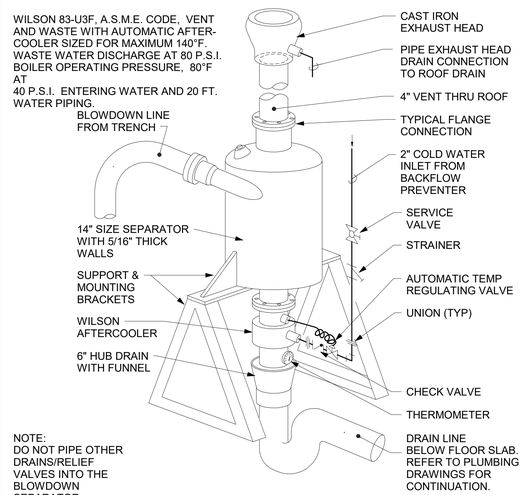
BOTTOM OF RISER DUCT DROP WITH 90º ELBOW — 11
No Scale



NOTES:
PROVIDE 1 LAYER OF 1" THICK KINETICS TYPE "PC-410 GBD" SOUND BARRIER WRAP.

BOTTOM OF RISER DUCT DROP WITH TAPS ON BOTH SIDES — 10
No Scale

WILSON 83-U3F, A.S.M.E. CODE, VENT AND WASTE WITH AUTOMATIC AFTER-COOLER SIZED FOR MAXIMUM 140°F. WASTE WATER DISCHARGE AT 80 P.S.I. BOILER OPERATING PRESSURE, 80°F AT 40 P.S.I. ENTERING WATER AND 20 FT. WATER PIPING.



NOTE:
DO NOT PIPE OTHER DRAINS/RELIEF VALVES INTO THE BLOWDOWN SEPARATOR.

BLOWDOWN SEPARATOR DETAIL — 9
No Scale

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

HCA Healthcare

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JAMES BOYD THOMASSON — No. 22967 — 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.08

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

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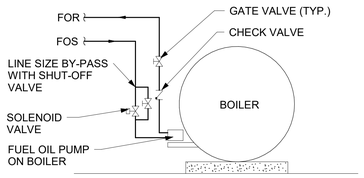
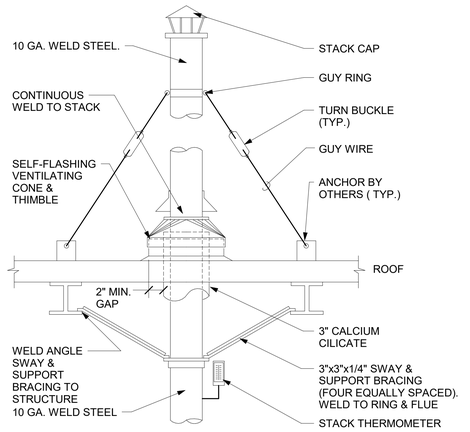


BOILER FUEL OIL PIPING
No Scale

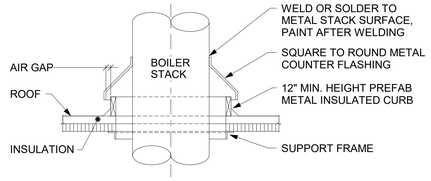
4



NOTE:
STACK HEIGHT TO BE 3'-0" ABOVE COOLING TOWER FAN DECK OR 10'-0" ABOVE ROOF IF COOLING TOWER IS ON GROUND.

EXHAUST STACK THRU ROOF WITH HURRICANE PROVISIONS
No Scale

3



BOILER STACK ROOF PENETRATION DETAIL
No Scale

2

(A) RETAINING ANGLES: DETAILS MINIMUM 11/2"x11/2"x0.054 (16 GA.) RETAINING ANGLES MUST LAP STRUCTURAL OPENING 1" MINIMUM AND COVER CORNERS OF OPENINGS.

(B) CLEARANCE 1/8" PER LINEAR FOOT BOTH DIMENSIONS (SEE NOTE #1 BELOW.)

(C) STEEL SLEEVE: GAUGE AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS.

(D) APPROVED FIRE DAMPER (CURTAIN OR BLADE TYPE)

(E) SECURE RETAINING ANGLES TO SLEEVE ONLY, ON 8" CENTERS WITH: PREFERRED
1. 1/2" LONG WELDS, OR
2. 1/4" BOLTS AND NUTS, OR
3. NO. 10 STEEL SCREWS, OR
4. MINIMUM 3/16" STEEL RIVETS

(F) SECURE DAMPER TO SLEEVE ON 8" CENTERS WITH:
1. 1/2" LONG WELDS, OR
2. 1/4" " BOLTS AND NUTS, OR
3. NO. 10 STEEL SCREWS, OR
4. MINIMUM 3/16" STEEL RIVETS

(G) CONNECT DUCT TO SLEEVE AS REQUIRED BY THE MANUFACTURER.

(H) INSTALL ACCESS DOOR OR PANEL FOR SERVICE AND INSPECTION. DOOR MUST BE LARGE ENOUGH TO CHANGE LINK.

NOTES:

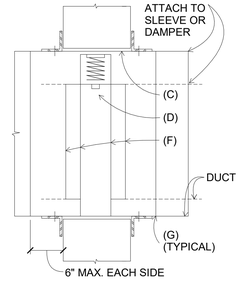
1. FIRE DAMPER SLEEVE CLEARANCE WITHIN WALL OPENING.
2. CLEARANCE REQUIREMENTS FOR DAMPER SLEEVES WITHIN A WALL OPENING IS BASED ON 1/8" INCH PER FOOT OF WIDTH (OR HEIGHT) UNLESS OTHERWISE STATED IN THE LISTING OF THE ASSEMBLY. THE SLEEVE MAY REST ON THE BOTTOM OF THE OPENING, AND NEED NOT BE CENTERED. (FRACTIONAL DIMENSIONS SHALL BE TAKEN AS THE NEXT LARGEST WHOLE FOOT.)

   EXAMPLE: A 30 INCH X 24 INCH FIRE DAMPER SLEEVE IS INSTALLED IN A WALL OPENING. THE OPENING SHALL BE 30 3/8 INCHES WIDE (1/8 INCH x3 FEET) BY 24 1/4 INCHES HIGH (1/8 INCH x2 FEET.)
3. THE SLEEVE IS RETAINED IN THE WALL OPENING BY THE USE OF STEEL RETAINING ANGLES (A). THESE MUST OVER-LAP THE EDGE OF THE FRAMING BY A MINIMUM OF ONE (1) INCH OVER AND BEYOND ALL MATERIAL IN THE OPENING. THIS MEANS THAT THE MINIMUM WIDTH OF THE RETAINING ANGLE WOULD BE 1 3/8 INCHES (GOOD PRACTICE CALLS FOR AN ADDITIONAL SAFETY FACTOR BY MAKING THE ANGLE IN THIS CASE 1 1/2 INCHES WIDE.) THE DIMENSIONS REQUIRED FOR THE OPENING SHALL BE THOSE REMAINING AFTER THE OPENING HAS BEEN FRAMED AND FIRE RESISTIVE MATERIALS PROVIDED WHERE. REQUIRED. THE FIRE RESISTIVE MATERIALS SHALL BE EQUAL TO THE REQUIREMENTS FOR FIRE RESISTIVE MATERIALS USED IN THE CONSTRUCTED WALL SO THAT A CONTINUOUS RATING EXISTS AT THE WALL PENETRATION.

DETAILS

THE FIRE DAMPER MANUFACTURERS' INSTALLATION DETAILS AND INSTRUCTIONS AS TESTED AND APPROVED BY U.L. MUST BE USED IN LIEU OF THE ABOVE DETAILS WHERE APPLICABLE.

NOTE:
NO CAULKING IS REQUIRED ON FIRE DAMPERS OR FIRE DAMPER RETAINING ANGLES.



VERTICAL POSITION IS SHOWN, HORIZONTAL INSTALLATION IS SIMILAR. FOLLOW INSTALLATION INSTRUCTION FOR FUSIBLE LINKS. LINKS TO BE 165° F.

NOTE:
A DUCT MOUNTED SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCTWORK WITHIN FIVE FEET OF A COMBINATION FIRE/SMOKE DAMPER. SMOKE DETECTOR TO BE PROVIDED BY ELECTRICAL CONTRACTOR INSTALLED BY MECHANICAL CONTRACTOR.

FIRE & FIRE/SMOKE DAMPERS
No Scale

5

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Patient Tower Expansion
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SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL DETAILS

Sheet Number

M4.09

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
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CON NUMBER:
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SEQUENCE OF OPERATION FOR USE WITH AHU-1-2, 2-1, 3-1, AND 3-2 ONLY

SUPPLY AIR AND RETURN AIR FAN
SUPPLY AIR AND RETURN AIR FANS SHALL BE ENERGIZED/DE-ENERGIZED FROM THE VFD IN HAND POSITION OR THE DDC SYSTEM WHEN IN AUTO MODE. THE DDC CONTROL SYSTEM SHALL SENSE WHEN THE FAN IS IN HAND POSITION BY THE FAN STATUS VERIFICATION AND INITIATE THE AHU CONTROL SEQUENCE.

IN HAND MODE OR AUTO MODE THE TWO-POSITION MINIMUM OUTSIDE AIR DAMPER (D-MIN) SHALL OPEN. ONCE THE DAMPER IS OPEN AND THE END SWITCH CONTACT IS MADE, THE SUPPLY FAN SHALL START, AND THE DDC SYSTEM SHALL SIGNAL THE ASSOCIATED RETURN AND EXHAUST FANS TO START.

FANS SHALL SHUT DOWN FROM A SIGNAL FROM:
- THE FIRE ALARM PANEL THRU THE F/A RELAY.
- THE SUPPLY AIR SMOKE DETECTOR(S) (SD-SA).
- THE RETURN AIR SMOKE DETECTOR(S) (SD-RA).
- FREEZE STAT, (TS-FRZ).
- THE HIGH/LOW LIMIT STATIC PRESSURE SWITCHES (SPS-SHI & RLO).

WHEN THE SUPPLY FAN SHUTS DOWN THE FOLLOWING SHALL OCCUR:
- THE MINIMUM OUTSIDE AIR DAMPER (D-MIN) SHALL CLOSE.
- THE ECONOMIZER OUTSIDE AIR DAMPER (D-EOA) SHALL CLOSE.
- THE RELIEF DAMPER (D-REL) SHALL CLOSE.
- THE RETURN DAMPER (D-RET) SHALL OPEN.
- THE CHILLED WATER VALVE (V-CHW) SHALL CLOSE.
- THE RETURN FAN AND THE ASSOCIATED EXHAUST FANS SHALL SHUTDOWN.

