

I:\2022\22011 - Darlington County School District\22011-A - Hartsville Middle - Mech Replacement\DWG\SHARTSVILLE MIDDLE AUDITORIUM HVAC UPGRADES_TITLEBLOCK.dwg 8/22/2022 11:04:32 AM

HARTSVILLE MIDDLE - AUDITORIUM HVAC DARLINGTON COUNTY SCHOOL DISTRICT 1427 14TH ST., HARTSVILLE, SC 29550

ABBREVIATIONS

ACT	ACOUSTICAL TILE	FLOUR	FLUORESCENT FIXTURE	PT	PAINT
ALUM	ALUMINUM	FTG	FOOTING	RD	ROOF DRAIN
BD	BOARD	GALV	GALVANIZED	REINF	REINFORCE (D) (ING)
BLKG	BLOCKING	GB	GRAB BAR	REQ'D	REQUIRED
CB	CHALK BOARD	GC	GENERAL CONTRACTOR	SCHED	SCHEDULE
CJ	CONTROL JOINT	GL	GLASS	SEC	SECTION
CT	CERAMIC TILE	GWB	GYP SUM WALL BOARD	SHT	SHEET
CMU	CONCRETE MASONRY UNIT	HM	HOLLOW METAL	SIM	SIMILAR
CONC	CONCRETE	HORIZ	HORIZONTAL	SS	STAINLESS STEEL
CONST	CONSTRUCTION	ID	INSIDE DIAMETER	STL	STEEL
CONT	CONTINUOUS	INSUL	INSULATION	SWC	SOLID WOOD CORE
COOR	COORDINATE	INT	INTERIOR	TB	TACK BOARD
CPT	CARPET	LAV	LAVATORY	TEMP	TEMPERED
CR	CLASSROOM	MAS	MASONRY	TOIL	TOILET
DBL	DOUBLE	MB	MARKER BOARD	TRT'D	TREATED
DS	DEEP SHELVES	MECH	MECHANICAL	TYP	TYPICAL
DTL	DETAIL	MFG/MFR	MANUFACTURER	UL	UNDERWRITER'S LABORATORY
DIM	DIMENSION	MIR	MIRROR	U.N.O.	UNLESS NOTED OTHERWISE
ELEV	ELEVATION	MO	MASONRY OPENING	VCT	VINYL COMPOSITION TILE
EA	EACH	MTL	METAL	VER	VERIFY
EJ	EXPANSION JOINT	NSG	NOSING	VERT	VERTICAL
ELEC	ELECTRICAL	NIC	NOT IN CONTRACT	VW	VIEW WINDOW
EQ	EQUAL	OC	ON CENTER	W/	WITH
EXIST	EXISTING	OD	OUTSIDE DIAMETER	W/O	WITH OUT
EXP	EXPANSION	OPNG	OPENING	WD	WOOD
EXT	EXTERIOR	PLAS LAM	PLASTIC LAMINATE		
FD	FLOOR DRAIN	PL	PLATE		
FE	FIRE EXTINGUISHER	PLUMB	PLUMBING		
FF	FINISH FLOOR	PR	PAIR		
FLR	FLOOR				

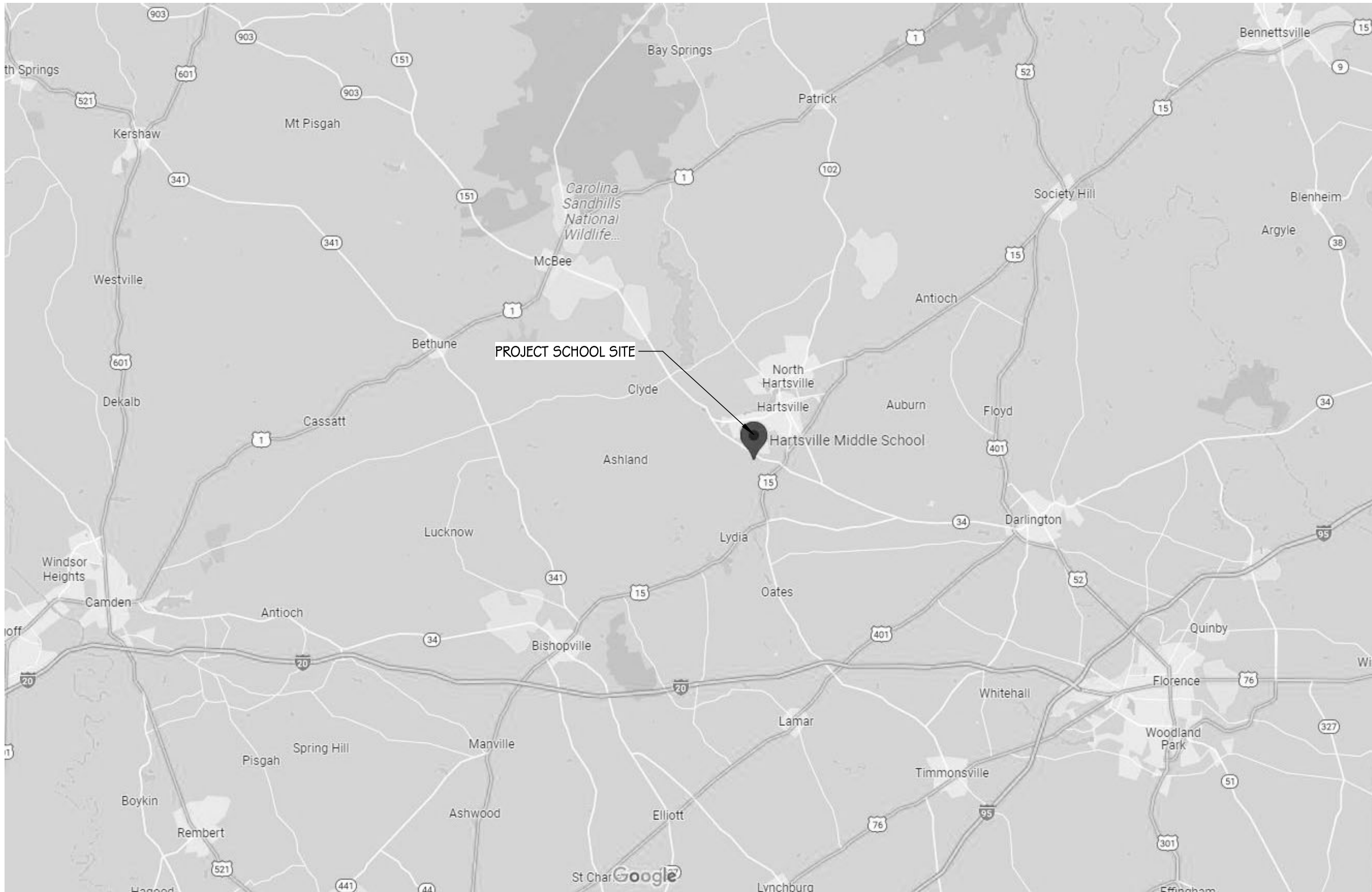
INDEX OF DRAWINGS

T101	COVER SHEET, DRAWING INDEX, ABBREV., CONTACTS
T102	FORM F3
MOO1	DETAILS, NOTES, SCHEDULES, AND LEGEND
M101	BUILDING 500 DEMOLITION PLAN
M102	BUILDING 500 RENOVATION PLAN
M103	MEZZANINE FLOOR PLANS
E001	ELECTRICAL SYMBOLS, NOTES AND DETAILS
E301	HVAC POWER PLAN - BUILDING 500

PROJECT CONTACTS

JOB SITE	- - -
CONTRACTOR'S OFFICE	- - -
OWNER XXXXXXXXXX	- - -
ARCHITECT JUMPER CARTER SEASE/ARCHITECTS, P.A.	803-791-1020
MECHANICAL ENGINEER SWYGERT & ASSOCIATES	803-791-9300
ELECTRICAL ENGINEER SIMS GROUP ENGINEERS, INC.	803-765-1007

LOCATION MAP



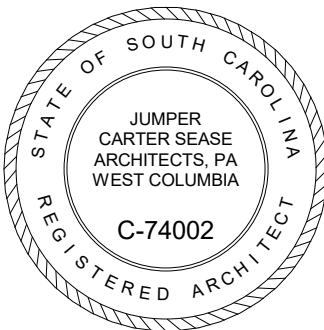
Jumper

Carter

Sease

ARCHITECTS

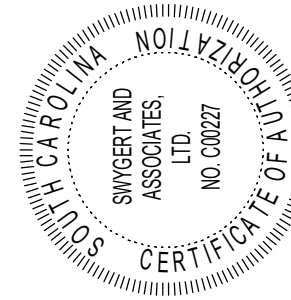
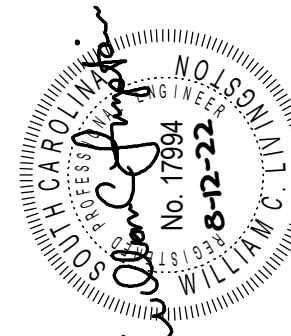
412 Meeting Street
West Columbia
South Carolina



HARTSVILLE MIDDLE - AUDITORIUM HVAC UPGRADES
DARLINGTON COUNTY SCHOOL DISTRICT
1427 14TH ST., HARTSVILLE, SC 29550

Description		Date
No		
DRAWN BY: HS		
CHECKED BY: JC		
COMM NO: 22011A		
DATE: JULY 2022		
SHEET TITLE: COVER SHEET, DRAWING INDEX, ABBREV., CONTACTS		
SHEET NO:		

T101



No	Description	Date

DRAWN BY: DEM
CHECKED BY: WCL
COMM NO: 22011A
DATE: 12 AUG. 2022
SHEET TITLE: DETAILS, NOTES, SCHEDULES, AND LEGEND

SHEET NO:

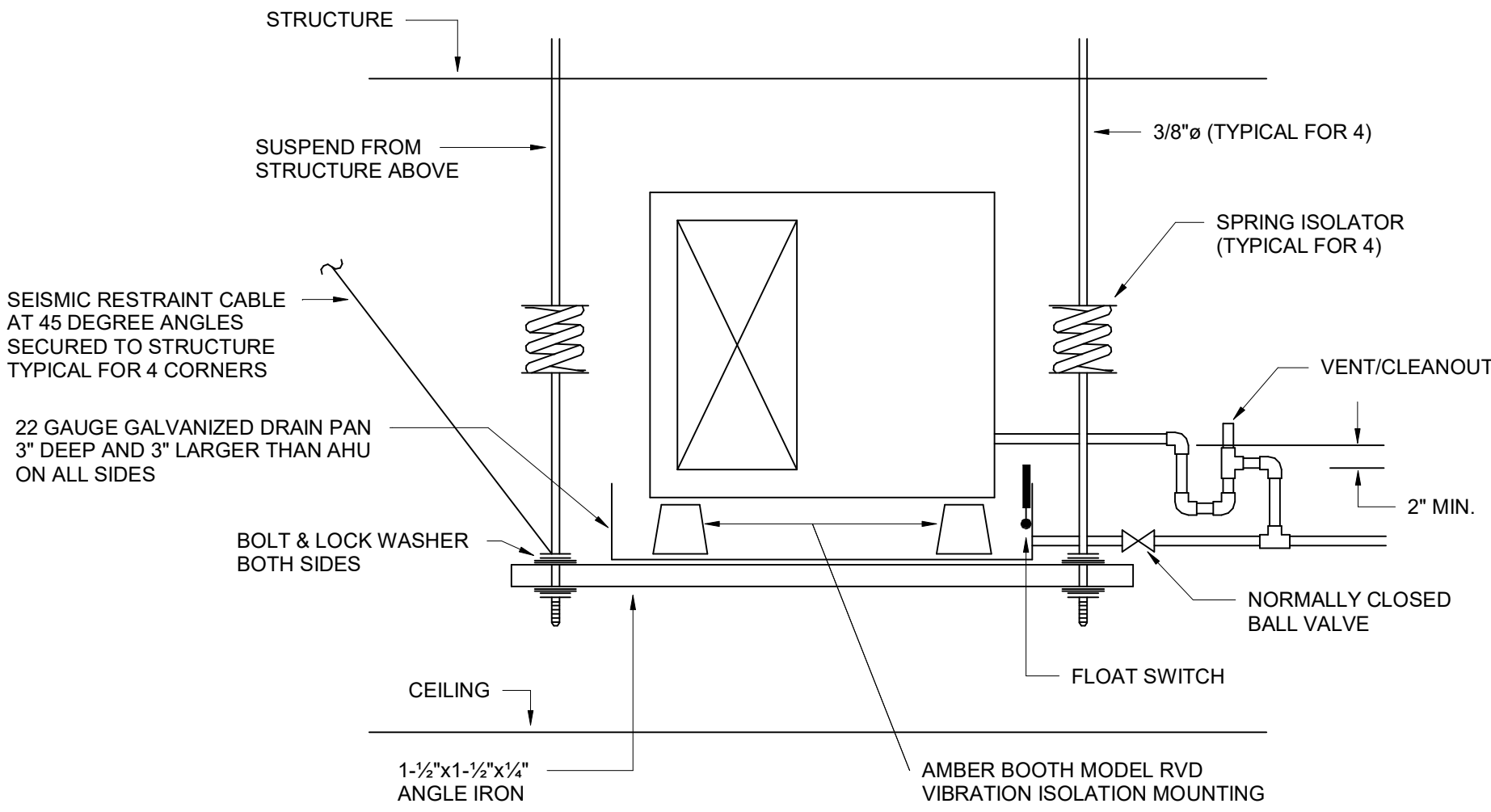
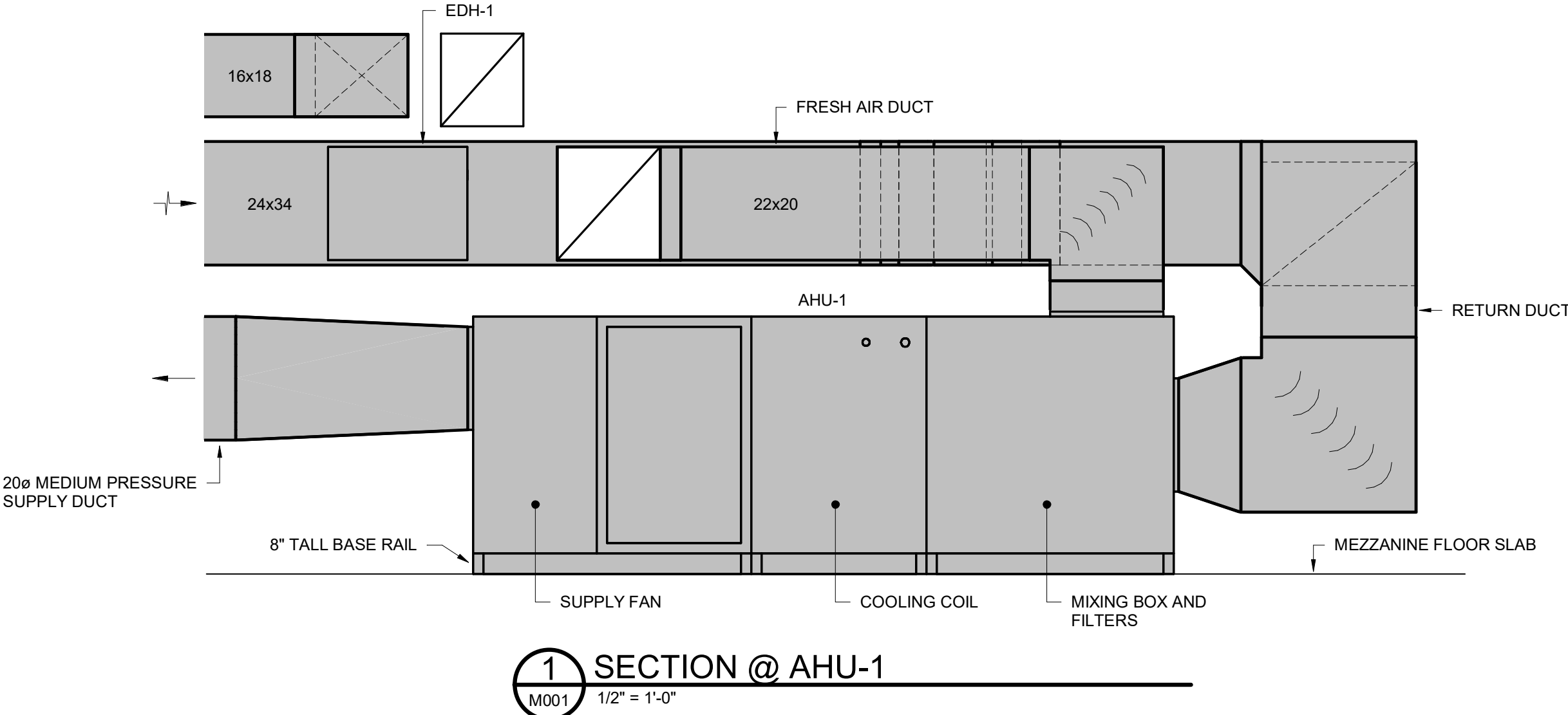
AIR HANDLING UNIT SCHEDULE									
TAG	DAIKIN MODEL NO.	AIRFLOW- CFM	OUTDOOR AIR-CFM	E.S.P.- IN. WG	MOTOR H.P. (QTY)	ELECTRIC HEAT KW	DX COOLING COIL		REMARKS
							EA DB/WB	LA DB/WB	
AHU-1	CAH019GDCM	8000	2700	2.0	4.0 (2)	30	84.4/70.5	55.6/54.2	1, 2, 3, 4, 5
1. UNIT SELECTION SHALL INCLUDE 0.50" FILTER LOAD. 2. PROVIDE MIXING BOX AND FILTER SECTION WITH TWO INCH MERV 13 FILTERS AND WITH DAMPERS FOR RETURN AND OUTSIDE AIR. 3. PROVIDE DIRECT DRIVE FAN ARRAY WITH FACTORY WIRED SINGLE POINT POWER CONNECTION. 4. FURNISH HAND/OFF/AUTO VARIABLE FREQUENCY DRIVE AND UNIT MOUNTED DISCONNECTS. 5. AIR HANDLER TO BE HORIZONTAL DRAW THRU. CONFIGURATION SHALL BE MIXING AND FILTER/ELECTRIC HEAT/DX COIL/FAN ARRAY.									

VRV SPLIT HEAT PUMP SCHEDULE							
TAG	DAIKIN MODEL	COOLING CAP -	HTG. CAP -	CFM		EER/COP	REMARKS
		MBH @ 80/67/95 TOTAL	MBH @ 47°F	O.A.	TOTAL		
SHP-24/26	REYQ120XAYDA	126.0	110.0	--	--	12.3/3.48	1
AHU-24	FXMQ72MVJU	74.4/49.1	84.0	400	1800	---	1, 2
AHU-26	FXMQ54PBVJU	55.6/40.7	62.2	400	1500	---	1, 2
1. PROVIDE WITH HARD WIRED WALL MOUNTED THERMOSTAT. INTERNAL CONDENSATE PUMP WITH FLOAT SWITCH WIRED TO SHUT DOWN UNIT IN ORDER TO PREVENT CONDENSATE OVERFLOW, AND REFRIGERANT ACCESSORIES INCLUDING SCHRADER VALVES AND BALL VALVES AT EACH AIR HANDLING UNIT.							
2. PROVIDE WITH FILTER RACK ON UNIT INLET AND THROWAWAY FILTER.							

SINGLE DUCT TERMINAL UNIT SCHEDULE									
TAG	TRANE MODEL	AIR INLET INCHES	COOLING		HEATING			MAX A.P.D. - IN. W.C.	REMARKS
			MAX CFM	MIN CFM	CFM	KW	STAGES		
1-25	VCEF	14"ø	2000	1000	1000	8.0	2	0.25	1, 2, 3
1-27	VCEF	16"ø	3000	1500	1500	12.0	3	0.25	1, 2, 3
1-28	VCEF	16"ø	3000	1500	1500	12.0	3	0.25	1, 2, 3
1. PROVIDE ELECTRIC HEATING COIL ON BOX DISCHARGE WITH 4'-0" OF STRAIGHT PLENUM BEFORE FITTINGS OR TAKEOFFS. 2. PROVIDE 1" MATTED FACED INSULATION. 3. CONTROLS SHALL BE FURNISHED BY THE CONTROLS CONTRACTOR AND FACTORY MOUNTED.									

AIR COOLED CONDENSING UNIT				
TAG	DAIKIN MODEL	NET COOLING CAPACITY - MBH @ 95°F	EER	REMARKS
SHP-1A	RXYQ216XAYDA	215	10.9	1, 2
SHP-1B	RXYQ216XAYDA	215	10.9	1, 2
1. PROVIDE DUAL CONDENSING UNITS AND BRANCH SELECTOR BOXES. 2. PROVIDE LOUVERED COIL GUARDS, LOW AMBIENT COOLING TO 0°F, AND LIQUID AND SUCTION LINE SERVICE VALVES.				

