

# GALENA PARK I.S.D. PURPLE SAGE ELEMENTARY SCHOOL HVAC UPGRADES GPISD #112-2022

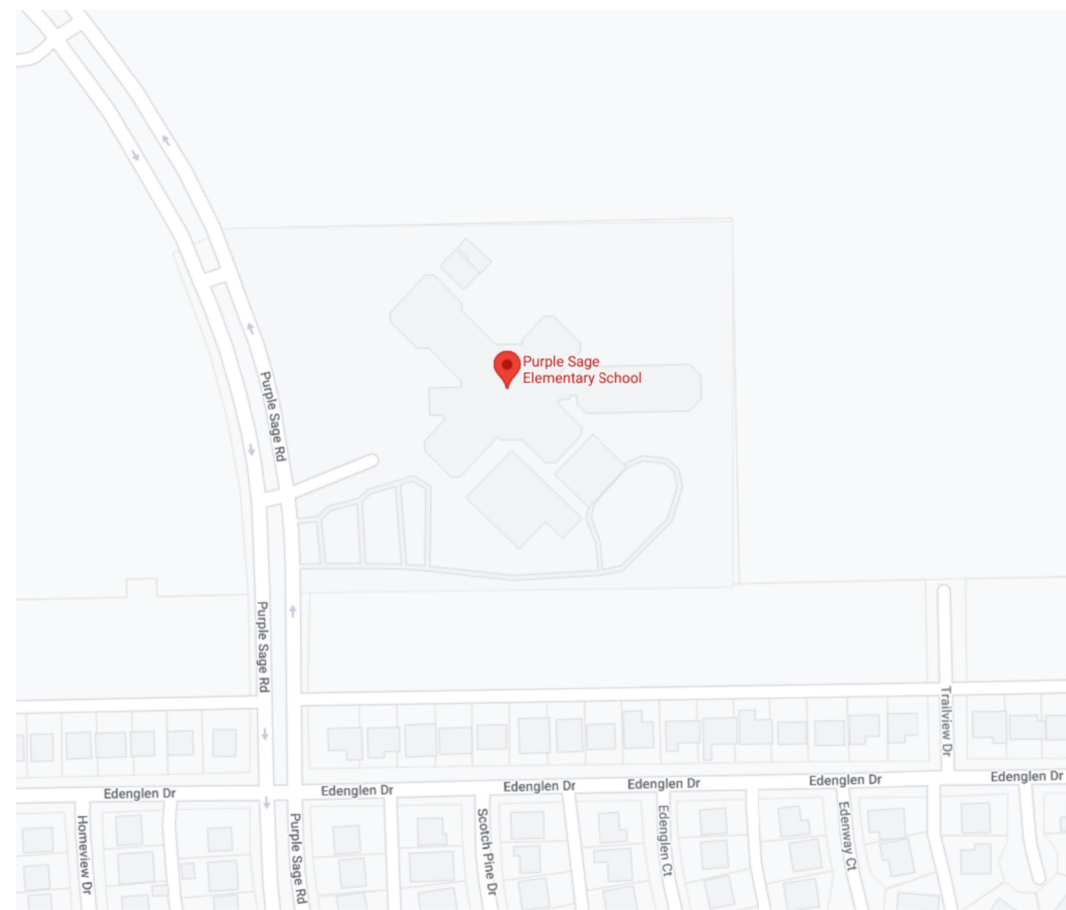



## BOARD OF TRUSTEES

Adrian Stephens	Board President
Noe Esparza	Vice-President
Norma Hernandez	Secretary
Wanda Heath Johnson	Trustee
Ramon Garza	Trustee
Herbert Alexander Sanchez	Trustee
Linda Clark Sherrard	Trustee

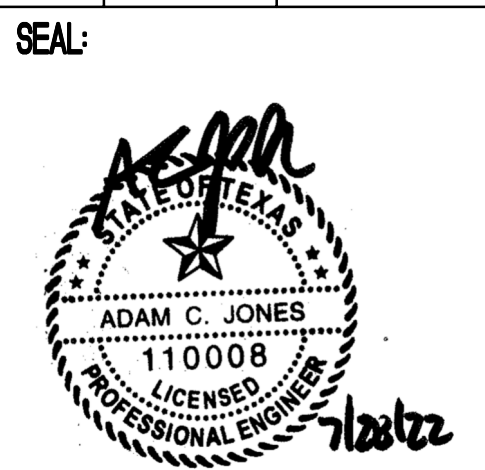
Dr. John C. Moore                      Superintendent of Schools

### ISSUE FOR PROPOSAL

PROJECT TEAM	LOCATION	SHEET LIST TABLE	
<p>DBR Inc. 9990 Richmond Ave. South Bldg. Suite 300 Houston, Texas 77042 713-914-0888</p> <p>MEP Engineer Adam Jones, P.E. <a href="mailto:ajones@dbrinc.com">ajones@dbrinc.com</a></p> <p>Galena Park I.S.D. 14705 Woodforest Blvd. Houston, TX 77015</p>	 <p>6500 Purple Sage Rd, Houston, TX 77049 Tel: (832) 386-3100</p> <div style="text-align: center;">  <p>N NORTH</p> </div>	Sheet Number	Sheet Title
		MEP0.01	MEP COVER SHEET
		G1.01	COMPOSITE PLAN - LEVEL 1
		A1.1A	ARCHITECTURAL FLOOR PLAN - LEVEL 1
		S.001	PLANS AND DETAILS
		M0.01	MECHANICAL SYMBOL LEGEND
		MD2.01A	MECHANICAL DEMO PLAN - AREA A
		MD2.01B	MECHANICAL DEMO PLAN - AREA B
		MD2.01C1	MECHANICAL DEMO PLAN - AREA C1
		MD2.01C2	MECHANICAL DEMO PLAN - AREA C2
		MD2.01C2 ALT	MECHANICAL DEMO PLAN - AREA C2 ALT
		MD2.01D	MECHANICAL DEMO PLAN - AREA D
		MD2.01E	MECHANICAL DEMO PLAN - AREA E
		MD2.01F	MECHANICAL DEMO PLAN - AREA F
		MD2.02	MECHANICAL DEMO PLAN - LEVEL 2
		M2.01A	MECHANICAL PLAN - AREA A
		M2.01B	MECHANICAL PLAN - AREA B
		M2.01C1	MECHANICAL PLAN - AREA C1
		M2.01C2	MECHANICAL PLAN - AREA C2
		M2.01C2 ALT	MECHANICAL PLAN - AREA C2 ALT
		M2.01D	MECHANICAL PLAN - AREA D
		M2.01E	MECHANICAL PLAN - AREA E
		M2.01F	MECHANICAL PLAN - AREA F
		M2.02	MECHANICAL PLAN - LEVEL 2
		M4.01	MECHANICAL DETAILS
		M4.02	MECHANICAL DETAILS
		M5.01	MECHANICAL SCHEDULES
		M5.02	MECHANICAL SCHEDULES
		M6.01	MECHANICAL CONTROLS DIAGRAMS
		M6.02	MECHANICAL CONTROLS DIAGRAMS
		M6.03	MECHANICAL CONTROLS DIAGRAMS
		M6.04	MECHANICAL CONTROLS DIAGRAMS
		M6.05	MECHANICAL CONTROLS DIAGRAMS
		M6.06	MECHANICAL CONTROLS DIAGRAMS
		M6.07	MECHANICAL CONTROLS DIAGRAMS
		M7.01	MECHANICAL VRF PIPING DIAGRAMS
		E0.01	ELECTRICAL SYMBOL LEGEND
		EP2.01A	POWER PLAN - AREA A
		EP2.01B	POWER PLAN - AREA B
		EP2.01C1	POWER PLAN - AREA C1
		EP2.01C2	POWER PLAN - AREA C2
		EP2.01C3	POWER PLAN - AREA C2 ALT
		EP2.01D	POWER PLAN - AREA D
		EP2.01E	POWER PLAN - AREA E
		EP2.01F	POWER PLAN - AREA F
		EP2.02	POWER PLAN - LEVEL 2
		ED2.01A	ELECTRICAL DEMO PLAN - AREA A
		ED2.01B	ELECTRICAL DEMO PLAN - AREA B
		ED2.01C1	ELECTRICAL DEMO PLAN - AREA C1
		ED2.01C2	ELECTRICAL DEMO PLAN - AREA C2
		ED2.01C3	ELECTRICAL DEMO PLAN - AREA C2 ALT
		ED2.01D	ELECTRICAL DEMO PLAN - AREA D
		ED2.01E	ELECTRICAL DEMO PLAN - AREA E
		ED2.01F	ELECTRICAL DEMO PLAN - AREA F
		ED2.02	ELECTRICAL DEMO PLAN - LEVEL 2
		E4.01	ELECTRICAL ONE-LINE DIAGRAM
		E4.02	ELECTRICAL ONE-LINE DIAGRAM
		E5.01	ELECTRICAL SCHEDULES



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

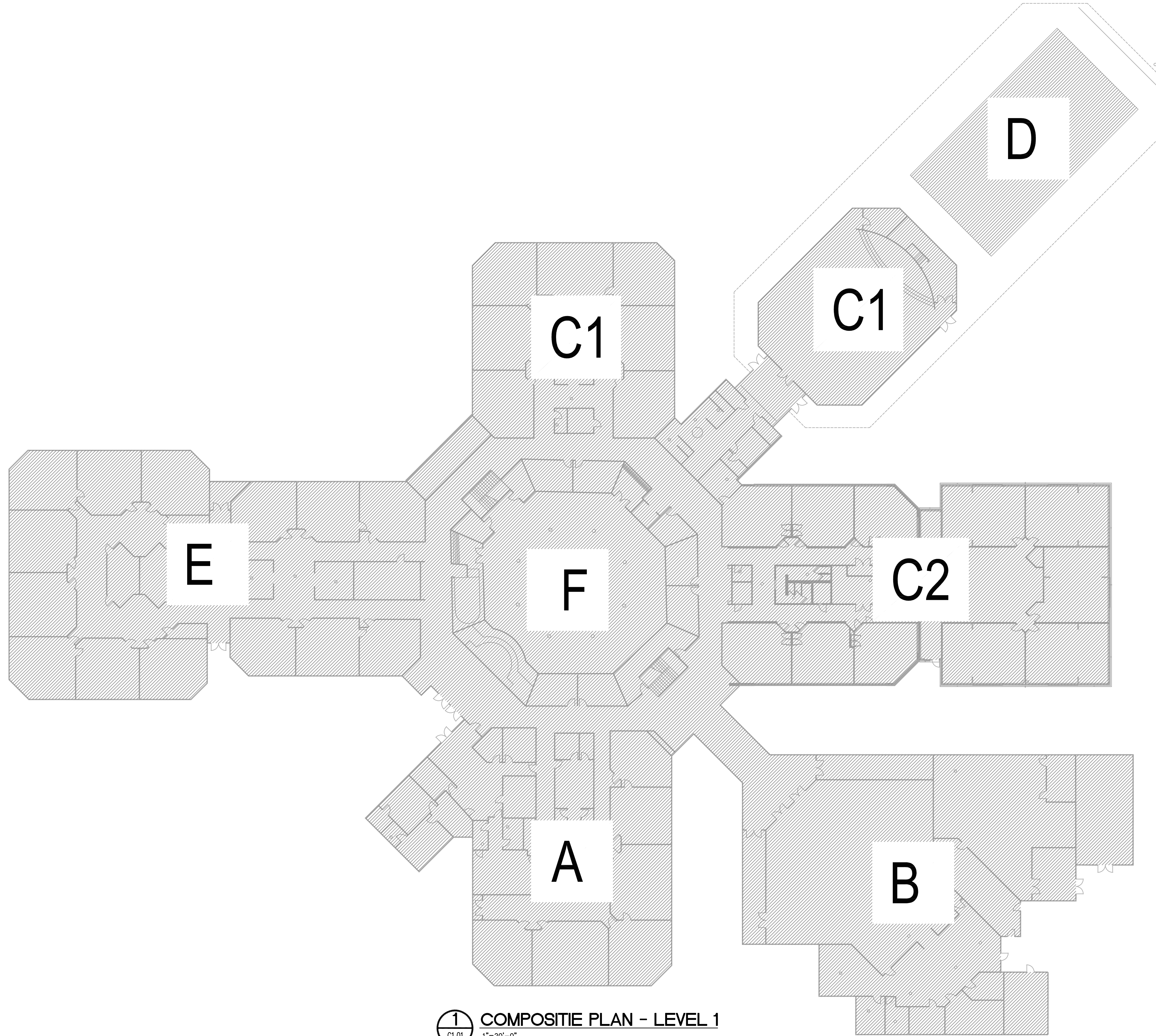
SHEET TITLE:

**MEP COVER  
SHEET**

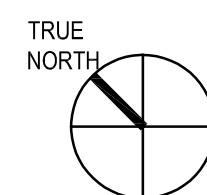
SHEET NUMBER:

**MEP0.01**

Plotted: Jul 28, 2022, 1:37 PM by user: oarmendariz - Saved: 7/28/2022 by user: oarmendariz  
C:\Users\oarmendariz\Documents\JBR Inc\220122.000-GP1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\05-220122-01\_CDMF.dwg

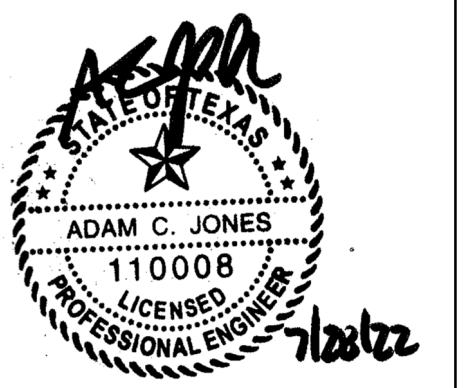


**1** COMPOSITE PLAN - LEVEL 1  
G1.01 1"=20'-0"



REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

SEAL:



**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

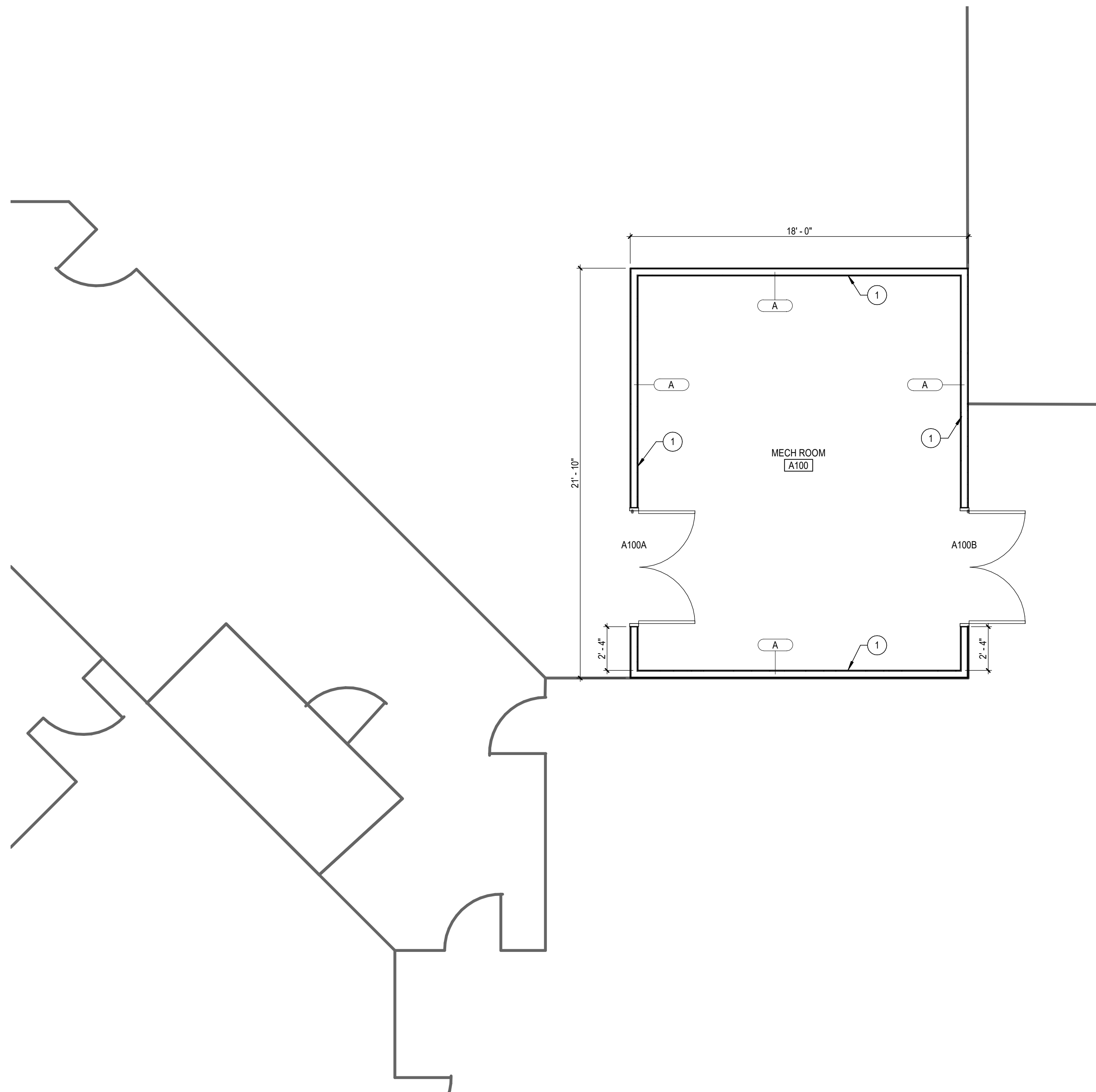
CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:  
**COMPOSITE  
PLAN - LEVEL  
1**

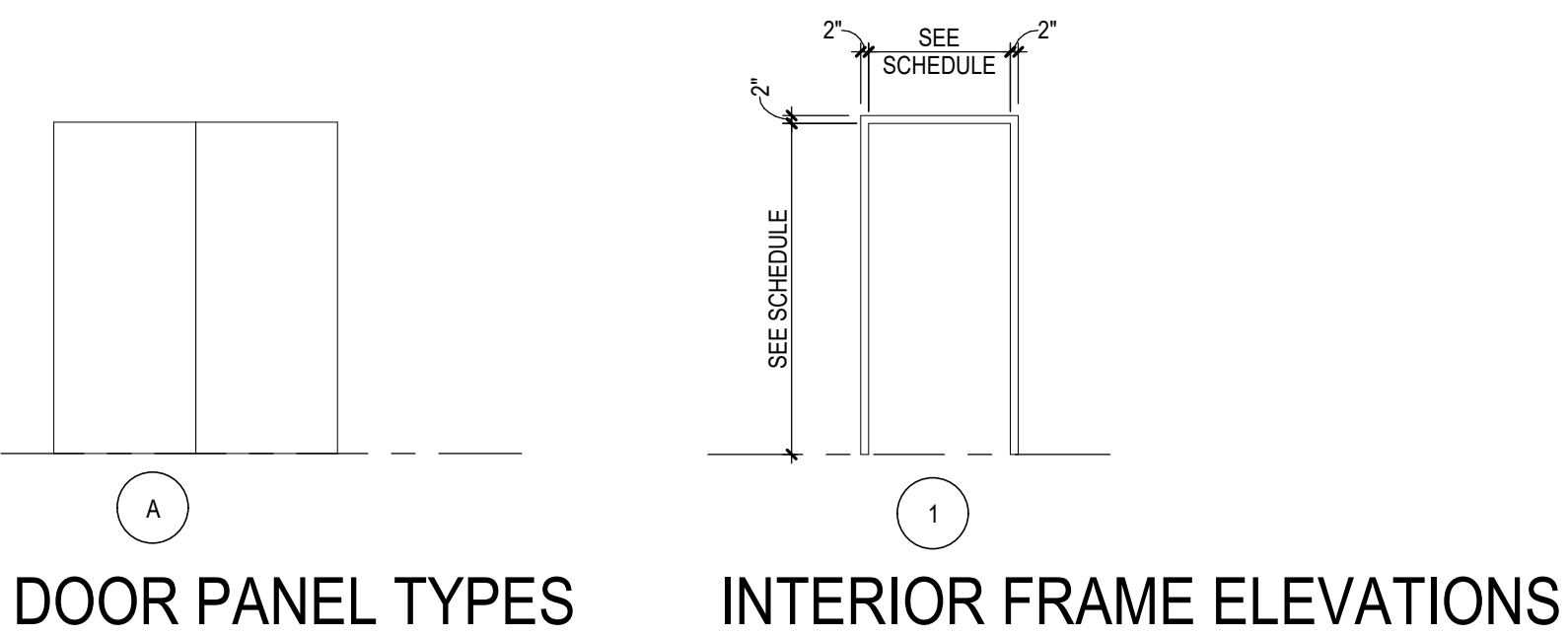
SHEET NUMBER:

**G1.01**

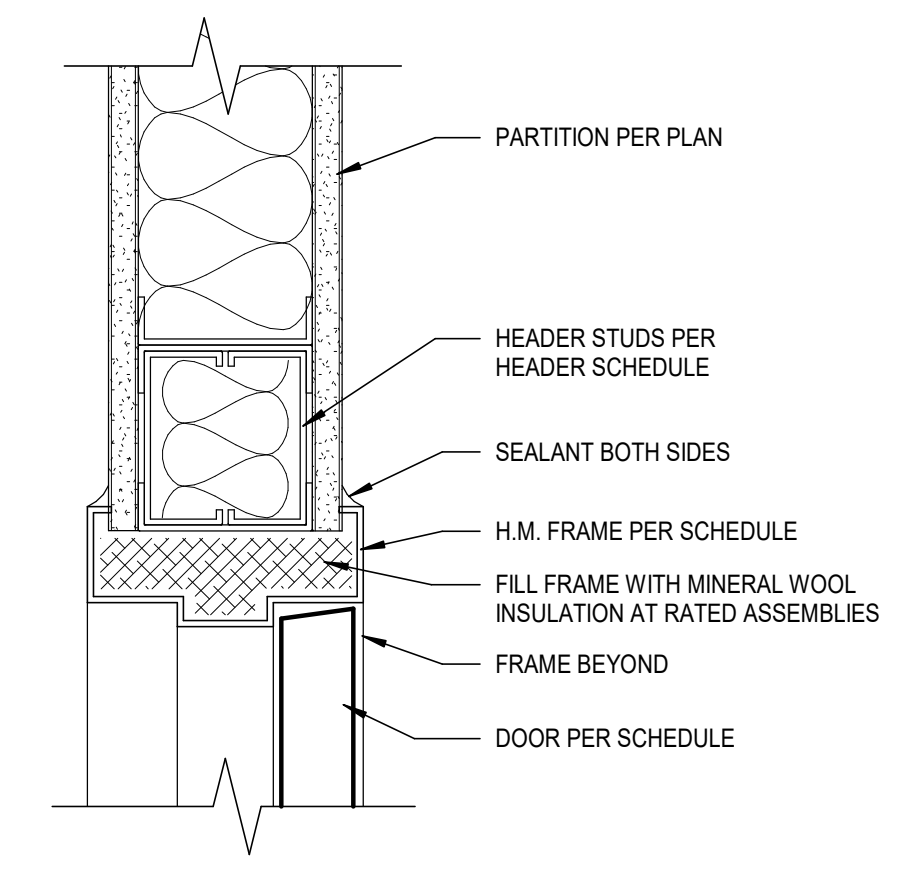


**OVERALL FLOOR PLAN, LEVEL 1**  
SCALE: 1/4" = 1'-0"

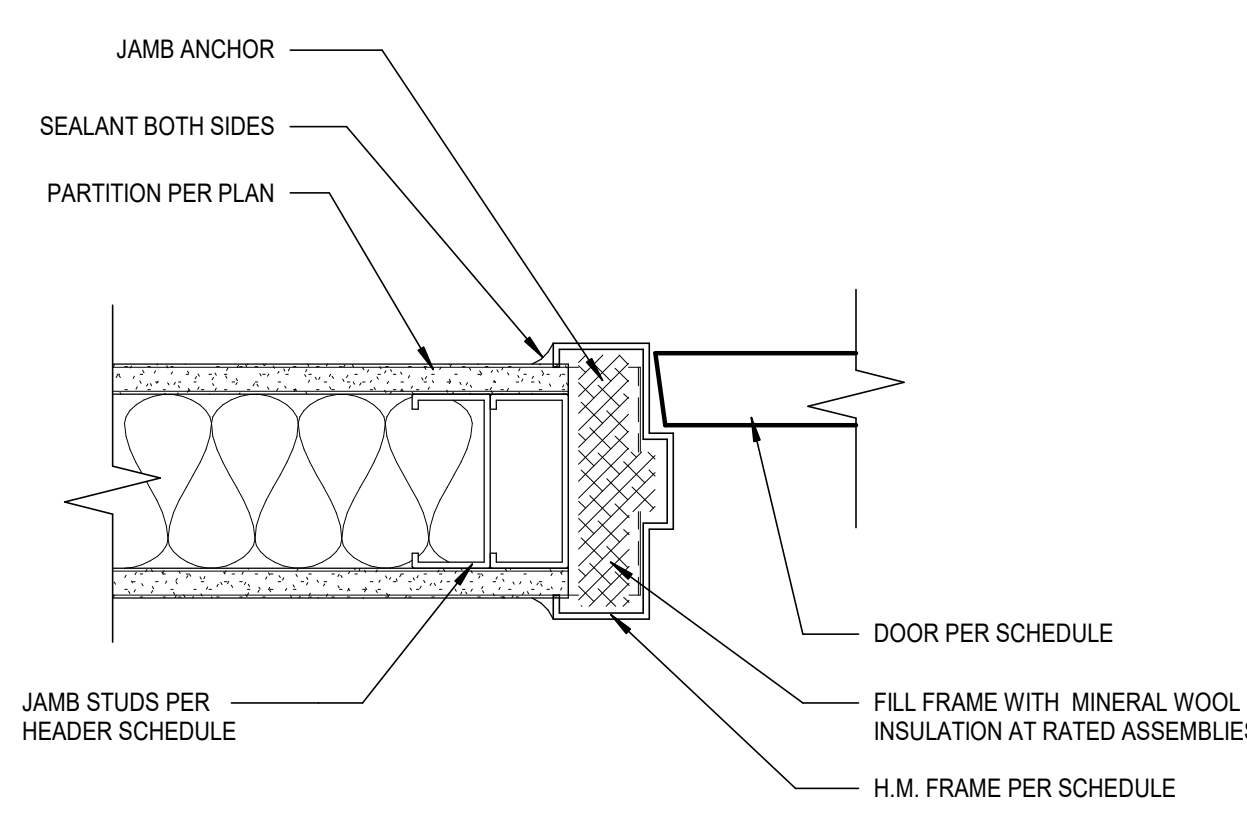
DOOR AND FRAME SCHEDULE															
NUMBER	NO. OF PANELS	PANEL				FRAME				DETAILS				COMMENTS	
		WIDTH	HEIGHT	THICKNESS	MATERIAL	GLASS	TYPE	MATERIAL	TYPE	FIRE RATING	HARDWARE SET	HEAD	JAMB LEFT		JAMB RIGHT
A100A	2	3'-0"	7'-0"	1 3/4"	HM		A	HM	1	60 MIN	TBD	1D/A1.11A	1E/A1.1A	1E/A1.1A	
A100B	2	3'-0"	7'-0"	1 3/4"	HM		A	HM	1	60 MIN	TBD	1D/A1.11A	1E/A1.1A	1E/A1.1A	



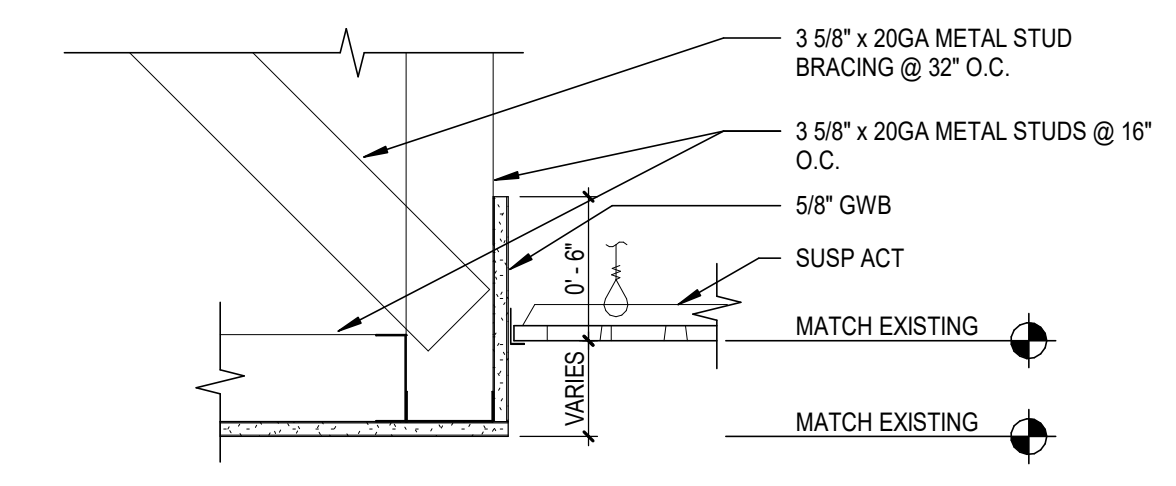
**DOOR PANEL TYPES**      **INTERIOR FRAME ELEVATIONS**



**1D HEADER DETAIL**  
SCALE: 3" = 1'-0"



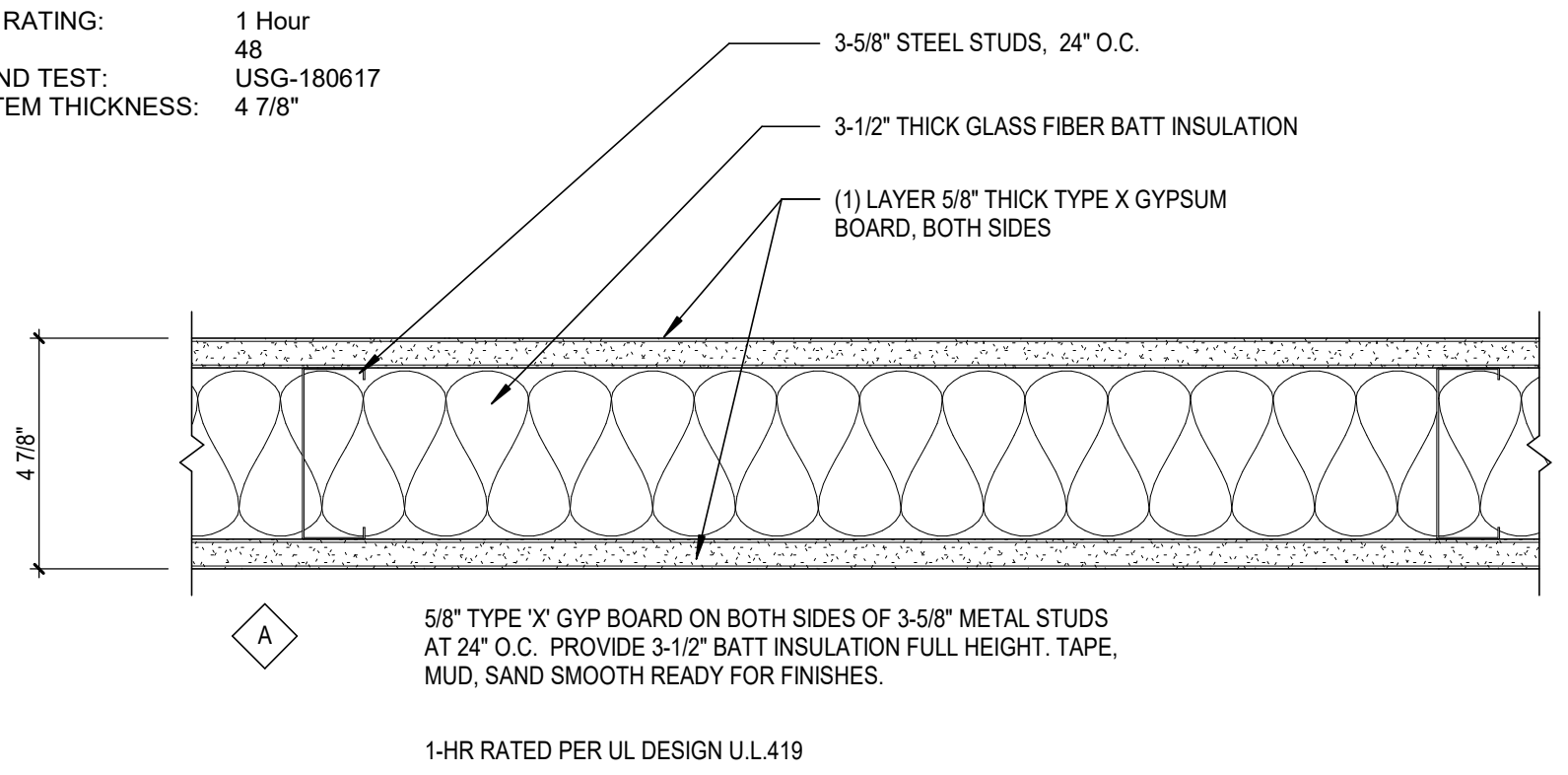
**1E JAMB DETAIL**  
SCALE: 3" = 1'-0"



**2D GWB BULKHEAD AT ACT**  
SCALE: 1 1/2" = 1'-0"

**UL DESIGN NO. U419**

FIRE RATING: 1 Hour  
STC: 48  
SOUND TEST: USG-180617  
SYSTEM THICKNESS: 4 7/8"



**PARTITION TYPE**

**GENERAL ARCHITECTURAL NOTES**

- PROVISIONS SHALL BE MADE AT ALL FULL HEIGHT NON-BEARING WALLS FOR 1-INCH VERTICAL MOVEMENT OF THE BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH MINERAL WOOL INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET XXX.
- SEE STRUCTURAL DRAWINGS FOR BRACING OF NON-LOAD BEARING MASONRY WALLS.
- SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.