SUPPLY FAN SPEED CONTROL
THE SUPPLY FANS VARIABLE FREQUENCY DRIVE (VFD) SHALL BE CONTROLLED BY A DUCT MOUNTED DIFFERENTIAL STATIC PRESSURE TRANSMITTER (SPT-SA) MODULATING THE VFD TO MAINTAIN A SUPPLY DUCT STATIC PRESSURE AT THE LOWEST SET POINT POSSIBLE AS DETERMINED BY THE TAB CONTRACTOR. FOR MULTIPLE STATIC PRESSURE TRANSMITTERS, THE DDC SYSTEM SHALL PROVIDE A SEPARATE SET POINT FOR EACH STATIC PRESSURE TRANSMITTER, AND SELECT THE STATIC PRESSURE TRANSMITTER THAT IS FARTHEST BELOW ITS SET POINT TO CONTROL THE SPEED OF THE VFD. THE VFD SHALL OUTPUT THE % FULL SPEED TO THE DDC SYSTEM THROUGH THE NETWORK INTERFACE.

ON A FALL IN DIFFERENTIAL PRESSURE SENSED BY SPT-SA, THE DDC SYSTEM SHALL SPEED UP THE SUPPLY FAN'S VFD TO MAINTAIN SPT-SA AT SET POINT. ON A RISE IN DIFFERENTIAL PRESSURE SENSED BY SPT-SA, THE DDC SYSTEM SHALL SLOW DOWN THE SUPPLY FAN'S VFD TO MAINTAIN SPT-SA AT SET POINT. SPT-SA SHALL ALARM THE DDC SYSTEM IF ITS MEASURED PRESSURE IS 10% (ADJ.) ABOVE OR BELOW SETPOINT.

SPS-SHI SHALL SHUTDOWN THE FANS WHENEVER IT SENSES A HIGH STATIC PRESSURE, ALARM THE DDC SYSTEM, AND REQUIRE A LOCAL MANUAL RESET TO RESTART THE FAN. SPS-RLO SHALL SHUTDOWN THE FANS WHENEVER IT SENSES A LOW STATIC PRESSURE AND ALARM THE DDC SYSTEM AND REQUIRE A LOCAL MANUAL RESET TO RESTART THE FAN

VOLUMETRIC TRACKING
THE RETURN AIR FAN VFD SHALL BE CONTROLLED FROM AN OUTSIDE AIR QUANTITY SOFTWARE SET POINT (SCHEDULED OUTSIDE AIR QUANTITY, ADJ.) USING AIRFLOW MEASURING DEVICES AND TRANSMITTERS AM-SA AND AM-RA INSTALLED AT THE INLET OF THE SUPPLY AND RETURN FANS. AM-SA SHALL MEASURE THE TOTAL AIRFLOW OF THE SUPPLY FAN AND AM-RA SHALL MEASURE THE TOTAL AIRFLOW OF THE RETURN FAN. THE AIRFLOW MEASURING TRANSMITTERS SHALL OUTPUT THE TOTAL CFM READING TO THE DDC SYSTEM. THE DDC SYSTEM SHALL CALCULATE THE DIFFERENCE OF THE TOTAL SUPPLY AIR AND THE TOTAL RETURN AIR TO MAKE AN OUTSIDE AIR QUANTITY SOFTWARE POINT. THE DDC SYSTEM SHALL MODULATE THE SPEED OF THE RETURN AIR FAN VFD TO MAINTAIN THE CALCULATED OUTSIDE AIR QUANTITY WITHIN 2% OF THE OUTSIDE AIR QUANTITY SET POINT.

STATIC PRESSURE RESET
THE SUPPLY AIR STATIC PRESSURE SHALL BE RESET BASED ON THE TERMINAL BOX AIR DAMPER POSITION. THE STATIC PRESSURE CONTROL LOOP SHALL POLL ALL TERMINAL BOXES IN THE SYSTEM AND REDUCE STATIC PRESSURE 0.02 IN. W.C. (ADJ.) OVER AN 5 MINUTE (ADJ.) TIME PERIOD UNTIL ANY TERMINAL BOX AIR DAMPER HAS OPENED TO 90% (ADJ.). STATIC PRESSURE WILL INCREASE 0.05 IN. W.C. (ADJ.) WHEN ANY TERMINAL BOX IN THE SYSTEM IS ABOVE 90% OPEN. THE CALCULATION MUST BE BETWEEN THE STATIC PRESSURE MINIMUM AND STATIC PRESSURE MAXIMUM SOFTWARE POINTS BEFORE WRITING OUT TO THE SUPPLY AIR STATIC PRESSURE SETPOINT. ANY TERMINAL BOX IN THE SYSTEM MAY BE ADDED TO AN EXCEPTION LIST AND ELIMINATED FROM THE STATIC PRESSURE RESET CONTROL LOOP.

DISCHARGE AIR TEMPERATURE RESET
DISCHARGE AIR TEMPERATURE RESET, THE SUPPLY AIR TEMPERATURE SHALL BE RESET BASED ON THE COOLING OUTPUT OF THE TERMINAL BOX DETERMINED BY PERCENT OF FLOW BETWEEN MINIMUM AND MAXIMUM COOLING FOR VARIABLE VOLUME BOXES. THE SUPPLY TEMPERATURE CONTROL LOOP SHALL POLL ALL TERMINAL BOXES IN THE SYSTEM AND INCREASE THE SUPPLY TEMPERATURE 0.2°F (ADJ.) OVER A 5 MINUTE (ADJ.) TIME PERIOD UNTIL ANY TERMINAL BOX COOLING OUTPUT HAS EXCEEDED 95%. SUPPLY TEMPERATURE WILL DECREASE BY 0.5°F (ADJ.) WHEN ANY TERMINAL BOX IN THE SYSTEM IS ABOVE 95%, IF RETURN AIR RELATIVE HUMIDITY EXCEEDS 60%, SUPPLY TEMPERATURE WILL RESET DOWN. MAXIMUM SUPPLY AIR TEMPERATURE SETPOINT SHALL BE 58°F WHEN OUTSIDE AIR TEMPERATURE IS GREATER THAN 55°F AND 62°F WHEN OUTSIDE AIR TEM-PERATURE IS LESS THAN 55°F. ANY TERMINAL BOX IN THE SYSTEM MAY BE ADDED TO AN EXCEPTION LIST AND ELIMINATED FROM THE DISCHARGE TEMPERATURE RESET CONTROL LOOP.

AIR HANDLER OPERATING STATES
THE AIR HANDLING UNIT SHALL OPERATE IN THREE DISTINCT STATES. CRITERIA TO TRANSITION BETWEEN STATES ARE INDICATED BELOW. TO TRANSITION BETWEEN STATES THE SPECIFIED CRITERIA SHALL BE MET FOR AN ADJUSTABLE MINIMUM PERIOD OF TIME REFERRED TO AS "TRANSITION TIME". EACH INDIVIDUAL OPERATING STATE TO HAVE AN INDIVIDUAL PID CONTROL LOOP FOR THAT STATE.

STATE 1 – FULL COOLING COIL
ECONOMIZER OUTSIDE AIR DAMPERS SHALL BE CLOSED. THE COOLING COIL CONTROL VALVE, V-CHW, SHALL BE CONTROLLED BY A CONTROL LOOP WITH THE DISCHARGE TEMPERATURE TRANSMITTER, TT-DAT, AS THE INPUT, AND A SET POINT EQUAL TO THE DISCHARGE AIR SET POINT OF (55°F, ADJ.). ON A RISE IN TEMPERATURE ABOVE TT-DAT SET POINT, THE VALVE SHALL MODULATE OPEN. ON A FALL IN TEMPERATURE BELOW TT-DAT SET POINT, THE VALVE SHALL MODULATE CLOSED. TT-DAT SHALL ALARM THE DDC SYSTEM WHENEVER THE DISCHARGE TEMPERATURE IS TOO HIGH OR LOW. THE COOLING COIL CONTROL LOOP SHALL CONTROL THE LEAVING AIR TEMPERATURE WITHIN +/- 0.5°F.

TRANSITION FROM STATE 1 TO STATE 2 (FULL ECONOMIZER WITH COOLING COIL):
THERE SHALL BE AN ADJUSTABLE OUTSIDE AIR ECONOMIZER ENABLE TEMPERATURE (65°F) AND AN ADJUSTABLE DEAD BAND (+/-2°F). THE UNIT SHALL TRANSITION FROM STATE 1 TO STATE 2 WHENEVER THE OUTSIDE AIR TEMPERATURE IS BELOW THE ECONOMIZER ENABLE TEMPERATURE LESS THE DEAD BAND (65°F – 2°F = 63°F) FOR AN ADJUSTABLE TRANSITION TIME (5 MINUTES).

TRANSITION FROM STATE 2 TO STATE 1:
THE UNIT SHALL TRANSITION FROM STATE 2 TO STATE 1 WHENEVER THE OUTSIDE AIR TEMPERATURE IS ABOVE THE ECONOMIZER ENABLE TEMPERATURE PLUS THE DEAD BAND (65°F + 2°F = 67°F) FOR AN ADJUSTABLE TRANSITION TIME (5 MINUTES).

STATE 2 – FULL ECONOMIZER WITH COOLING COIL
ECONOMIZER OUTSIDE AIR DAMPERS SHALL BE FULLY OPEN. THE COOLING COIL CONTROL VALVE, V-CHW, SHALL BE CONTROLLED BY A CONTROL LOOP WITH THE DISCHARGE TEMPERATURE TRANSMITTER, TT-DAT , AS THE INPUT, AND A SET POINT EQUAL TO THE DISCHARGE AIR SET POINT OF (55°F, ADJ.).

TRANSITION FROM STATE 2 TO STATE 3 (FREE COOLING):
THE UNIT SHALL TRANSITION FROM STATE 2 TO STATE 3 WHENEVER THE FOLLOWING OCCURS. THE COOLING COIL CONTROL LOOP HAS A COOLING VALUE OUTPUT OF 0% OPEN FOR AN ADJUSTABLE TRANSITION TIME (5 MINUTES).

TRANSITION FROM STATE 3 TO STATE 2:
THE UNIT SHALL TRANSITION FROM STATE 3 TO STATE 2 WHENEVER THE FOLLOWING OCCURS. THE ECONOMIZER DAMPER CONTROL LOOP HAS AN OUTPUT OF 100% OPEN FOR AN ADJUSTABLE TRANSITION TIME (10 MINUTES).