ELECTRIC DUCT HEATER SCHEDULE					
TAG	MARKEL MODEL	KW	STAGES	DUCT SIZE (WxH)	REMARKS
EDH-1	HF SERIES	30.0	SCR	34"x24"	1, 2
1. PROVIDE WITH DOOR INTERLOCKING DISCONNECT SWITCH. 2. PROVIDE WITH SCR CONTROLS, CONTROL TRANSFORMER, AIR FLOW SWITCH AND HIGH LIMIT SWITCH.					



AIR HANDLING UNIT SUPPORT DETAIL
NO SCALE

DESIGN CONDITIONS		
SEASON	OUTSIDE	INSIDE
SUMMER	96° FDB / 80° FWB	75° FDB / 50% - 60% RH
WINTER	23° FDB	70° FDB

GENERAL NOTES		
1.	ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE, 2018 INTERNATIONAL FUEL GAS CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE, ND 2006 SMACNA HVAC DUCT CONSTRUCTION STANDARD, ALL LOCAL CODES OR REQUIREMENTS STILL APPLY.	
2.	VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF INSTALLATION AND REFLECT THIS IN HIS BIDDING.	
3.	DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, AIR DISTRIBUTION, ETC.	
4.	DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.	
5.	ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.	
6.	EXISTING PIPE, DUCTWORK, CONDUIT, ETC. THAT INTERFERES WITH THE ROUTING OF NEW SYSTEMS SHALL BE RELOCATED. THIS CONTRACTOR SHALL INCLUDE THE COST OF SUCH IN HIS BID UNLESS NOTED OTHERWISE.	
7.	ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS.	
8.	ALL MECHANICAL ITEMS EXTENDING THROUGH WALLS SHALL BE FLASHED.	
9.	ALL PIPING IS SHOWN DIAGRAMMATIC. HOWEVER, THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED FITTINGS, PIPING AND INSULATION FOR ALL OFFSETS AND/OR CHANGES IN ELEVATION.	
10.	EXTEND ALL DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED - SO ROUTED AS TO AVOID INTERFERENCE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED PER STATIC PRESSURE REQUIREMENTS.	
11.	MINIMUM PIPE SIZE SHALL BE 3/4-INCH UNLESS INDICATED OTHERWISE.	
12.	ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE PROVIDED TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.	
13.	TURNING VANES SHALL BE PROVIDED AT ALL DUCTWORK ELBOWS AND CHANGES OF DIRECTION TO PROVIDE EVEN FLOW THROUGH DUCT SYSTEM.	
14.	MOTORIZED OUTSIDE AIR DAMPERS SHALL BE ABLE TO MODULATE AND ADJUST THE OPEN POSITION TO BALANCE THE OUTDOOR AIR TO THE SPECIFIED CFM.	
15.	ALL ITEMS OF EQUIPMENT IN MECHANICAL ROOM AND ON GRADE SHALL BE LOCATED ON REINFORCED CONCRETE FOUNDATIONS. MINIMUM 6-INCH THICK OR AS DETAILED ON THESE PLANS AND SPECIFICATIONS AND 6 INCHES LARGER THAN EQUIPMENT IN EACH DIRECTION. PADS SHALL BE REINFORCED PER THE HOUSEKEEPING PAD SECTION OF THE ASHRAE PRACTICAL GUIDE FOR SEISMIC RESTRAINT. ALL UNITS SHALL BE SECURED TO THE HOUSEKEEPING PAD WITH SEISMIC RESTRAINTS. PROVIDE 1-INCH CHAMFERS ON ALL SIDES.	
16.	PROVIDE FOR ACCESS TO ALL EQUIPMENT REQUIRING CLEANING OR ADJUSTMENT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE FULL SPACE FOR COIL REMOVAL AND REPLACEMENT FOR ALL HOT WATER AND CHILLED WATER AIR HANDLING UNITS.	
17.	THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF ALL MECHANICAL ITEMS.	
18.	REMOVAL AND REPLACEMENT OF CEILING, AS REQUIRED FOR INSTALLATION OF NEW WORK, SHALL BE DONE BY THIS CONTRACTOR.	
19.	THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING. DIVISION 26 WILL PROVIDE AND INSTALL ALL POWER WIRING. ALL WIRING SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. CONTROL WIRING SHALL BE CONCEALED WITHIN WALL AND ALL CONTROL WIRING SHALL BE ROUTED IN EMT CONDUIT INDOORS AND RIGID CONDUIT OUTDOORS. DUCT DETECTORS PROVIDED BY DIVISION 26 SHALL BE INSTALLED BY DIVISION 23. POWER WIRING AND FIRE ALARM CONNECTIONS SHALL BE BY DIVISION 26. CONTROL WIRING FOR UNIT SHUTDOWN AND SMOKE DAMPER CONTROL SHALL BE BY DIVISION 23.	
20.	LOCATE ALL SPACE CONTROL INSTRUMENTS 4'-0" ABOVE FINISHED FLOOR. COORDINATE LOCATIONS WITH ARCHITECTURAL ELEVATIONS TO AVOID ITEMS INCLUDING BUT NOT LIMITED TO CUSTOM FINISHES, FIXED CASEWORK, FURNITURE, AND DOOR SWINGS. IN THE EVENT OF CONFLICTS IN THE FIELD, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE A/E FOR FINAL APPROVAL OF LOCATION.	
21.	THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY DISMANTLING OF EQUIPMENT TO BE REMOVED. FREON SHALL BE RECLAIMED AND DISPOSED OF PER EPA REGULATIONS.	
22.	ITEMS REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.	
23.	THIS CONTRACTOR SHALL PATCH ALL WALLS AND FINISHES TO MATCH EXISTING WHERE ALL ITEMS OR EQUIPMENT ARE REMOVED.	
24.	THE HVAC SYSTEMS SHALL NOT BE OPERATED DURING HEAVY CONSTRUCTION OPERATIONS INCLUDING MASONRY, GYPSUM BOARD SANDING, HEAVY CLEANUP ACTIVITIES, OR OTHER ACTIVITIES THAT CREATE AIRBORNE PARTICLES OR DEBRIS. ALL SYSTEMS SHALL BE CLEAN OF CONSTRUCTION DEBRIS, DUST AND DIRT AT FINAL COMPLETION. DUCT CLEANING AND UNIT/COIL CLEANING SHALL BE PERFORMED IF REQUIRED. IF EQUIPMENT OPERATES DURING CONSTRUCTION PROVIDE FILTER MEDIA OVER ALL RETURN GRILLES AND RETURN DUCT OPENINGS TO PROTECT DUCTS AND EQUIPMENT.	

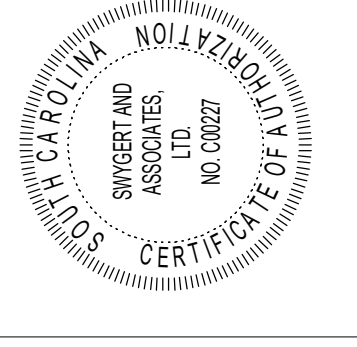
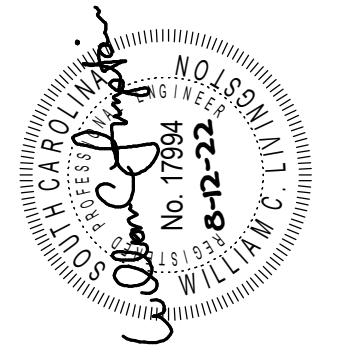
LEGEND	
SYMBOL	DESCRIPTION
	REFRIGERANT LINES
	DRAIN LINE
	RECTANGULAR SUPPLY DUCTWORK
	RETURN AND FRESH AIR DUCTWORK
	48"x24" RECTANGULAR DUCT
	ABOVE FINISHED FLOOR
	CONNECTION POINT OF NEW TO EXISTING

DEMOLITION NOTES

① REMOVE CONDENSING UNIT COMPLETE, INCLUDING BUT NOT LIMITED TO TUBING, AND WIRING. RECOVER AND DISPOSE OF REFRIGERANT PER EPA REGULATIONS.