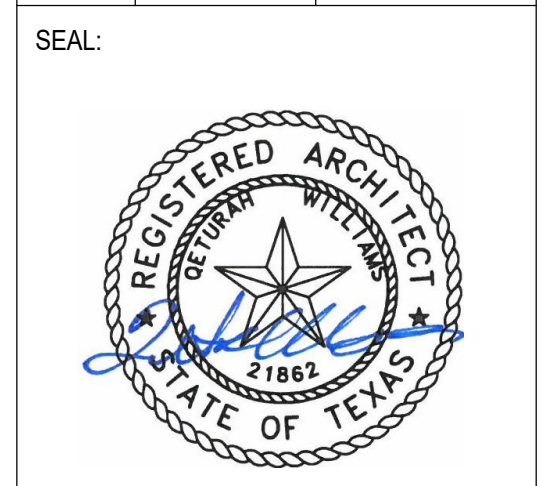
**# SHEET NOTES**

- NEW 1-HR RATED WALL



REVISION:

No.	DATE	DISCUSSION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE  
SAGE  
HVAC UPGRADES**

DATE: 06/22/2022

DRAWN BY: DBR

CHECKED BY: DBR

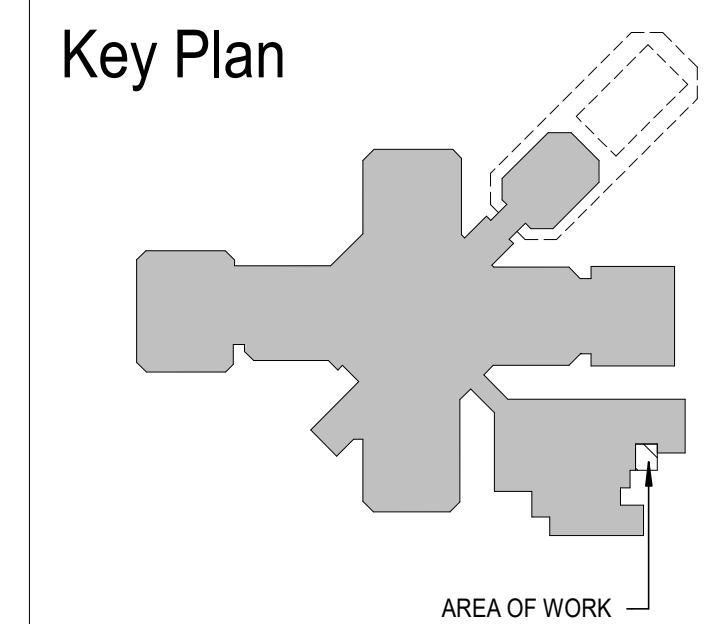
PROJECT NUMBER: 220122.000

SHEET TITLE:

**PARTIAL MECHANICAL PLAN - LEVEL 1**

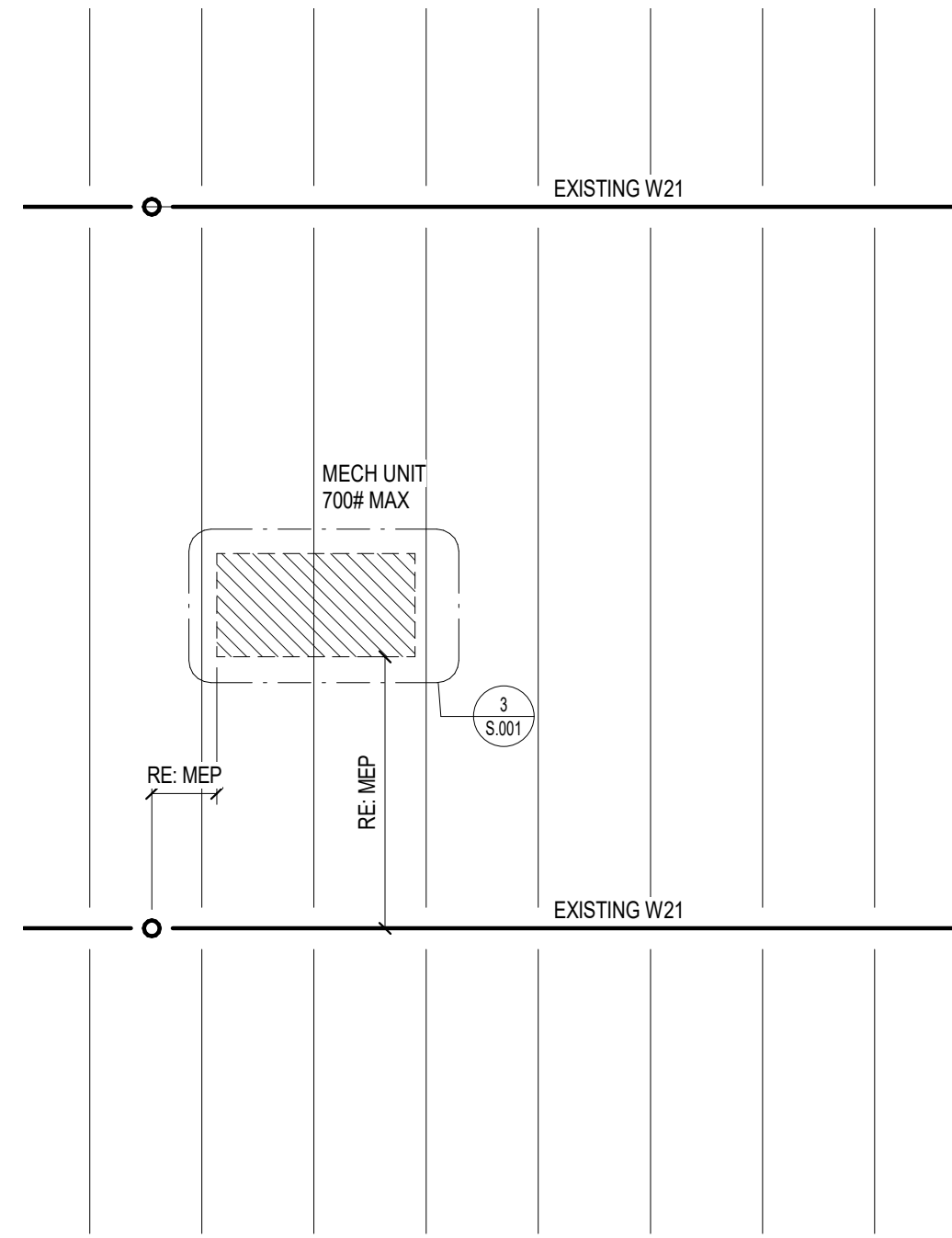
SHEET NUMBER:

**A1.1A**

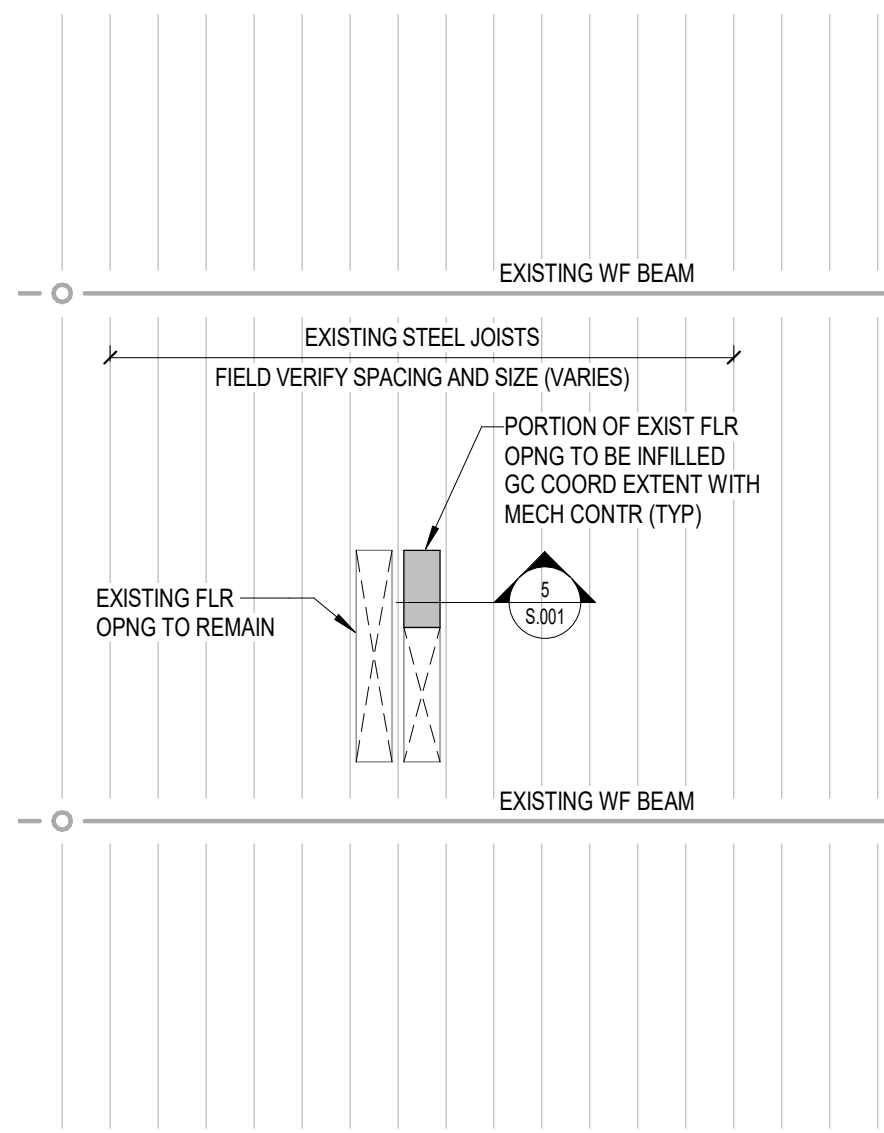


**Key Plan**

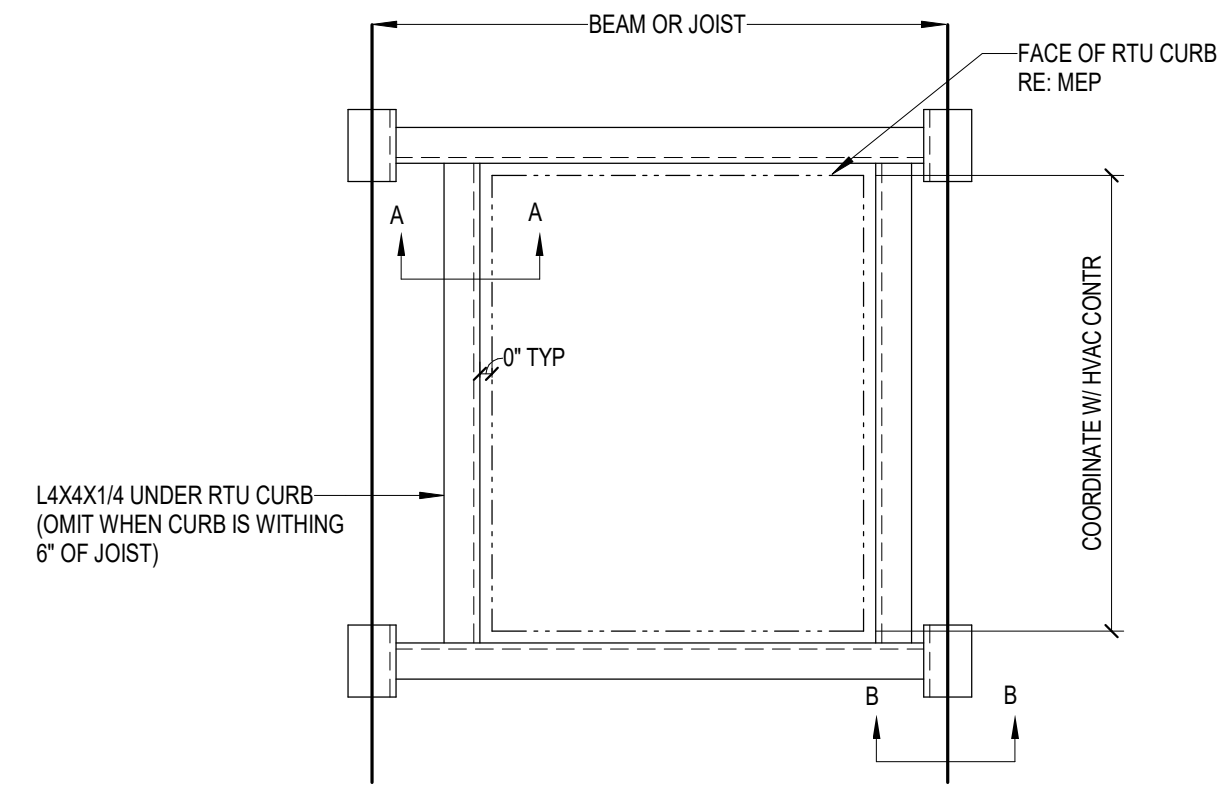
AREA OF WORK



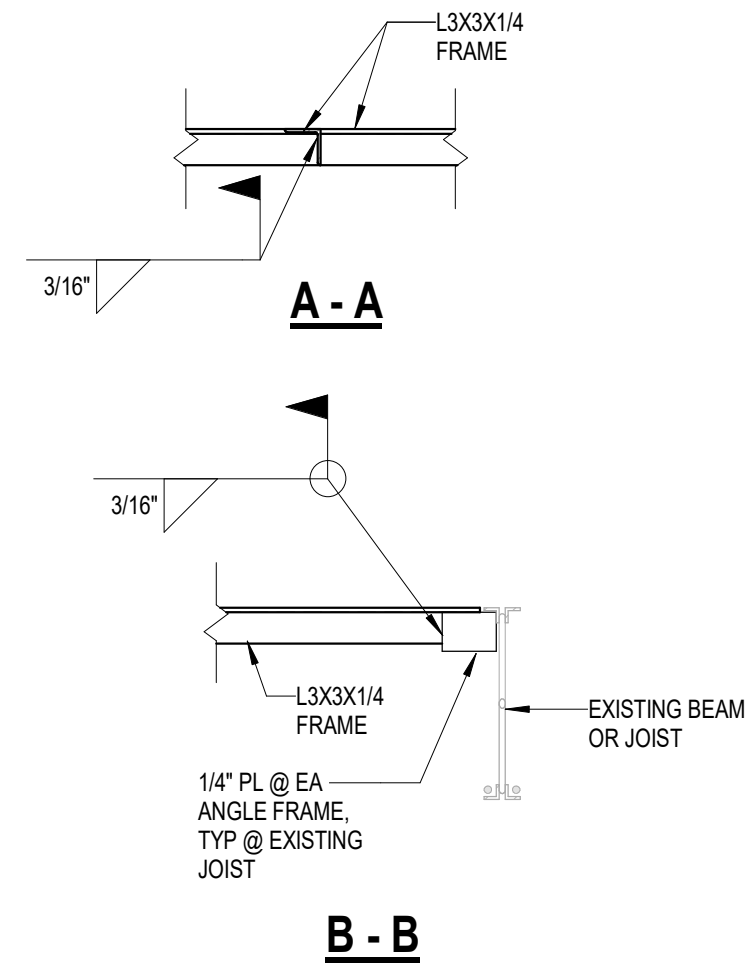
**1** MEP UNIT SUPPORT DIAGRAM  
1/8" = 1'-0"



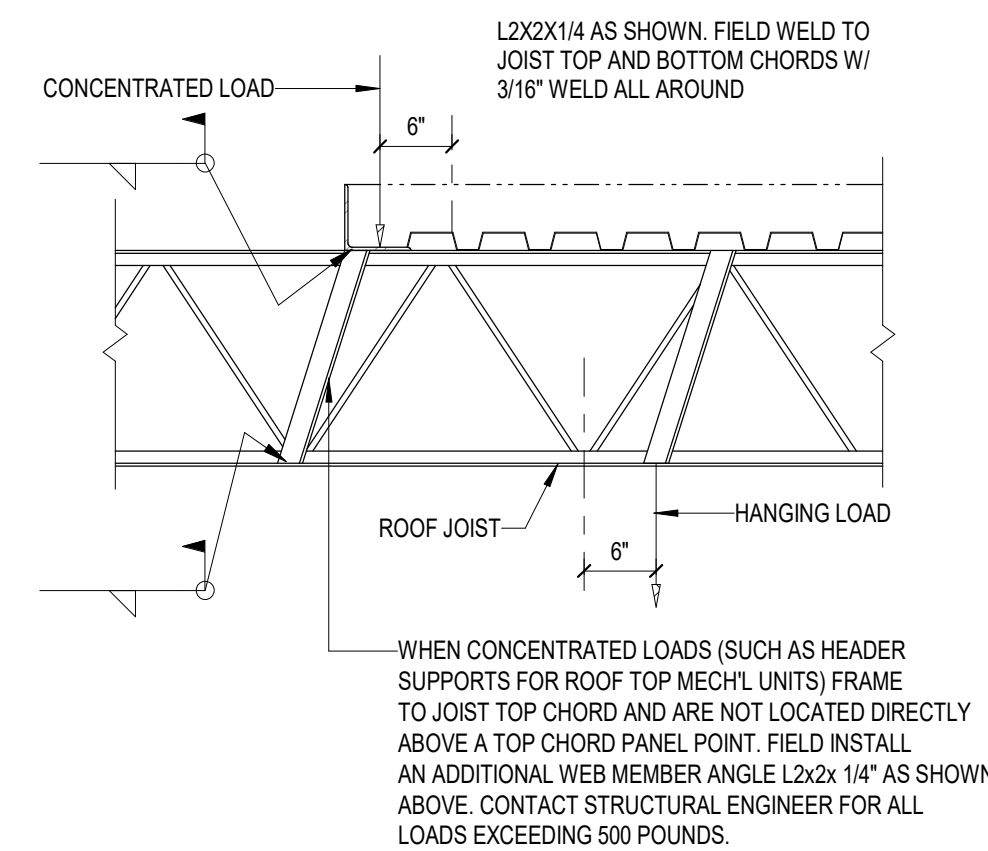
**2** FLOOR INFILL DIAGRAM  
1/8" = 1'-0"



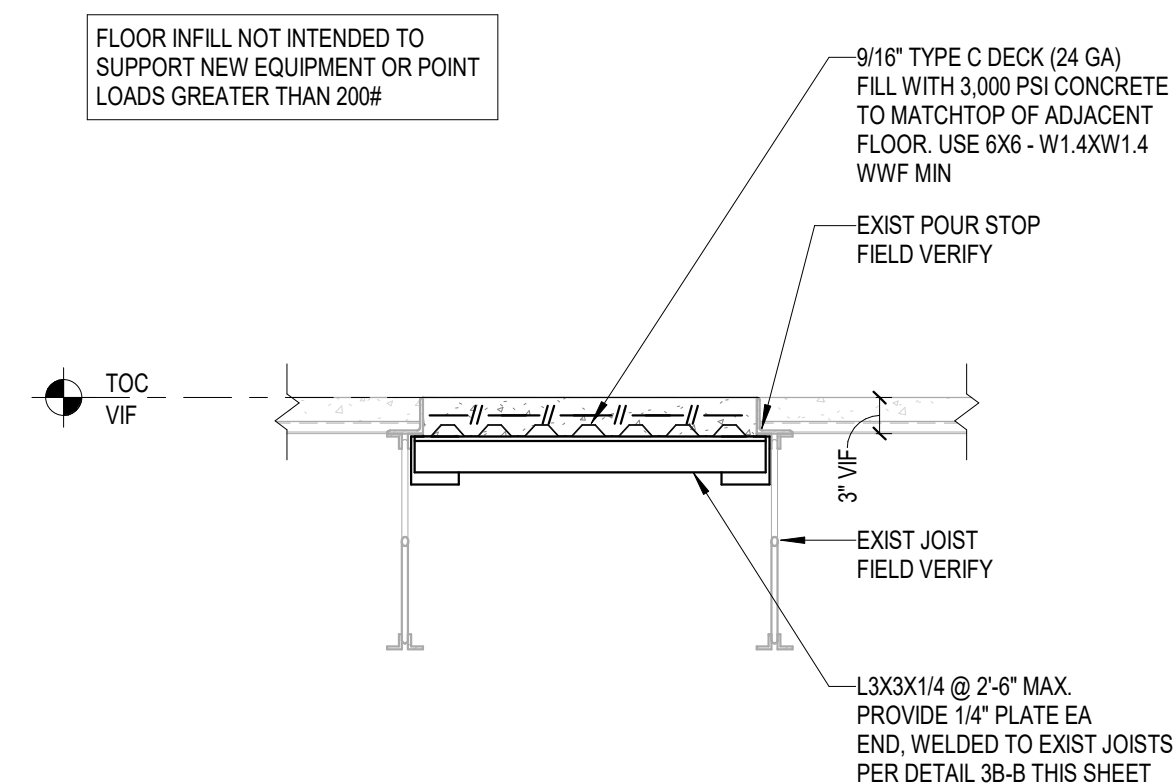
**TYPICAL RTU SUPPORT DETAILS**



**3** TYPICAL RTU SUPPORT  
3/4" = 1'-0"



**4** LOAD OFFSET FROM JOIST PNL POINT  
3/4" = 1'-0"



**5** FLOOR INFILL  
3/4" = 1'-0"

**STRUCTURAL GENERAL NOTES:**

**GENERAL REQUIREMENTS:**  
THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT. REPRODUCTIONS OF CONTRACT DRAWINGS BY CONTRACTOR IN LIEU OF PREPARATION OF SHOP DRAWING SIGNIFIES ACCEPTANCE OF INFORMATION SHOWN AS CORRECT AND OBLIGATES HIMSELF TO ANY EXPENSE, REAL OR IMPLIED, ARISING FROM THEIR USE.  
VERIFY DIMENSIONS AND EXISTING CONDITIONS AT JOB SITE.  
CHANGES TO THE STRUCTURAL DRAWINGS DUE TO THE ACCEPTANCE OF ALTERNATES AND/OR SUBSTITUTES IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

**BUILDING CODE:**  
INTERNATIONAL BUILDING CODE, 2015  
**DESIGN LIVE LOADS:**  
ROOF 20 PSF  
**DESIGN DEAD LOADS:**  
ROOF 20 PSF  
**WIND LOADS:**  
BASIC WIND SPEED 150 MPH (3 SECOND GUST)  
EXPOSURE B  
RISK CATEGORY III

**STRUCTURAL STEEL:**  
CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", THIRTEENTH EDITION AND AISC "CODE OF STANDARD PRACTICE."  
REFER TO PROJECT SPECIFICATIONS FOR PAINT AND GALVANIZING.  
**TYPES:**  
WF ASTM A992, GR. 50  
MISC. ASTM A36  
SPlicing PROHIBITED WITHOUT PRIOR APPROVAL AS TO LOCATION AND TYPE.  
FIELD CONNECTIONS - BOLTED OR WELDED (EQUIVALENT TO STANDARD BOLTED).  
BURNING OF HOLES IN STEEL MEMBERS IS PROHIBITED. ANY MEMBER WITH BURNED HOLES MUST BE REPLACED.

**ROOF CONSTRUCTION:**  
SUSPEND NO MECHANICAL, ELECTRICAL, PLUMBING OR OTHER EQUIPMENT FROM JOIST BRIDGING, BRACING, CEILING SUPPORT OR METAL DECK.  
FURNISH ALL SIZES AND LOCATIONS OF ROOF OPENINGS TO SUIT ACTUAL MECHANICAL EQUIPMENT PURCHASED.  
DO NOT INSTALL MECHANICAL CURBS OR OTHER SUPPORTS DIRECTLY ON METAL DECK UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.  
LOCATION OF ROOFTOP UNITS NOT SHOWN ON 'S' SERIES DRAWINGS ARE SUBJECT TO REVIEW BY ARCHITECT.  
OPENINGS OVER 10" - PROVIDE L3 x 3 x 1/4 FRAME.

**WELDING:**  
CONFORM TO "CODE FOR WELDING IN BUILDING CONSTRUCTION" BY THE AMERICAN WELDING SOCIETY, LATEST EDITION.  
WELDS NOT INDICATED ON DRAWINGS ARE TO BE FILLET ALL AROUND AS PRESCRIBED BY AISC SPECIFICATION. PROVIDE WELDING OF CONTINUOUS MEMBERS WITH A MINIMUM OF 2 INCHES OF 3/16 INCH FILLET STITCH WELDS AT 12" OC, STAGGERED EACH SIDE, UNLESS OTHERWISE NOTED.  
FIELD PAINT ALL WELDS W/ "GALVILITE" BY Z.R.C. OR APPROVED EQUAL.  
**ARC WELDING ELECTRODES:**  
METAL DECK - E60XX  
STRUCTURAL STUDS - E6022 OR E6011, 3/32" RODS.  
ALL OTHER - E70XX LOW HYDROGEN, 250 DEGREE MINIMUM OVEN TEMPERATURE.  
SIZE - ALL FILLETS ARE 1/16" LESS THAN MINIMUM THICKNESS TO BE WELDED.