STATE 3 – FREE COOLING:
THE COOLING COIL VALVE SHALL REMAIN CLOSED AND THE ECONOMIZER AIR DAMPER (D-EOA), RELIEF AIR DAMPER (D-REL), AND THE RETURN AIR DAMPER (D-RET) SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE AT THE DISCHARGE AIR TEMPERATURE SET POINT.

THE DISCHARGE AIR TEMPERATURE CONTROL LOOP SHALL HAVE THE UNIT DISCHARGE AIR TEMPERATURE TRANSMITTER (TT-DAT) AS THE INPUT AND A SET POINT EQUAL TO THE COOLING COIL SET POINT (55°F). ON A RISE IN DISCHARGE AIR TEMPERATURE THE ECONOMIZER OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL MODULATE OPEN AND THE RETURN AIR DAMPER SHALL MODULATE CLOSED. ON A FALL IN DISCHARGE AIR TEMPERATURE THE ECONOMIZER OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER SHALL MODULATE CLOSED AND THE RETURN AIR DAMPER SHALL MODULATE OPEN. DAMPERS SHALL MAINTAIN DAT TO WITHIN +/- ½ °F OF SET POINT.

MIXED AIR LOW LIMIT CONTROL
THE MIXED AIR LOW LIMIT CONTROL LOOP SHALL BE OPERATIVE AT ALL TIMES WHEN THE UNIT IS IN ANY STATE, INCLUDING WHEN THE UNIT IS DE-ENERGIZED, TO MAINTAIN A MINIMUM MIXED AIR TEMPERATURE. THE MIXED AIR LOW LIMIT CONTROL LOOP SHALL HAVE THE MIXED AIR TEMPERATURE TRANSMITTER (TT-MAT) AS INPUT. AT A MIXED AIR TEMPERATURE OF 40°F (ADJ.) THE BAS SHALL ALARM, DISABLE/CLOSE THE ECONOMIZER DAMPERS REVERTING TO MINIMUM OUTSIDE AIR OPERATION, FULLY OPEN THE CHILLED WATER VALVE, OPEN THE CHILLER'S CHILLED WATER ISOLATION VALVE, AND START THE APPROPRIATE CHILLED WATER PUMP(S) TO MOVE CHILLED WATER THROUGH THE COIL. IF THE CHILLED WATER PUMP IS CONTROLLED BY A VFD, THE PUMP(S) SHALL BE OPERATED TO MAINTAIN THE DIFFERENTIAL PRESSURE SET POINT. SOFTWARE RESET BY THE MAINTENANCE STAFF SHALL BE REQUIRED TO RETURN TO NORMAL OPERATION.

FREEZESTAT
WHENEVER FREEZE STAT, TS-FZ, SENSES A TEMPERATURE BELOW 36°F (ADJ.), IT SHALL PERFORM THE FOLLOWING:
- THE SUPPLY FAN, RETURN FAN, AND THE ASSOCIATED EXHAUST FANS SHALL SHUTDOWN.
- THE MINIMUM OUTSIDE AIR DAMPER (D-MIN) SHALL CLOSE.
- THE ECONOMIZER OUTSIDE AIR DAMPER (D-EOA) SHALL CLOSE.
- THE RELIEF DAMPER (D-REL) SHALL CLOSE.
- THE RETURN DAMPER (D-RET) SHALL OPEN.
- FULLY OPEN THE CHILLED WATER VALVE (V-CHW).
- OPEN THE LEAD CHILLER CHILLED WATER ISOLATION VALVE, IF APPLICABLE.
- ISSUE A UNIQUE ALARM.
- COMMAND "ON" THE VARIABLE PRIMARY OR SECONDARY CHILLED WATER PUMP AND CONTROL SPEED TO MAINTAIN THE DIFFERENTIAL PRESSURE SET POINT.
- A MANUAL RESET AT THE AHU SHALL BE REQUIRED TO RESTART AN AHU THAT HAS AUTOMATICALLY SHUT DOWN FROM A FREEZE STAT TRIP.

FILTERS
ALL FILTERS SHALL HAVE A DIFFERENTIAL PRESSURE SWITCH (DPS-FIL & DPS-PFL) MEASURING THE PRESSURE DROP ACROSS THE FILTER BANKS. EACH SHALL ALARM THE DDC SYSTEM WHENEVER THE PRESSURE DROP ACROSS THE FILTER IS EXCESSIVE (DIRTY FILTER) (ADJ.).

UV FIXTURE CONTROL
THE UV LIGHT SHALL BE ENERGIZED AT ALL TIMES WHEN THE UNIT IS IN ANY STATE. THE LIGHT SHALL BE PROVIDED WITH A DOOR SWITCH TO SHUT OFF IF THE DOOR IS OPEN. UNIT TO BE EQUIPPED WITH UV RADIOMETER. IF RADIOMETER SENSES LIGHT INTENSITY LOWER THAN 70% OF RATED OUTPUT, IT SHALL ALARM THE EMS.

FIRE ALARM SHUTDOWN
WHENEVER THE FIRE ALARM SYSTEM SENSES SMOKE/FIRE, THE FIRE ALARM SYSTEM SHALL COMPLETE THE FOLLOWING.

THE FIRE ALARM SYSTEM IS TO DE-ENERGIZE THE UNIT AND SHALL PERFORM THE FOLLOWING.
- SHUTDOWN THE SUPPLY AIR FAN.
- SHUTDOWN THE RETURN AIR FAN.
- SHUTDOWN THE ASSOCIATED EXHAUST FANS.

THE DDC SYSTEM IS TO PERFORM THE FOLLOWING UPON A LOSS OF SUPPLY FAN STATUS.
- CLOSE CHILLED WATER VALVE V-CHW.
- CLOSE THE RELIEF AIR DAMPER (D-REL).
- CLOSE THE OUTSIDE AIR DAMPER (D-MIN).
- CLOSE THE ECONOMIZER DAMPER (D-EOA).
- OPEN THE RETURN AIR DAMPER (D-RET).

PROGRAM DESIGN
WHEN THE SUPPLY FAN IS STARTED, THE AHU SHALL ALWAYS GO TO STATE 1 WITHOUT ENABLING THE CHILLED WATER PLANT. THE UNIT SHALL OPERATE IN STATE 1 FOR A 4 MINUTE TIME PERIOD (ADJ.). AFTER THE 4 MINUTE TIMER HAS EXPIRED ONE OF THE FOLLOWING SHALL OCCUR:
- IF THE OAT IS EQUAL TO OR GREATER THAN 52°F (ADJ.) THE UNIT SHALL REMAIN IN STATE 1 UNTIL IT TRANSITIONS TO ANOTHER OPERATING STATE PER THE DETAILED SEQUENCES ABOVE OR,
- IF THE OAT IS LESS THAN 52°F (ADJ.) THE UNIT SHALL TRANSITION TO STATE 3 AND REMAIN IN STATE 3 UNTIL IT TRANSITIONS TO ANOTHER OPERATING STATE PER THE DETAILED SEQUENCES ABOVE.

IF THE FACILITY'S CHILLED WATER PLANT IS NOT REQUIRED TO OPERATE CONTINUOUSLY THROUGHOUT THE YEAR, AN OUTDOOR AIR TEMPERATURE SHALL BE ESTABLISHED, T-DISABLE, TO PREVENT THE PLANT FROM BEING INADVERTENTLY STARTED. THE CHILLED WATER PLANT SHALL NOT BE ACTIVATED BELOW OUTDOOR TEMPERATURES EQUAL TO OR LESS THAN T-DISABLE, FOR EXAMPLE 44°F (ADJ.).

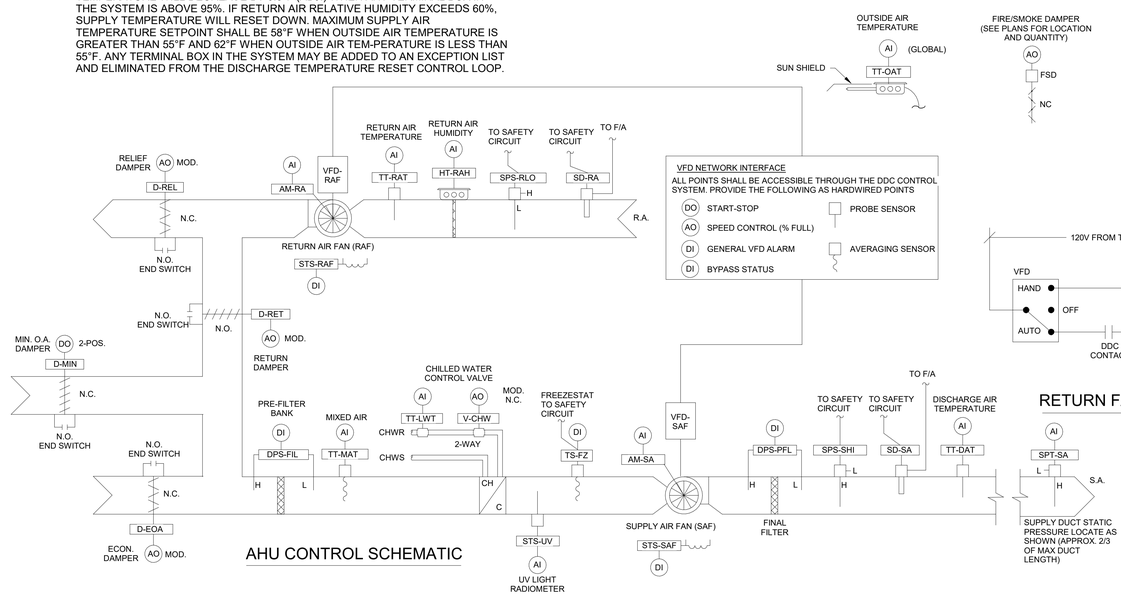
THIS AHU SEQUENCE OF OPERATION SHALL INITIATE THE OPERATION OF THE CHILLED WATER PLANT, IF IT IS NOT ALREADY IN OPERATION, IF BOTH OF THE FOLLOWING OCCUR:
- THE OAT EXCEEDS THE T-DISABLE SET POINT FOR THE CHILLED WATER PLANT AND,
- THE AHU TRANSITIONS FROM STATE 3 TO STATE 2.

ALL TIMERS AND OTHER SPECIFIED PARAMETERS ARE TO BE INDEPENDENTLY ADJUSTABLE.