Jumper
Carter
Sease

ARCHITECTS
412 Meeting Street
West Columbia
South Carolina



HARTSVILLE MIDDLE - AUDITORIUM HVAC UPGRADES
DARLINGTON COUNTY SCHOOL DISTRICT
1427 14TH ST., HARTSVILLE, SC 29550

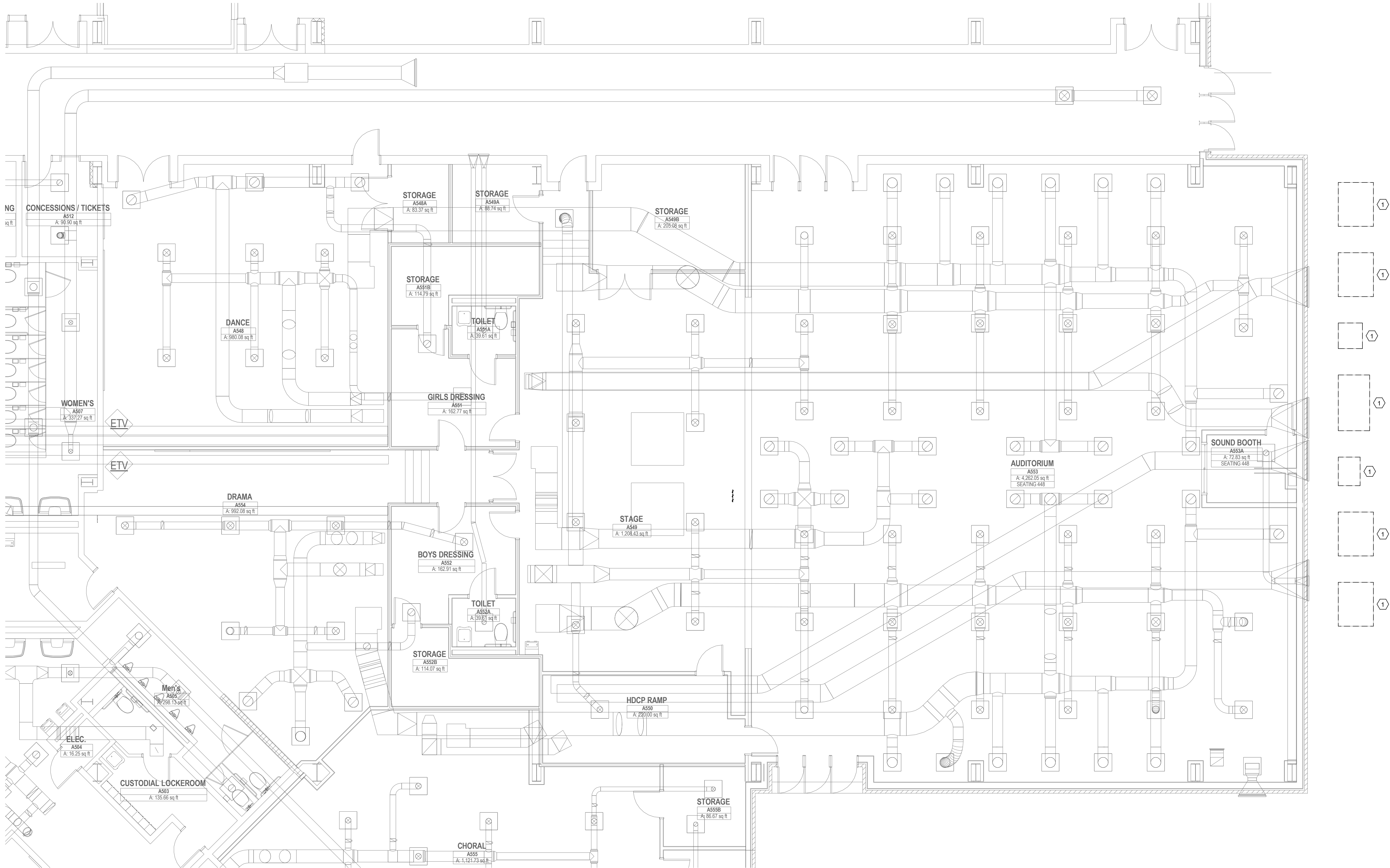
these drawings are the property of jumper carter sease architects/pa, and may not be reproduced, copied or used in whole or in part without written consent of the architect. any infringement will be subject to legal action

No	Description	Date

DRAWN BY: DEM
CHECKED BY: WCL
COMM NO: 22011A
DATE: 12 AUG. 2022
SHEET TITLE: BUILDING 500
DEMOLITION PLAN

SHEET NO:
M101

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd. Telephone: (803) 791-9300
Post Office Box 11666 Facsimile: (803) 791-6830
Columbia, S.C. 29211 mail@swygert-associates.com



DEMOLITION FLOOR PLAN - BUILDING 500
M101 3/16" = 1'-0"

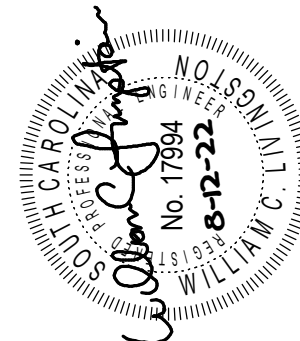
Jumper

Carter

Sease

ARCHITECTS

412 Meeting Street
West Columbia
South Carolina



these drawings are the property of jumper carter sease architects/p.e., and may not be reproduced, copied or used in whole or in part without written consent of the architect. any infringement will be subject to legal action

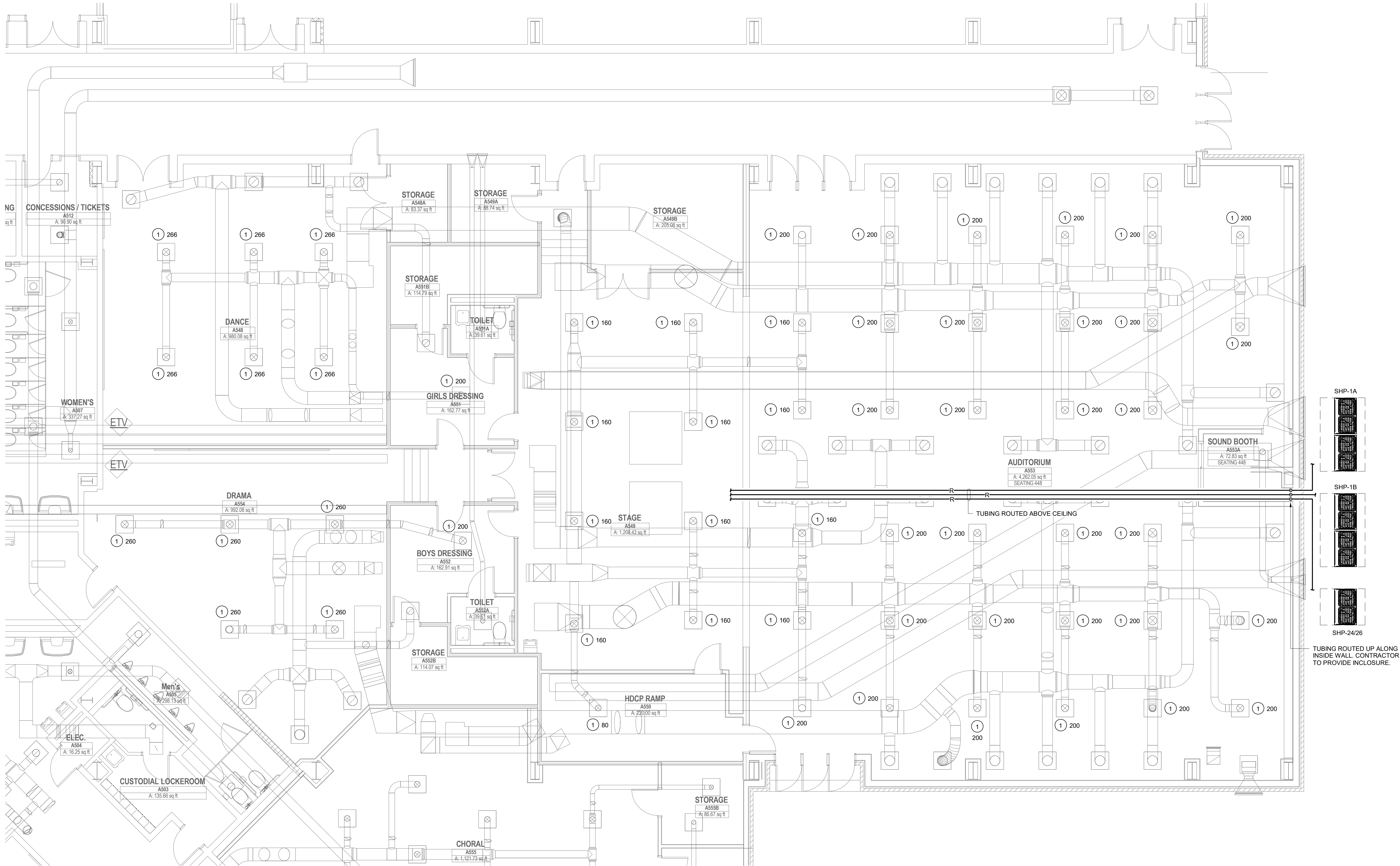
HARTSVILLE MIDDLE - AUDITORIUM HVAC UPGRADES
DARLINGTON COUNTY SCHOOL DISTRICT
1427 14TH ST., HARTSVILLE, SC 29550

No	Description	Date

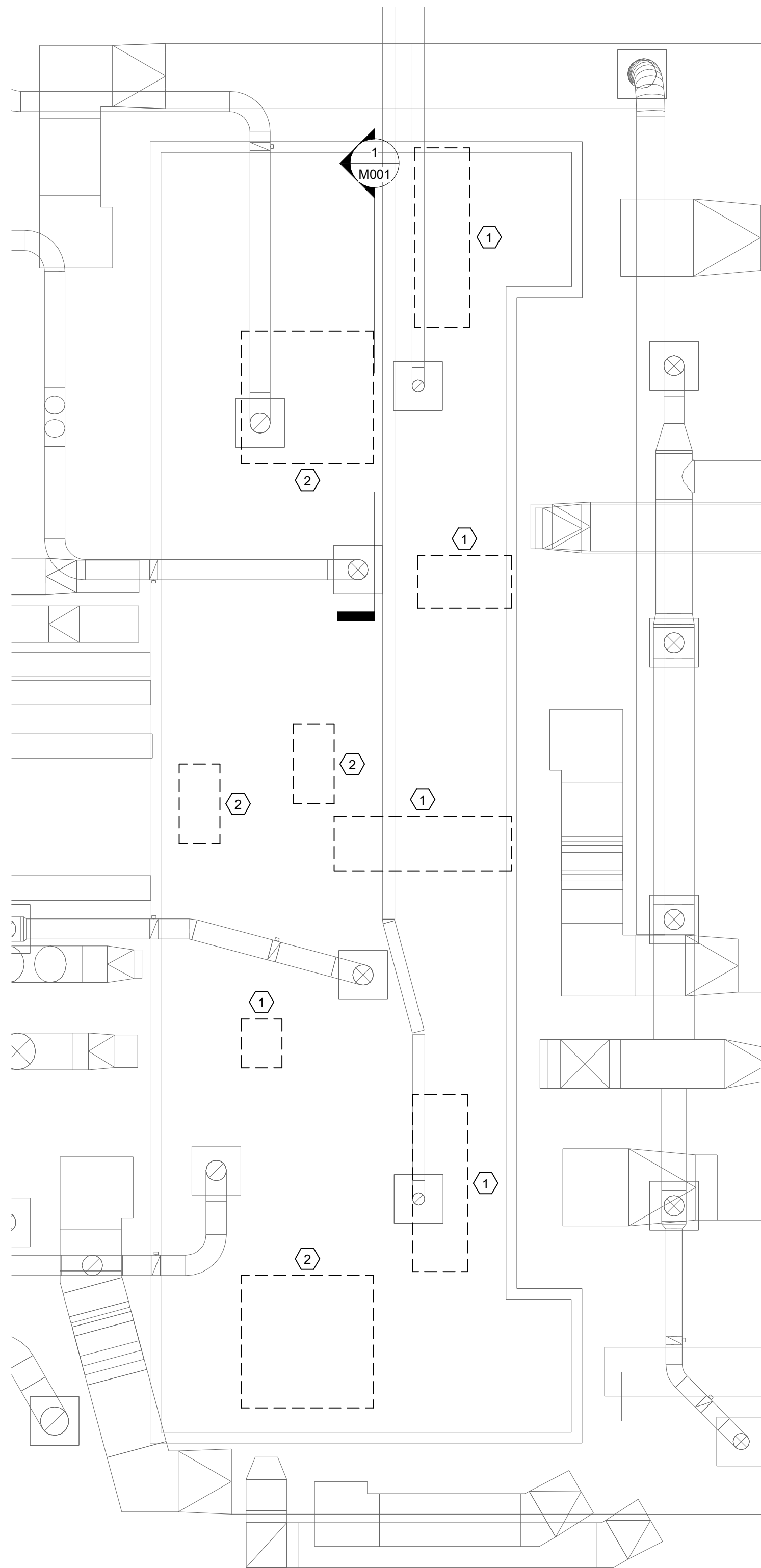
DRAWN BY: DEM
CHECKED BY: WCL
COMM NO: 22011A
DATE: 12 AUG. 2022
SHEET TITLE: BUILDING 500 RENOVATION PLAN