REVISION No.	DATE	DISCRPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE**  
HVAC UPGRADES

DATE:  
07/28/2022  
DRAWN BY:  
RHW  
CHECKED BY:  
LMM  
PROJECT NUMBER:  
220122.000  
SHEET TITLE:

**PLANS AND DETAILS**

SHEET NUMBER:

**S.001**

**Dally**  
+ ASSOCIATES  
STRUCTURAL | CIVIL  
9800 Richmond Avenue, Suite 460  
Houston, Texas 77042  
1713 337 8881  
Texas Registered Engineering Firm  
F-003426  
D+A PROJECT NO. 22-224

**ABBREVIATIONS**

A	
A	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT, AIR COMPRESSOR
ACH	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR, AREA DRAIN
ADJ	ADJUSTABLE
AF	AIR FILTER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHR	AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARCH	ARCHITECT, ARCHITECTURAL
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AV	ACID VENT, AIR VENT
AVG	AVERAGE
AW	ACID WASTE
AWS	AMERICAN WELDING SOCIETY
AUX	AUXILIARY

B	
B	BOILER
BC	BELOW COUNTER
B/C	BACK OF CURB
BFF	BELOW FINISHED FLOOR
BFV	BUTTERFLY VALVE
BH	BOX HYDRANT
BLDG	BUILDING
BM	BENCHMARK
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BP	BACKFLOW PREVENTER
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACK WATER VALVE

C	
C	CELSIUS
CAB	CABINET
CB	CATCH BASIN
CD	CONDENSATE DRAIN LINE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHILLER
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CI	CAST IRON
CIRC	CIRCULATING
CL	CENTERLINE
QLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR
CONC	CONCRETE, CONCENTRIC
COND	CONDENSER, CONDENSATE
CONN	CONNECTION
CONT	CONTINUOUS, CONTINUATION
CTR	CENTER
CU	COPPER

D	
D	DEPTH, DRAIN, DRYER
DB	DRY BULB
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DDMB	DUAL DUCT MIXING BOX
DESIG	DESIGNATION
DTL	DETAIL
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DPR	DAMPER
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DX	DIRECT EXPANSION

E	
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDB	ENTERING DRY BULB
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMERG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EVAP	EVAPORATOR
EWB	ENTERING WET BULB
EWI	ENTERING WATER TEMPERATURE
EX	EXPLOSION PROOF
EXT	EXTERNAL
EXTG	EXISTING

F	
F	FAHRENHEIT, FIRE
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCS	FLOOR CONTROL STATION
FCU	FAN COIL UNIT
FD	FLOOR DRAIN, FIRE DAMPER
FDC	FIRE DEPARTMENT SIAMESE CONNECTION
FDV	FIRE DEPARTMENT VALVE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FPTU	FAN POWERED TERMINAL UNIT
FT	FOOT, FEET
FUT	FUTURE

G	
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GND	GROUND
GPM	GALLONS PER MINUTE
GV	GATE VALVE

H	
HORIZ	HORIZONTAL
HP	HORSEPOWER
HSTAT	HUMIDISTAT
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HW	HOT WATER
HWP	HEATING WATER PUMP
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ

I	
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IH	INFRARED HEATER
IN	INCH
INSUL	INSULATION
INT	INTERNAL, INTERIOR
INV	INVERT
IW	INDIRECT WASTE

J	
JB	JUNCTION BOX
JP	JOCKEY PUMP

K	
KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
KVA	KILOVOLT-AMPS
KW	KILOWATT

L	
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LF	LINEAR FEET
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVL	LEVEL
LWB	LEAVING WET BULB
LWCO	LOW WATER CUT OFF
LWT	LEAVING WATER TEMPERATURE

M	
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBTUH	THOUSAND OF BTU'S
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MP	MEDIUM PRESSURE
MS	MOP SINK
MTD	MOUNTED
MU	MAKE-UP
MVD	MANUAL VOLUME DAMPER
MSAH	MINI-SPLIT AIR HANDLER
MSCU	MINI-SPLIT CONDENSING UNIT

N	
N.C.	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O	
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
OCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK

P	
PG	PRESSURE GAUGE
PP	POLYPROPYLENE
PPM	PART PER MILLION
PR	PRIMARY
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE

Q	
QTY	QUANTITY

R	
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RAG	RETURN AIR GRILLE
RAT	RETURN AIR TEMPERATURE
RCP	GLOBE VALVE
RD	ROOF DRAIN
RE	REFERENCE, REFER
RED	REDUCER
REFR	REFRIGERATOR
REG	REGISTER
RENF	REINFORCING
REQD	REQUIRED
REV	REVISION, REVISE
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VALVE

S	
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAG	SUPPLY AIR GRILLE
SAN	SANITARY SEWER
SAR	SUPPLY AIR REGISTER
SC	STEAM CONDENSATE
SCHED	SCHEDULED
SD	STORM DRAIN
SEC	SECONDARY
SECT	SECTION
SENS	SENSIBLE
SF	SQUARE FEET
SFCS	SPRINKLER FLOOR CONTROL STATION
SH	SHOWER
SHT	SHEET
SM	SIMILAR
SK	SINK
SM	SHEETMETAL
SP	STATIC PRESSURE, SUMP PUMP
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	SERVICE SINK
SSSC	SOLID STATE SPEED CONTROL
STD	STANDARD
STL	STEEL
STR	STRAINER
SURF	SURFACE
SUSP	SUSPEND
SV	SANITARY VENT
SW	SOFT WATER

T	
TC	TEMPERATURE CONTROL
TCC	TEMPERATURE CORNEAL COMPRESSOR
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TF	TRANSFER FAN
TH BLK	TH BULK
THERM	THERMOMETER
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TW	TEMPERED HOT WATER
TY	TYPICAL

U	
U	URINAL
UCD	UNDER CUT DOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC
UNO	UNLESS NOTED OTHERWISE
U/F	UNDERFLOOR
U/S	UNDERSLAB

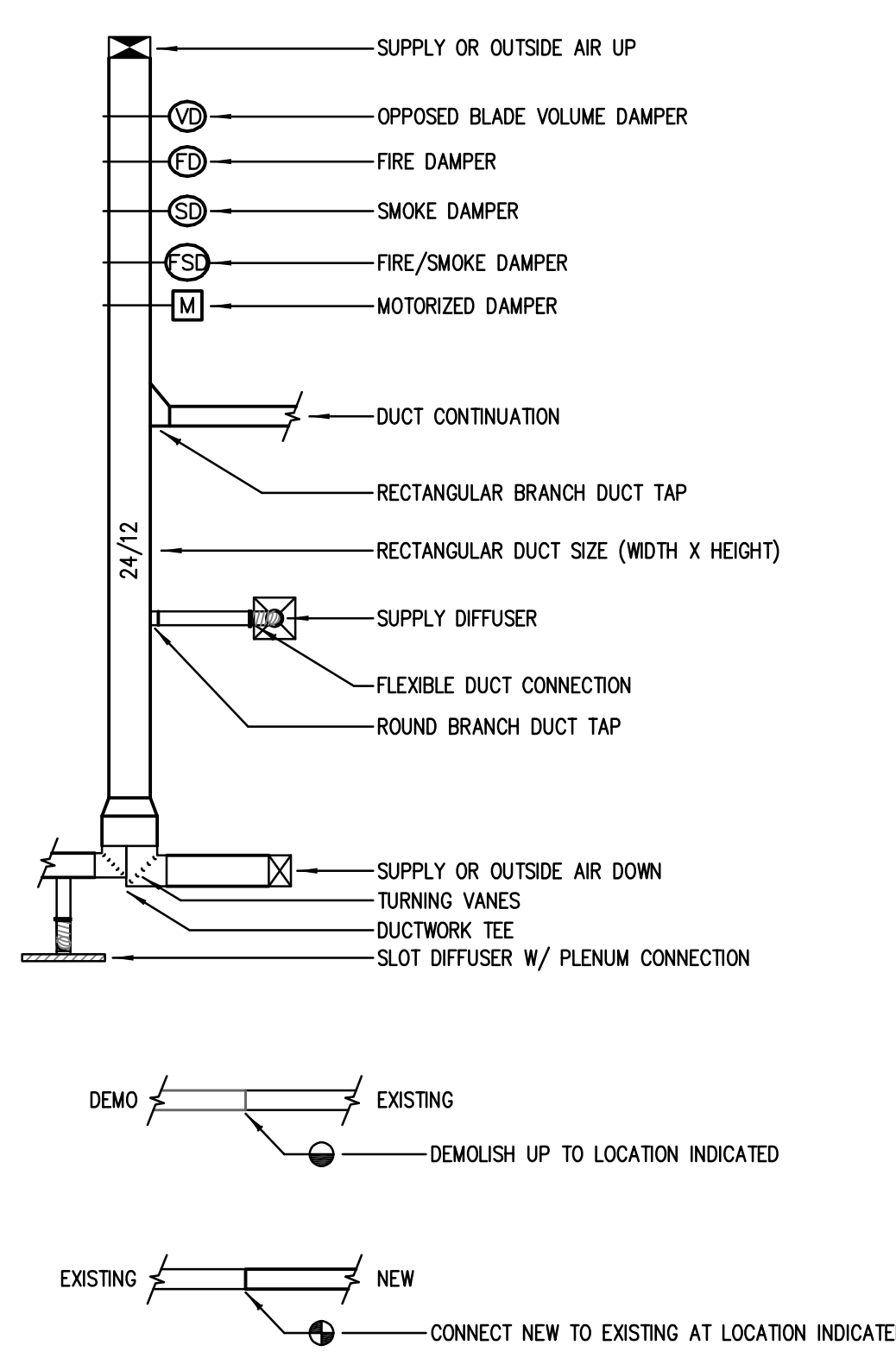
V	
V	VOLT
VA	VOLT-AMPERE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX, VACUUM BREAKER
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VR	VARIABLE AIR VOLUME REHEAT
VTR	VENT THRU ROOF

W	
W	WATT, WIDTH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WALL HYDRANT
WM	WATER METER
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWF	WELDED WIRE FABRIC

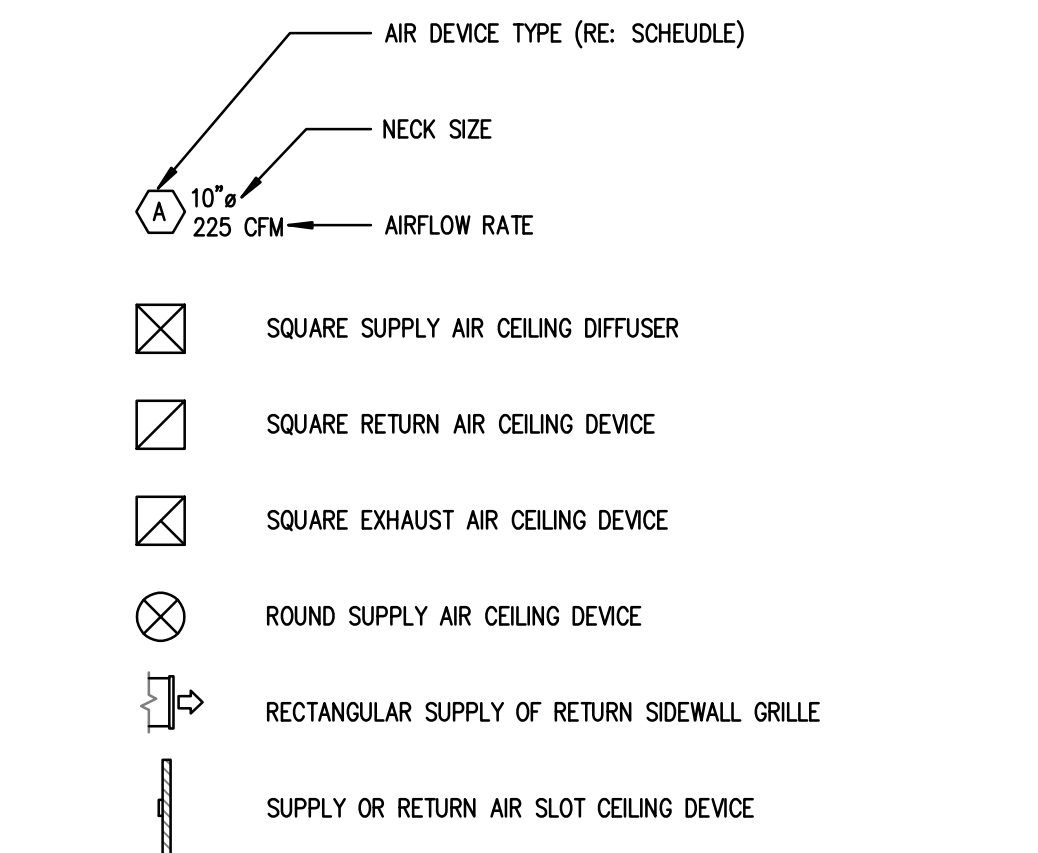
Y	
Y	YARD HYDRANT

Z	
Z	ZONE

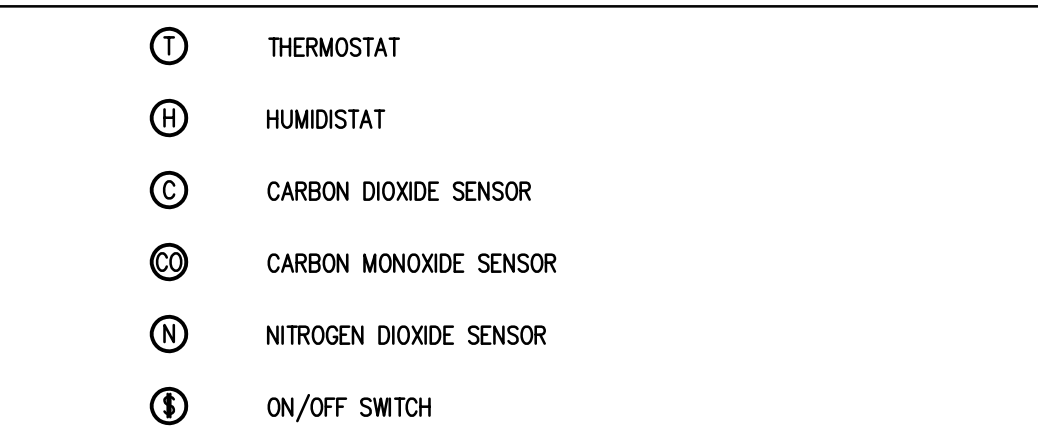
**DUCTWORK**



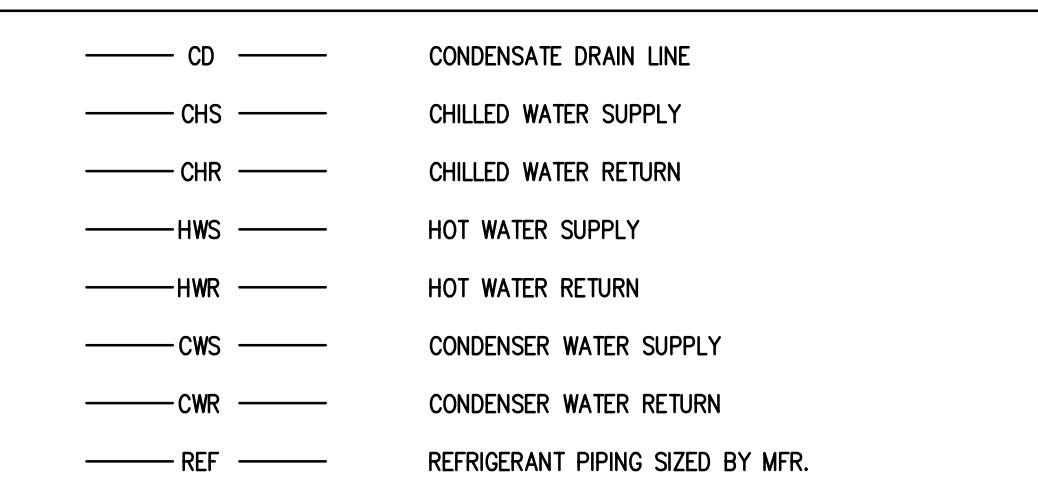
**AIR DEVICE TYPES**



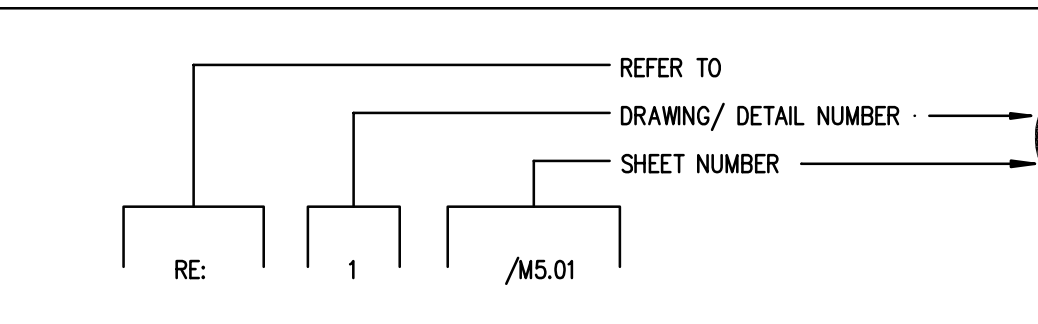
**WALL MOUNTED SENSOR TYPES**



**PIPING TYPES**



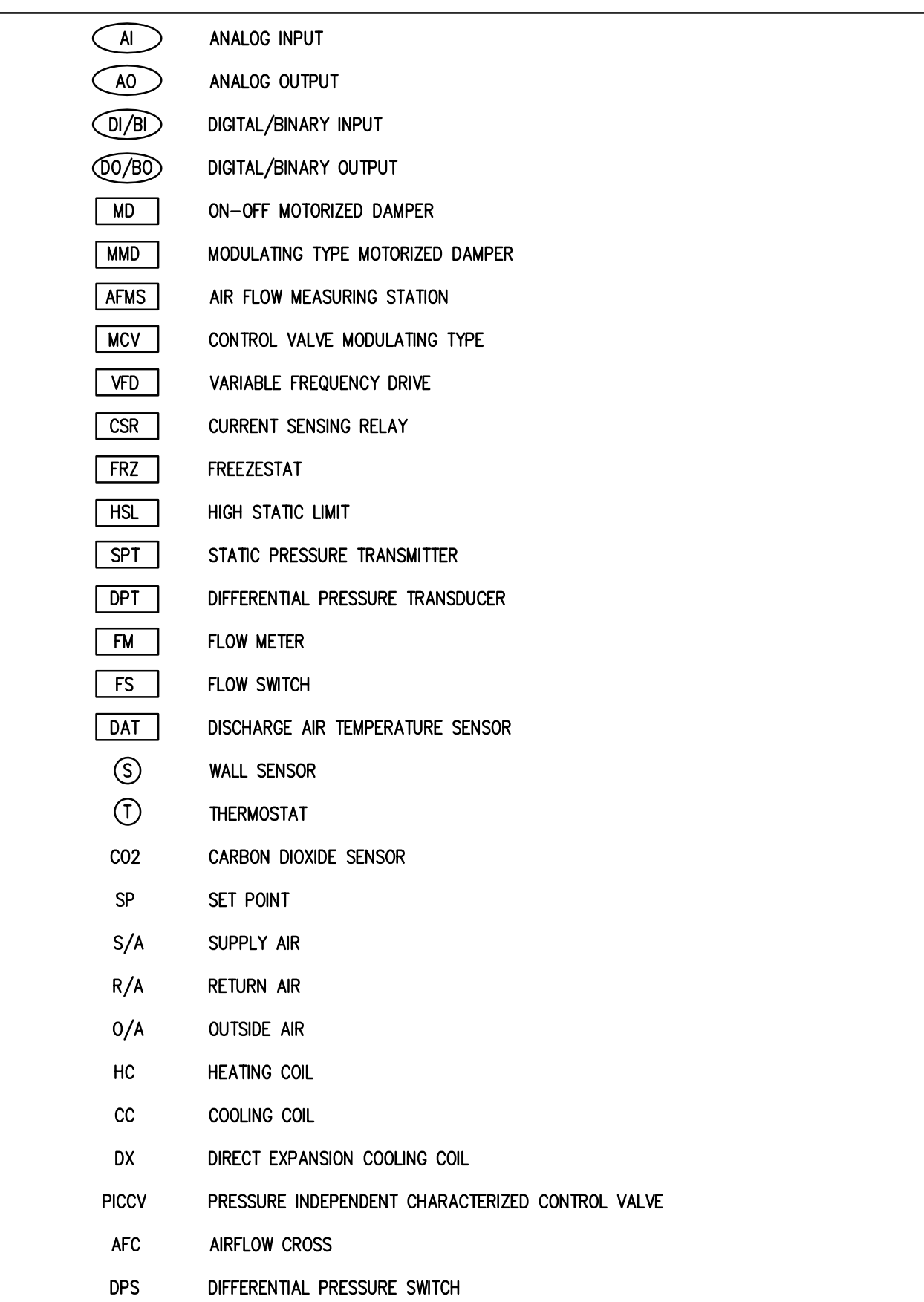
**DRAWING/DETAIL REFERENCE KEY**



**MECHANICAL GENERAL NOTES**

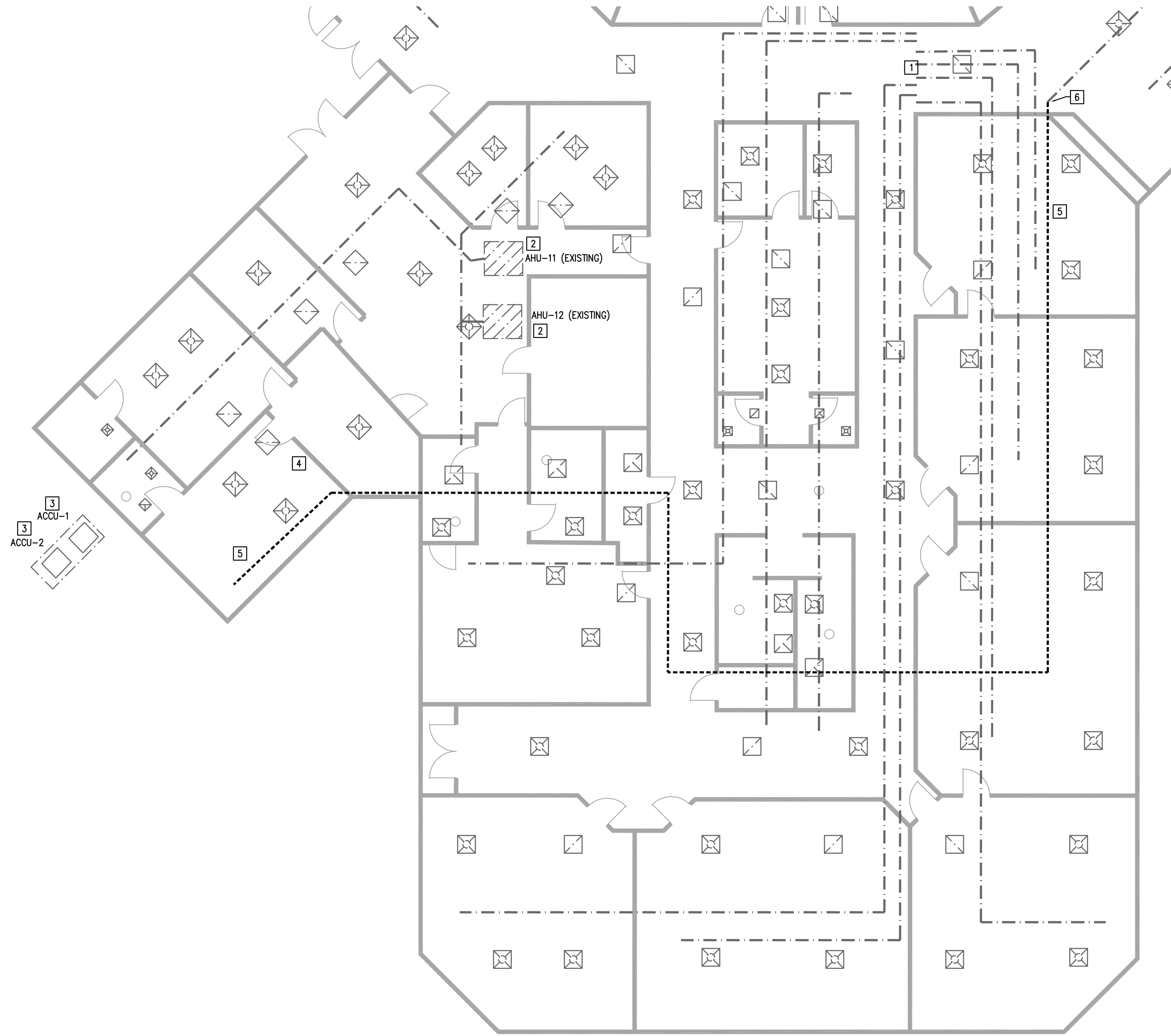
- PIPING AND DUCTWORK SHOWN ON PLANS ARE SCHEMATIC ONLY. COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING, OFFSET AND RUN PIPING DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ALL NECESSARY PIPING, DUCTWORK, FITTING, INSULATION, AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATIONS.
- EXACT LOCATIONS OF VAV TERMINAL UNITS, GRILLES, AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.
- EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUTSHEETS BEFORE FABRICATING OF DUCTWORK, PIPING, OR POURING OF CONCRETE HOUSEKEEPING PADS.
- SHEET METAL INLET DUCTS TO VAV TERMINAL UNITS SHALL BE SAME SIZE AS THE BOX INLET SIZE. PROVIDE RIGID ROUND DUCT THAT IS ONE SIZE LARGER THAN THE INLET BOX SIZE IF THE DISTANCE BETWEEN THE MAIN DUCT AND THE VAV BOX IS MORE THAN 6'-0".
- PROVIDE CONICAL SPIN-IN CONNECTOR FOR ALL ROUND DUCT CONNECTIONS TO VAV TERMINAL UNITS.
- INSTALL VAV TERMINAL UNITS TO ENSURE ACCESS PANELS ARE NOT BLOCKED. ACCESS FOR SERVICE MUST BE PROVIDED.
- CONTRACTOR SHALL COORDINATE/ CONFIRM ALL ELECTRICAL POWER REQUIREMENTS WITH MANUFACTURER REQUIREMENTS.
- DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS.
- PROVIDE RECTANGULAR BRANCH DUCT TAP FOR ALL RECTANGULAR DUCT CONNECTIONS TO RECTANGULAR DUCT TRUNKS.
- ALL MEDIUM AND LOW PRESSURE DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR MEDIUM AND LOW PRESSURE DUCTWORK.
- ALL OUTSIDE AIR, SUPPLY AIR, AND RETURN AIR DUCTWORK AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION WHERE LOCATED OUTSIDE THE BUILDING. REFER TO SPECIFICATION 23 07 13 DUCT INSULATION FOR FURTHER INFORMATION AND ADDITIONAL REQUIREMENTS.
- ALL DUCTWORK SHALL BE CONSTRUCTED TO SEAL CLASS 'A' AS REFERENCED IN SMACNA STANDARDS. ALL NON-WELDED JOINTS AND SEAMS SHALL BE SEALED. THIS INCLUDES BUT IS NOT LIMITED TO TRANSVERSE JOINTS, LONGITUDINAL SEAMS, DUCT WALL PENETRATIONS, SPIN-INS, TAPS, AND OTHER BRANCH CONNECTIONS, ACCESS DOORS, ACCESS PANELS, AND DUCT CONNECTIONS TO EQUIPMENT. OPENINGS FOR ROTATING SHAFTS SHALL ALSO BE SEALED WITH BUSHINGS. REFER TO SPECIFICATION 23 31 13 METAL DUCTWORK FOR FURTHER INFORMATION.
- ALL EXPOSED DUCTWORK AND PIPING WITH ASSOCIATED ACCESSORIES IN AREAS WITH NO CEILING OR PARTIAL CEILING SHALL BE PAINTED. REFER TO ARCHITECT FOR COLOR.
- DIVISION 23 MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE SENSORS AND HUMIDITY SENSORS.
- PROVIDE REMOTE SPIN-IN DAMPER OPERATOR FOR SPIN-IN CONNECTIONS AND VOLUME DAMPERS LOCATED OVER GYPSUM CEILINGS.
- PROVIDE AIRFLOW TYPE TURNING VANES IN ALL 90 DEGREE ELBOWS.
- PROVIDE INSULATED ACCESS DOORS FOR DUCTWORK DOWNSTREAM OF AIR HANDLING UNITS AT EVERY 20'-0" TO FACILITATE DUCT CLEANING. PROVIDE ACCESS DOORS WITHIN 5'-0" OF EACH ELBOW.
- COORDINATE LOCATIONS OF FLOOR AND WALL OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
- ALL CEILING MOUNTED AND WALL MOUNTED AIR DEVICE FINISHES SHALL MATCH ADJACENT ARCHITECTURAL SURFACE. CONTRACTOR SHALL COORDINATE COLOR WITH ARCHITECT.
- NO PIPE HANGERS SHALL BE SPACED MORE THAN 10'-0" O.C. COMPLY WITH PIPE SPACING AS SPECIFIED IN THE PIPING SUPPORT SPECIFICATIONS.
- ALL CHILLED WATER AND HOT WATER PIPING LOCATED INSIDE BUILDING SHALL BE SUPPORTED FROM THE STRUCTURE WITH SADDLE OR TRAPEZOID HANGERS WITH ADJUSTABLE CLEVIS OR THREADED RODS.
- MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 15 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES OR PLUMBING VENTS.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR FOR ALL CONDENSATE DRAIN PIPES CONNECTING TO A SINK DRAIN TAIL PIECE.
- PROVIDE ACCESS DOORS AT ALL FIRE & MOTORIZED DAMPERS TO ALLOW FOR VISUAL CONFIRMATION OF PROPER OPERATION OF DAMPER.

**CONTROLS SCHEMATIC SYMBOLS LEGEND**



REVISION:		
No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022</		

Plotted: Jul 28, 2022, 11:34 AM by user: aarmandariz - Saved: 7/28/2022 by user: aarmandariz  
 C:\Users\aarmandariz\Documents\DBR Inc\202122\00-GP13D-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg



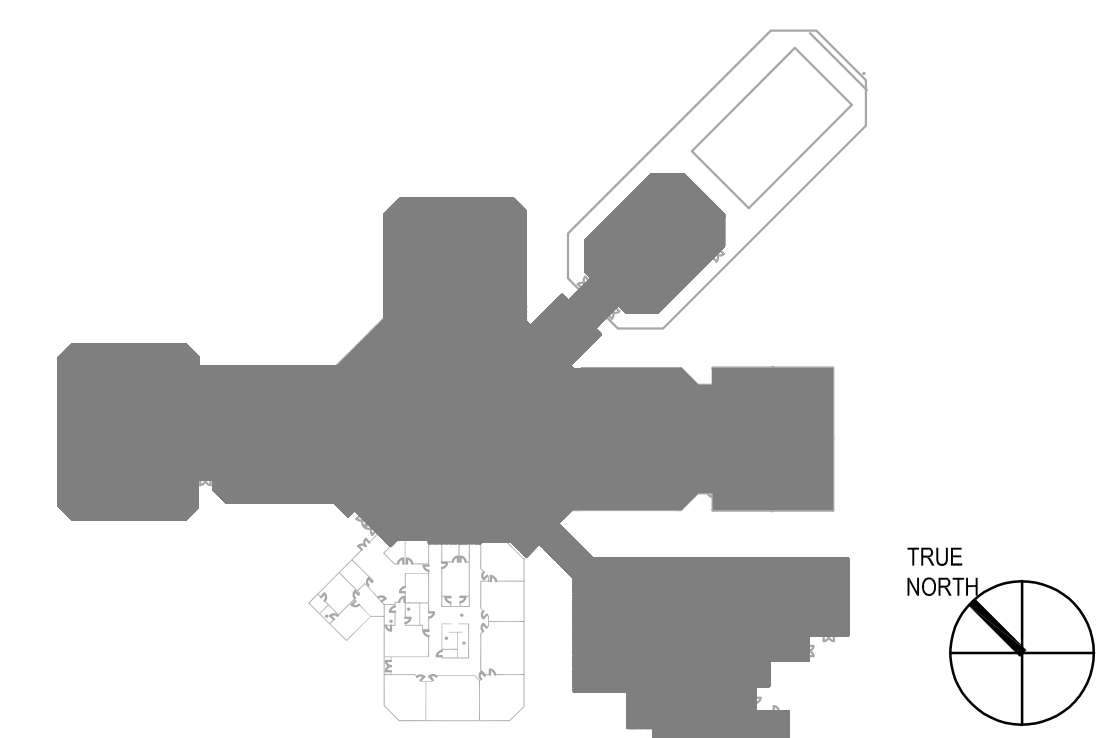
**1** MECHANICAL DEMO PLAN - AREA A  
 MD2.01A 1/8"=1'-0"

**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
  - REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
  - REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
  - REPLACEMENT OF RETURN DUCTWORK.
  - REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).
- IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

**MECHANICAL KEYED NOTES**

- EXISTING DUCTWORK AND ALL ASSOCIATED HANGERS, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED DUCTWORK, ELECTRICAL, CONTROLS, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING AIR COOLED CONDENSING UNIT SHALL BE REMOVED.
- LOCATE AND REMOVE EXISTING EMERGENCY HVAC BUTTON.
- EXISTING EXHAUST DUCT TO REMAIN UNLESS NOTED OTHERWISE. ALL ASSOCIATED BRANCH DUCTS AND AIR DEVICES SHALL REMAIN UNLESS NOTED OTHERWISE.
- EXISTING EXHAUST DUCT, ASSOCIATED DUCT TAPS, AND AIR DEVICES SHALL BE REMOVED FROM FAN IN LEVEL 2 MECHANICAL ROOM BACK TO APPROXIMATE LOCATION SHOWN.