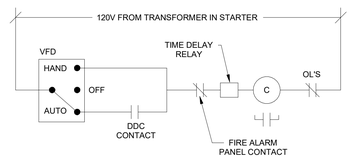
SOFTWARE STATUS POINTS SHALL BE CREATED FOR THE FOLLOWING LOCKOUTS AND FINITE STATES. THE CURRENT STATUS OF THE SOFTWARE LOCKOUT POINTS, ENABLED OR DISABLED, SHALL BE DISPLAYED AT THE BAS/FMS FRONT END:
- CHILLED WATER CONTROL VALVE FULLY CLOSED LOCKOUT
- ECONOMIZER DAMPERS FULLY OPEN LOCKOUT
- ECONOMIZER DAMPERS FULLY CLOSED LOCKOUT
- STATE #1
- STATE #2
- STATE #3

THE AHU SHALL RESTART AUTOMATICALLY AFTER A MOMENTARY POWER FAILURE OR AFTER TRANSFER TO AN ALTERNATE POWER SOURCE AND OPERATE IN THE SAME STATE IT WAS IN PRIOR TO THE POWER FAILURE OR TRANSFER OF POWER.

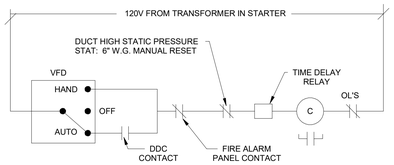
EXHAUST FANS
EXHAUST FANS TO BE ENERGIZED WHEN RESPECTIVE SUPPLY AIR FAN IS ENERGIZED. SEE PLANS FOR WHICH FANS ARE ASSOCIATED WITH WHICH AIR HANDLING UNITS (EXAMPLE: EF3-1 IS INTERLOCKED WITH AHU-3). EXCEPTION--ISOLATION ROOM EXHAUST FANS SHALL OPERATE CONTINUOUSLY.



AHU CONTROL SCHEMATIC



RETURN FAN RAF CONTROL



SUPPLY FAN SAF CONTROL

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HCA Healthcare

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Seals

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I.C. THOMASSON ASSOCIATES, INC.
No. C00675
CERTIFICATE OF AUTHORIZATION

JAMES BOYD
No. 22967
REGISTERED PROFESSIONAL ENGINEER
8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL CONTROLS

Sheet Number

M5.01

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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INPUT/OUTPUT SUMMARY

AIR HANDLING UNIT 1-2, 2-1, 3-1, AND 3-2

		INPUTS																									OUTPUTS					SYSTEM FEATURES												GENERAL							
		ANALOG													DIGITAL												DIGITAL		ANALOG			ALARMS					PROGRAMS													
		MEASURED							CALC.																																											
	TAG	TEMPERATURE	PRESSURE	HUMIDITY (RH)	AIR FLOW	AIR QUALITY	KW	DDC GATEWAY	VALVE POSITION	CURRENT SENSOR (AMPS)	KWH	ENTHALPY	RUN TIME	EFFICIENCY	AIR FLOW (CFM)	STATUS (DIFF. PRESS.)	STATUS (CURRENT SWITCH)	SMOKE	LOW TEMP.	AIR FLOW	END SWITCH	FIRE ALARM	PRESSURE	ON-OFF	OFF-AUTO-ON	OFF-HIGH-LOW	OPEN-CLOSE	DAMPER POSI.	VALVE POSI.	SET POINT ADJ.	4-20 mA	HI ANALOG	LOW ANALOG	HI BINARY	LOW BINARY	PROOF	MANUAL RESET	AUTO RESET	TIME SCHEDULING	DEMAND LIMITING	START/STOP OPTIM.	ENTHALPY OPTIM.	SMOKE CONTROL	TREND	ALARM INSTRUCTION							
O.A. TEMPERATURE	TT-OAT	●																																								●							
LOW STATIC	SPS-RLO		●																				●											●		●						●	●						
RETURN AIR HUMIDITY	HT-RAH			●																																					●							
RETURN AIR TEMPERATURE	TT-RAT	●																																							●							
RETURN FAN VFD	VFD-RAF						●	●																		●					●											●	●						
RETURN FAN STATUS	STS-RAF																●																		●		●					●	●						
RETURN AIR FLOW	AM-RA				●			●																																		●							
RELIEF DAMPER	D-REL																					●						●							●		●					●	●						
RETURN DAMPER	D-RET																					●						●							●		●					●	●						
MIN. O.A. DAMPER	D-MIN																					●					●								●		●					●	●						
ECONOMIZER DAMPER	D-EOA																					●						●							●		●					●	●						
PRE-FILTER STATUS	DPS-FIL															●																		●		●					●	●						
MIXED AIR TEMPERATURE	TT-MAT	●																																●		●					●	●						
CHILLED WATER VALVE	V-CHW								●																				●							●					●							
FREEZESTAT	TS-FZ																																		●		●					●	●						
SUPPLY FAN VFD	VFD-SAF						●	●																		●					●											●	●						
SUPPLY FAN STATUS	STS-SAF																●																		●		●					●	●						
SUPPLY AIR FLOW	AM-SA				●			●																																		●							
FINAL-FILTER STATUS	DPS-PFL															●																		●		●					●	●						
O.A. FLOW	---														●																		●	●		●					●	●						
HI STATIC	SPS-SHI																						●											●		●					●	●						
UNIT DISCHARGE TEMPERATURE	TT-DAT	●																																●	●							●	●						
SUPPLY STATIC	SPT-SA		●																															●	●							●	●						
UV LIGHT RADIOMETER	STS-UV																																		●							●							
RETURN SMOKE DETECTOR	SD-RA																					●															●					●	●						
SUPPLY SMOKE DETECTOR	SD-SA																					●															●					●	●						
FIRE ALARM	---																					●															●					●	●						
SMOKE DAMPER (TYP.)	---																										●															●							
EXHAUST FAN START/STOP (TYP.)	SS-EF																							●																			●							
EXHAUST FAN STATUS (TYP.)	STS-EF								●																									●									●	●						
ISO. RM PRESS. MONITOR (REMARK 4)																																			●		●						●							
LEAVING CH. WATER TEMPERATURE	TT-LWT	●																																								●							

REMARKS:

1. PROVIDE TEMPERATURE SENSOR ON DISCHARGE OF EACH VAV TERMINAL BOX. (REFER TO PLANS FOR NUMBER REQUIRED)
2. PROVIDE SEPARATE O.A. TEMP. READOUT FOR EACH AHU.
3. REFER TO DRAWINGS FOR NUMBER OF EXHAUST FANS INTERLOCKED WITH EACH AHU.
4. PROVIDE DOOR SWITCH INTERLOCKED WITH PRESSURE MONITOR TO DISABLE MONITOR ALARM WHEN DOOR IS OPEN.
5. EXHAUST FAN PROVIDED WITH CURRENT SENSING RELAY TO BE SET TO ALARM UPON BELT BREAKING.

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SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL CONTROLS

Sheet Number

M5.02

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
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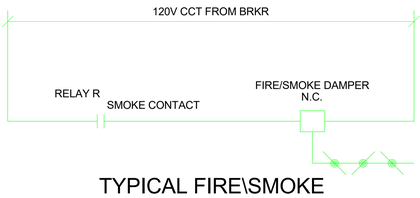
EMS POINT SUMMARY TYPICAL REHEAT BOX

POINT DESCRIPTION	HARDWARE: OUTPUT (O) DIGITAL: Control Relay	Safeties	Contactor	OUTPUT (O) ANALOG: Space Temp Control	DCC Control Signal	4-20MA Signal	INPUT (T,D,V,C) DIGITAL: Differential Press Switch	Flow Switch	Switch Closure	Auxiliary Contact	Current Relay	Alarm Condition	INPUT (T,D,V,C) ANALOG: Temperature	Relative Humidity	Pressure	Position	Flow	Amperes	SOFTWARE: ALARMS DIGITAL: Equipment Status	Maintenance	ALARMS ANALOG: High Limit	Low Limit	Run Time	Log Data	FUNCTIONS: Scheduled Start/Stop	Optimum Start/Stop	VAV Calibration	Terminal Box Control Flow	Day/Night Setback	Economizer	Ventilation/Recirculation	Temperature Control	Enthalpy	Sup Air CFM	Reheat Coil Reset	Volume Control	Damper Position	Valve Position	Chiller Optimization	Chilled Water Reset	Condenser Water Reset	Chiller Demand Limit	Load Shed	Alarm Condition
REHEAT VAV BOX AND SUPPLY TRACKING VALVES:																																												
SPACE TEMPERATURE SETPOINT (ADJ)				●									●																															
ACTUAL BOX CFM																	●																											
BOX CFM MINIMUM																														✱			✱										
BOX CFM MAXIMUM																														✱			✱										
DAMPER POSITION																●																					●							
COMMANDED DAMPER POSITION					●																																							
SUPPLY AIR TEMPERATURE TO SPACE													●								●			●																				
HOT WATER CONTROL VALVE				◉																														●										
HOT WATER CONTROL VALVE POSITION																																							●						●
COMMANDED HOT WATER CONTROL VALVE POSITION					●																																							
VAV BOX CALIBRATION																											●																	

CONTROLS CONTRACTOR SHALL PROVIDE OPTION TO CALIBRATE ALL REHEAT BOXES ASSOCIATED WITH OR'S, ISOLATION ROOMS, ICU PATIENT ROOMS, RECOVERY ROOMS, NURSERIES AND CATH LAB WITHOUT CLOSING BOX DAMPERS.