SHEET NO:

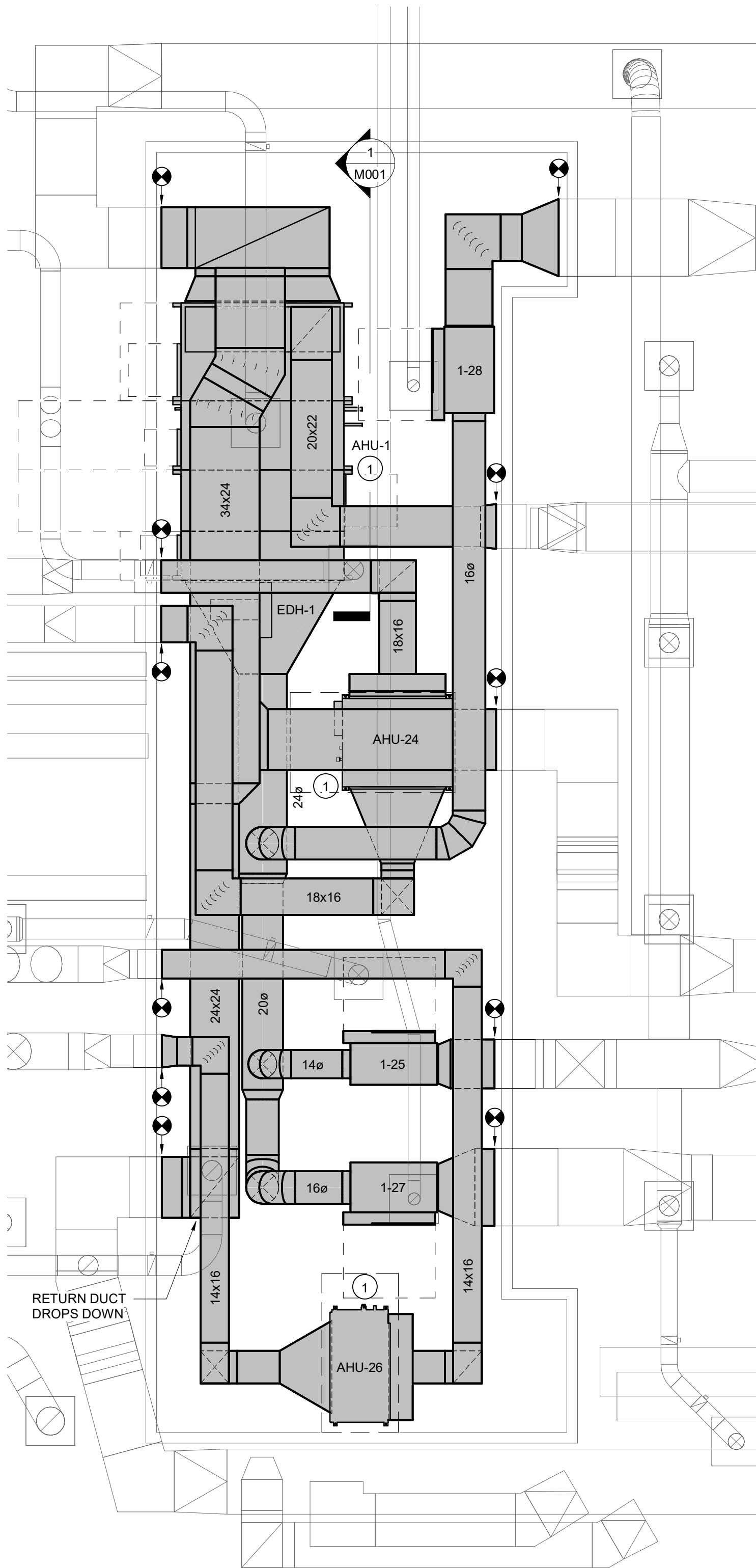
M102



1 FLOOR PLAN - BUILDING 500
M102 3/16" = 1'-0"



1 MEZZANINE PLAN - DEMOLITION
M103 1/4" = 1'-0"



2 MEZZANINE PLAN - RENOVATION
M103 1/4" = 1'-0"

DEMOLITION NOTES
1 REMOVE EXISTING AIR HANDLER COMPLETE, INCLUDING BUT NOT LIMITED TO DUCTWORK IN MEZZANINE, ALL TUBING, WIRING AND SUPPORTS.
2 REMOVE EXISTING ENERGY RECOVERY UNIT COMPLETE, INCLUDING BUT NOT LIMITED TO DUCTWORK IN MEZZANINE, WIRING AND SUPPORTS.

NOTES TO SHEET
1 ROUTE CONDENSATE TO FLOOR DRAIN.

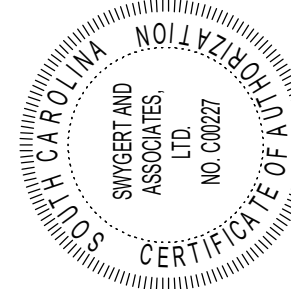
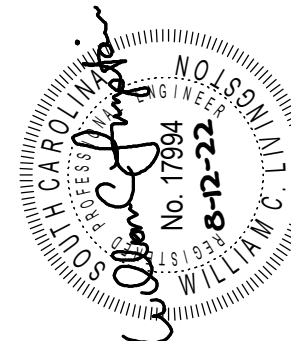
Jumper

Carter

Sease

ARCHITECTS

412 Meeting Street
West Columbia
South Carolina



HARTSVILLE MIDDLE - AUDITORIUM HVAC UPGRADES
DARLINGTON COUNTY SCHOOL DISTRICT
1427 14TH ST., HARTSVILLE, SC 29550

No	Description	Date

DRAWN BY:	DEM
CHECKED BY:	WCL
COMM NO:	22011A
DATE:	12 AUG. 2022
SHEET TITLE:	MEZZANINE FLOOR PLANS

SHEET NO:

M103

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd. Telephone: (803) 791-9300
Post Office Box 11666 Facsimile: (803) 791-6830
Columbia, S.C. 29211 mail@swygert-associates.com

ELECTRICAL SYMBOLS	
	DUPLEX RECEPTACLE, 20A, 120V, NEMA 5/20R, 18" AFF TO BOTTOM OF OUTLET BOX. - "TR" DENOTES TAMPER-RESISTANT RECEPTACLE, SEE 260500. - "CR" DENOTES CORROSION-RESISTANT RECEPTACLE, SEE 260500. - "WP" DENOTES WEATHER-RESISTANT RECEPTACLE [NEC, SECTION 406.9(A)] WITH EXTRA-DUTY RATED "IN-USE" WEATHERPROOF COVER PLATE, SEE 260500.
	SAME, EXCEPT MOUNTED 3" TO BOTTOM OF OUTLET FROM COUNTER BACKSPLASH, OR 48" AFF TO TOP OF OUTLET, OR AS DETAILED ON DRAWINGS. SEE ELEVATION THIS SHEET.
	GFCI RECEPTACLE, MOUNTING HEIGHTS AS ABOVE. "WP" DENOTES WEATHER-RESISTANT RECEPTACLE [NEC, SECTION 406.9(A)] WITH WEATHERPROOF COVER PLATE, SEE SPECIFICATIONS.
	WALL OR CEILING MOUNTED JUNCTION BOX.
	NON-FUSED SAFETY SWITCH, 3 POLE (AMPS/VOLTS/NF/ENCLOSURE), SEE NOTES ON DRAWINGS.
	SAME, EXCEPT FUSED SAFETY SWITCH (AMPS/VOLTS/FUSE/ENCLOSURE).
	EQUIPMENT ELECTRICAL CONNECTION. SEE EQUIPMENT POWER NOTES ON DRAWINGS.
	MOTOR CONTROLLER, STARTER, OR VFD FURNISHED WITH EQUIPMENT, INSTALLED AND POWER WIRED BY ELECTRICAL CONTRACTOR.
	MOTOR, NUMERAL DENOTES HORSEPOWER. "F" FOR FRACTIONAL HORSEPOWER.
	PANELBOARD.
	BRANCH CIRCUIT WIRING RUN CONCEALED IN WALLS OR CEILING, 1#120, 2#12 UNLESS NOTED OTHERWISE. ARROW DENOTES HOME RUN AND NUMERAL DENOTES CIRCUIT NUMBER. WHERE MORE THAN TWO CONDUCTORS ARE REQUIRED, SLASH MARKS INDICATE NUMBER OF #12 CONDUCTORS: - - - - - SHORT SLASH DENOTES HOT OR SWITCH LEG, - - - - - LONG SLASH DENOTES NEUTRAL - - - - - "L" DENOTES GROUNDING WIRE
	MULTIWIRE BRANCH CIRCUITS USING A SHARED OR COMMON NEUTRAL ARE NOT PERMITTED ON THIS PROJECT. THE CONTRACTOR SHALL PULL A SEPARATE NEUTRAL FOR ALL 120V AND 277V CIRCUITS. CONDUIT HOMERUNS TO PANELBOARDS SHALL BE 3/4" MINIMUM, OTHERWISE RACEWAYS SHALL BE 1/2" MINIMUM, EXCEPT THAT FLEXIBLE CONDUIT SHALL BE 3/8" MINIMUM.
	SAME, EXCEPT RUN UNDERGROUND OR UNDERFLOOR.
	SAME, EXCEPT RUN EXPOSED.