**DBR**  
 SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY  
 713.914.0888 v 713.914.0888 f  
 9990 Richmond Ave. South Bldg. Suite.  
 300 Houston, Texas 77042  
 TBPE Firm Registration NO. 2234

**REVISION:**

No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

SEAL:

**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

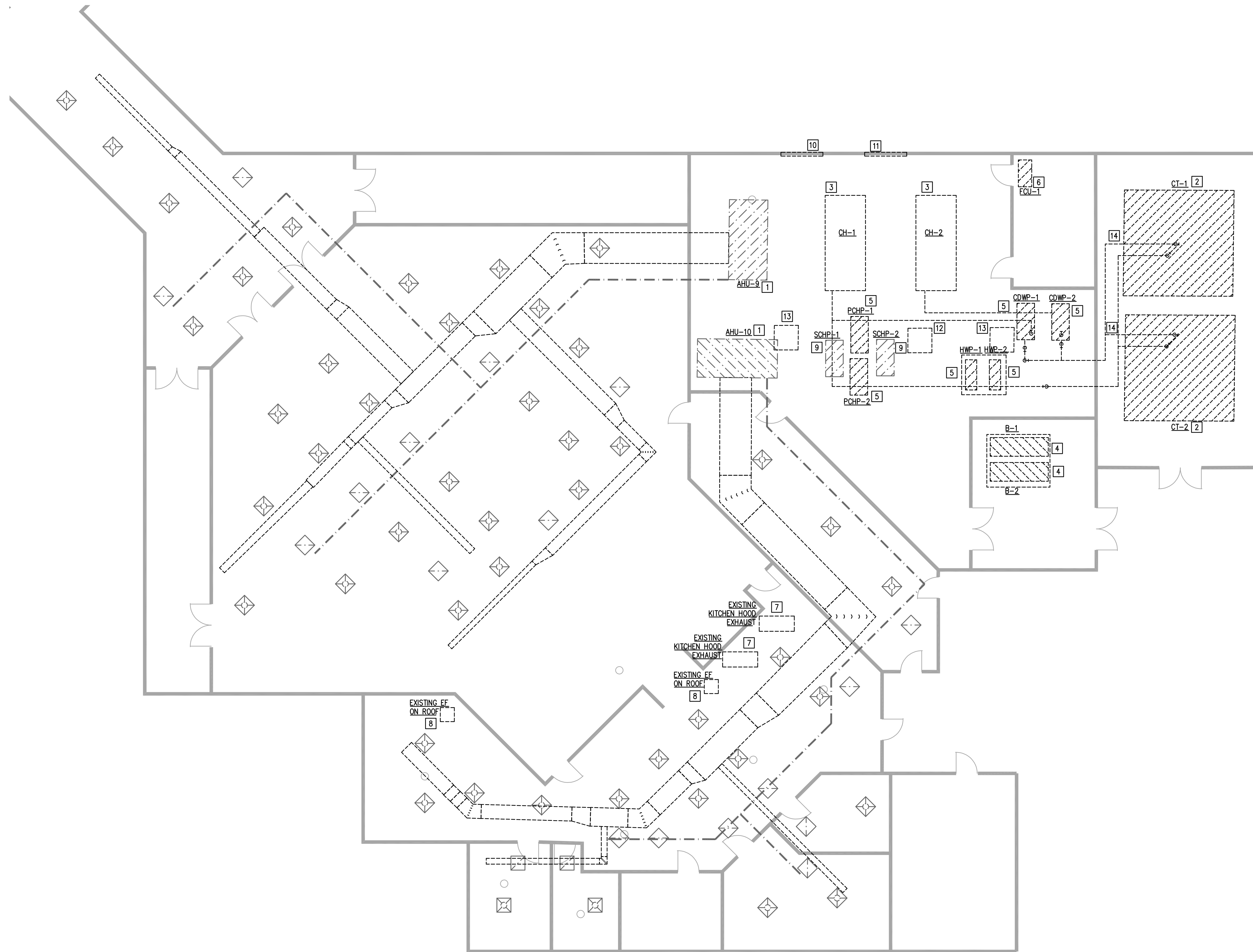
CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:  
**MECHANICAL DEMO L PLAN - AREA A**

SHEET NUMBER:  
**MD2.01A**

Plotted: Jul 28, 2022, 11:34 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\armendariz\Documents\DRB\_Inc\220122\000-GPISD-Purple Sage ES -HVAC Upgrades\Project Files Drawings\0MD-220122-01.dwg



**1** MECHANICAL DEMO PLAN - AREA B  
 MD2.01B 1/8"=1'-0"

**MECHANICAL SCOPE OF WORK**

- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF SECONDARY CHILLED WATER PUMPS.
- REPLACEMENT OF ALL HYDRONIC PUMPS AS ALTERNATE 7.
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REMOVAL OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).
- REFURBISHMENT OF COOLING TOWERS/PIPING AS NOTED.

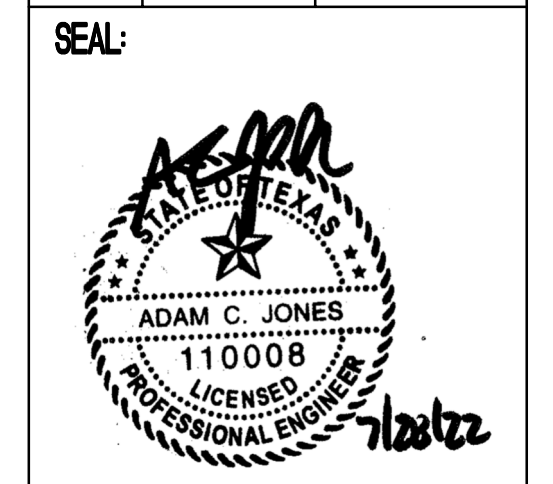
IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

**MECHANICAL KEYED NOTES**

- EXISTING MAIN SUPPLY DUCTWORK TO REMAIN AND TO BE CLEANED. ASSOCIATED AHU AND ALL OTHER ASSOCIATED DUCTWORK, AIR TERMINALS, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING COOLING TOWERS SHALL BE REFURBISHED. REFER TO BELOW FOR LIST OF REQUIRED SERVICES:
  - REMOVE AND DISPOSE THE EXISTING DETERIORATED PVC FILL.
  - CLEAN COLD WATER BASIN OF DIRT AND DEBRIS. PRESSURE WASH THE INTERIOR AND EXTERIOR OF THE TOWER.
  - REMOVE ALL LOOSE, EXCESS CAULKING FROM THE SEAMS IN THE FLOOR, CLEAN SEAMS WITH A WIRE BRUSH/WHEEL AND CLEAN WITH ACETONE.
  - CAULK ALL SEAMS WITH POLYURETHANE CAULK TO HELP PREVENT LEAKS.
  - PROVIDE AND INSTALL NEW EVAPOC PVC FILL KITS WITH INTEGRAL DRIFT ELIMINATORS AND LOUVERS.
  - CLEAN HOT WATER BASINS OF DIRT AND DEBRIS AND DISPOSE.
  - ENSURE ALL NOZZLES ARE FREE AND CLEAR WITH NO BROKEN BOTTOMS.
  - REPLACE BROKEN NOZZLES WITH NEW OEM NOZZLES.
  - VERIFICATION OF EXISTING CONDENSER WATER CHEMISTRY AND ASSOCIATED CHEMICAL TREATMENT AS REQUIRED.
- EXISTING CHILLER TO REMAIN. INTEGRATE EXISTING CHILLER INTO NEW EMCS. PROVIDE HARDWARE AS REQUIRED FOR CONTROLS INTEGRATION.
- EXISTING BOILER TO REMAIN. INTEGRATE EXISTING BOILER INTO NEW EMCS. PROVIDE HARDWARE AS REQUIRED FOR CONTROLS INTEGRATION.
- EXISTING PUMPS SHALL BE REMOVED AS PART OF ALTERNATE 7.
- EXISTING FAN COIL UNIT TO REMAIN.
- EXISTING KITCHEN EXHAUST/MAKE-UP HOOD AND ALL ASSOCIATED DUCTWORK TO REMAIN. ASSOCIATED ROOF-MOUNTED FAN TO REMAIN AS WELL.
- EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK/AIR DEVICES TO REMAIN.
- EXISTING PUMP SHALL BE REMOVED. EXISTING HOUSE-KEEPING PAD AND ACCESSORIES SHALL REMAIN UNLESS NOTED OTHERWISE.
- EXISTING INTAKE LOUVER SHALL REMAIN. ASSOCIATED FAN AND ACCESSORIES SHALL BE REMOVED.
- BLANK OFF EXISTING LOUVER WITH INSULATED SHEET METAL BLANK PLATE.
- EXISTING GRAVITY HOOD, DUCT, ACCESSORIES, AND DAMPER SHALL BE REMOVED. EXISTING ROOF PENETRATION SHALL REMAIN AND BE RE-PURPOSED.
- EXISTING GRAVITY HOOD, DUCT, CONTROLS, AND DAMPER SHALL BE REMOVED. EXISTING ROOF PENETRATION SHALL PATCHED AND SEALED.
- EXISTING CONDENSER WATER PIPING TO BE PREPARED AND REPAINTED.

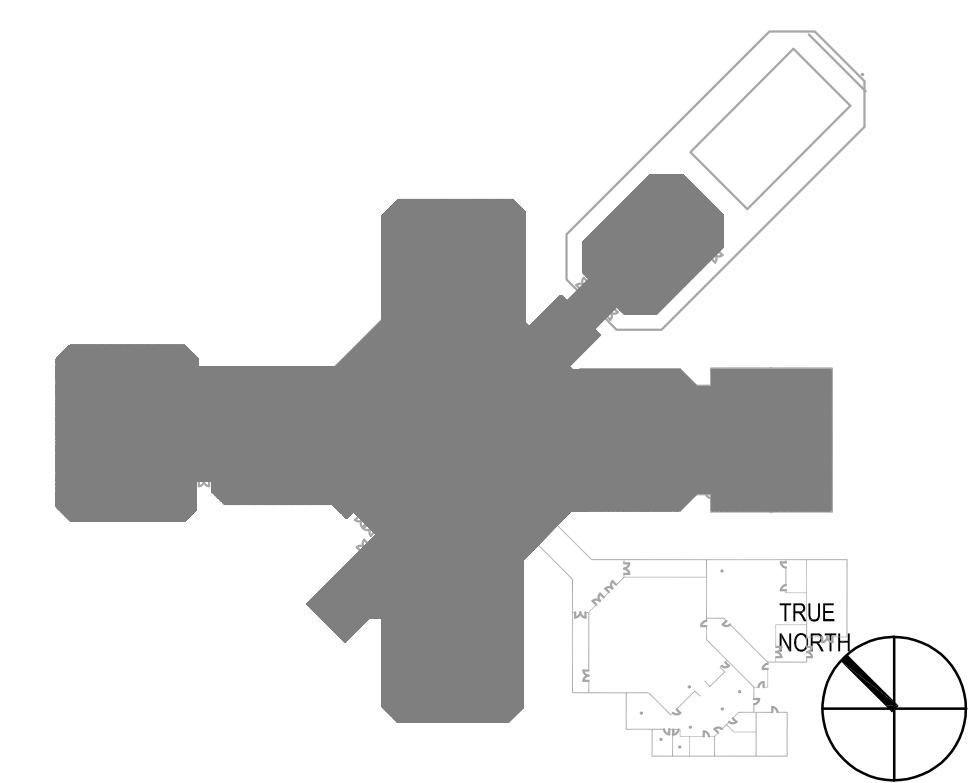


REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

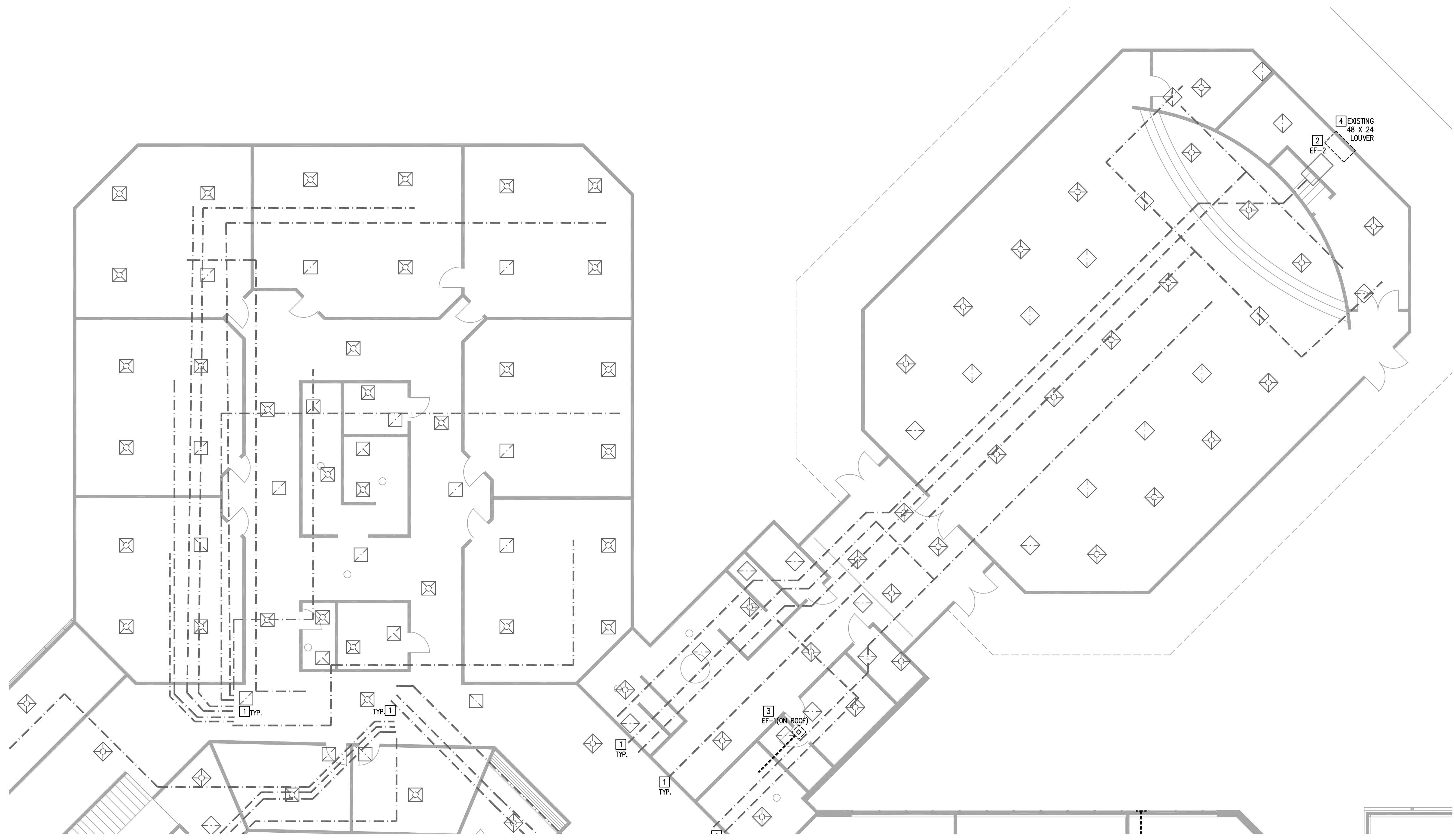


**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>MECHANICAL DEMO PLAN - AREA B</b>
SHEET NUMBER:	<b>MD2.01B</b>



Plotted: Jul 28, 2022, 11:34 AM by user: aormendariz - Saved: 7/28/2022 by user: aormendariz  
 C:\Users\Aormendariz\ACCDocs\DRB Inc\220122-000-GP\SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg



**1** MECHANICAL DEMO PLAN - AREA C1  
 MD2.01C1 1/8"=1'-0"

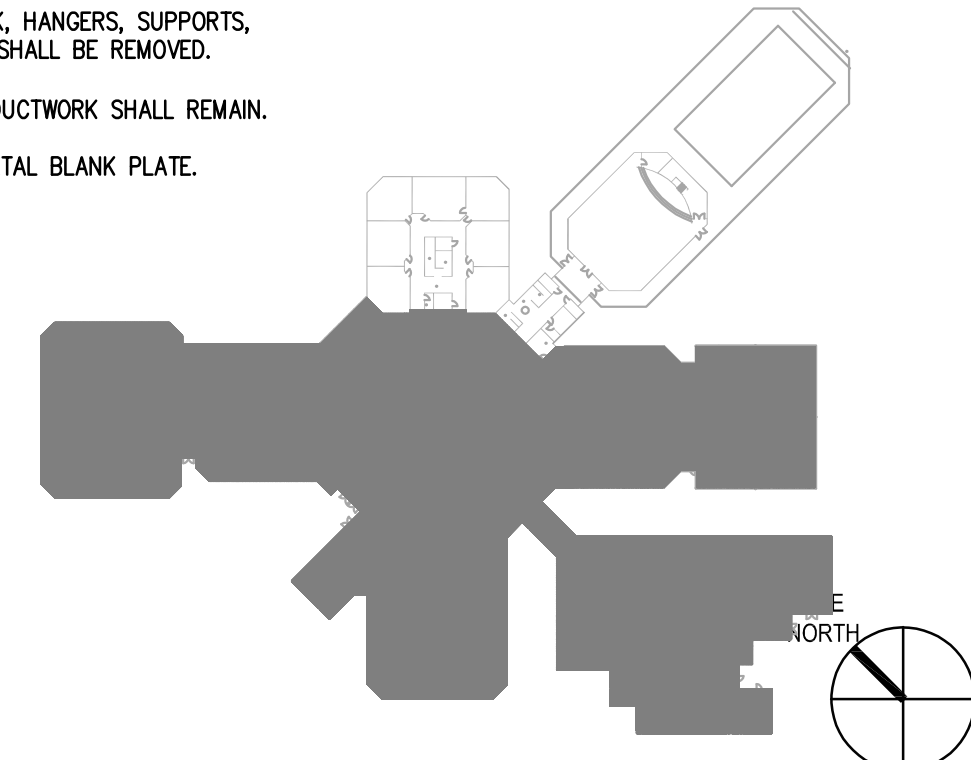
**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
  - REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
  - REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
  - REPLACEMENT OF RETURN DUCTWORK.
  - REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

**MECHANICAL KEYED NOTES**

- EXISTING DUCTWORK AND ALL ASSOCIATED HANGERS, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, HANGERS, SUPPORTS, ELECTRICAL, CONTROL, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING EXHAUST FAN AND ASSOCIATED AIR DEVICES/DUCTWORK SHALL REMAIN.
- BLANK OFF EXISTING LOUVER WITH INSULATED SHEET METAL BLANK PLATE.



**DBR**  
 SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY  
 713.914.0888 v 713.914.0888 f  
 9990 Richmond Ave. South Bldg. Suite.  
 300 Houston, Texas 77042  
 TBPE Firm Registration NO. 2234

REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

SEAL:

**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	MECHANICAL DEMO PLAN - AREA C1
SHEET NUMBER:	MD2.01C1



Plotted: Jul 28, 2022, 11:34 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\armendariz\Documents\DBR Inc\220122\000-GPISD--Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg

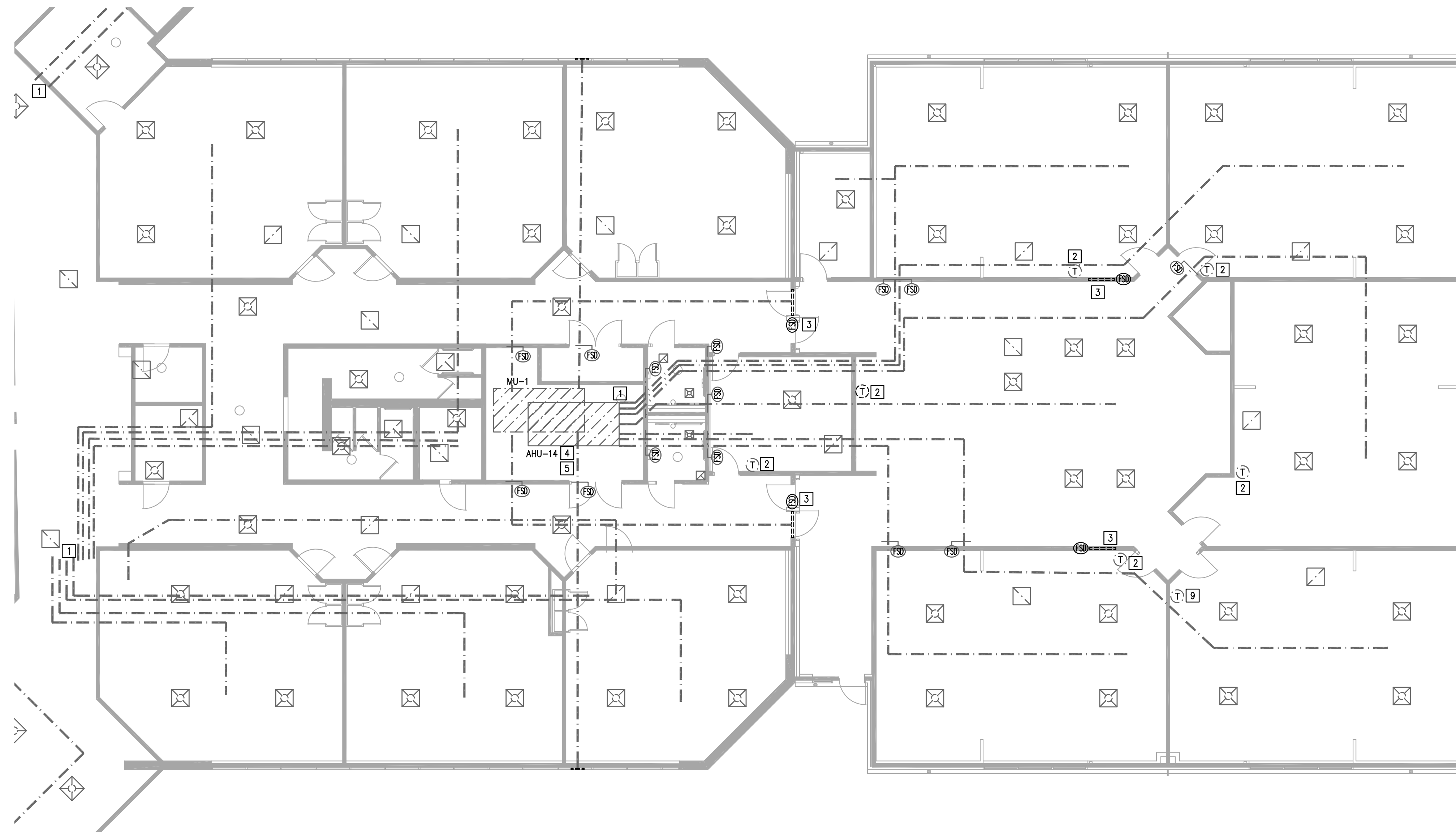
**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REPLACEMENT OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

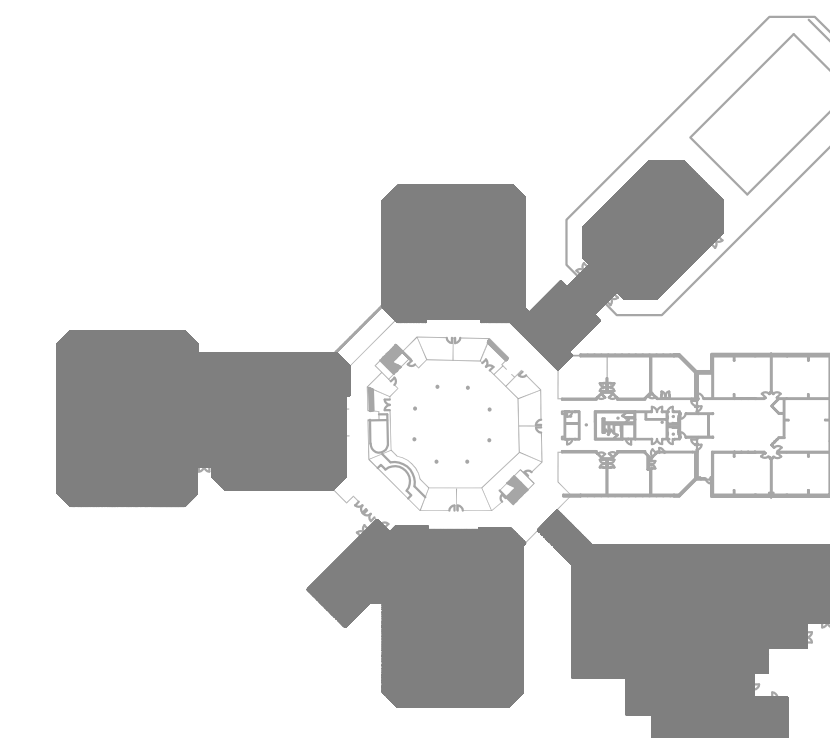
**MECHANICAL KEYED NOTES**

- 1 EXISTING DUCTWORK AND ALL ASSOCIATED HANGERS, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED UNLESS NOTED OTHERWISE.
- 2 ALL THERMOSTATS ARE TO BE REMOVED.
- 3 EXISTING TRANSFER DUCT AND ASSOCIATED FIRE SMOKE DAMPER TO REMAIN.
- 4 EXISTING AIR HANDLING UNIT, MAKE-UP AIR UNIT, AND ALL ASSOCIATED DUCTWORK, ELECTRICAL, CONTROLS, AND ACCESSORIES SHALL BE REMOVED AS AN ALTERNATE.
- 5 EXISTING FIRE SMOKE DAMPER TO BE REMOVED ALONG WITH ASSOCIATED DUCTWORK.



**1** MECHANICAL DEMO PLAN - AREA C2 (ALTERNATIVE)  
 MD2.01C2 1/8"=1'-0"

ALT



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

SEAL:



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:

**MECHANICAL  
 DEMO PLAN -  
 AREA C2 ALT**

SHEET NUMBER:

**MD2.01C2 ALT**

Plotted: Jul 28, 2022, 11:34 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\armendariz\ACCDocs\DBR Inc\220122\00-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg

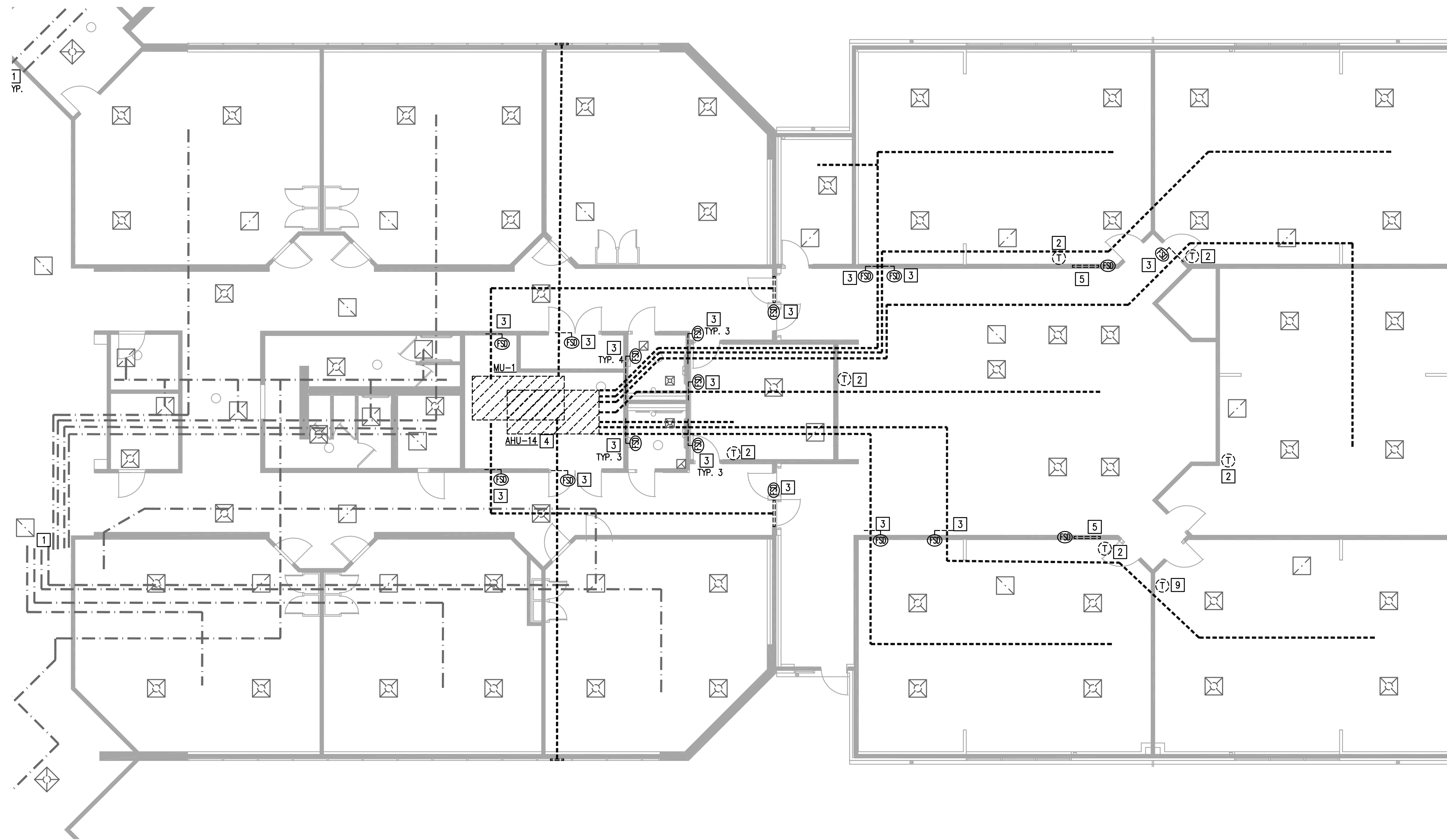
**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REPLACEMENT OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