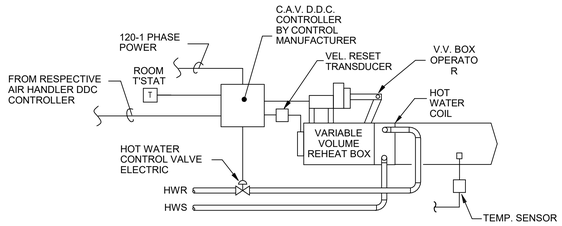
ALL REHEAT BOXES TO BE CONTROLLED AS INDICATED ABOVE.
CONTRACTOR TO VERIFY NUMBER OF BOXES BEING PROVIDED ON PROJECT



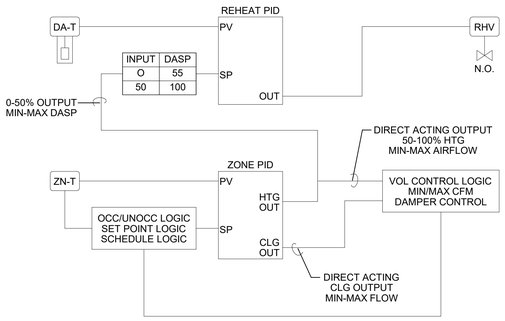
TYPICAL FIRE\SMOKE DAMPER CONTROL

SMOKE DAMPER SEQUENCE OF OPERATION

1. ALL SMOKE DAMPERS ASSOCIATED WITH AN AIR HANDLING UNIT ARE OPENED AND CLOSED BY A SMOKE DAMPER RELAY INTERLOCKED TO RESPECTIVE SUPPLY AIR FAN. ALL SMOKE DAMPERS IN BOTH SUPPLY AND RETURN DUCTS ASSOCIATED WITH AIR HANDLER ARE CLOSED WHEN UNIT IS DE-ENERGIZED AND OPENED WHEN UNIT IS ENERGIZED. THE FIRE ALARM RELAY SHALL ALSO CLOSE SMOKE DAMPERS.
2. SMOKE DAMPERS LOCATED IN EXHAUST DUCTS TO BE OPENED AND CLOSED BY SMOKE DAMPER RELAY INTERLOCKED WITH RESPECTIVE EXHAUST FAN. SMOKE DAMPER TO BE OPEN WHEN FAN ENERGIZED AND CLOSED WHEN FAN DE-ENERGIZED.
3. ALL FIRE SMOKE DAMPER ARE PROVIDED WITH POWER FROM THE DIVISION 26 CONTRACTOR. SMOKE DETECTERS SHALL BE MOUNTED WITHIN 5' OF EACH FSD.



TYPICAL VARIABLE VOLUME REHEAT BOX CONTROL



DUAL PID TERMINAL UNIT - ELEMENTAL LOGIC DETAIL

DUAL PID VAV SEQUENCE OF OPERATION:

1. PROVIDE A 2 DEG F MINIMUM DEADBAND BETWEEN THE HEATING AND COOLING SPACE TEMPERATURE SETPOINTS. WHEN THE SPACE TEMPERATURE IS IN THE DEAD BAND, THE VAV SHALL PROVIDE MINIMUM COOLING AIR FLOW AND THE REHEAT COIL VALVE SHALL BE CLOSED.

COOLING MODE:

1. ON A RISE IN ROOM TEMPERATURE ABOVE THE COOLING SETPOINT THE LOCAL CONTROLLER WILL SHIFT TO COOLING CONTROL LOGIC AFTER AN ADJUSTABLE TIME DELAY (5 MIN).
2. AFTER THE TIME DELAY HAS EXPIRED AND THE MODE HAS CHANGED TO COOLING, THE FLOW SETPOINT WILL CHANGE TO THE COOLING MINIMUM CFM SETPOINT.
3. ON AN INCREASE IN THE ZONE PID COOLING OUTPUT, THE VOLUME CONTROL SHALL INCREASE FROM THE MINIMUM COOLING FLOW TO THE MAXIMUM COOLING FLOW.
4. ON A DECREASE IN THE ZONE PID COOLING OUTPUT, THE INVERSE CONTROL WILL OCCUR AND REDUCE THE COOLING FLOW FROM MAXIMUM COOLING FLOW TO MINIMUM COOLING FLOW. ON A FURTHER REDUCTION IN ZONE TEMPERATURE BELOW THE ZONE HEATING SETPOINT THE VAV CONTROLLER WILL SHIFT THE MODE TO THE HEATING CONTROL LOGIC AFTER AN ADJUSTABLE TIME DELAY (5 MIN).

HEATING MODE:

1. ON A DROP IN ROOM TEMPERATURE BELOW THE HEATING SETPOINT THE ZONE PID CONTROL HEATING OUTPUT WILL INCREASE.
2. ON AN INCREASE IN THE ZONE PID HEATING OUTPUT FROM 0-50%, THE REHEAT PID DISCHARGE SETPOINT WILL INCREASE FROM MINIMUM TO MAXIMUM DISCHARGE AIR TEMPERATURE SETPOINT, INITIALLY SET TO THE DISCHARGE AIR TEMPERATURE OF AIR HANDLING UNIT (MIN) AND 110 DEG F (MAX - ADJ.). THE BOX CONTROLLER WILL MODULATE THE REHEAT COIL VALVE FROM 0 TO 100% FULL OPEN POSITION IN RESPONSE TO PID HEATING OUTPUT.
3. WITH THE HEATING VALVE AT FULL OPEN POSITION, AND ON A FURTHER INCREASE IN THE ZONE PID HEATING OUTPUT FROM 50-100% THE VOLUME CONTROL SHALL INCREASE FROM THE MINIMUM HEATING AIR FLOW TO THE MAXIMUM HEATING AIR FLOW.
4. ON AN INCREASE IN ZONE TEMPERATURE THE INVERSE CONTROL WILL OCCUR: FIRST REDUCING HEATING AIR VOLUME FROM MAXIMUM TO MINIMUM HEATING AIR FLOW. THEN REDUCING THE REHEAT PID LOOP SETPOINT AND REHEAT COIL VALVE POSITION FROM MAXIMUM TO MINIMUM. WITH THE ZONE PID TEMPERATURE WITHIN THE DEADBAND REGION AND THE ZONE HEATING OUTPUT AT "0"%, THE VAV BOX WILL OPERATE AT MINIMUM HEATING FLOW WITH MINIMUM REHEAT PID SETPOINT.

UNOCCUPIED MODE/OCCUPANCY OVERRIDE:

1. THE SEQUENCES ABOVE DESCRIBE THE OCCUPIED COOLING AND HEATING OPERATION MODES. VAV BOX CONTROLS SHALL INCLUDE THE ABILITY TO RESET SPACE TEMPERATURE SET POINTS BASED ON A PRESET SCHEDULE TO A USER ADJUSTABLE UNOCCUPIED COOLING AND HEATING SET POINT.
2. WHEN ACTIVATED BY BAS TIME SCHEDULE, THE VAV BOX SHALL OPERATE WITH COOLING AND HEATING MODES AS DESCRIBED ABOVE WITH ROOM TEMPERATURE SETPOINT EQUAL TO UNOCCUPIED COOLING AND UNOCCUPIED HEATING SETPOINTS INITIALLY SET AT 80 DEG F COOLING (ADJ.) AND 65 DEG F HEATING (ADJ.).
3. AN OVERRIDE PUSH BUTTON ON THE THERMOSTAT SHALL SWITCH THE SPACE TO OCCUPIED MODE FOR A TIME PERIOD OF 4 HOURS (ADJ.). WHERE APPLICABLE, ACTIVATION OF THE OCCUPIED OVERRIDE SWITCH SHALL COMMAND ASSOCIATED AIR HANDLER INTO OCCUPIED MODE. REFER TO AHU SEQUENCE OF OPERATION FOR REQUIRED OCCUPIED/UNOCCUPIED MODE OF OPERATION.
4. THE FOLLOWING AREAS/SYSTEMS ARE TO BE PROVIDED WITH UNOCCUPIED MODE AND OCCUPANCY OVERRIDE:
   A. ADMINISTRATIVE OFFICES AND SUPPORT SPACE.
5. THE FOLLOWING AREAS/SYSTEMS ARE CONSIDERED TO BE 24 HOUR OPERATION AND WILL NOT REQUIRE AN UNOCCUPIED MODE:
   A. EMERGENCY DEPARTMENT.

NOTES:

1. OUTPUT TO THE REHEAT CONTROL VALVE SHALL BE SPANNED BETWEEN THE LOWER AND UPPER BOUNDS OF THE FUNCTIONAL RANGE OF THE CONTROL VALVE. TYPICALLY THE FUNCTIONAL RANGE IS BETWEEN 20% AND 85% OPEN. TRAVEL RANGE ABOVE OR BELOW THESE BOUNDS DO NOT RESULT IN A CHANGE OF FLOW.
2. MULTIPLE TERMINAL UNITS SERVED FROM A SINGLE THERMOSTAT SHALL OPERATE FROM ONE MASTER CONTROLLER. REMAINING CONTROLLERS TO BE SLAVE AND SHALL OPERATE TO MAINTAIN THE MASTER CONTOLLER OUTPUT FOR REHEAT VALVE AND DAMPER POSITION.
3. HOT WATER CONTROL VALVE TO BE 2-WAY TYPE UNLESS INDICATED TO BE 3-WAY TYPE.

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

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JAMES BOYD No. 22967 REGISTERED PROFESSIONAL ENGINEER 8-26-22

Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL CONTROLS

Sheet Number

M5.03

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

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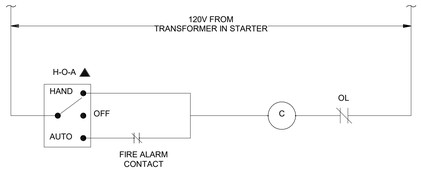
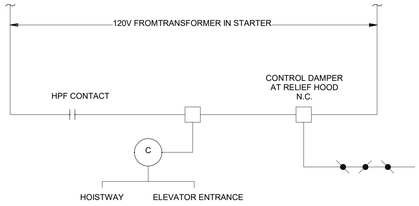


HOISTWAY PRESSURIZATION FAN CONTROL



HOISTWAY PRESSURIZATION RELIEF CONTROL DAMPER

HOISTWAY PRESSURIZATION SEQUENCE OF OPERATION

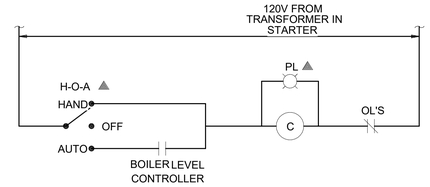
1. UPON SIGNAL OF SMOKE FROM AN ELEVATOR SHAFT AUTOMATIC DEVICE, PRESSURIZATION SHALL ENERGIZE.
2. CONTROL DAMPER IN RELIEF DUCT TO MODULATE OPEN/CLOSED TO MAINTAIN 0.10" TO 0.25" AS SENSED BY A PRESSURE SENSOR LOCATED AT THE MIDWAY POINT OF THE ELEVATOR HOISTWAY DOOR ON EACH FLOOR.
3. FANS ARE TO REMAIN ENERGIZED UNTIL SIGNAL IS RESET AT MAIN FIRE ALARM PANEL.