SCOPE OF WORK
THE WORK OF THIS SECTION SHALL PROVIDE COMPLETE ELECTRICAL SYSTEMS WHICH SHALL INCLUDE THE PROVIDING OF ALL CONDUCTORS, RACES, FITTINGS, CIRCUIT PROTECTIVE DEVICES, LIGHT FIXTURES, BOXES, SUPPORTS, AND ALL ASSOCIATED APPURTENANCES AND MISCELLANEOUS EQUIPMENT NECESSARY, ALL OF WHICH SHALL BE COMPLETELY CONNECTED, TESTED, ADJUSTED AND LEFT IN PROPER OPERATING CONDITION. THE ELECTRICAL SYSTEM TO BE PROVIDED SHALL INCLUDE SERVICE AND DISTRIBUTION FACILITIES POWER FOR MOTOR OPERATED EQUIPMENT, LIGHTING SYSTEMS, AND ALL OUTLETS AS COVERED HEREINAFTER.

GENERAL NOTES:

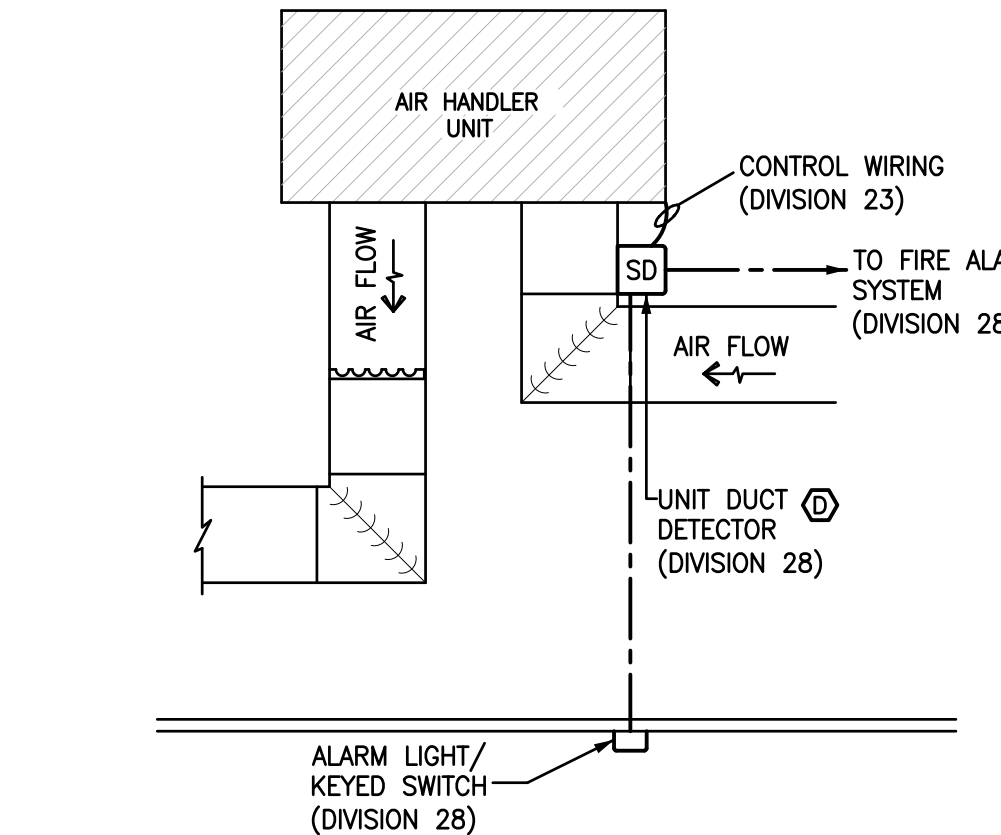
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE (NEC), THE 2018 INTERNATIONAL BUILDING CODE (IBC), AND ANY LOCAL CODES, LAWS AND ORDINANCES WHICH MAY APPLY. WHERE DIFFERENCES EXIST BETWEEN THE CODES, THE STRICTER CODE SHALL APPLY.
- ALL CONDUITS SHALL CONTAIN A GROUNDING CONDUCTOR REGARDLESS OF USE.
- THE CONTRACTOR FOR THE WORK UNDER THIS SECTION SHALL PROCURE AND PAY FOR ALL PERMITS, FEES, AND LICENSES REQUIRED FOR THE EXECUTION OF THIS WORK. SATISFACTORY EVIDENCE OF COMPLIANCE WITH THE REQUIREMENT AND ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER PROMPTLY UPON REQUEST.
- TYPE MC CABLE MAY NOT BE USED ON THIS PROJECT.
- UNLESS OTHERWISE NOTED FOR 120-VOLT, 20-AMP CKTS:
#10 AWG SHALL BE USED FOR HOMERUNS LONGER THAN 75 FEET
#12 AWG SHALL BE USED FOR HOMERUNS 75 FEET OR SHORTER
- MULTIWIRE BRANCH CIRCUITS USING A SHARED OR COMMON NEUTRAL ARE NOT PERMITTED ON THIS PROJECT. THE CONTRACTOR SHALL PULL A SEPARATE NEUTRAL FOR ALL 120V AND 277V CIRCUITS.
- MOUNT RECEPTACLES 16" AFF UNLESS OTHERWISE NOTED.
- ELECTRICAL METALLIC TUBING AND RIGID GALVANIZED STEEL CONDUIT SHALL BE THE ONLY TYPES OF CONDUIT INSTALLED WITHIN THE BUILDING. PVC IS PERMITTED UNDERGROUND.
- BRANCH CIRCUITS SHALL BE RUN CONCEALED WHERE PRACTICAL. BRANCH CIRCUITS RUN EXPOSED TO WEATHER ON EXTERIOR WALLS OR ON ROOFS SHALL BE RUN IN GRC OR IMC WITH SORENED FITTINGS. BRANCH CIRCUITS RUN CONCEALED IN WALLS OR CEILINGS SHALL BE RUN IN EMT, GRC, OR IMC. BRANCH CIRCUITS RUN EXPOSED IN DRY, FINISHED SPACES SHALL BE RUN IN WIREMOLD SURFACE METAL RACEWAY. BRANCH CIRCUITS RUN EXPOSED IN DAMP LOCATIONS, UNFINISHED SPACES (ATTICS), AND UNOCCUPIED SPACES (STORAGE ROOM, EQUIPMENT ROOMS, JANITOR'S CLOSET, ETC.) MAY BE RUN IN EMT IN LIEU OF WIREMOLD.
- CONDUIT HOMERUNS TO PANELBOARDS AND CONDUITS SHOWN WITH MULTIPLE CIRCUITS SHALL BE 3/4" MINIMUM, OTHERWISE RACEWAYS SHALL BE 1/2" MINIMUM, EXCEPT THAT FLEXIBLE CONDUIT SHALL BE 3/8" MINIMUM.
- INTERIOR CONDUIT HOMERUNS TO PANELBOARDS SHALL BE RUN OVERHEAD IN EMT, GRC, OR IMC UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- FIRE ALARM SYSTEM CONDUITS AND COMMUNICATIONS SYSTEM CONDUITS TO BE EMT RUN OVERHEAD CONCEALED IN WALLS OR CEILING UNLESS NOTED OTHERWISE.
- ALL FIRE RATED WALLS, FLOORS, ETC WHICH HAVE A CONDUIT OR OTHER ELECTRICAL PENETRATION SHALL BE SEALED TO EQUAL THE RATING OF THE WALL, FLOOR, ETC. THAT IS PENETRATED. CONTRACTOR SHALL, A U.L. RATED AND LISTED ASSEMBLY FOR THE SEALING MATERIAL AND METHOD. COORDINATE MANUFACTURER WITH THE GENERAL CONTRACTOR SO THAT ALL TRADES ON THE PROJECT USE THE SAME MANUFACTURER. THROUGH PENETRATIONS OF CONDUITS AND CABLES OF FIRE RESISTANCE RATED WALLS MUST COMPLY WITH SECTION 714.3.1 OF THE IBC. THROUGH PENETRATIONS OF FIRE RESISTANCE CEILING ASSEMBLIES MUST COMPLY WITH SECTION 714.4.1.1 OF THE IBC.
- ALL OUTLET BOXES 4"x4" OR SMALLER LOCATED ON OPPOSITE SIDES OF A RATED WALL SHALL HAVE A MINIMUM OF 24" HORIZONTAL SPACING OR SHALL BE PROTECTED WITH LISTED PUTTY PADS. ALL OUTLET BOXES LARGER THAN 4"x4" (COMMUNICATIONS OUTLETS, ETC.) LOCATED IN RATED WALLS SHALL BE PROTECTED WITH LISTED PUTTY PADS.
- COMMUNICATIONS OUTLET BOXES TO BE 4"x4"x2 8" FOR CONDUIT SIZES 1" AND SMALLER, AND 4 1/2"x4 1/2"x2 8" FOR 1 1/2" CONDUIT.
- METALLIC WATER PIPING SHALL BE BONDED TO THE GROUNDING ELECTRODE SYSTEM (SEE NEC 250-104).
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS, CABINETS, ETC.
- CONCEAL ALL CONDUIT AND FITTINGS EXCEPT WHERE THE ARCHITECT GRANTS SPECIFIC PERMISSION.
- ALL WORK AND MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE.
- PROVIDE ONE COMPLETE SET OF ELECTRICAL DRAWINGS MARKED UP FOR RECORD DRAWINGS. SHOW ALL LOCATIONS OF EQUIPMENT AND MATERIALS.
- INSTALL ALL MATERIALS PER MANUFACTURER'S INSTRUCTIONS.
- IDENTIFY MAJOR EQUIPMENT INSTALLED WITH LAMICOR LABELS (SEE SPECS). PROVIDE FLASH HAZARD SIGN AT ALL ELECTRICAL PANELS. PROVIDE A TYPED DIRECTORY IN ALL PANEL BOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS.
- VISIT SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID.
- ALL RACEWAYS, FIXTURES, WIRING, DEVICES, AND EQUIPMENT RENDERED USELESS BY THIS WORK SHALL BE REMOVED AND DELIVERED TO THE OWNER'S STORAGE FACILITY AS DIRECTED. ANY MATERIAL NOT WANTED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL DO ALL CUTTING AND PATCHING AS REQUIRED TO INSTALL HIS WORK. FINISH PATCHING AND PAINTING WILL BE DONE BY THE GENERAL CONTRACTOR.
- PRIOR TO DIGGING ANY TRENCHES, NOTIFY ALL UTILITIES AND OBTAIN LOCATIONS OF UNDERGROUND UTILITIES. ANY DAMAGES DONE TO UNDERGROUND UTILITIES OR PIPING BY THIS CONTRACTOR WILL BE REPAIRED BY THE OWNER OF THE LINE IN A SATISFACTORY MANNER. THIS CONTRACTOR WILL BEAR ALL COSTS FOR REPAIRS.
- CONDUITS TO BE RUN UNDER WALKWAYS AND PAVINGS SHALL BE INSTALLED BY JACKING OR BORING, UNLESS NOTED. DO NOT CUT WALKWAYS OR PAVEMENTS, UNLESS ACCEPTABLE TO THE ENGINEER. ALLOWED CUTS IN PAVEMENT OR CONCRETE SHALL BE MADE USING A PAVEMENT SAW, AND SHALL BE PATCHED TO MATCH THE EXISTING SURFACE.
- WHERE DISAGREEMENTS EXISTS ON THE DESIGN DOCUMENTS, THE ITEM OR ARRANGEMENTS OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST SHALL BE INCLUDED IN THE BASE BID. ANY DISCREPANCIES BETWEEN THE DRAWINGS, SPECIFICATIONS, AND FIELD CONDITIONS SHALL BE RESOLVED WITH THE ENGINEER PRIOR TO COMMENCING WORK. ALL AGREEMENTS SHALL BE VERIFIED IN WRITING.
- ALL WORK UNDER THIS SECTION SHALL BE COORDINATED WITH OTHER TRADES TO INSURE PROPER LOCATION OF OUTLETS AND EQUIPMENT CONNECTIONS, AND TO MINIMIZE CONFLICTS WITH STRUCTURAL MEMBERS, DUCT WORK, PIPING, ETC. CONFLICTS BETWEEN EQUIPMENT AND/OR MATERIAL LOCATIONS SHALL BE CORRECTED AS DIRECTED BY THE ARCHITECT-ENGINEER AT NO ADDITIONAL COST TO THE OWNER.