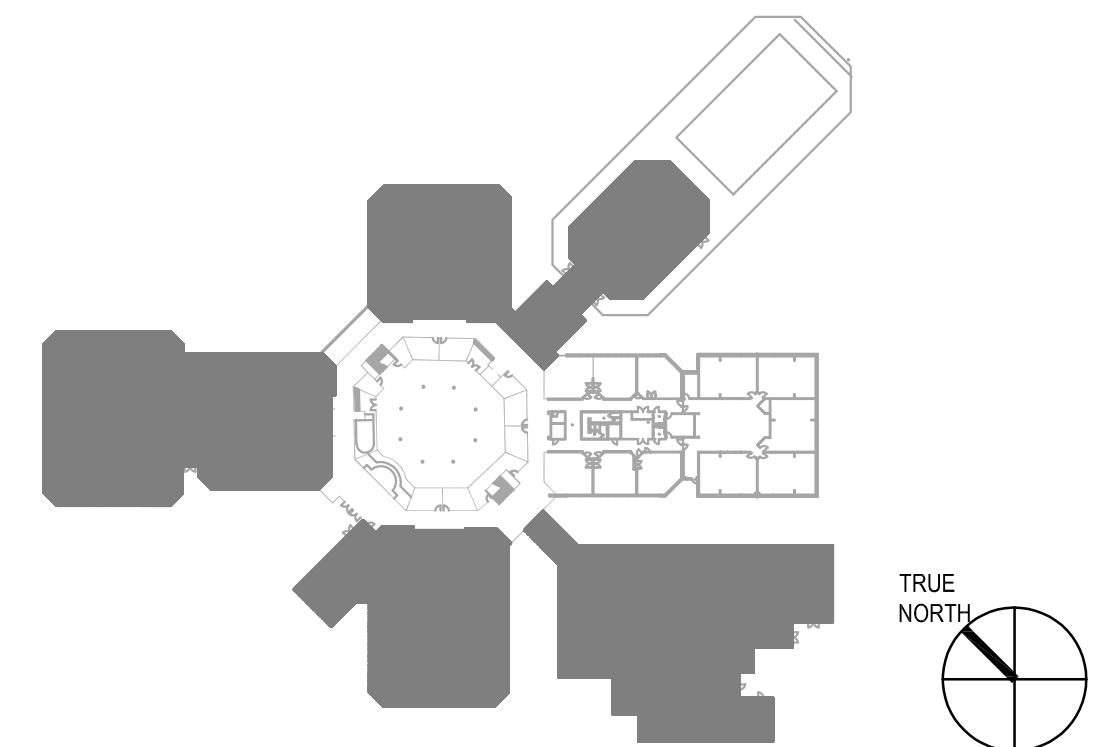
IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

**MECHANICAL KEYED NOTES**

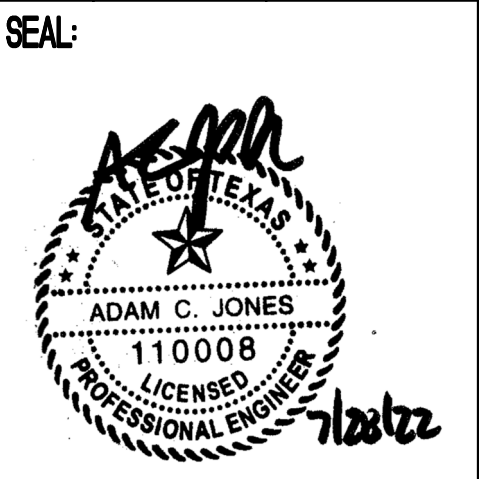
- 1 EXISTING DUCTWORK AND ALL ASSOCIATED HANGERS, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- 2 ALL THERMOSTATS ARE TO BE REPLACED.
- 3 EXISTING FIRE SMOKE DAMPER TO REMAIN.
- 4 EXISTING AIR HANDLING UNIT AND MAKE-UP AIR UNIT AND ALL ASSOCIATED DUCTWORK, ELECTRICAL, CONTROLS, AND ACCESSORIES SHALL REMAIN.
- 5 EXISTING TRANSFER DUCT AND ASSOCIATED FIRE SMOKE DAMPER TO REMAIN



**1** MECHANICAL DEMO PLAN - AREA C2  
 MD2.01C2 1/8"=1'-0"



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



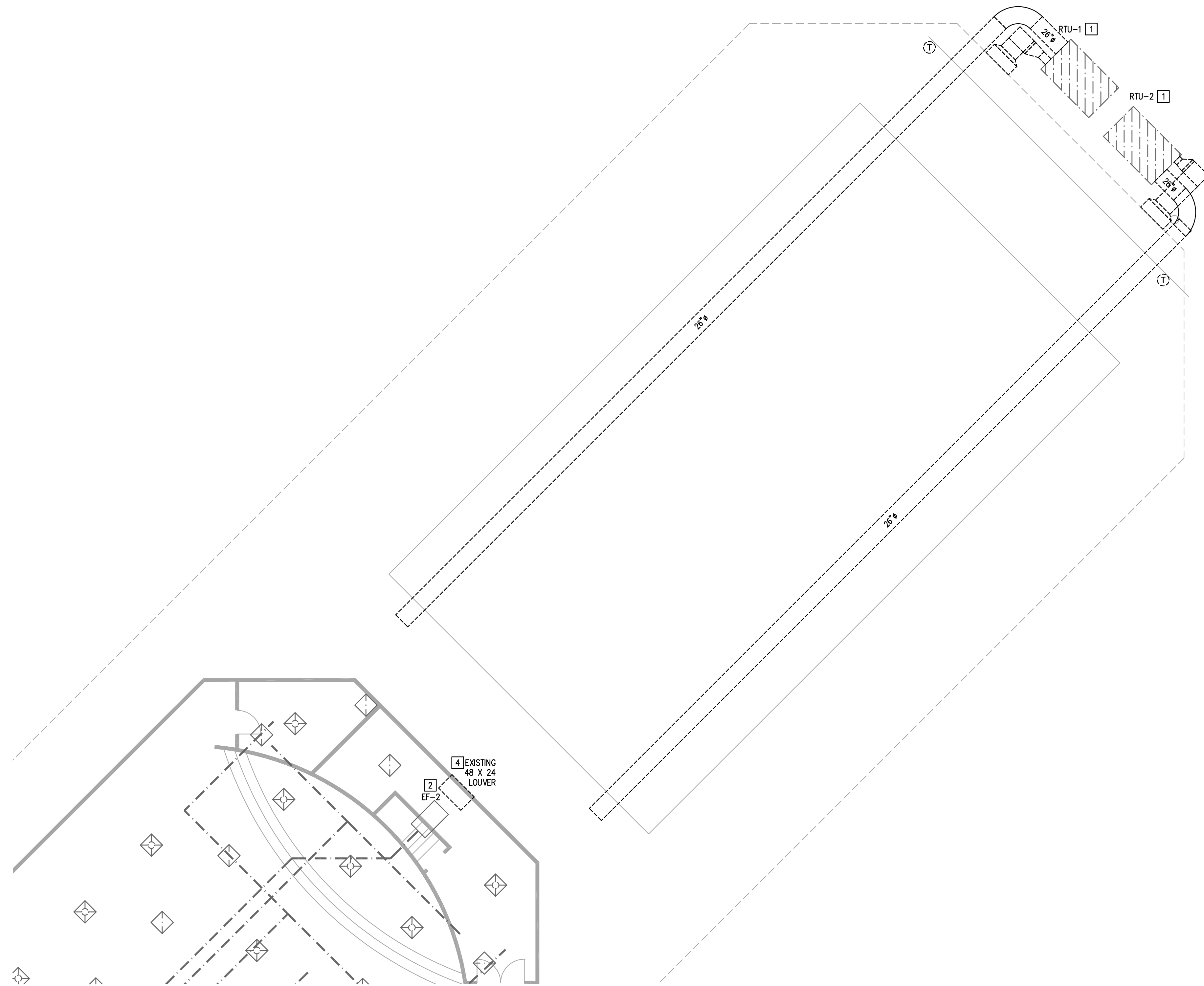
**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE:

**MECHANICAL DEMO PLAN - AREA C2**

SHEET NUMBER:  
**MD2.01C2**

Plotted: Jul 28, 2022, 11:34 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\aaarmendariz\ACCDocs\DBR Inc\220122.000-GP1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MDI-220122-01.dwg



**1** MECHANICAL DEMO PLAN - AREA D  
 WD2.01D 1/8"=1'-0"

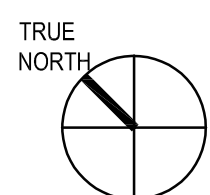
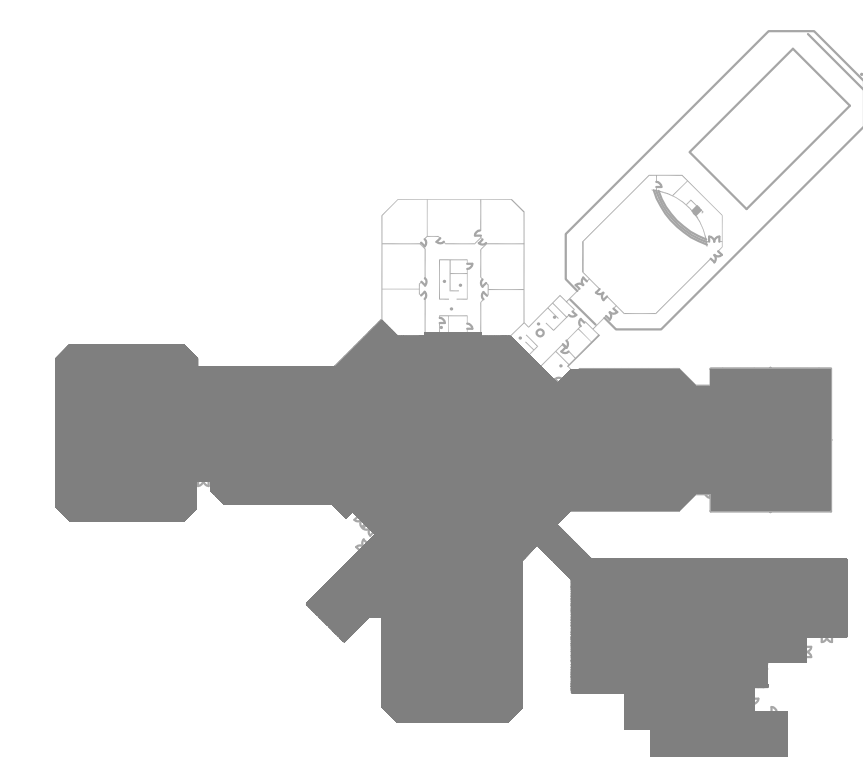
**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REPLACEMENT OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

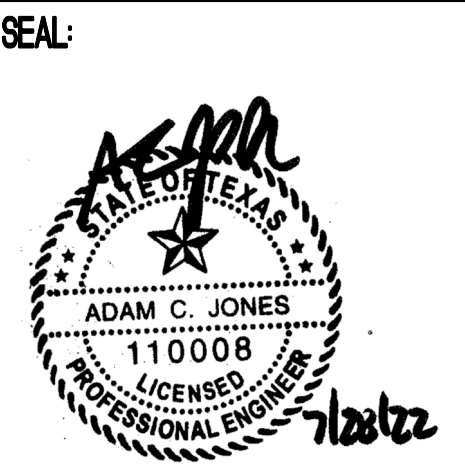
IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

**MECHANICAL KEYED NOTES**

- 1** EXISTING PACKAGE UNIT TO BE REMOVED AND REPLACED AS ALTERNATE 5.
- 2** EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, HANGERS, SUPPORTS, ELECTRICAL, CONTROL, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- 4** BLANK OFF EXISTING LOUVER WITH INSULATED SHEET METAL BLANK PLATE.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

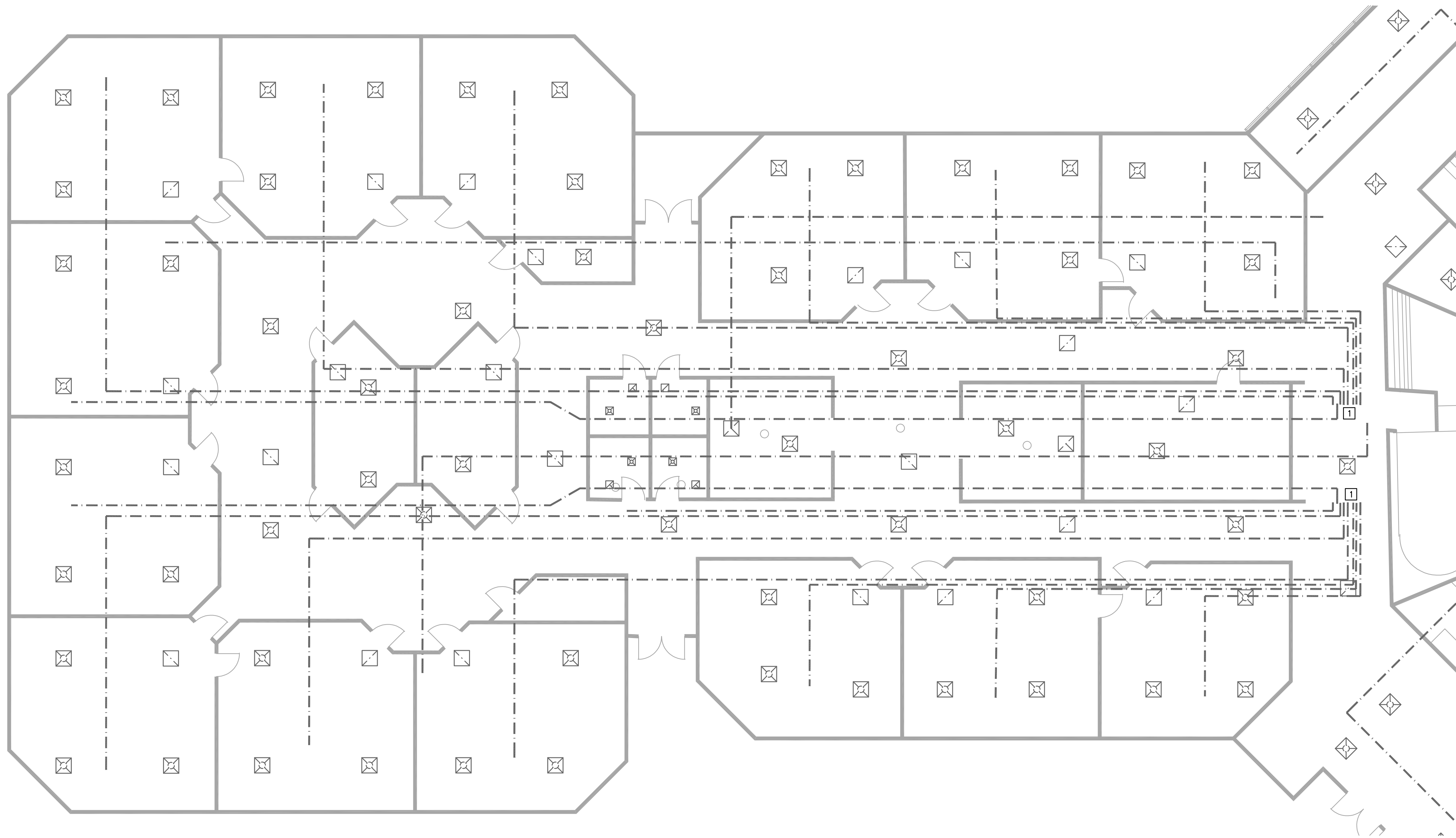
SHEET TITLE:

**MECHANICAL  
 DEMO PLAN -  
 AREA D**

SHEET NUMBER:

**MD2.01D**

Plotted: Jul 28, 2022, 11:34 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\aaarmendariz\Documents\DBR Inc\220122-000-QP1SI-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg



**1** MECHANICAL DEMO PLAN - AREA E  
 MD2.01E 1/8"=1'-0"

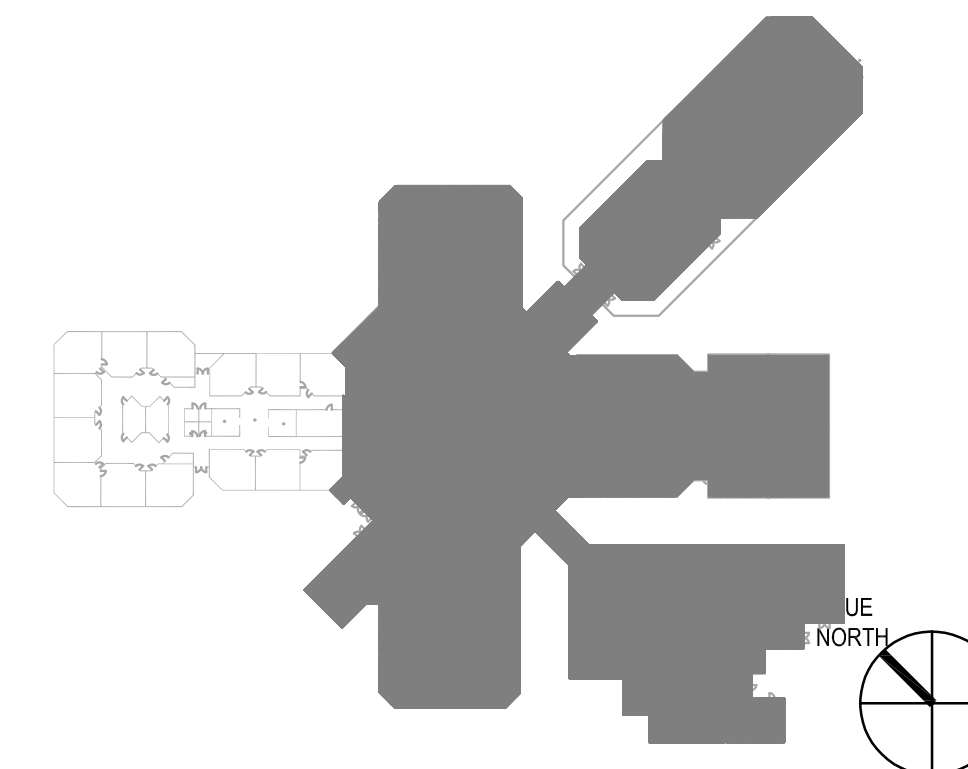
**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REPLACEMENT OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

**MECHANICAL KEYED NOTES**

- 1** EXISTING DUCTWORK AND ALL ASSOCIATED HANGERS, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.



**DBR**  
 SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY  
 713.914.0888 v 713.914.0888 f  
 9990 Richmond Ave. South Bldg. Suite.  
 300 Houston, Texas 77042  
 TBPE Firm Registration NO. 2234

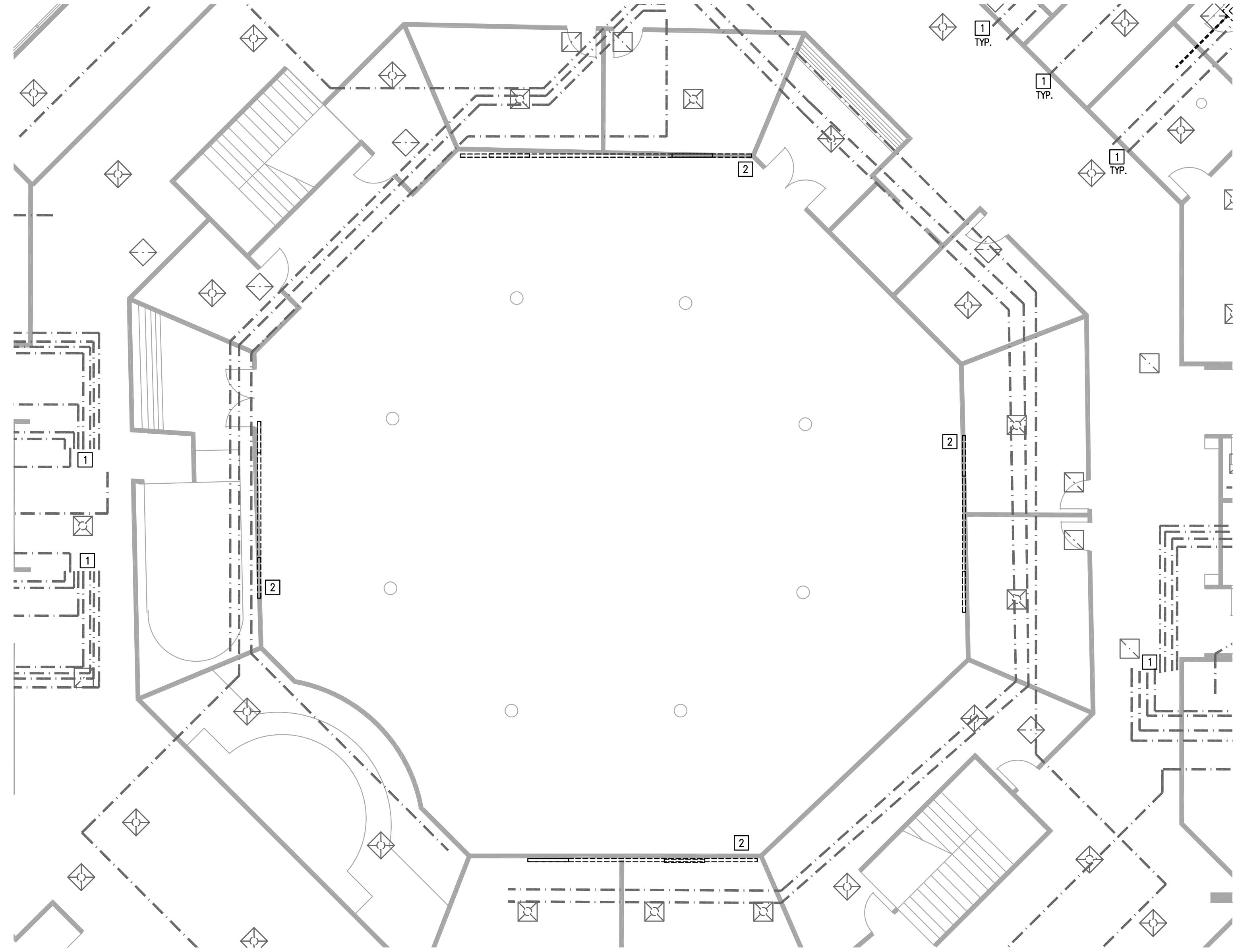
REVISION		
No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

SEAL:

**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>MECHANICAL DEMO PLAN - AREA E</b>
SHEET NUMBER:	<b>MD2.01E</b>

Plotted: Jul 28, 2022, 11:34 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\armendariz\Documents\DRB Inc\VE01E000-0F1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg



**1** MECHANICAL DEMO PLAN - AREA F  
 MD2.01F 1/8"=1'-0"

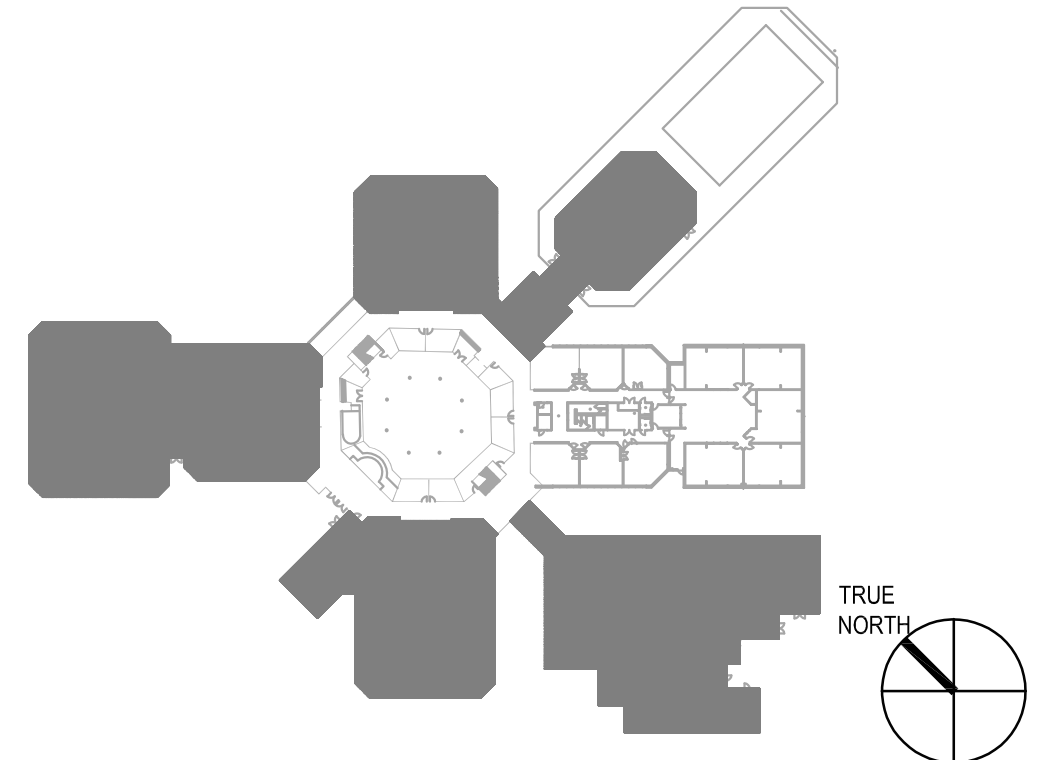
**MECHANICAL SCOPE OF WORK**

- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REPLACEMENT OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

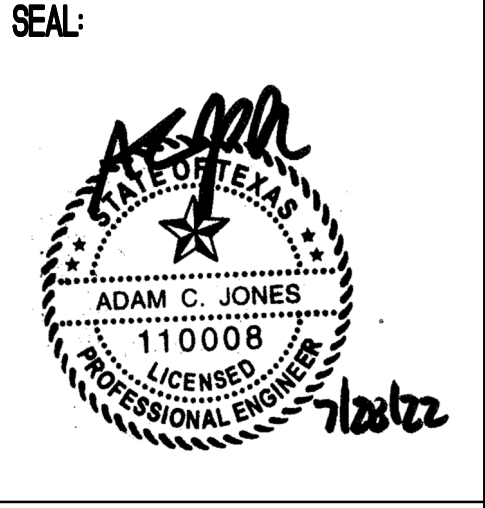
**MECHANICAL KEYED NOTES**

- EXISTING DUCTWORK AND ALL ASSOCIATED HANGERS, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING SLOTS TO REMAIN. CLEAN AND CONNECT TO NEW SUPPLY DUCTWORK ASSOCIATED WITH AHU-F1.



**REVISION:**

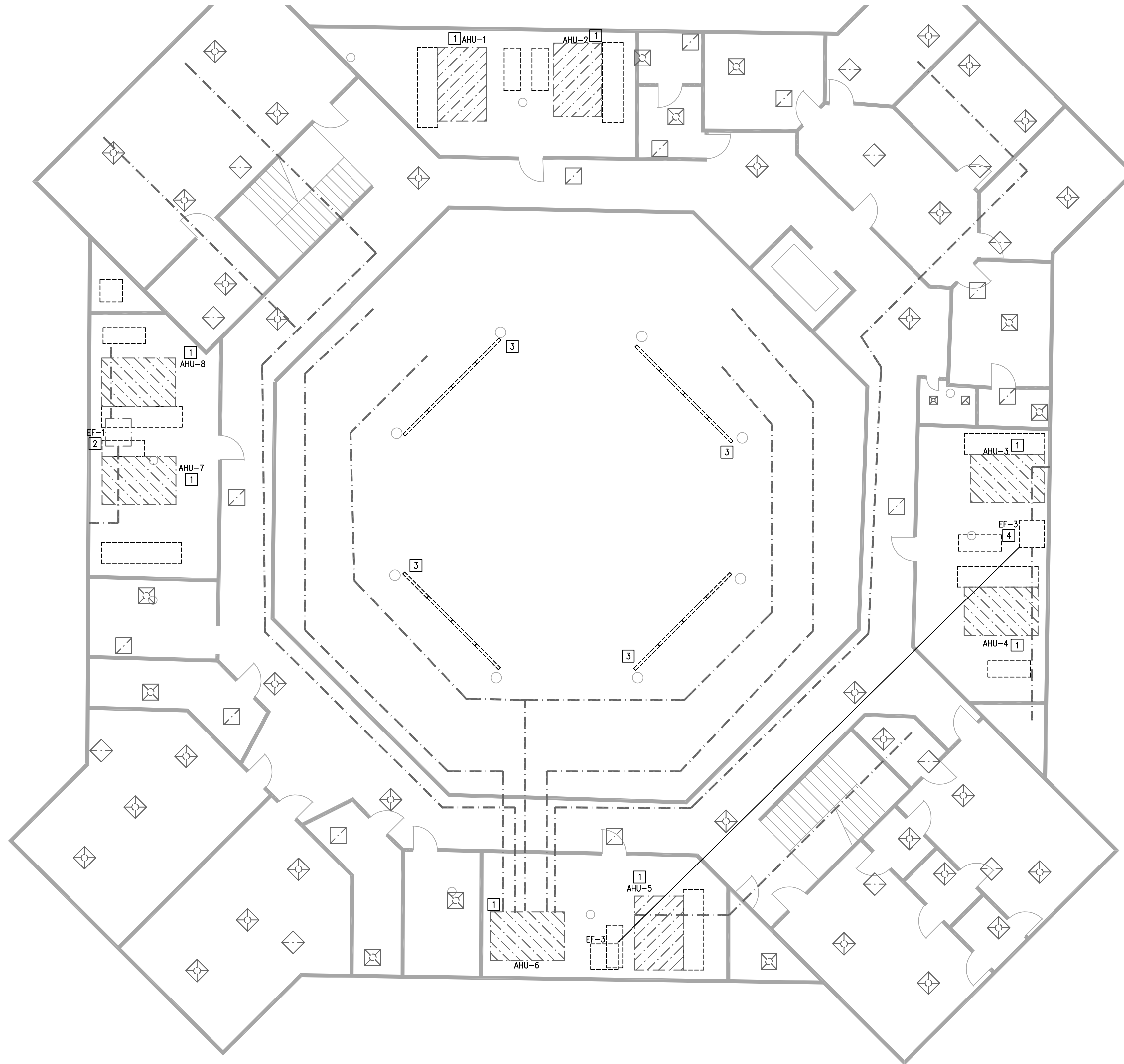
No.	DATE	DESCRIPTION
05/16/2022		SD SET
05/25/2022		100% DD SET
06/22/2022		75% CD SET
07/20/2022		100% REVIEW
07/28/2022		PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE: 07/28/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 220122.000
SHEET TITLE: <b>MECHANICAL DEMO PLAN - AREA F</b>
SHEET NUMBER: <b>MD2.01F</b>

Plotted: Jul 28, 2022, 11:34 AM by user: aarmendoniz - Saved: 7/28/2022 by user: aarmendoniz  
 C:\Users\armendoniz\ACCDocs\DBR Inc\220122\00-GP1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\MD-220122-01.dwg



**1** MECHANICAL DEMO PLAN - LEVEL 2  
 MD2.02 1/8"=1'-0"

**MECHANICAL SCOPE OF WORK**

- MECHANICAL SCOPE OF WORK
- REPLACEMENT OF ENTIRE BUILDING AUTOMATION SYSTEM.
- REPLACEMENT OF CENTRAL AIR HANDLING UNITS (UNLESS NOTED AS ALTERNATE).
- REPLACEMENT OF ASSOCIATED MEDIUM PRESSURE AND LOW PRESSURE DUCTWORK (UNLESS NOTED OTHERWISE).
- REPLACEMENT OF RETURN DUCTWORK.
- REPLACEMENT OF AIR DEVICES (UNLESS NOTED OTHERWISE).