BOILER ROOM EMS POINT SUMMARY

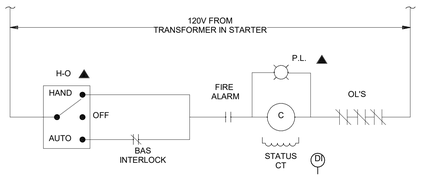
POINT DESCRIPTION	HARDWARE: OUTPUT (O) DIGITAL: Control Relay	Solenoid	Contactor	ANALOG: Discharge Temp Control	Electrical Transducer	4-20MA Signal	HARDWARE: INPUT (T,D,V,C) DIGITAL: Differential Press Switch	Flow Switch	Switch Closure	Auxiliary Contact	Current Relay	Alarm Condition	ANALOG: Temperature	Relative Humidity	PSIg	Position	Flow	Amperes	SOFTWARE: ALARMS DIGITAL: Equipment Status	Maintenance	ANALOG: High Limit	Low Limit	Run Time	Log Data	SOFTWARE: FUNCTIONS: Start/Stop Schedule	Load Calculation	Duty Cycling	Trend Differential Flow	Day/Night Setback	Economizer	Ventilation/Recirculation	Temperature Control	Enthalpy	Hot/Cold Deck Reset	Reheat Coil Reset	Steam Boiler Optimum	Hot Water Boiler Opt.	HW OA Reset	Chiller Optimization	Chilled Water Reset	Condenser Water Reset	Chiller Demand Limit	VFD Control	Alarm Condition
BOILER B-1 START/STOP									●										●				●	●																			
BOILER B-1 STATUS									●										●				●	●																			●
BOILER B-2 START/STOP									●										●				●	●																			
BOILER B-2 STATUS									●										●				●	●																			●
BOILER B-1 STEAM FLOW																	●						●																			
BOILER B-2 STEAM FLOW																	●						●																			
STEAM HEADER PRESSURE															●						●	●	●																			●
OUTDOOR AIR TEMP./HUMIDITY													●	●									●																			

STEAM BOILERS

1. BOILERS ARE ENERGIZED THROUGH ACTION OF HAND-OFF-AUTOMATIC SWITCH MOUNTED ON BOILER CONTROL PANEL WHEN IN THE HAND POSITION OR BY ENERGY MANAGEMENT SYSTEM (EMS) WHEN IN THE AUTOMATIC POSITION. EACH BOILER SHALL BE CONNECTED TO BUILDING ENERGY MANAGEMENT SYSTEM VIA ENERGY MANAGE MENTGATEWAY OR BACNET INTERFACE.
2. BOILERS ARE CONTROLLED BY UNIT MOUNTED MICROPROCESSOR. MICROPROCESSOR WITH PRESSURE AND TEMPERATURE SENSORS AND ENERGY MANAGEMENT SYSTEM TO MODULATE BOILER CAPACITY CONTROLS TO MAINTAIN DISCHARGE STEAM PRESSURE.
3. DEAERATOR SHALL HAVE ALL ELECTRONIC CONTROLS. UNIT MOUNTED MICROPROCESSOR CONTROLLER WITH WATER LEVEL AND TEMPERATURE SENSORS TO MODULATE WATER MAKE-UP VALVE AND STEAM CONTROL VALVE AS REQUIRED TO MAINTAIN PROPER WATER LEVEL AND FEED WATER TEMPERATURE.
4. BOILER WATER LEVEL CONTROLLER SHALL BE INTERFACED WITH RESPECTIVE BOILER FEED WATER PUMP . FEED WATER PUMP TO PROVIDE FEED WATER FROM DEAERATOR AS REQUIRED TO MAINTAIN PROPER WATER LEVEL IN RESPECTIVE BOILER.
5. FEED WATER PUMPS ARE ENERGIZED THROUGH ACTION OF HAND-OFF-AUTOMATIC SWITCH MOUNTED IN DEAERATOR CONTROL PANEL WHEN IN THE HAND POSITION OR DEAERATOR MICROPROCESSOR WHEN IN THE AUTOMATIC POSITION.
6. BOILER CONTROL PANEL TO BE CAPABLE OF RUNNING BOTH BOILERS SIMULTANEOUSLY.
7. DEAERATOR PROVIDED WITH 3 BOILER FEED PUMPS. PUMPS TO BE PIPED AND VALVED SUCH THAT ANY PUMP CAN BE DEDICATED TO ANY BOILER. BOILER CONTROL SYSTEM TO OPERATE PUMPS IN A LEAD LAG ARRANGEMENT SUCH THAT PUMPS ARE KEPT AT SIMILAR USAGES.



BOILER FEED PUMPS (DEAERATOR) CONTROL



THREE PHASE FAN CONTROL

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8-26-22

Patient Tower Expansion

Summerville Medical Center

295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

MECHANICAL CONTROLS

Sheet Number

M5.04

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

PROJECT INFO.

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Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
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CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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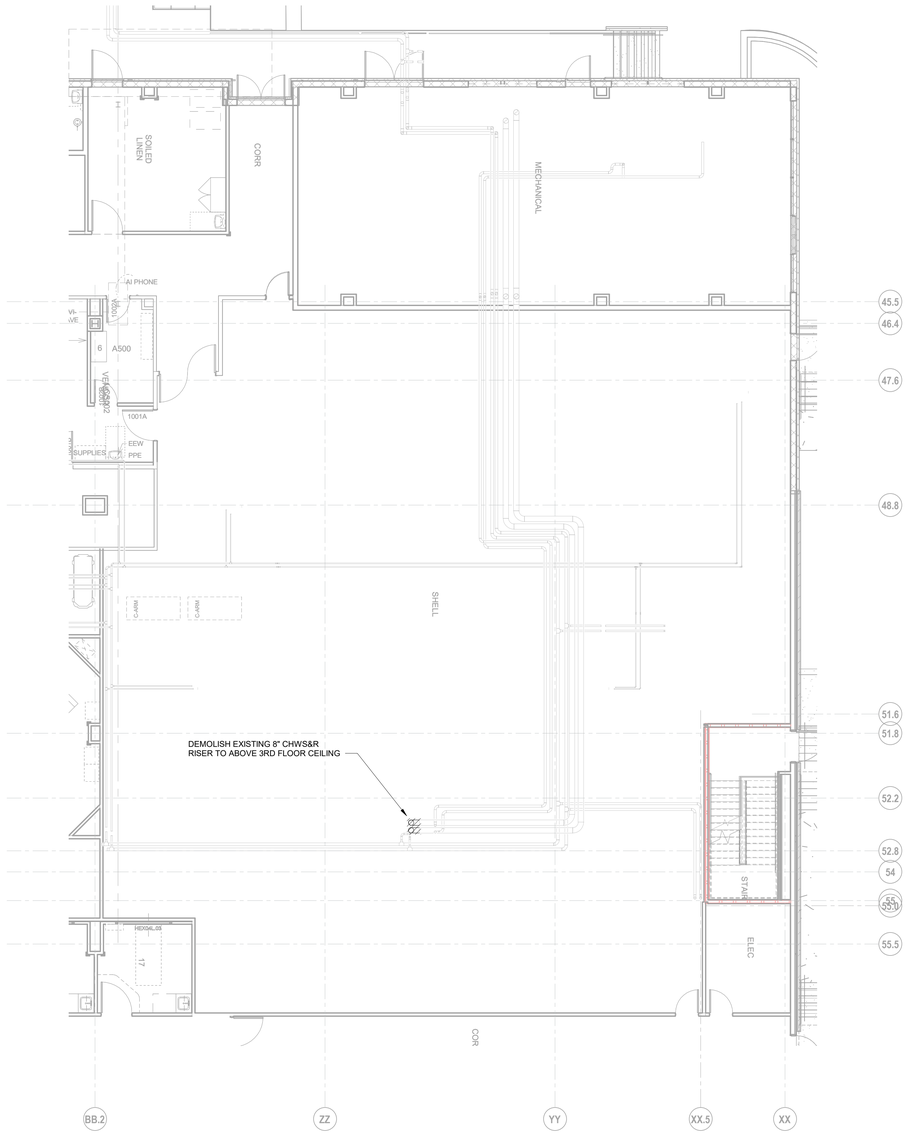
WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

DEMOLITION LEGEND

- EXISTING TO REMAIN
- DEMOLITION



1ST FLOOR PIPING DEMOLITION PLAN

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

GRAPHIC SCALE: 1" = 1'-0" | GRAPHIC SCALE: 3/4" = 1'-0" | GRAPHIC SCALE: 1/2" = 1'-0" | GRAPHIC SCALE: 3/8" = 1'-0" | GRAPHIC SCALE: 1/4" = 1'-0" | GRAPHIC SCALE: 3/16" = 1'-0" | GRAPHIC SCALE: 1/8" = 1'-0" | GRAPHIC SCALE: 3/32" = 1'-0" | GRAPHIC SCALE: 1/16" = 1'-0" | GRAPHIC SCALE: 1/32" = 1'-0"

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Patient Tower Expansion
Summerville Medical Center
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

1ST FLOOR PIPING DEMOLITION PLAN

Sheet Number

MD1.01A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049

AHJ PROJECT NUMBERS :
2925

CON NUMBER:
2925

ARCHITECT PROJECT NUMBER:
220133

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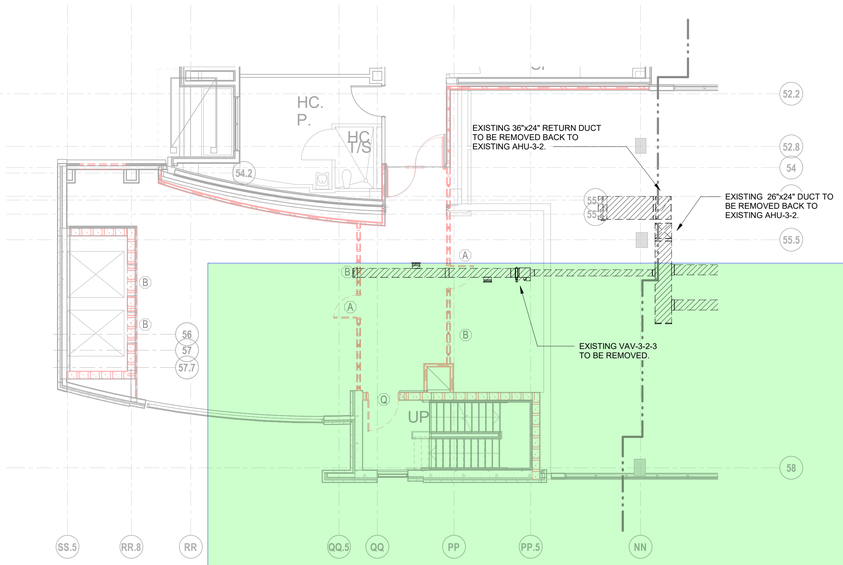


3RD FLOOR HVAC DEMOLITION PLAN - PART A

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

DEMOLITION NOTES:

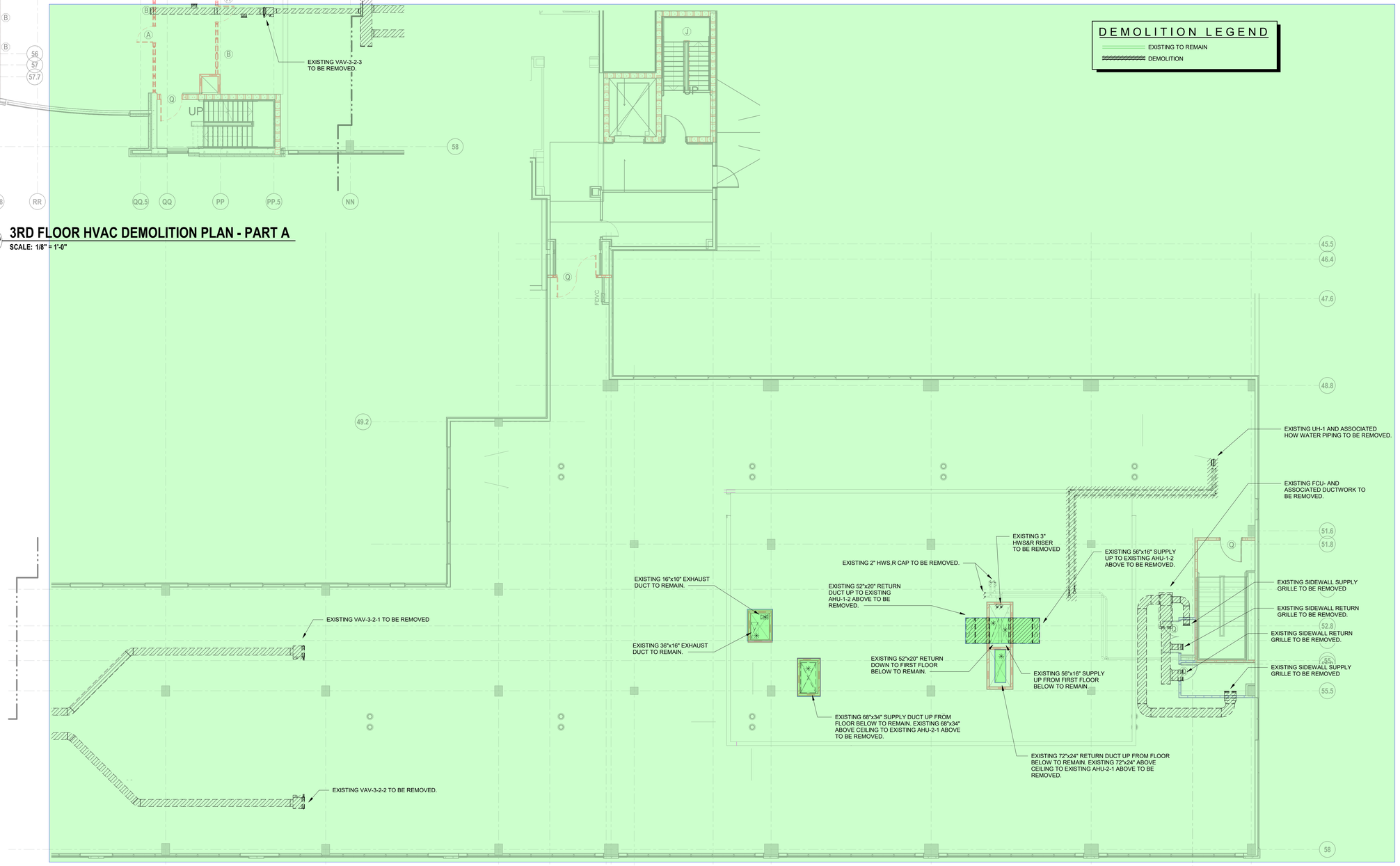
1. EXISTING ROUTING AND LOCATION OF DUCTWORK, PIPING, EQUIPMENT, ETC. SHOWN, ARE BASED ON PREVIOUS CONTRACT DOCUMENTS. CONTRACTOR TO VERIFY EXISTING CONDITIONS FOR DISCREPANCIES.
2. ALL EXISTING WALLS, CEILINGS, FLOOR SLABS, ROOF, ETC., BEING CUT OR DAMAGED UNDER THIS CONTRACT TO BE PATCHED BACK TO MATCH EXISTING FINISH AND FIRE PROTECTION RATING. COORDINATE REQUIREMENTS WITH ARCHITECTURAL.
3. PRIOR TO DEMOLITION WORK COMMENCING, CONTRACTOR TO COORDINATE WITH OWNER FOR DISPOSITION OF EXISTING EQUIPMENT TO BE REMOVED. CONTRACTOR TO REMOVE ITEMS TO BE RETAINED BY OWNER AND TRANSPORT THEM TO A PREDETERMINED AREA FOR STORAGE BY OWNER. ALL OTHER ITEMS TO BE REMOVED FROM SITE AND DISPOSED OF AT CONTRACTOR'S EXPENSE.
4. IN AREAS OF RENOVATION, THE EXISTING DUCT MAINS AND BRANCH LINES, PIPING, AND CONDUIT SHALL BE RAISED OR RELOCATED AS NECESSARY TO ALLOW FOR THE INSTALLATION OF NEW DUCTWORK AND PIPING AND MAINTAIN NEW CEILING HEIGHTS AS SET BY THE ARCHITECTURAL PLANS.
5. CONTRACTOR TO REMOVE EXISTING MECHANICAL EQUIPMENT AND APPURTENANCES AS INDICATED FROM EXISTING BUILDING.
6. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR REMOVAL OF EXISTING CONDUIT AND WIRING FEEDING EXISTING MECHANICAL EQUIPMENT TO BE REMOVED.
7. PRIOR TO ANY WORK COMMENCING USE DUCT TRAVERSES TO MEASURE AIRFLOW AT LOCATIONS INDICATED ON PLANS BY ✳. TYPICAL OF 20 LOCATIONS. RECORD READINGS AND FURNISH TO ENGINEER FOR REVIEW. FOR ROOF MOUNTED EQUIPMENT DUCT TRAVERSES TO BE TAKEN IN DUCT ABOVE CEILING ON THE FLOOR BELOW.
8. COORDINATE WITH GENERAL CONTRACTOR AND HOSPITAL STAFF FOR PHASING AND SHUT DOWN OF EXISTING AHUS. NEW UNITS ARE TO BE IN PLACE AND OPERATIONAL BEFORE EXISTING UNIT IS REMOVED.

WALL LEGEND (EXISTING HALFTONED)

	NON-RATED PARTITION TO 4" ABOVE CEILING
	NON-RATED PARTITION TO DECK
	SMOKE PARTITION TO DECK
	1-HOUR FIRE BARRIER
	1-HOUR SMOKE BARRIER
	1-HOUR RATED SHAFT WALL BARRIER
	2-HOUR FIRE BARRIER
	2-HOUR SMOKE BARRIER
	2-HOUR RATED SHAFT WALL BARRIER

DEMOLITION LEGEND

- EXISTING TO REMAIN
- DEMOLITION



3RD FLOOR HVAC DEMOLITION PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

3RD FLOOR HVAC DEMOLITION PLAN - PART A & B

Sheet Number

MD1.03A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
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CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
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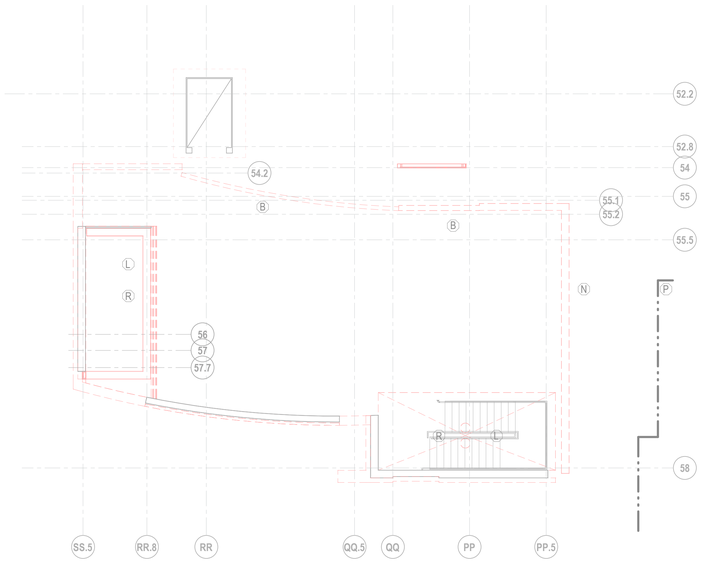

4TH FLOOR HVAC DEMOLITION PLAN - PART A

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

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5. CONTRACTOR TO REMOVE EXISTING MECHANICAL EQUIPMENT AND APPURTENANCES AS INDICATED FROM EXISTING BUILDING.
6. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR REMOVAL OF EXISTING CONDUIT AND WIRING FEEDING EXISTING MECHANICAL EQUIPMENT TO BE REMOVED.
7. PRIOR TO ANY WORK COMMENCING USE DUCT TRAVERSES TO MEASURE AIRFLOW AT LOCATIONS INDICATED ON PLANS BY ✳. TYPICAL OF 20 LOCATIONS. RECORD READINGS AND FURNISH TO ENGINEER FOR REVIEW. FOR ROOF MOUNTED EQUIPMENT DUCT TRAVERSES TO BE TAKEN IN DUCT ABOVE CEILING ON THE FLOOR BELOW.
8. COORDINATE WITH GENERAL CONTRACTOR AND HOSPITAL STAFF FOR PHASING AND SHUT DOWN OF EXISTING AHUS. NEW UNITS ARE TO BE IN PLACE AND OPERATIONAL BEFORE EXISTING UNIT IS REMOVED.
9. PRIOR TO DEMOLITION WORK COMMENCING, CONTRACTOR TO PROVIDE TEMPORARY CHILLED WATER AIR HANDLING UNIT WITH THE FOLLOWING CHARACTERISTICS:

SUPPLY - 15,000 CFM @ 3" E.S.P.
RETURN - 11,500 CFM @ 2" E.S.P.