ELECTRICAL SUBMITTALS	
ELECTRICAL SHOP DRAWINGS SHALL BE SUBMITTED IN ONE COMPLETE PACKAGE CONTAINING ALL ITEMS REQUIRED BY THE ELECTRICAL DRAWINGS AND THE DIVISION 26-28 SPECIFICATIONS. PARTIAL SHOP DRAWING SUBMITTALS MAY BE REJECTED BY THE ARCHITECT-ENGINEER. REFER TO SECTION 260510 OF THE ELECTRICAL SPECIFICATIONS FOR REQUIRED SUBMITTAL FORMAT AND FOR ADDITIONAL REQUIREMENTS.	

ABBREVIATIONS		
A	AMPERES	LTG LIGHTING
AFF	ABOVE FINISHED FLOOR	MFR MANUFACTURER
AFG	ABOVE FINISHED GRADE	MLO MAIN LUGS ONLY
AWG	AMERICAN WIRE GAUGE	NEC NATIONAL ELECTRICAL CODE
AHJ	AUTHORITY HAVING JURISDICTION	NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CKT	CIRCUIT	NIC NOT IN CONTRACT
CU	COPPER	PH# PHASE
EC	EMPTY CONDUIT	RCPT RECEPTACLE
EQPT	EQUIPMENT	RE: REFER TO
EXST	EXISTING	TYP TYPICAL
FWE	FURNISHED WITH EQUIPMENT	UNO UNLESS NOTED OTHERWISE
GFI	GROUND FAULT INTERRUPTER	V VOLTS
IAW	IN ACCORDANCE WITH	W WIRE OR WATTS
KVA	KILOVOLTAMPERES	WP WEATHERPROOF
KW	KILOWATTS	

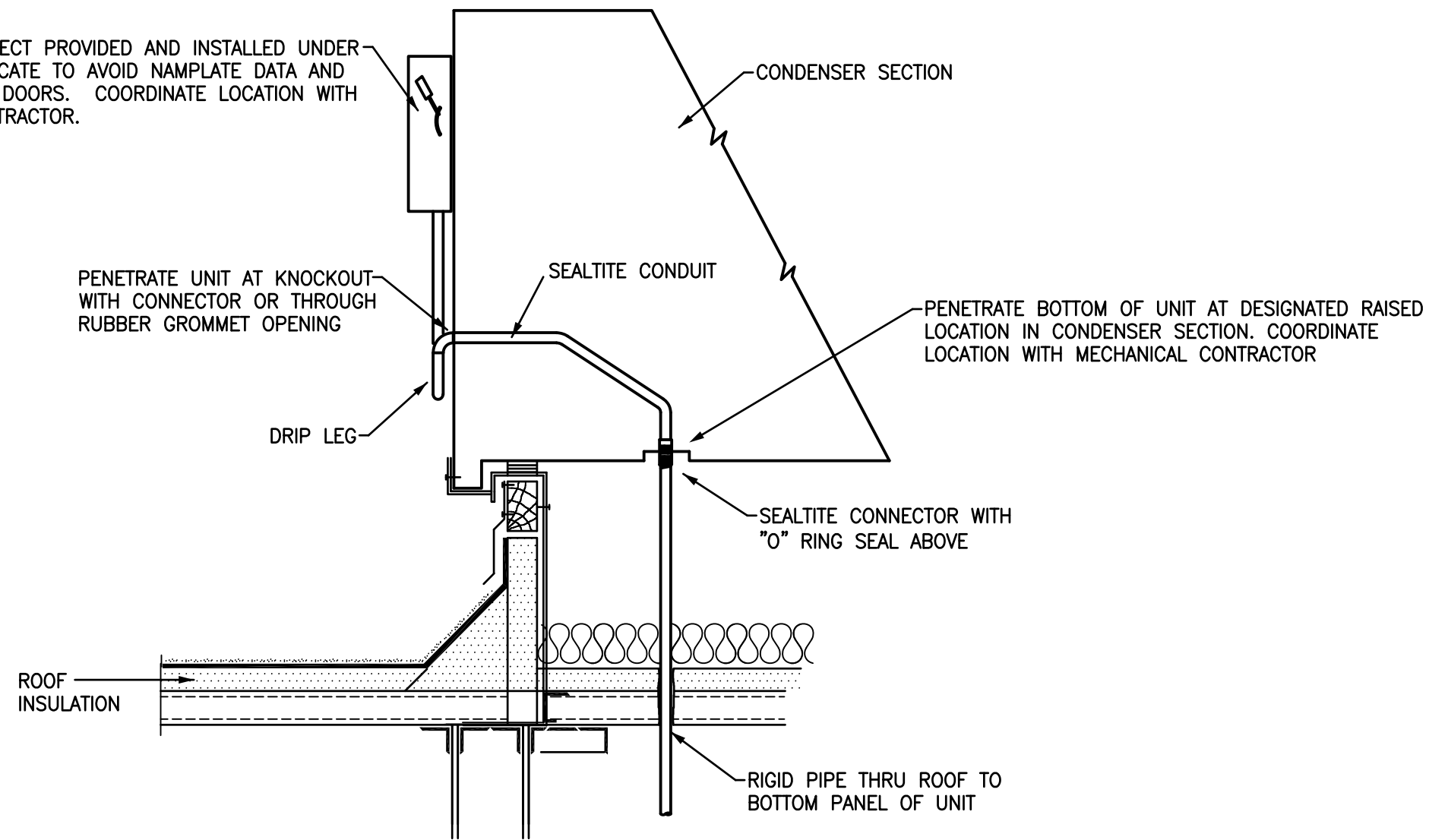
- ELECTRICAL DEMOLITION NOTES**
- IT IS THE GENERAL INTENTION OF THESE DRAWINGS TO COVER ALL SITUATIONS WHERE AN ITEM IS TO BE REMOVED, WHETHER IT HAPPENS TO BE A LIGHT FIXTURE, DUPLEX RECEPTACLE, LIGHT SWITCH, FIRE ALARM DEVICE, OR OTHER ELECTRICAL ITEM. THE ELECTRICAL CONTRACTOR SHALL ASSIST THE MECHANICAL AND GENERAL CONTRACTORS IN REMOVAL OF EQUIPMENT WITH ELECTRICAL CONNECTIONS BEING REMOVED BY THESE CONTRACTORS.
 - PRIOR TO SUBMITTING BID, THE CONTRACTOR SHALL SURVEY THE EXISTING BUILDING AND MAKE NOTE OF ANY ADDITIONAL DEMOLITION AND/OR ANY ADDITIONAL REMOVAL AND RELOCATION WHICH MAY BE REQUIRED IN ORDER TO ACCOMPLISH RENOVATIONS INDICATED IN CONTRACT DOCUMENTS. NO CHANGE ORDER WILL BE ISSUED FOR ADDITIONAL WORK REQUIRED FOR DEMOLITION, REMOVAL, OR RELOCATION WORK NOT INDICATED ON THESE DRAWINGS BUT NECESSARY TO COMPLETE WORK.
 - IN ALL AREAS WHERE EXISTING WALLS ARE BEING REMOVED, NEW WALLS ARE BEING ADDED, AND WHERE OTHER DEMOLITION WORK IS OCCURRING, REMOVE ALL EXISTING RECEPTACLES, LIGHTS, AND OTHER ELECTRICAL DEVICES, AND ALL WIRING AND CONDUIT NOT BEING REUSED. EXISTING CONDUIT RUN CONCEALED IN EXISTING WALLS NOT BEING REMOVED AND/OR REPLACED MAY BE ABANDONED. ALL DEMOLITION MUST BE COORDINATED WITH THE ARCHITECT AND WITH ALL OTHER TRADES TO AVOID CONFLICTS. REFER TO THE ARCHITECTURAL DEMOLITION PLAN.
 - NO EXISTING ELECTRICAL MATERIALS, EQUIPMENT, WIRING, OR CONDUIT BEING REMOVED MAY BE REUSED ON THIS PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE DRAWINGS. ALL EXISTING ELECTRICAL MATERIALS AND EQUIPMENT NOT BEING REUSED SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTES.