IT SHALL BE NOTED THAT EXISTING ROOF MOUNTED AND INLINE EXHAUST FANS ARE NOTED TO REMAIN/REMOVED ON A CASE BY CASE BASIS.

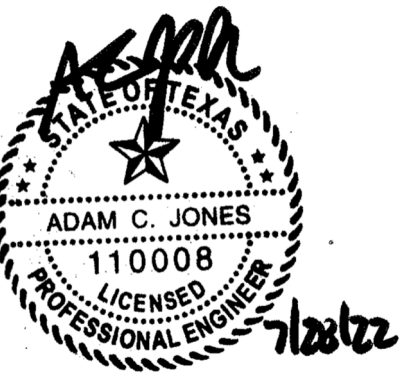
**MECHANICAL KEYED NOTES**

- EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED DUCTWORK, ELECTRICAL, CONTROLS, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, HANGERS, SUPPORTS, ELECTRICAL, CONTROL, AIR DEVICES, AND ACCESSORIES SHALL BE REMOVED.
- EXISTING SLOTS TO REMAIN. CLEAN AND CONNECT TO NEW SUPPLY DUCTWORK ASSOCIATED WITH AHU-F1.
- EXISTING EXHAUST FAN TO BE RELOCATED TO APPROXIMATE LOCATION SHOWN. DEMO ALL ASSOCIATED DUCT AND ACCESSORIES BACK TO POINT REFERENCED ON MD.201A.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

SEAL:



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

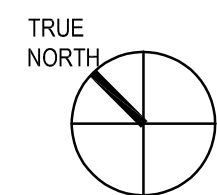
PROJECT NUMBER:  
220122.000

SHEET TITLE:

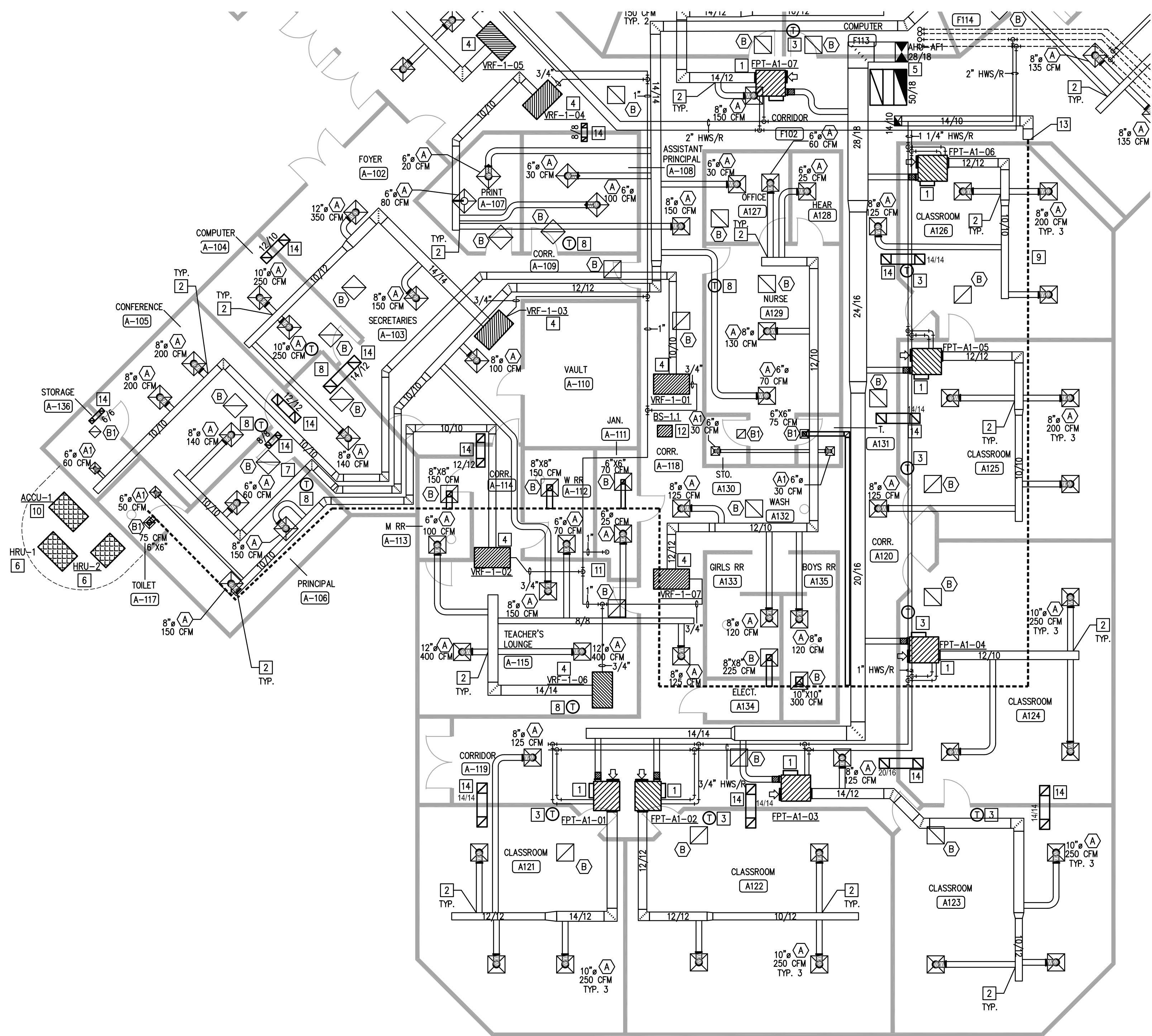
**MECHANICAL  
 DEMO PLAN -  
 LEVEL 2**

SHEET NUMBER:

**MD2.02**



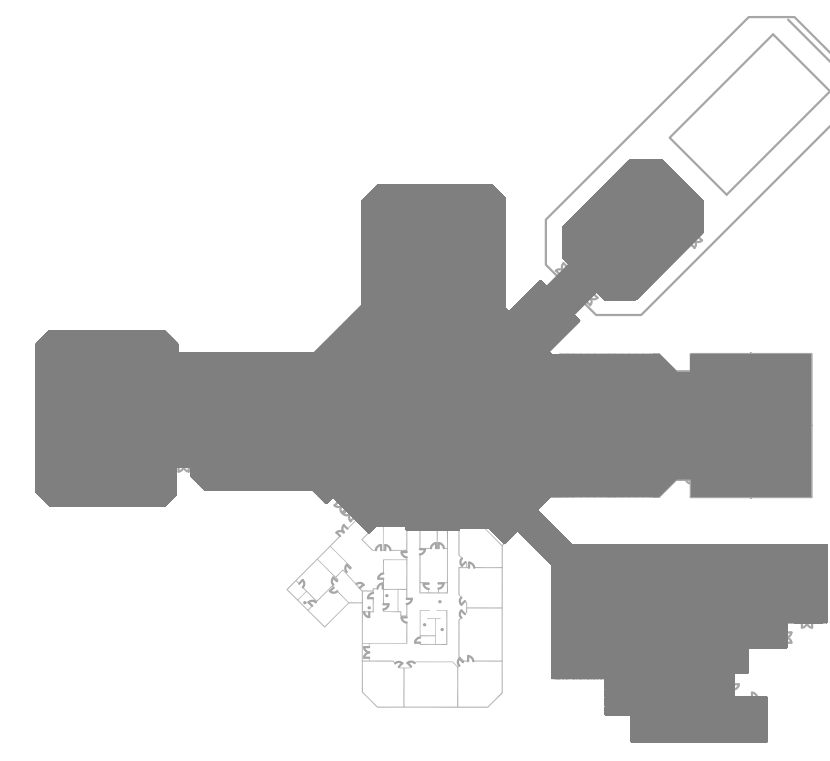
Plotted Jul 28, 2022, 11:33 AM by user: aarmandariz - Saved 7/28/2022 by user: aarmandariz  
 C:\Users\aarmandariz\Documents\DBR Inc\220122\000-01SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\08-220122-LV 01.dwg



**1** MECHANICAL PLAN - AREA A  
 M2.01A 1/8"=1'-0"

**MECHANICAL KEYED NOTES**

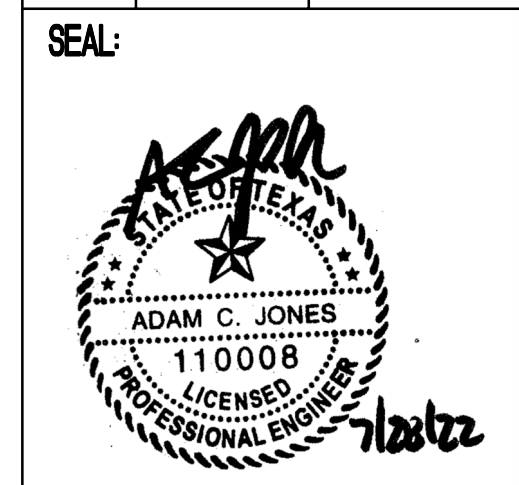
- 1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUSPEND UNIT FROM STRUCTURE. RE: DETAIL 17/M4.02.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
- 3 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 4 PROVIDE NEW VRF FAN COIL UNIT WITH ASSOCIATED DUCTWORK AS SCHEDULED AT THE APPROXIMATE LOCATION SHOWN. PROVIDE NEW CONDENSATE PIPING AND DRAIN TO APPROVED SANITARY DRAIN. SIZE DUCTWORK AS INDICATED ON PLAN. CONNECT AND SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE WITH ADJACENT PIPING, WALLS, CONDUIT, STRUCTURAL MEMBERS, ETC TO PROVIDE REQUIRED CLEARANCES.
- 5 NEW MAIN SUPPLY AND RETURN DUCTWORK IS TO BE ROUTED UP TO SECOND FLOOR TO CORRESPONDING AIR HANDLING UNIT. COORDINATE WITH STRUCTURAL ENGINEER AND EXISTING SECOND FLOOR SLAB PENETRATIONS.
- 6 PROVIDE HEAT RECOVERY UNIT ON GRADE AT APPROXIMATE LOCATION SHOWN. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION.
- 7 NEW EMERGENCY HVAC SHUTDOWN BUTTON TO BE INSTALLED AT APPROXIMATE LOCATION SHOWN. VERIFY FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- 8 PROVIDE VRF MANUFACTURER THERMOSTAT AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER.
- 9 EXISTING EXHAUST DUCT TO REMAIN.
- 10 PROVIDE CONDENSING UNIT ON GRADE AT APPROXIMATE LOCATION SHOWN. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION. RE: 29/M4.02.
- 11 ROUTE NEW 1" CONDENSATE PIPE TO DRAIN BELOW SINK IN JANITOR ROOM.
- 12 PROVIDE BRANCH CONTROLLER, AS SCHEDULED, FOR VRF UNITS AT APPROXIMATE LOCATION SHOWN. COORDINATE WITH VRF PIPING DIAGRAM FOR LINE SIZES AND ROUTING.
- 13 CONNECT NEW DUCTWORK TO EXISTING AT APPROXIMATE LOCATION SHOWN. PROVIDE TRANSITION AS NECESSARY.
- 14 PROVIDE RETURN AIR BOOT AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED. RE: DETAIL 4/M4.01.



**DBR**  
 SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY  
 713.914.0888 f  
 9900 Richmond Ave. South Bldg. Suite.  
 300 Houston, Texas 77042  
 TPE Firm Registration NO. 2234

**REVISION:**

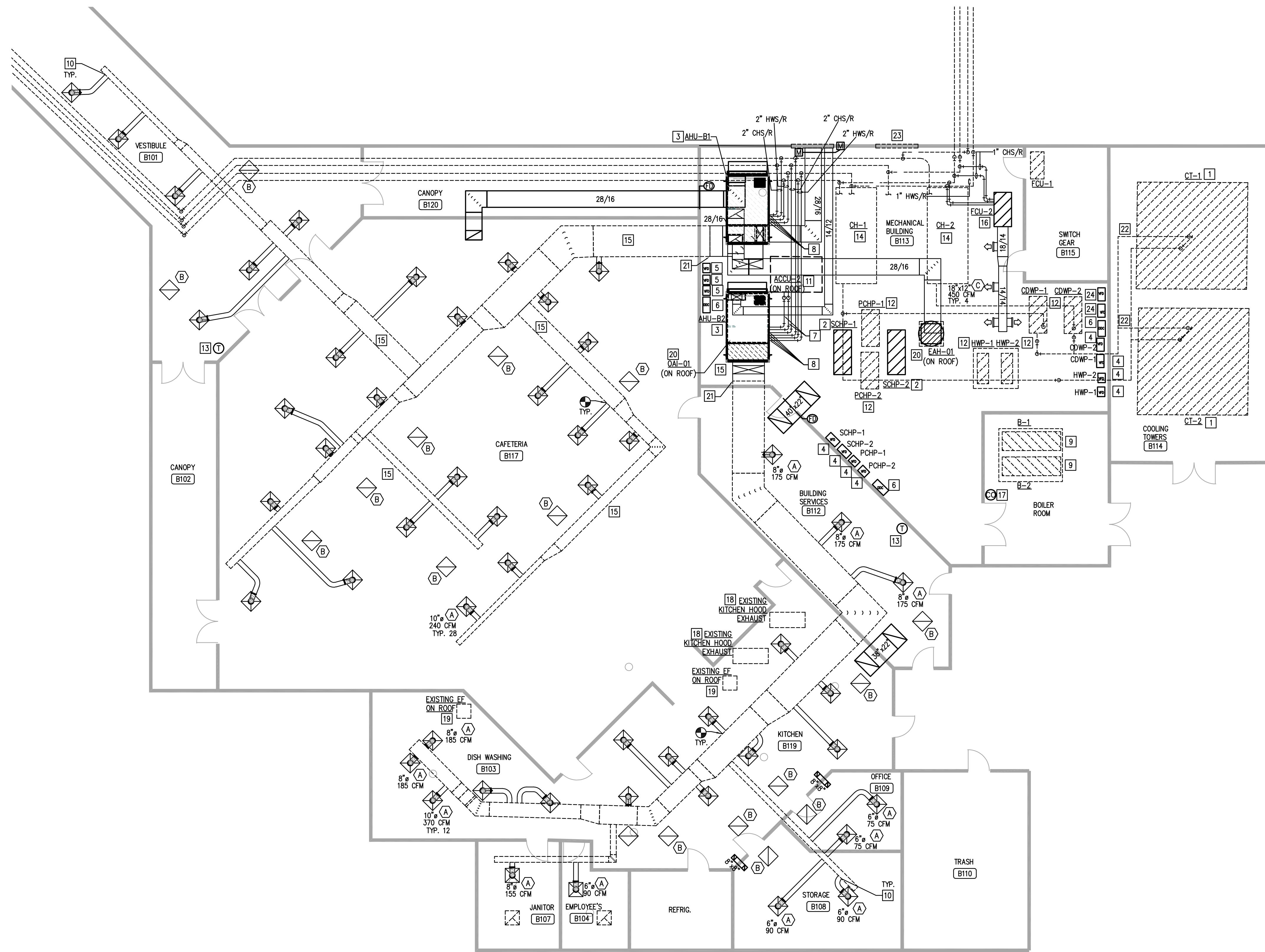
No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

<b>DATE:</b> 07/28/2022
<b>DRAWN BY:</b> DBR
<b>CHECKED BY:</b> DBR
<b>PROJECT NUMBER:</b> 220122.000
<b>SHEET TITLE:</b> <b>PARTIAL MECHANICAL PLAN - LEVEL 1</b>
<b>SHEET NUMBER:</b> <b>M2.01A</b>

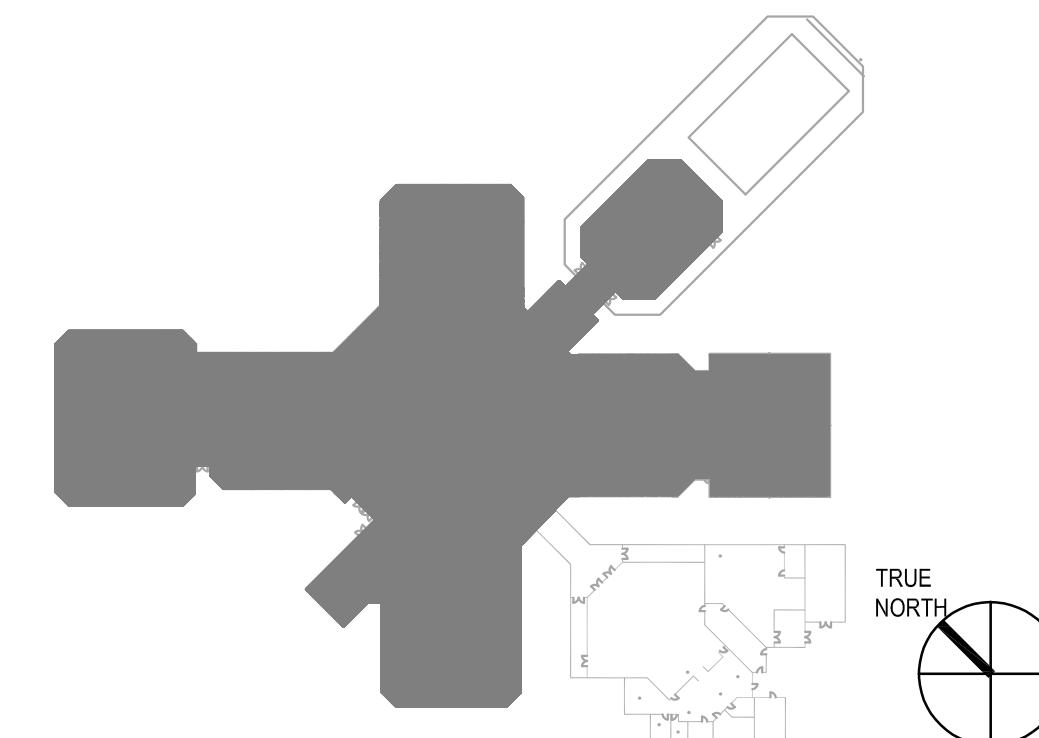
Plotted: Jul 28, 2022, 11:33 AM by user: aarmerdanz - Saved: 7/28/2022 by user: aarmerdanz  
 C:\Users\aarmerdanz\OneDrive\Documents\DBR Inc\220122\00-gf13D-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0M-220122-LV 01.dwg



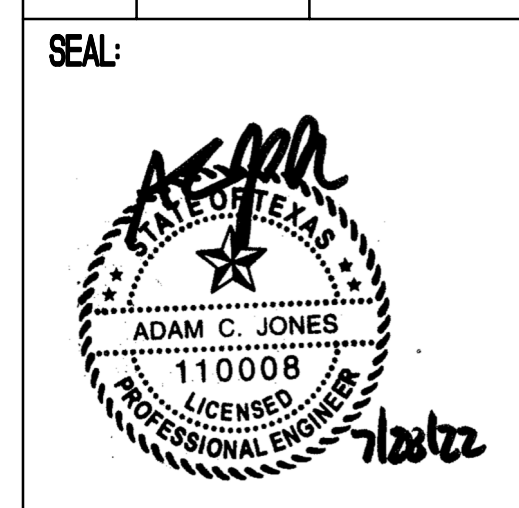
**1** MECHANICAL PLAN - AREA B  
 M2.01B 1/8"=1'-0"

**MECHANICAL KEYED NOTES**

- 1 EXISTING COOLING TOWERS SHALL BE REFURBISHED. REFER TO BELOW FOR LIST OF REQUIRED SERVICES:
  - REMOVE AND DISPOSE THE EXISTING DETERIORATED PVC FILL.
  - CLEAN COLD WATER BASIN OF DIRT AND DEBRIS. PRESSURE WASH THE INTERIOR AND EXTERIOR OF THE TOWER.
  - REMOVE ALL LOOSE, EXCESS CAULKING FROM THE SEAMS IN THE FLOOR. CLEAN SEAMS WITH A WIRE BRUSH/WHEEL AND CLEAN WITH ACETONE.
  - CALK ALL SEAMS WITH POLYURETHANE CALK TO HELP PREVENT LEAKS.
  - PROVIDE AND INSTALL NEW EVAPOD PVC FILL KITS WITH INTEGRAL DRIFT ELIMINATORS AND LOUVERS.
  - CLEAN HOT WATER BASINS OF DIRT AND DEBRIS AND DISPOSE.
  - ENSURE ALL NOZZLES ARE FREE AND CLEAR WITH NO BROKEN BOTTOMS.
  - REPLACE BROKEN NOZZLES WITH NEW OEM NOZZLES.
  - VERIFICATION OF EXISTING CONDENSER WATER CHEMISTRY AND ASSOCIATED CHEMICAL TREATMENT AS REQUIRED.
- 2 PROVIDE END SUCTION PUMP AT APPROXIMATE LOCATION SHOWN. INSTALL ON EXISTING INERTIA BASE. INSTALL PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. RE: DETAIL 16/M4.02.
- 3 PROVIDE SINGLE ZONE AIR HANDLING UNIT AS SCHEDULED AT APPROXIMATE LOCATION SHOWN. EXTEND EXISTING HOUSEKEEPING PAD AS REQUIRED FOR NEW UNIT. INSTALL AND SIZE CONDENSATE PIPING PER MANUFACTURER'S RECOMMENDATIONS. ROUTE CONDENSATE TO NEAREST EXISTING FLOOR DRAIN. FIELD COORDINATE EXACT LOCATION.
- 4 PROVIDE VARIABLE FREQUENCY DRIVE FOR HYDRONIC PUMPS AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.
- 5 PROVIDE VARIABLE FREQUENCY DRIVE FOR VAV AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.
- 6 PROVIDE DDC CONTROL PANEL AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH CONTROLS AND ELECTRICAL CONTRACTOR AND EXISTING CONDITIONS.
- 7 ROUTE REFRIGERANT LINES FROM DX COIL IN AHU-B2 TO ACCU-2 ON GRADE. SIZE PER MANUFACTURER'S RECOMMENDATIONS. RE: DETAIL 12/M4.01
- 8 ROUTE CHILLED/HOT WATER HYDRONIC PIPING DOWN TO CONNECTION ON AHU. SIZE AS INDICATED ON DRAWINGS AND IN AHU SCHEDULES.
- 9 EXISTING BOILER TO REMAIN. INTEGRATE EXISTING BOILER INTO NEW EMCS.
- 10 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: DETAIL 2/M4.01.
- 11 PROVIDE ROOF MOUNTED CONDENSING UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION. RE: DETAIL 22/M4.02
- 12 EXISTING PUMPS TO BE REPLACED AS PART OF ALTERNATE 7 SCOPE.
- 13 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 14 EXISTING CHILLER TO REMAIN. INTEGRATE INTO NEW EMCS.
- 15 EXISTING DUCTWORK TO REMAIN SHALL BE CLEANED.
- 16 PROVIDE SUSPENDED FAN COIL UNIT AS SCHEDULED AT APPROXIMATE LOCATION SHOWN.
- 17 RELOCATE EXISTING WALL MOUNTED CARBON MONOXIDE DETECTOR TO APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH OWNER.
- 18 EXISTING KITCHEN HOOD EXHAUST TO REMAIN.
- 19 EXISTING EXHAUST FAN ON ROOF TO REMAIN.
- 20 PROVIDE ROOF MOUNTED GRAVITY HOOD AS SCHEDULED AT APPROXIMATE LOCATION SHOWN. ROUTE ASSOCIATED DUCT UP THROUGH EXISTING ROOF PENETRATION TO HOOD. SIZE DUCT AS INDICATED. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 21 CONNECT NEW DUCTWORK TO EXISTING AT APPROXIMATE LOCATION SHOWN. PROVIDE TRANSITION AS NECESSARY.
- 22 EXISTING CONDENSER WATER PIPING TO BE PREPARED AND REPAINTED.
- 23 BLANK OFF EXISTING LOUVER WITH INSULATED SHEET METAL BLANK PLATE.
- 24 PROVIDE VARIABLE FREQUENCY DRIVE FOR COOLING TOWER AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.



REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL        MECHANICAL        PLAN - LEVEL        1</b>
SHEET NUMBER:	<b>M2.01B</b>

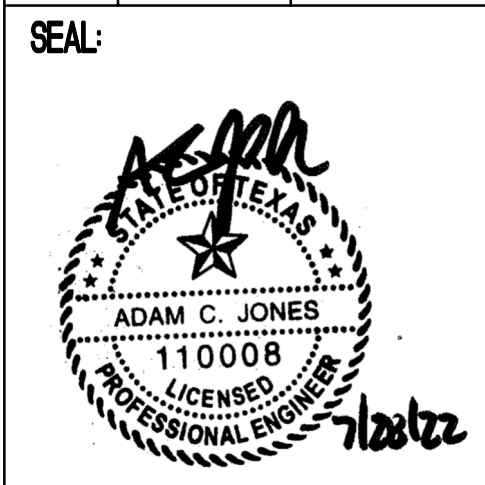


Plot: Jul 28, 2022, 11:33 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\aaarmendariz\Documents\DBR Inc 220122-000-GP1S1-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\00-220122-LV 01.dwg



**REVISION:**

No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

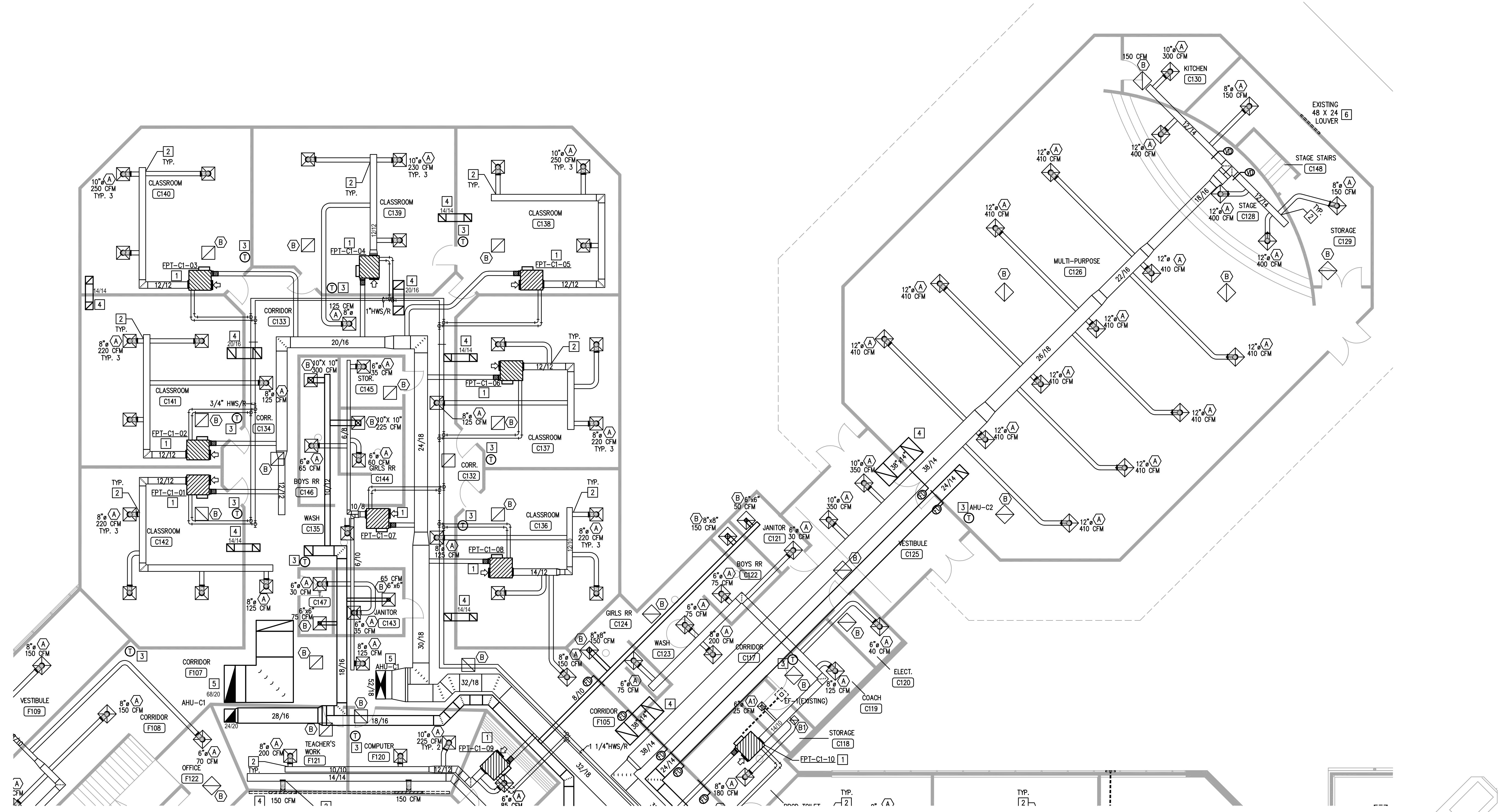


**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

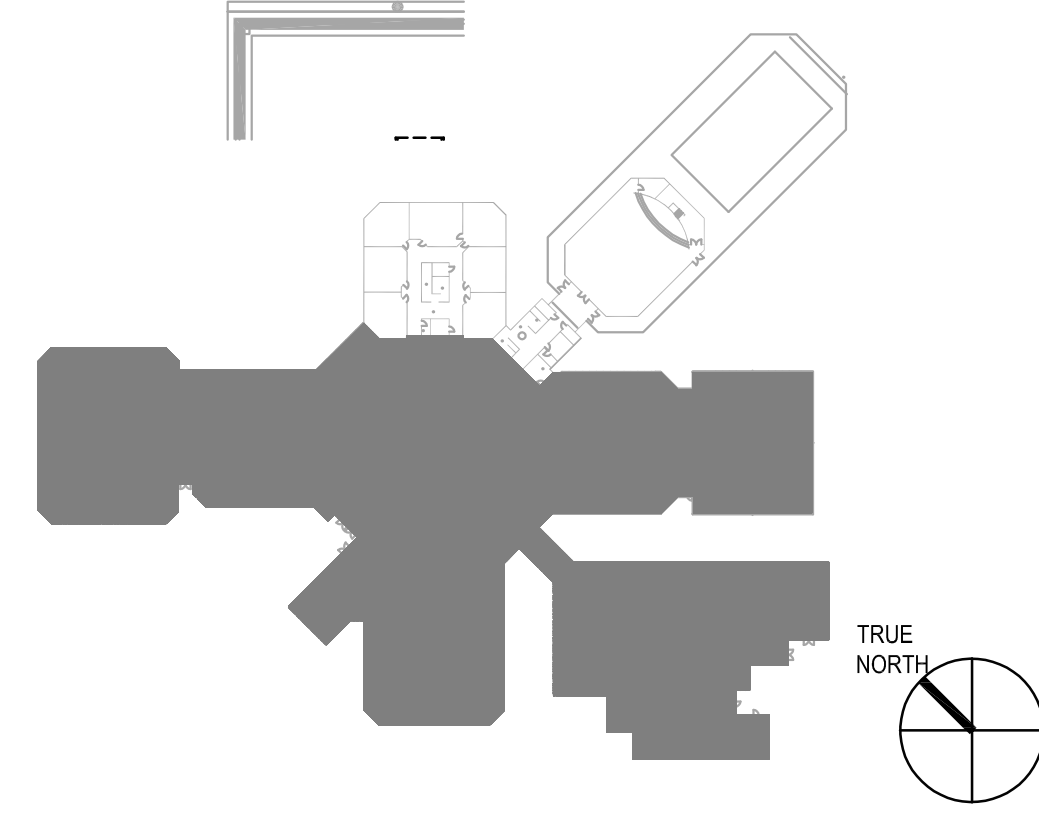
<b>DATE:</b>	07/28/2022
<b>DRAWN BY:</b>	DBR
<b>CHECKED BY:</b>	DBR
<b>PROJECT NUMBER:</b>	220122.000
<b>SHEET TITLE:</b>	<b>PARTIAL MECHANICAL PLAN - LEVEL 1</b>
<b>SHEET NUMBER:</b>	<b>M2.01C1</b>