COOLING COIL:
E.A.T. - 82°/68°
L.A.T. - 50°/49°

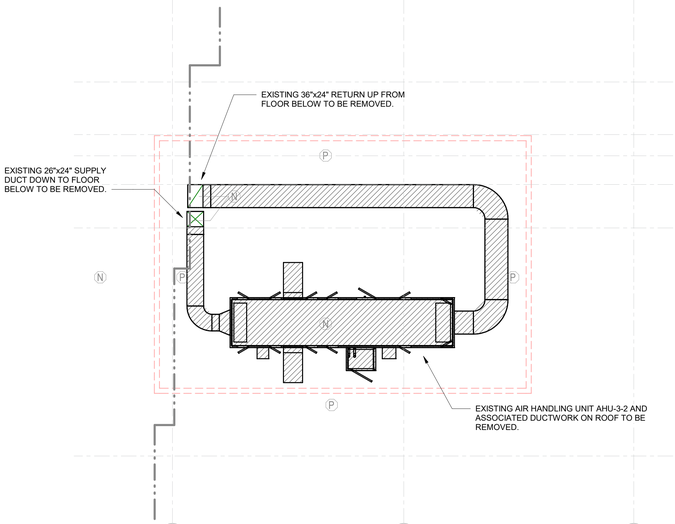
FILTERS:
PRE - 60%
FINAL - 95%

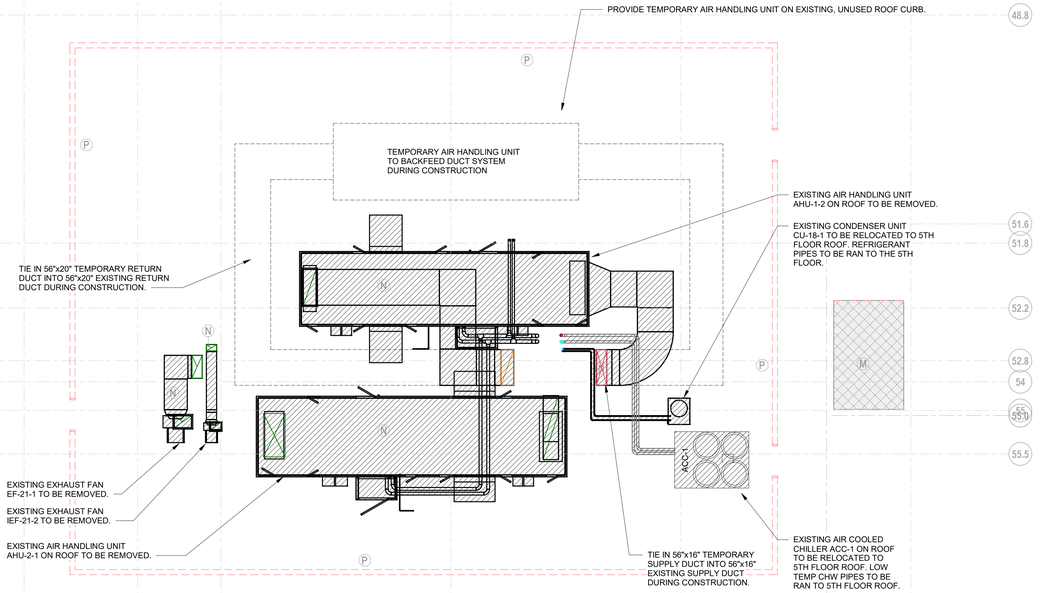
WALL LEGEND (EXISTING HALFTONED)

	NON-RATED PARTITION TO 4" ABOVE CEILING
	NON-RATED PARTITION TO DECK
	SMOKE PARTITION TO DECK
	1-HOUR FIRE BARRIER
	1-HOUR SMOKE BARRIER
	1-HOUR RATED SHAFT WALL BARRIER
	2-HOUR FIRE BARRIER
	2-HOUR SMOKE BARRIER
	2-HOUR RATED SHAFT WALL BARRIER

DEMOLITION LEGEND

	EXISTING TO REMAIN
	DEMOLITION





4TH FLOOR HVAC DEMOLITION PLAN - PART B

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

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

HCA Healthcare
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Seals

SOUTH CAROLINA — I.C. THOMASSON ASSOCIATES, INC. — No. C00675 — CERTIFICATE OF AUTHORIZATION

JAMES BOYD ATKINSON — No. 22967 — REGISTERED PROFESSIONAL ENGINEER — 8-26-22

Summerville Medical Center
Patient Tower Expansion
295 Midland Pkwy, Summerville, SC 29485

SUMMERVILLE MEDICAL CENTER
TRIDENT HEALTH

DOCUMENT CHANGES

Description	Date

Issue Description	CONSTRUCTION DOCUMENTS
Original Issue Date	08/30/22
HCA Project No	3400100049
Project No	220133
Drawn By	SWC
Checked By	JBJ

Drawing Title

4TH FLOOR HVAC DEMOLITION PLAN - PART A

Sheet Number

MD1.04A

PROJECT INFO.

FACILITY NAME:
Summerville Medical Center

PROJECT DESCRIPTION:
Patient Tower Expansion

HCA PROJECT NUMBER:
3400100049
AHJ PROJECT NUMBERS :
2925
CON NUMBER:
2925
ARCHITECT PROJECT NUMBER:
220133

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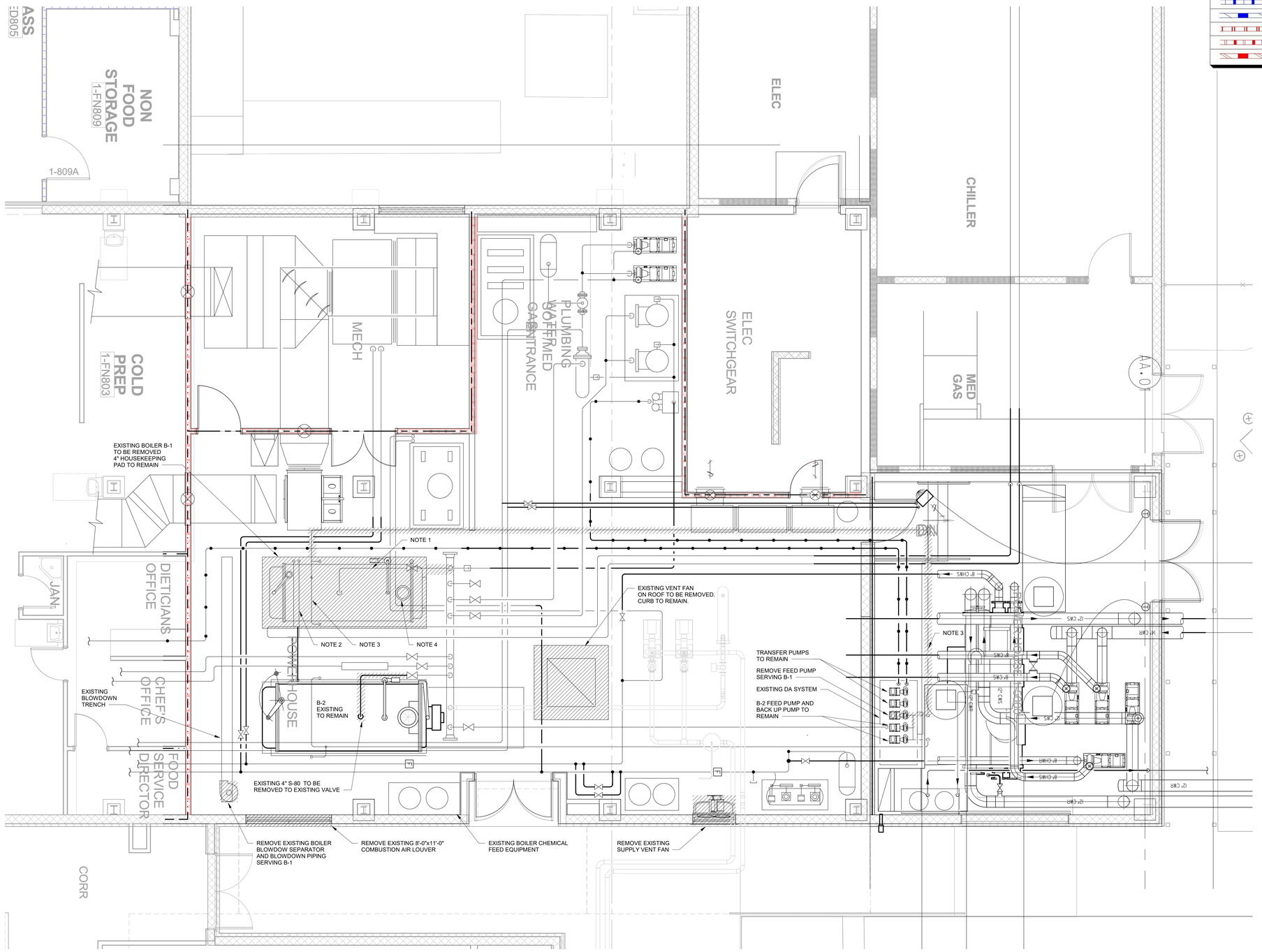

ENGLARGED POWERHOUSE DEMOLITION PLAN

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

WALL LEGEND (EXISTING HALFTONED)

- NON-RATED PARTITION TO 4" ABOVE CEILING
- NON-RATED PARTITION TO DECK
- SMOKE PARTITION TO DECK
- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 1-HOUR RATED SHAFT WALL BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 2-HOUR RATED SHAFT WALL BARRIER

DEMOLITION LEGEND

- EXISTING TO REMAIN
- DEMOLITION

PHASING:

A. REPLACE EXISTING BOILERS WITHOUT DELAYED SHUTDOWN.

B. PROVIDE TEMPORARY BOILER PACKAGE.

C. COORDINATE ALL SHUTDOWNS WITH FACILITY.

D. REMOVE ALL TEMPORARY PIPING WHEN PROJECT IS COMPLETE.

E. PATCH AND REPAIR ALL EXTERIOR WALL AND ROOF PENETRATIONS WHEN PROJECT IS COMPLETE.

SHEET NOTES:

1. REMOVE EXISTING BOILER STEAM CONNECTION TO HEADER.
2. REMOVE EXISTING 1"FOS&R PIPING AND CAP AT MAIN.
3. REMOVE EXISTING BOILER FEEDWATER PIPING.
4. REMOVE EXISTING 16"Ø FLUE THROUGH ROOF AND PROVIDE INSULATED CAP.

GRAPHIC SCALE: 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | 1/4" = 1'-0" | 3/16" = 1'-0" | 1/8" = 1'-0" | 3/32" = 1'-0" | 1/16" = 1'-0" | 1/32" = 1'-0"

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ENLARGED POWERHOUSE DEMOLITION PLAN

Sheet Number

MD3.01