- HVAC POWER PLAN NOTES (NOTES APPLY TO ALL HVAC POWER PLANS):**
- CU-2 DENOTES EQUIPMENT ELECTRICAL CONNECTION. ID TAG CORRESPONDS TO UNIT ID ON MECHANICAL DRAWINGS. TAG SHOWN IS FOR HVAC UNIT CU-2. CU = CONDENSING UNIT, 2 = UNIT NUMBER. REFER TO DRAWINGS AND/OR EQUIPMENT SCHEDULE FOR CONDUIT, WIRING, & DISCONNECT TYPES/SIZES. LOCATE DISCONNECTS ADJACENT TO EQUIPMENT IN A "READILY ACCESSIBLE" LOCATION, FIELD VERIFY. WHERE FUSED DISCONNECTS ARE INDICATED, FUSE PER THE MANUFACTURER'S LISTED MCA.
- COORDINATE VOLTAGES WITH MECHANICAL CONTRACTOR PRIOR TO START OF WORK. IF EQUIPMENT IS SUPPLIED AT A VOLTAGE OTHER THAN THAT PROVIDED, THE GENERAL CONTRACTOR AND SUBCONTRACTORS WILL BE HELD RESPONSIBLE FOR MAKING ANY NECESSARY ADJUSTMENTS TO CORRECT THE CONFLICT, AT NO COST TO THE OWNER, TO THE SATISFACTION OF THE ELECTRICAL ENGINEER. REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT LOCATIONS. SUBJECT TO FIELD VERIFICATION.
- INFORMATION SHOWN IN SCHEDULE WAS TAKEN FROM DRAWINGS FURNISHED BY THE MECHANICAL ENGINEER. PRIOR TO STARTING WORK AND BEFORE ORDERING ANY EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL REVIEW THE HVAC SHOP DRAWINGS AND SHALL VERIFY ALL EQUIPMENT FOR CONFORMANCE WITH THE INFORMATION SHOWN IN THE SCHEDULE (VOLTAGE, MCA, MOP), AND SHALL NOTIFY THE ENGINEER AND THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE MECHANICAL SHOP DRAWINGS AND THIS SCHEDULE.
- ALL MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES (VFDs) FOR HVAC-RELATED EQUIPMENT THAT ARE NOT FACTORY-MOUNTED AND PREWIRED SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR, INSTALLED AND POWER WIRED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE ON THE DESIGN DOCUMENTS. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND QUANTITIES OF MOTOR STARTERS AND VFDs.
- USE HACR TYPE CIRCUIT BREAKERS FOR ALL HVAC UNITS.
- WHERE EQUIPMENT IS SUPPLIED WITH CORD & PLUG, PROVIDE RECEPTACLE TO MATCH PLUG IN LIEU OF DISCONNECT. ELIMINATE DISCONNECT IF UNIT SUPPLIED WITH BUILT-IN DISCONNECT, VERIFY VOLTAGE.
 - DENOTES INDOOR UNIT (AH OR AHD) WIRED FROM OUTDOOR UNIT (HP OR CU) BY ELECTRICAL CONTRACTOR. WIRING INDICATED IS FOR BIDDING PURPOSES ONLY AND MAY VARY BETWEEN MANUFACTURERS. VERIFY ACTUAL WIRING REQUIREMENTS WITH EQUIPMENT PROVIDED AND INSTALL ACCORDINGLY. PROVIDE SEPARATE 120V CIRCUIT FOR CONDENSATE PUMP ON ALL AHD UNITS AND OTHER NOTED UNITS.

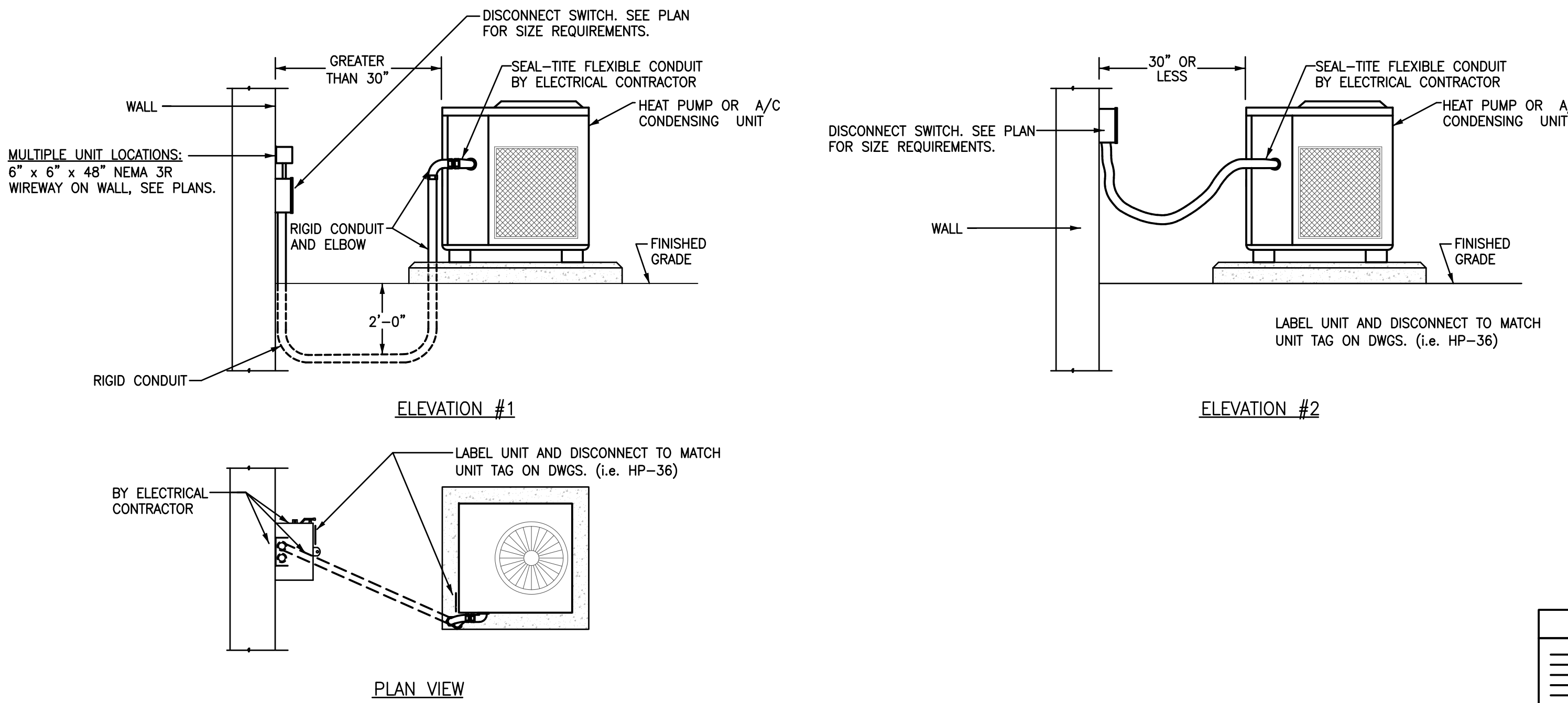


- NOTES:**
- PROVIDE UNIT DUCT MOUNTED SMOKE DETECTORS FOR EACH AIR HANDLER UNIT ABOVE 2000CFM AND MAKE-UP AIR UNITS AS SHOWN. PROVIDE (2) UNIT DUCT MOUNTED SMOKE DETECTORS FOR EACH AIR HANDLER UNIT ABOVE 1500CFM. PROVIDE ALL WIRING, CONDUIT, CONTROL MODULES, RELAYS, SOFTWARE AND PROGRAMMING REQUIRED TO CONNECT TO FIRE ALARM SYSTEM, INTEGRATE INTO MECHANICAL SYSTEM AND SHUT DOWN UNIT PER NFPA-72.
 - PROVIDE DUCT MOUNTED SMOKE DETECTORS FOR FIRE/SMOKE DAMPERS LOCATED WITHIN DUCTS. PROVIDE SPOT-TYPE SMOKE DETECTORS INSTALLED PER FIGURE A.17.7.5.4.2.2(a) OF NFPA 72 FOR FIRE/SMOKE DAMPERS NOT LOCATED WITHIN DUCTS, PROVIDE SMOKE DETECTORS RATED FOR AIR FLOW. INSTALL SMOKE DETECTORS AND DUCT SMOKE DETECTORS PER THE MANUFACTURER'S INSTRUCTIONS.
 - PROVIDE SAMPLING TUBE LENGTHS AS REQUIRED FOR DUCT TYPES AND WIDTHS PROVIDED. WHERE PRACTICAL MOUNT DUCT SMOKE DETECTOR SO SAMPLING TUBE IS ORIENTATED VERTICALLY IN DUCT. FOR DUCT SMOKE DETECTORS AND SMOKE DETECTORS LOCATED IN CONCEALED LOCATIONS, PROVIDE REMOTE ALARM INDICATOR WITH KEYED TEST SWITCH.

3 HVAC AUTOMATIC FAN SHUTDOWN
NOT TO SCALE



2 ROOF MOUNTED UNIT POWER WIRING DETAIL
NOT TO SCALE

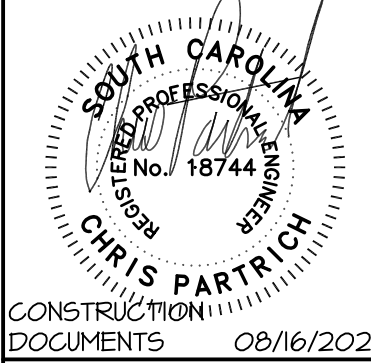
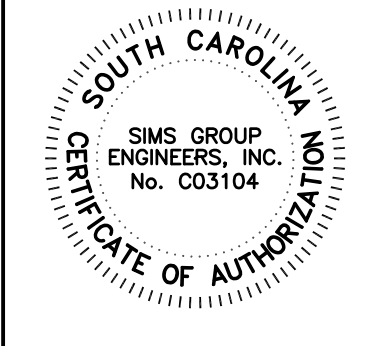


1 TYPICAL OUTDOOR HVAC UNIT
NOT TO SCALE

Jumper
Carter
Sease

ARCHITECTS

412 Meeting Street
West Columbia
South Carolina



HARTSVILLE MIDDLE - AUDITORIUM HVAC UPGRADES
DARLINGTON COUNTY SCHOOL DISTRICT
1427 14TH ST., HARTSVILLE, SC 29550

CONSTRUCTION DOCUMENTS

Date	Description
No	1 2 3 4 5

DRAWN BY: **JWB**
CHECKED BY: **CLP**
COMM NO: **22011**
DATE: **JULY, 2022**

SHEET TITLE: **ELECTRICAL SYMBOLS, NOTES AND DETAILS**

SHEET NO:

E001

CONSTRUCTION DOCUMENTS C22014

simsgroup

SIMS GROUP ENGINEERS, INC.
800 Columbian Drive, Suite 208
Irmo, South Carolina 29063
Phone: (803) 765-1007 Fax: (803) 765-1030
www.simgroupusa.com

E301