**MECHANICAL KEYED NOTES**

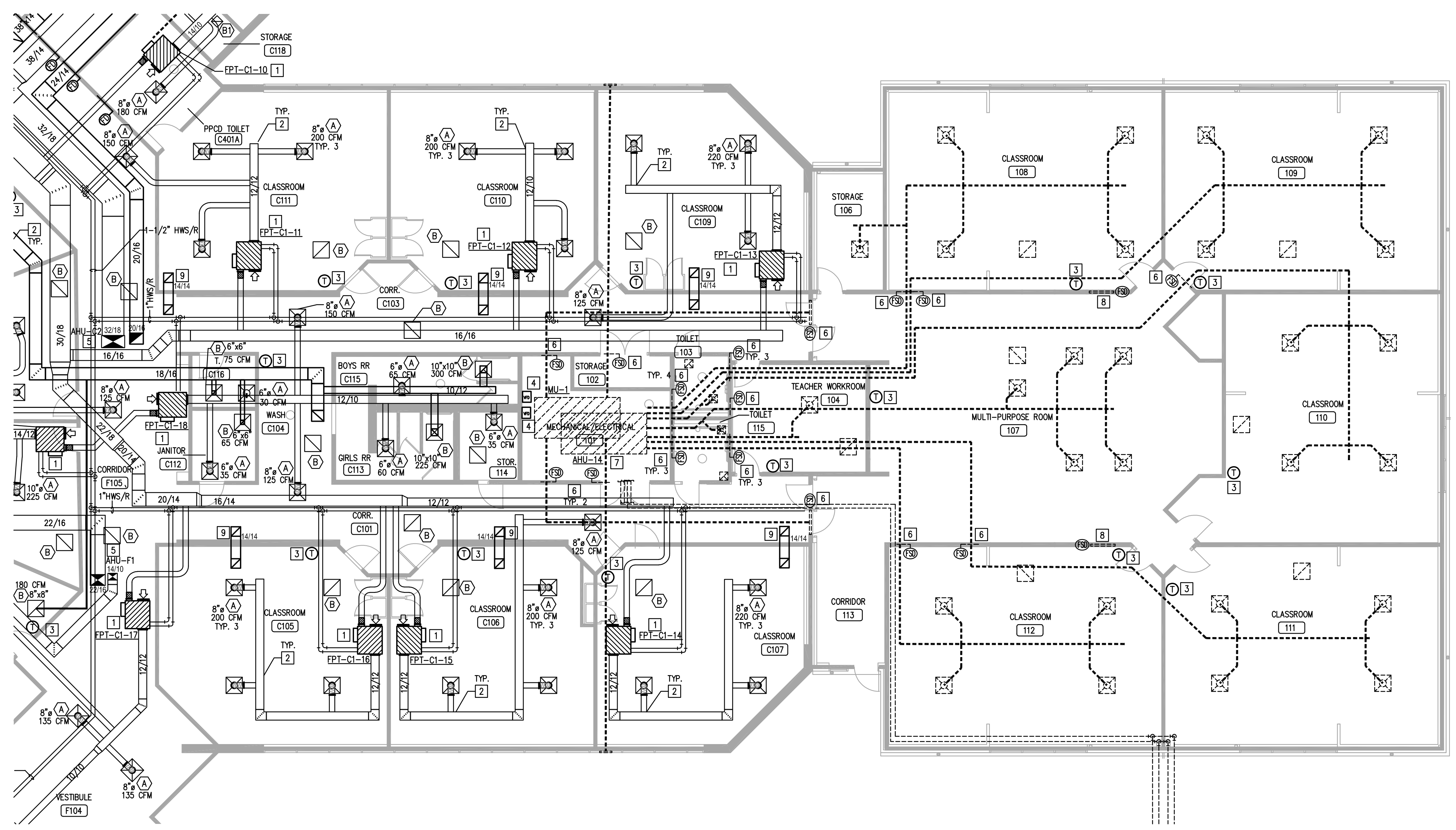
- 1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUSPEND UNIT FROM STRUCTURE. RE: DETAIL 17/M4.02.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
- 3 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 4 PROVIDE NEW RETURN AIR BOOT AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED. RE DETAIL 4/M4.01.
- 5 NEW MAIN SUPPLY AND RETURN DUCTWORK IS TO BE ROUTED UP TO THE SECOND FLOOR TO ITS CORRESPONDING AIR HANDLING UNIT. COORDINATE WITH STRUCTURAL ENGINEER AND EXISTING SECOND FLOOR SLAB PENETRATIONS.
- 6 BLANK OFF EXISTING LOUVER WITH INSULATED SHEET METAL BLANK PLATE.



**1 MECHANICAL PLAN - AREA C1**  
 M2.01C1 1/8"=1'-0"



Plotted: Jul 28, 2022 11:33 AM by user: ashermendy@db...  
 C:\Users\ashermendy@db...



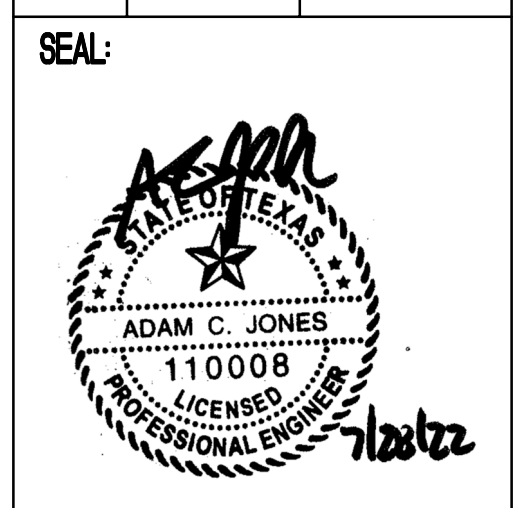
**1** MECHANICAL PLAN - AREA C2  
 M2.01C2 1/8"=1'-0"

**MECHANICAL KEYED NOTES**

- 1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUSPEND UNIT FROM STRUCTURE. RE: DETAIL 17/M4.02.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
- 3 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 4 PROVIDE VARIABLE FREQUENCY DRIVE FOR VAV AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.
- 5 NEW MAIN SUPPLY AND RETURN DUCTWORK IS TO BE ROUTED UP TO THE SECOND FLOOR TO ITS CORRESPONDING AIR HANDLING UNIT. COORDINATE WITH STRUCTURAL ENGINEER AND EXISTING SECOND FLOOR SLAB PENETRATIONS.
- 6 EXISTING FIRE SMOKE DAMPER TO REMAIN.
- 7 EXISTING AIR HANDLING UNIT AND MAKE-UP AIR UNIT AND ALL ASSOCIATED DUCTWORK, ELECTRICAL, CONTROLS, AND ACCESSORIES SHALL REMAIN. REFURBISH AIR HANDLING UNIT (AHU-14) AND CORRESPONDING MAKE-UP AIR UNIT (MU-1) IN EXISTING PORTION OF SCHOOL IN LOCATION HATCHED BELOW. THE SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:
  - CLEAN THE COOLING COIL WITH PROPER SOLUTION, REMOVING ANY DIRT OR DEBRIS THAT HAS BUILT UP.
  - REPLACE UNIT FILTERS.
  - VERIFY PROPER OPERATION OF FAN, ADJUST SHEAVES AND REPLACE BELTS.
  - REBALANCE TO ORIGINAL AIRFLOW RATE.
  - LUBRICATE FAN BEARINGS AND CLEAN FAN WHEEL.
  - CLEAN CONDENSATE DRAIN PAN AND CONDENSATE DRAIN LINE TO THE TERMINATION POINT. CLEAR ANY BUILD UP DEBRIS THAT MAY RESTRICT FLOW.
  - APPLY NEW PROTECTIVE COATING TO THE INSIDE OF THE UNIT.
  - REPLACE ANY WORN OR DAMAGED INSULATION ON THE DUCT AND PIPE CONNECTIONS TO THE UNIT
  - CLEAN AND REPAIR OPERATION OF ENERGY RECOVERY SECTION.
- 8 EXISTING TRANSFER DUCT AND ASSOCIATED FIRE SMOKE DAMPER TO REMAIN
- 9 PROVIDE NEW RETURN AIR BOOT AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED. RE DETAIL 4/M4.01

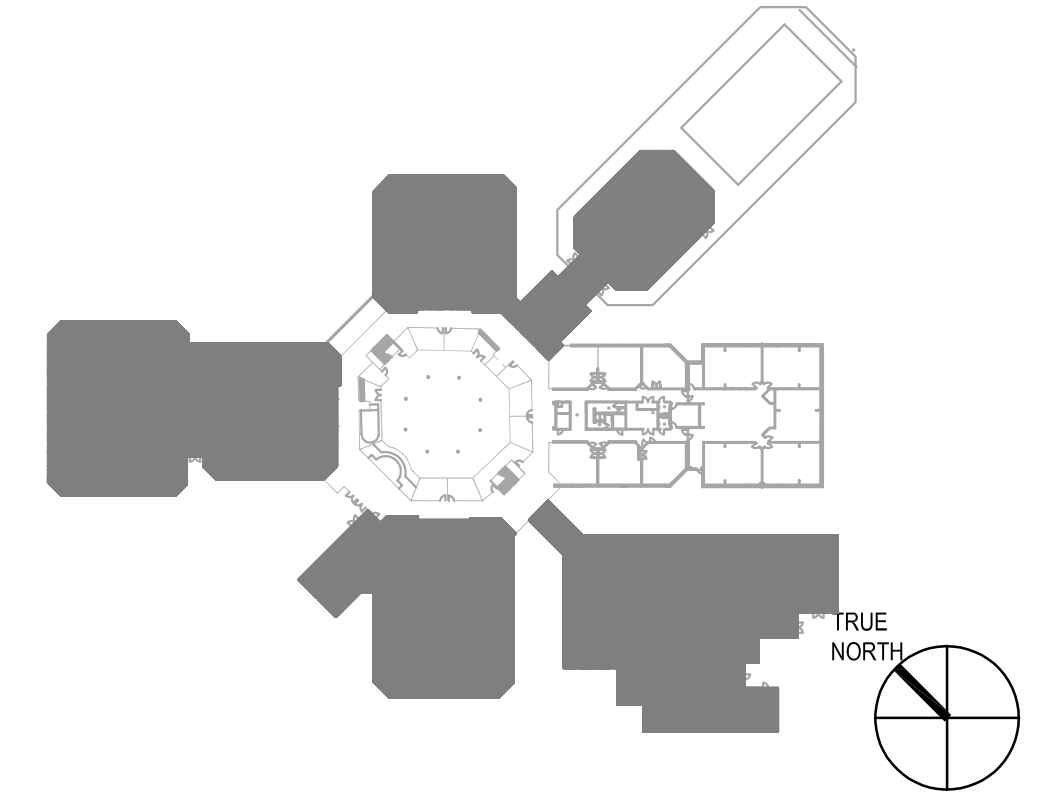


REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

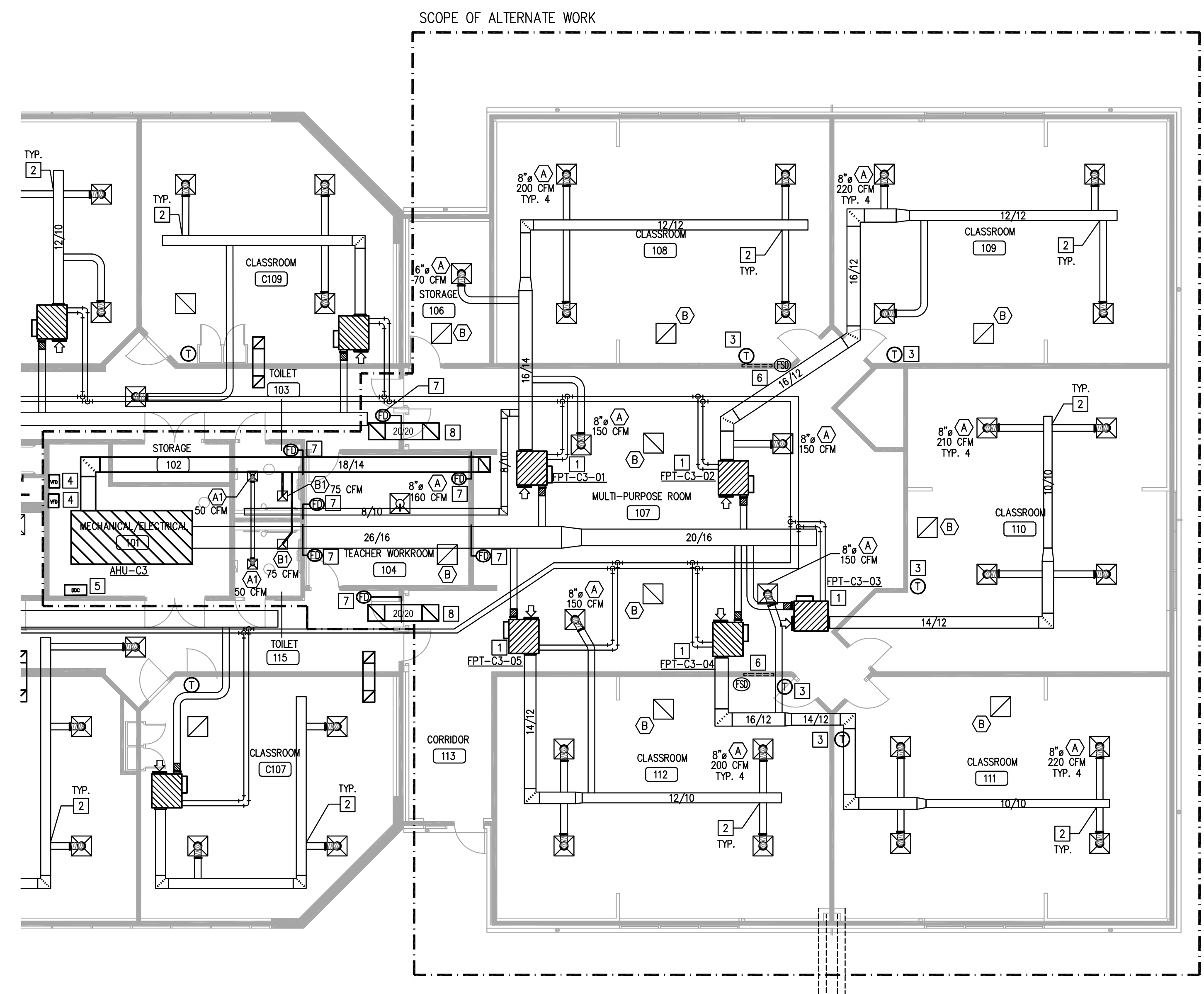
DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL MECHANICAL PLAN - LEVEL 1</b>
SHEET NUMBER:	<b>M2.01C2</b>



Plot: Jul 28, 2022, 11:35 AM by user: sarmendanz Saved: 7/28/2022 by user: sarmendanz C:\Users\sarmendanz\Documents\BDR Inc\220122-00-01\HVAC Upgrades\Project Files\Drawings\04-220122-LV\_01.dwg

VAV AIR HANDLING UNIT SCHEDULE		
SUPPLY FAN	MARK	AHU-C3 (ALTERNATE)
	SERVES	1ST FLOOR - AREA C
	TYPE	VAV
	FAN TYPE	DIRECT DRIVE PLENUM
	UNIT CONFIGURATION	HORIZONTAL
	DISCHARGE	HORIZONTAL
	INSTALLATION TYPE	1' 4 1/4"
	DESIGN SUPPLY AIRFLOW (CFM)	4,420
	MINIMUM SUPPLY AIRFLOW (CFM)	2,210
	DESIGN OUTSIDE AIRFLOW (CFM)	1,860
	EXT. S.P. (IN. W.G.)	1.50
	FAN MOTOR HORSEPOWER (QTY.) @ (HP)	(2) 3.5
	VOLTS/PHASE/HERTZ	480/3/60
	APPROX FAN RPM	2,965
	FULL LOAD AMPS (FLA)	8.4
FAN MOTOR CONTROL	VFD	
ENERGY RECOVERY	SUMMER OUTDOOR DB/WB (°F)	98.0 / 80.0
	SUMMER INDOOR DB/WB (°F)	75.0 / 63.0
	SUMMER LAT AT THE ERV CORE DB/WB (°F)	82.3 / 72.4
	TOTAL COOLING RECOVERED (MBH)	57.4
	SENSIBLE COOLING RECOVERED (MBH)	29.6
	WINTER OUTDOOR DB/WB (°F)	25.0 / 21.0
	WINTER INDOOR DB/WB (°F)	70.0 / 56.0
	WINTER LAT AT THE ERV CORE DB/WB (°F)	52.3 / 43.6
TOTAL HEATING RECOVERED (MBH)	71.3	
EXHAUST FAN	EXHAUST AIR (CFM)	1675.0
	EXT. S.P. (IN. W.G.)	0.75
	FAN TYPE	DIRECT DRIVE PLENUM
	FAN MOTOR HORSEPOWER (QTY.) @ (HP)	1.5
	VOLTS/PHASE/HERTZ	480/3/60
	APPROX FAN RPM	3021.0
COOLING COIL	FULL LOAD AMPS (FLA)	2.0
	FAN MOTOR CONTROL	VFD
	MAX. COIL FACE VELOCITY (FPM)	500
	COOLING COIL CFM	4,420
	MIN. ROWS / MAX. FINS PER INCH	6 / 11
	EAT DB/WB (°F)	78.1 / 68.2
	LAT DB/WB (°F)	51.4 / 51.3
	TOTAL COOLING CAPACITY (MBH)	205.8
	SENSIBLE COOLING CAPACITY (MBH)	127.1
	EWTLWT (°F)	42 / 56
	COIL WATER FLOW (GPM)	29.3
COIL CONNECTION PIPE DIAMETER (IN.)	2"Ø	
MAX. WATER P.D. (FT. HD.)	10	
CONTROL VALVE (2-WAY/3-WAY)	2-WAY	
MANUFACTURER	TEMPROL	
MODEL NUMBER	ITF	
MAX DIMENSIONS (LxWxH)	119 x 73 x 87	
WEIGHT (LBS)	5,950	
NOTES	1,2,3,4,5,6,7,8	

- NOTES:
- EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO COIL(S), FILTERS, HOUSING, NOR ACCESSORIES.
  - PROVIDE UNIT WITH DRAW THRU DIRECT DRIVE PLENUM FAN SECTION, CHILLED WATER COIL SECTION, ERV AND 2" FLAT FILTER SECTION.
  - PROVIDE DUCT MOUNTED SMOKE DETECTOR IN SUPPLY AIR DUCTWORK FOR UNITS DELIVERING GREATER THAN 2,000 CFM AS WELL AS IN THE RETURN AIR DUCTWORK FOR UNITS DELIVERING GREATER THAN 15,000 CFM PER NFPA 90A.
  - UNIT SHALL BE FURNISHED WITH FIELD INSTALLED REMOTE VFD. FAN MOTOR SHALL BE NEMA PREMIUM EFFICIENCY TEFC MOTOR. AHU MANUFACTURER TO PROVIDE UNIT WITH INDIVIDUAL MOTOR OVERLOADS.
  - UNIT SHALL BE PROVIDED WITH MERV-8 FILTER DURING CONSTRUCTION AND JUST PRIOR TO OCCUPANCY SHALL BE REPLACED WITH MERV-13 FILTER.
  - PROVIDE FACTORY MOUNTED RETURN AIR DAMPERS.
  - PROVIDE UV LIGHTS FOR EVERY COOLING COIL.
  - PROVIDE FOR ALTERNATE SCOPE ONLY.



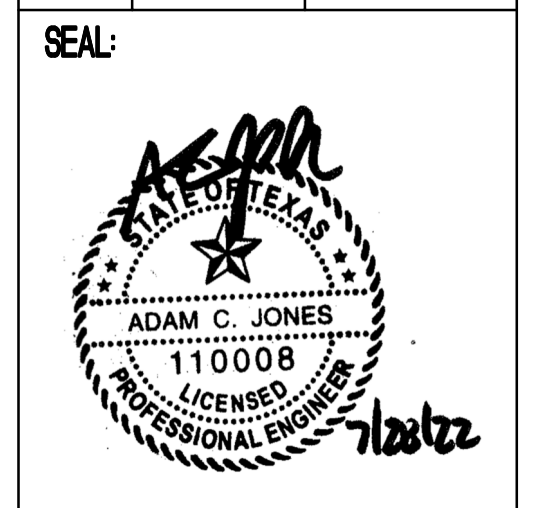
**1** MECHANICAL PLAN - AREA C2 (ALTERNATE)  
 1/8"=1'-0"  
 ALT

MARK	PRIMARY AIR CFM		HEATING CFM	HOT WATER HEATING			INLET SIZE	VOLTS/PHASE/HZ	ECM HP	MFR	MODEL NO.	
	MAX	MIN		EWTLWT	MBTU/H	GPM						ROWS
FPT-C3-01	1,020	510	715	180/160	24.8	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-02	1,030	520	725	180/160	25.1	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-03	990	500	695	180/160	24.1	2.4	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-04	1,030	520	725	180/160	25.1	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-05	950	480	665	180/160	23.2	2.3	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D

- MECHANICAL KEYED NOTES**
- PROVIDE VAV AIR HANDLING UNIT WITH STACKED OUTSIDE AIR PRE-TREATMENT UNIT AT APPROXIMATE LOCATION SHOWN. EXTEND EXISTING HOUSEKEEPING PAD AS REQUIRED FOR NEW UNIT. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
  - PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
  - PROVIDE VARIABLE FREQUENCY DRIVE FOR VAV AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.
  - LOCATE DDC CONTROL PANEL AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH CONTROLS AND ELECTRICAL CONTRACTORS AND EXISTING CONDITIONS.
  - EXISTING TRANSFER DUCT AND ASSOCIATED FIRE SMOKE DAMPER TO REMAIN.
  - PROVIDE A FIRE DAMPER AT APPROXIMATE LOCATION SHOWN.
  - PROVIDE NEW RETURN AIR BOOT AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED. RE DETAIL 4/M4.01

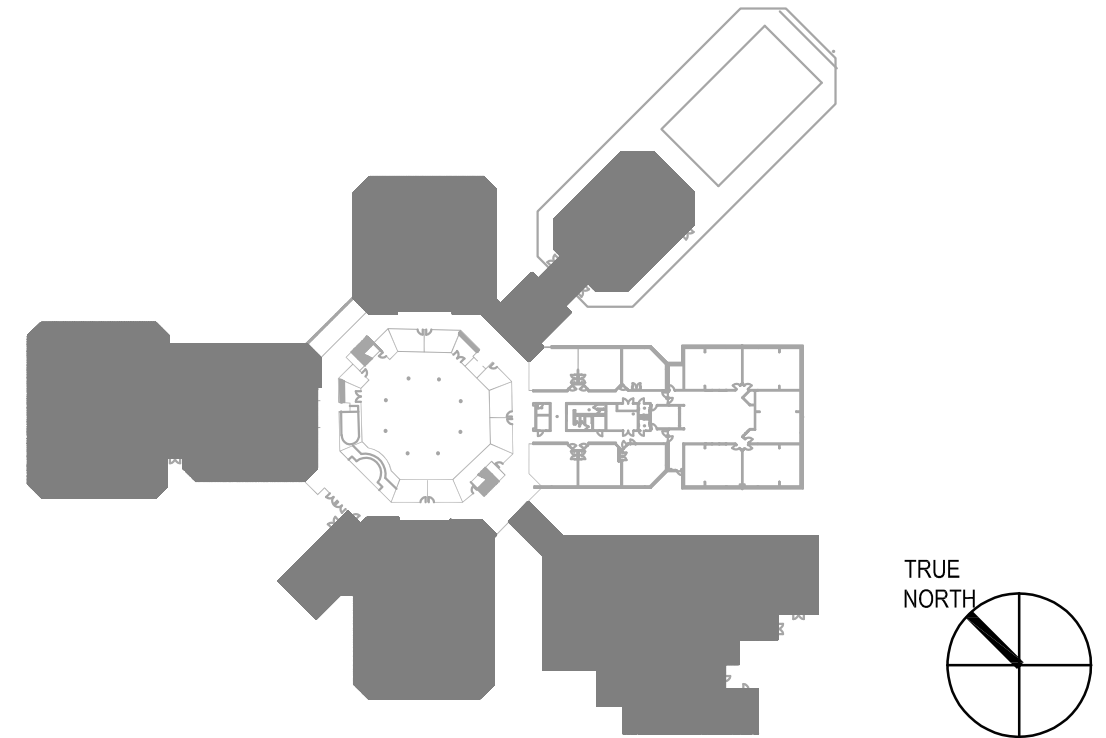


REVISION:		
No.	DATE	DESCRIPTION
05/16/2022		SD SET
05/25/2022		100% DD SET
06/22/2022		75% CD SET
07/20/2022		100% REVIEW
07/28/2022		PROPOSAL SET

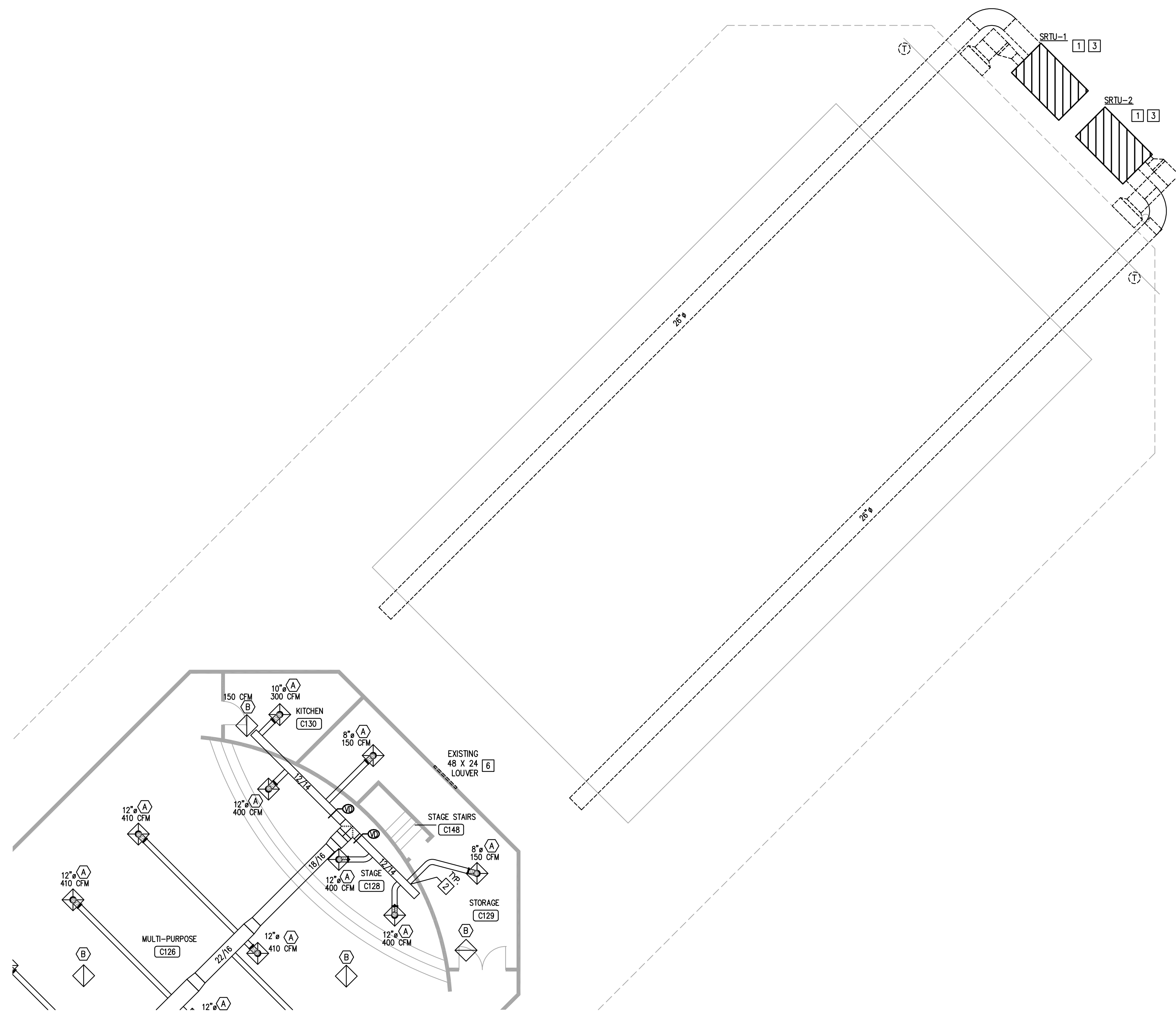


**GALENA PARK PURPLE SAGE**  
HVAC UPGRADES

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE: PARTIAL MECHANICAL PLAN - LEVEL 1  
 SHEET NUMBER: M2.01C ALT



Plotted: Jul 28, 2022, 11:33 AM by user: aarmanderiz Saved: 7/28/2022 by user: aarmanderiz  
 C:\Users\aarmanderiz\OneDrive\Documents\DBR Inc.\2022\200-6151D-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\01M-220122-LV 01.dwg



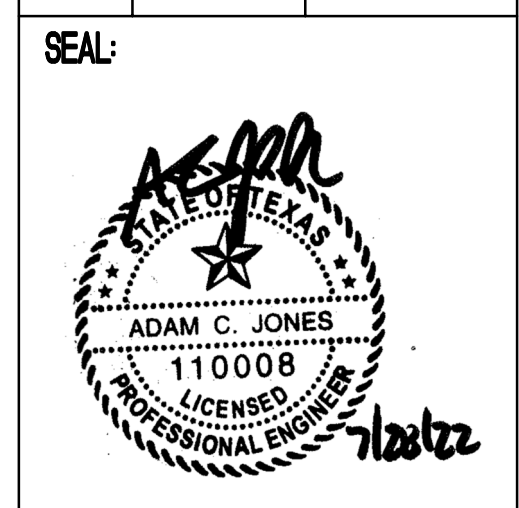
**1** MECHANICAL PLAN - AREA D  
 M2.01D 1/8"=1'-0"

**MECHANICAL KEYED NOTES**

- 1 SRTU UNITS TO BE REPLACED AS ALTERNATE. SCOPE TO INCLUDE REMOVAL AND REPLACEMENT OF UNITS AND RECONNECTION TO EXISTING DUCTWORK. MODIFY DUCTWORK AS REQUIRED FOR NEW CONNECTIONS.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 4/M4.01.
- 3 PROVIDE BACNET INTERFACE CONNECTION AND PROGRAMING FOR NEW EMCS INTEGRATION.

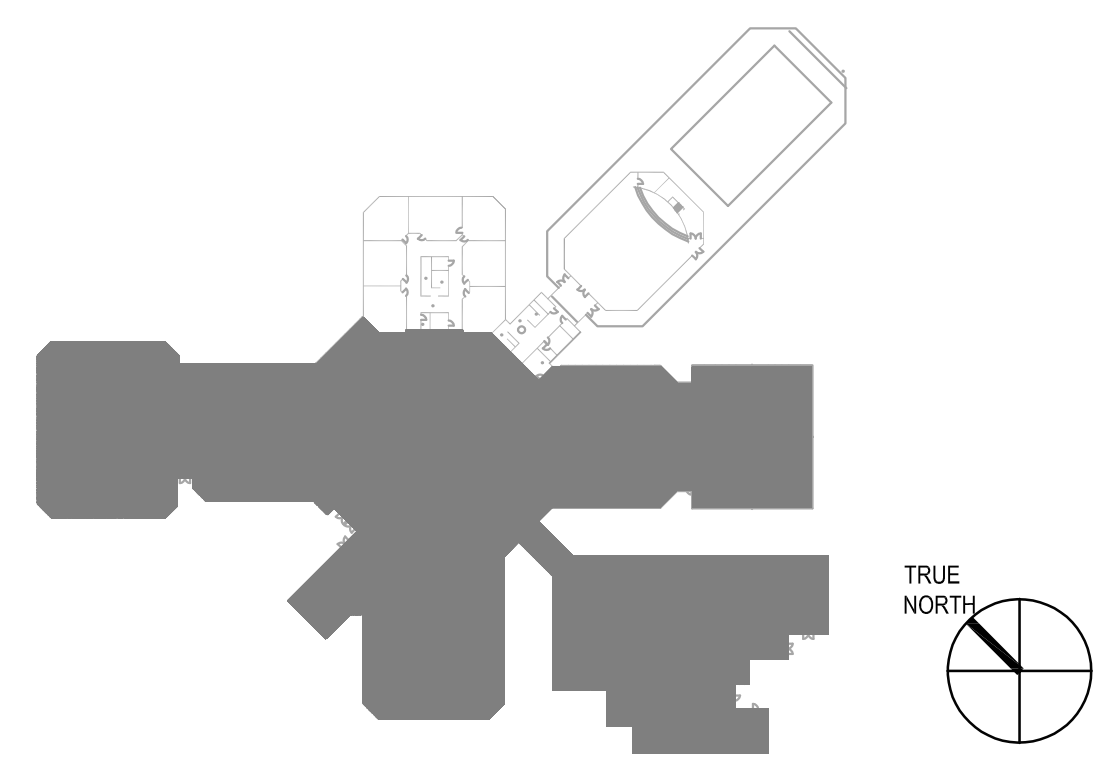


REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

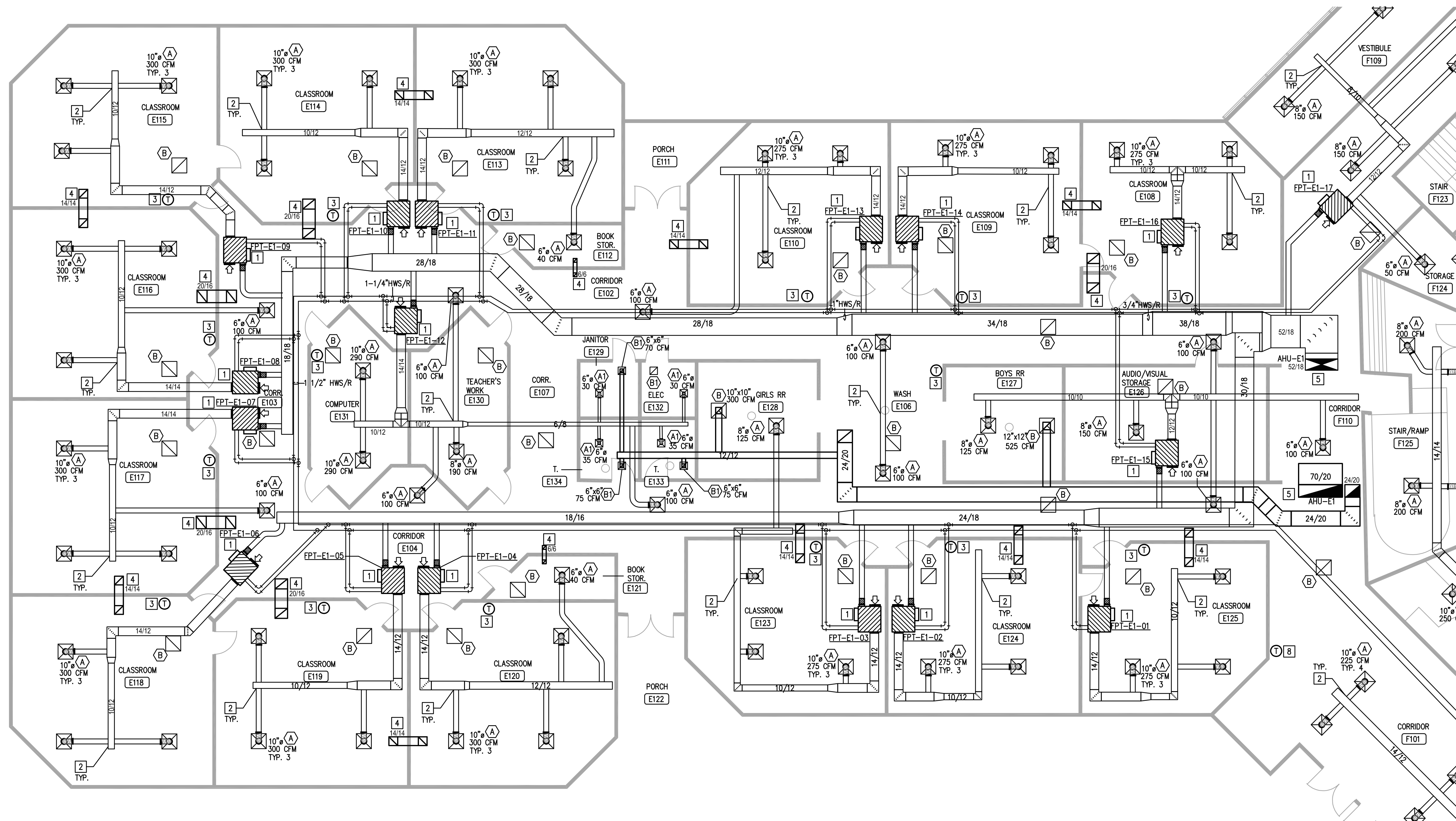


**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL      MECHANICAL      PLAN - LEVEL      1</b>
SHEET NUMBER:	<b>M2.01D</b>



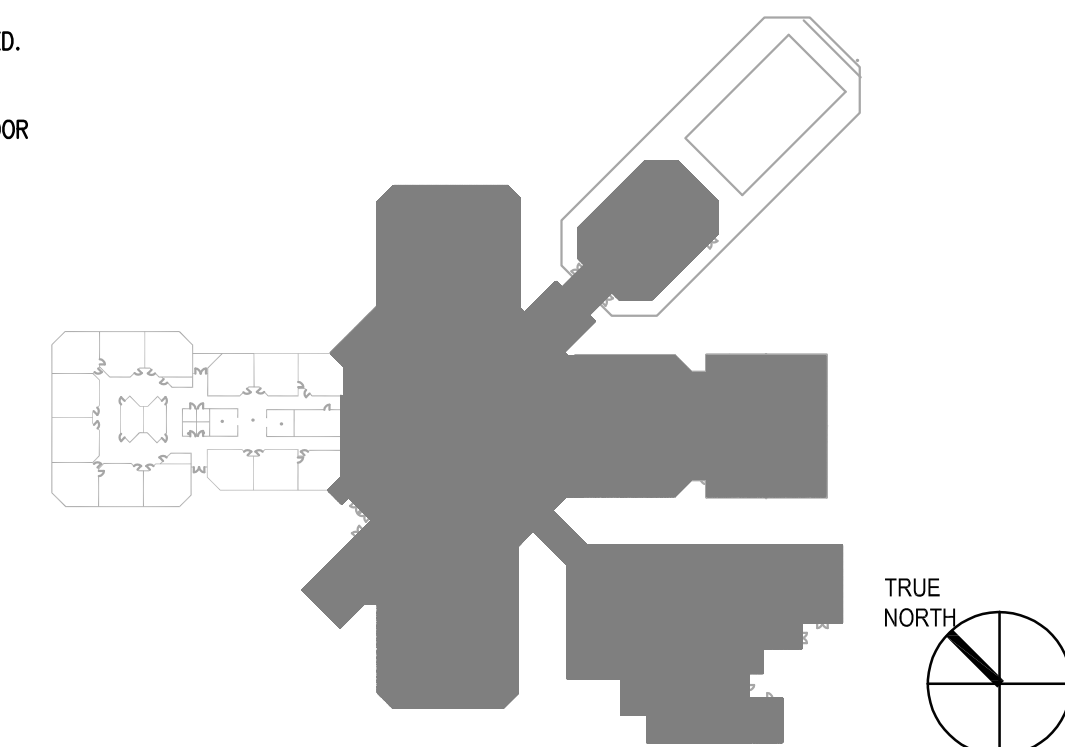
Plotted: Jul 28, 2022, 11:33 AM by user: aarmendoniz - Saved: 7/28/2022 by user: aarmendoniz  
 C:\Users\aarmondniz\OneDrive\Documents\DBR Inc\220122\00-GPJSD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0M-220122-LV 01.dwg



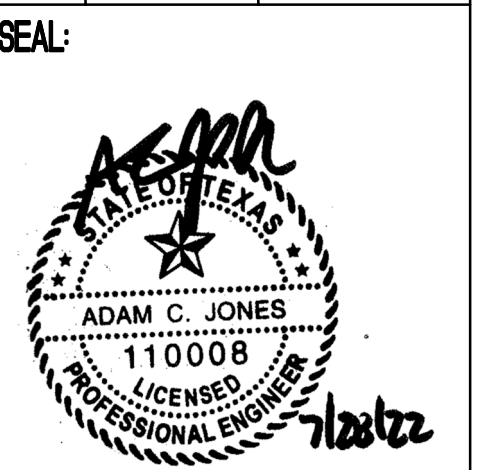
**1 MECHANICAL PLAN - AREA E**  
 M2.01E 1/8"=1'-0"

**MECHANICAL KEYED NOTES**

- 1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUSPEND UNIT FROM STRUCTURE. RE: DETAIL 17/M4.02.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
- 3 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 4 PROVIDE NEW RETURN AIR BOOT AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED. RE: DETAIL 4/M4.01.
- 5 NEW MAIN SUPPLY AND RETURN DUCTWORK IS TO BE ROUTED UP TO THE SECOND FLOOR TO ITS CORRESPONDING AIR HANDLING UNIT. COORDINATE WITH STRUCTURAL ENGINEER AND EXISTING SECOND FLOOR SLAB PENETRATIONS.
- 8 PROVIDE VRF MANUFACTURER THERMOSTAT AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:

**PARTIAL  
 MECHANICAL  
 PLAN - LEVEL  
 1**

SHEET NUMBER:

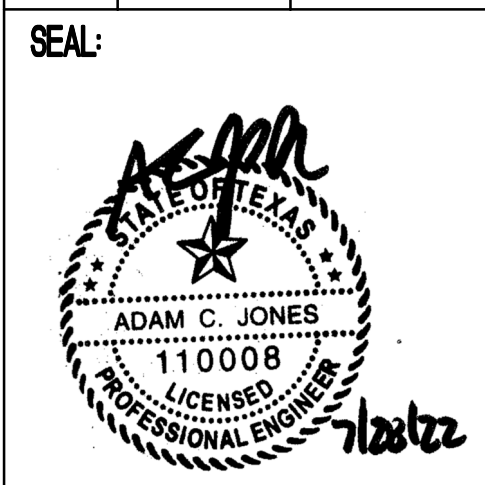
**M2.01E**

Plotted: Jul 28, 2022, 11:33 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\Aarmendariz\ACCDocs\DBR Inc\220122-00-GP\SD-Purple Sage ES -HVAC Upgrades\OM-220122-LV 01.dwg



**REVISION:**

No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

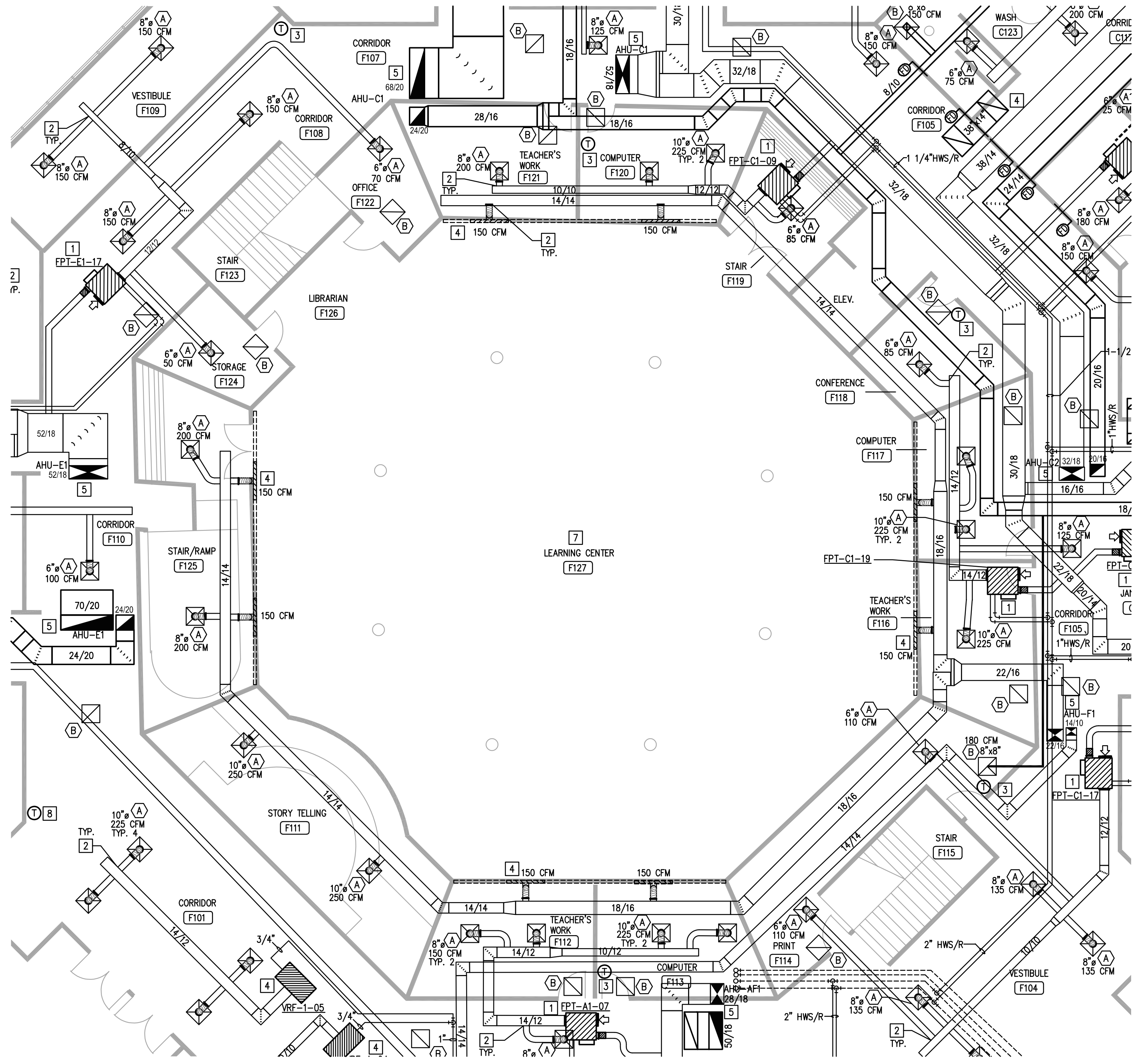


**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

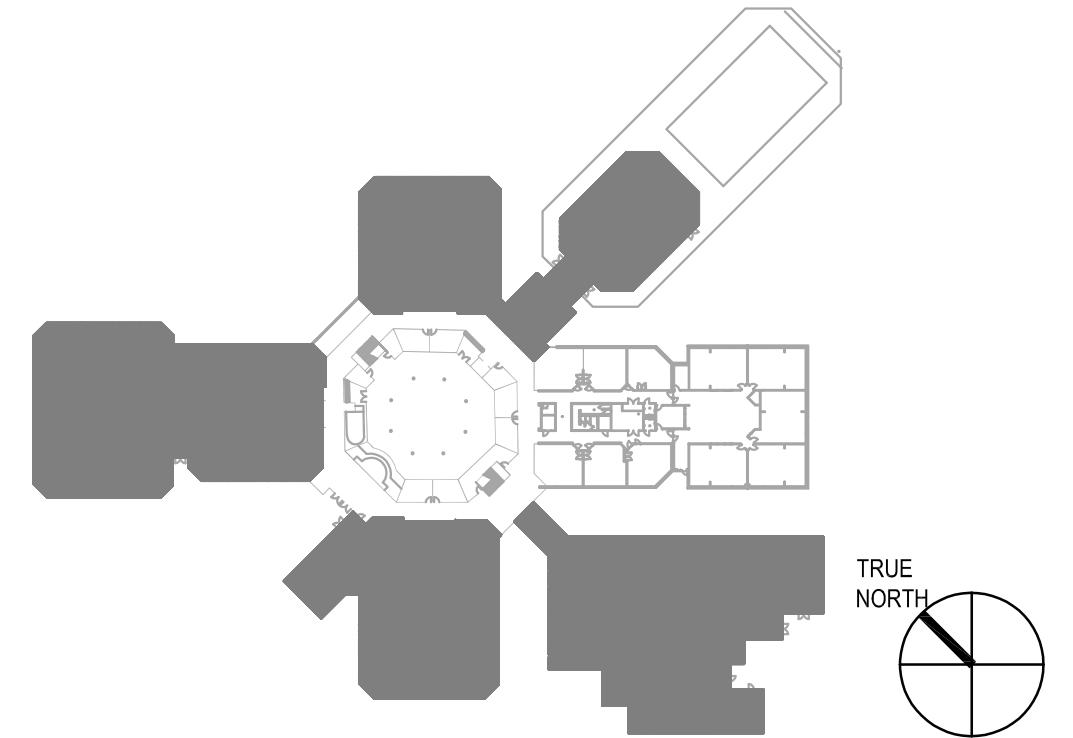
<b>DATE:</b> 07/28/2022
<b>DRAWN BY:</b> DBR
<b>CHECKED BY:</b> DBR
<b>PROJECT NUMBER:</b> 220122.000
<b>SHEET TITLE:</b> <b>PARTIAL MECHANICAL PLAN - LEVEL 1</b>
<b>SHEET NUMBER:</b> <b>M2.01F</b>

**MECHANICAL KEYED NOTES**

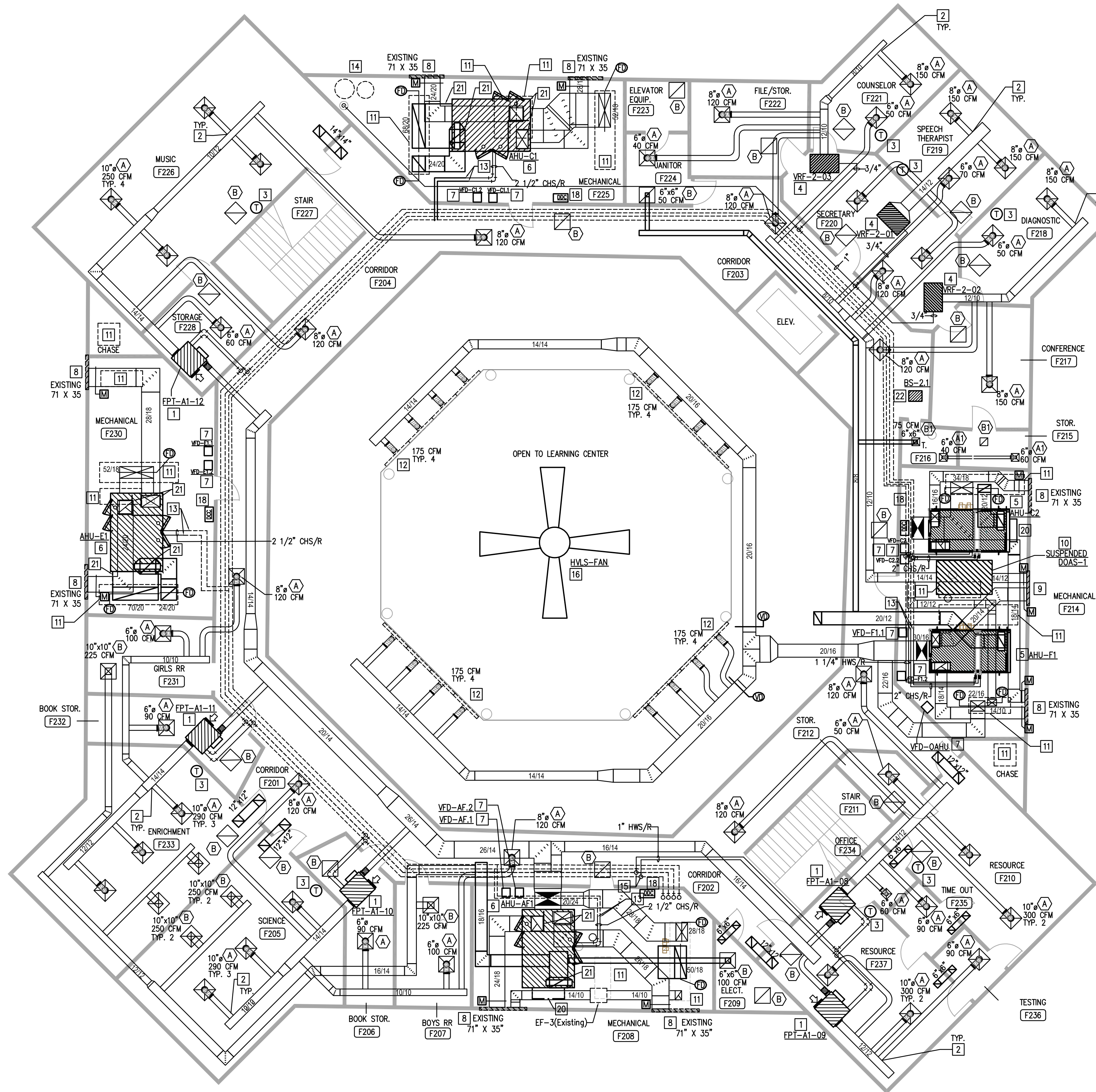
- 1 PROVIDE VAV AIR HANDLING UNIT WITH STACKED OUTSIDE AIR PRE-TREATMENT UNIT AT APPROXIMATE LOCATION SHOWN. EXTEND EXISTING HOUSEKEEPING PAD AS REQUIRED FOR NEW UNIT. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
- 3 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 4 EXISTING SLOTS TO REMAIN. REBALANCE TO NEW CFM SHOWN. CLEAN AND CONNECT TO NEW SUPPLY DUCTWORK ASSOCIATED WITH AHU-F1.
- 5 NEW MAIN SUPPLY AND RETURN DUCTWORK IS TO BE ROUTED UP TO THE SECOND FLOOR TO ITS CORRESPONDING AIR HANDLING UNIT. COORDINATE WITH STRUCTURAL ENGINEER AND EXISTING SECOND FLOOR SLAB PENETRATIONS.
- 6 PROVIDE A FIRE DAMPER AT APPROXIMATE LOCATION SHOWN.
- 7 CONTRACTOR SHALL PROVIDE PROVISIONS TO MAINTAIN A MAXIMUM OF 85 DEGREES AND 65% RH IN LIBRARY DURING CONSTRUCTION.
- 8 PROVIDE VRF MANUFACTURER THERMOSTAT AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER.



**1 MECHANICAL PLAN - AREA F**  
 1/8"=1'-0"



Plotted: Jul 28, 2022, 11:34 AM by user: cstrander@db... Saved: 7/28/2022 by user: montgomery... C:\Users\cstrander@db... \Documents\ACCDocs\DBR Inc.\202122\000-GP\FSD-Purple Sage ES - HVAC Upgrades\Project Files\Drawings\0M-220122-LV\_02.dwg



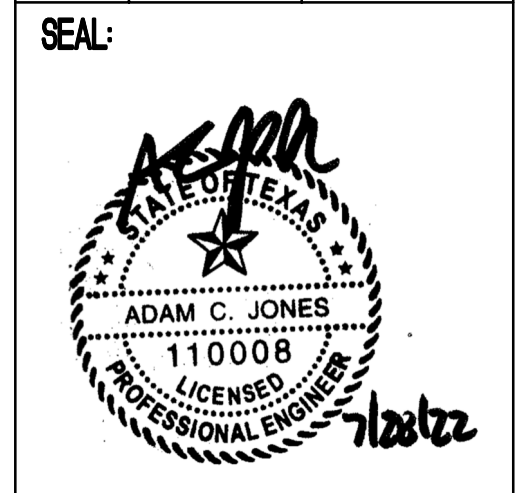
**1** MECHANICAL PLAN - LEVEL 2  
3/16"=1'-0"

**MECHANICAL KEYED NOTES**

- 1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUSPEND UNIT FROM STRUCTURE. RE: DETAIL 17/M4.02.
- 2 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT. RE: 2/M4.01.
- 3 PROVIDE FLAT PLATE SPACE TEMPERATURE SENSOR AT APPROXIMATE LOCATION SHOWN. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATION WITH OWNER AND EXISTING CLASSROOM LAYOUT. TYPICAL TO ALL CLASSROOMS.
- 4 PROVIDE VRF FAN COIL UNIT AT THE APPROXIMATE LOCATION SHOWN. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE WITH ADJACENT PIPING, WALLS, CONDUIT, STRUCTURAL MEMBERS, ETC TO PROVIDE REQUIRED CLEARANCES. CONNECT AND SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. ROUTE CONDENSATE PIPING TO NEAREST LAVATORY TAIL PIECE.
- 5 PROVIDE SINGLE ZONE AIR HANDLING UNIT WITH STACKED ERV PRE-TREATMENT UNIT AT APPROXIMATE LOCATION SHOWN. EXTEND EXISTING HOUSEKEEPING PAD AS REQUIRED FOR NEW UNIT. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE CONDENSATE TO NEAREST EXISTING FLOOR DRAIN. FIELD COORDINATE EXACT LOCATION.
- 6 PROVIDE VAV AIR HANDLING UNIT WITH STACKED OUTSIDE AIR PRE-TREATMENT UNIT AT APPROXIMATE LOCATION SHOWN. EXTEND EXISTING HOUSEKEEPING PAD AS REQUIRED FOR NEW UNIT. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 7 PROVIDE VARIABLE FREQUENCY DRIVE FOR AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.
- 8 EXISTING LOUVER TO REMAIN.
- 9 PROVIDE NEW INTAKE LOUVER AT APPROXIMATE LOCATION SHOWN.
- 10 PROVIDE SUSPENDED 100% OUTSIDE AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN. EXTEND EXISTING HOUSEKEEPING PAD AS REQUIRED FOR NEW UNIT. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE CONDENSATE TO NEAREST EXISTING FLOOR DRAIN. FIELD COORDINATE EXACT LOCATION. RE: DETAIL 23/M4.02.
- 11 INFILL REMAINING SLAB OPENING, NO LONGER USED FOR DUCT PENETRATION, WITH CONCRETE. COORDINATE EXACT LOCATIONS/DIMENSIONS WITH OWNER AND MECHANICAL CONTRACTOR.
- 12 EXISTING SLOTS TO REMAIN. CLEAN AND CONNECT TO NEW SUPPLY DUCTWORK ASSOCIATED WITH AHU-F1. RE-BALANCE TO CFM SHOWN.
- 13 CONNECT NEW CHS/R PIPE TO EXISTING AHU TAP AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED ON PLAN. PROVIDE TRANSITION AS NECESSARY. ROUTE NEW PIPE TO CONNECTION ON ASSOCIATED AHU.
- 14 EXISTING EXPANSION TANKS TO REMAIN
- 15 TAP NEW HYDRONIC BRANCH PIPING OFF EXISTING MAIN AT APPROXIMATE LOCATION SHOWN. SIZE AS INDICATED.
- 16 HVS FAN TO BE PROVIDED AS ALTERNATE 6. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND EXTEND MOUNTING CABLES/TUBES AS NECESSARY.
- 17 ROUTE NEW SUPPLY AND RETURN DUCTWORK DOWN TO FIRST FLOOR. COORDINATE WITH STRUCTURAL ENGINEER AND EXISTING FLOOR SLAB PENETRATIONS.
- 18 PROVIDE DDC CONTROL PANEL AT APPROXIMATE LOCATION SHOWN. COORDINATE EXACT LOCATION WITH CONTROLS AND ELECTRICAL CONTRACTORS AND EXISTING CONDITIONS.
- 19 FINAL LOCATION OF RE-LOCATED EXISTING EXHAUST FAN. CONNECT EXISTING FAN TO NEW DUCTWORK AS SHOWN. PROVIDE TRANSITION AS NECESSARY.
- 20 PROVIDE RETURN AIR DUCT LONG ENOUGH TO INSTALL RETURN AIR MODULATING MOTORIZED DAMPER. DUCT SHALL BE THE SAME HEIGHT AND WIDTH AS UNIT RETURN AIR CONNECTION. VERIFY FINAL SIZE WITH AHU MANUFACTURER.
- 21 ROUTE DUCT TO CONNECTION ON AHU. PROVIDE TRANSITION AS NECESSARY.
- 22 PROVIDE BRANCH CONTROLLER, AS SCHEDULED, FOR VRF UNITS AT APPROXIMATE LOCATION SHOWN. COORDINATE WITH VRF PIPING DIAGRAM FOR LINE SIZES AND ROUTING.

**REVISION:**

No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

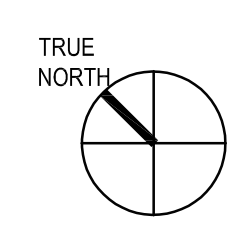


**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

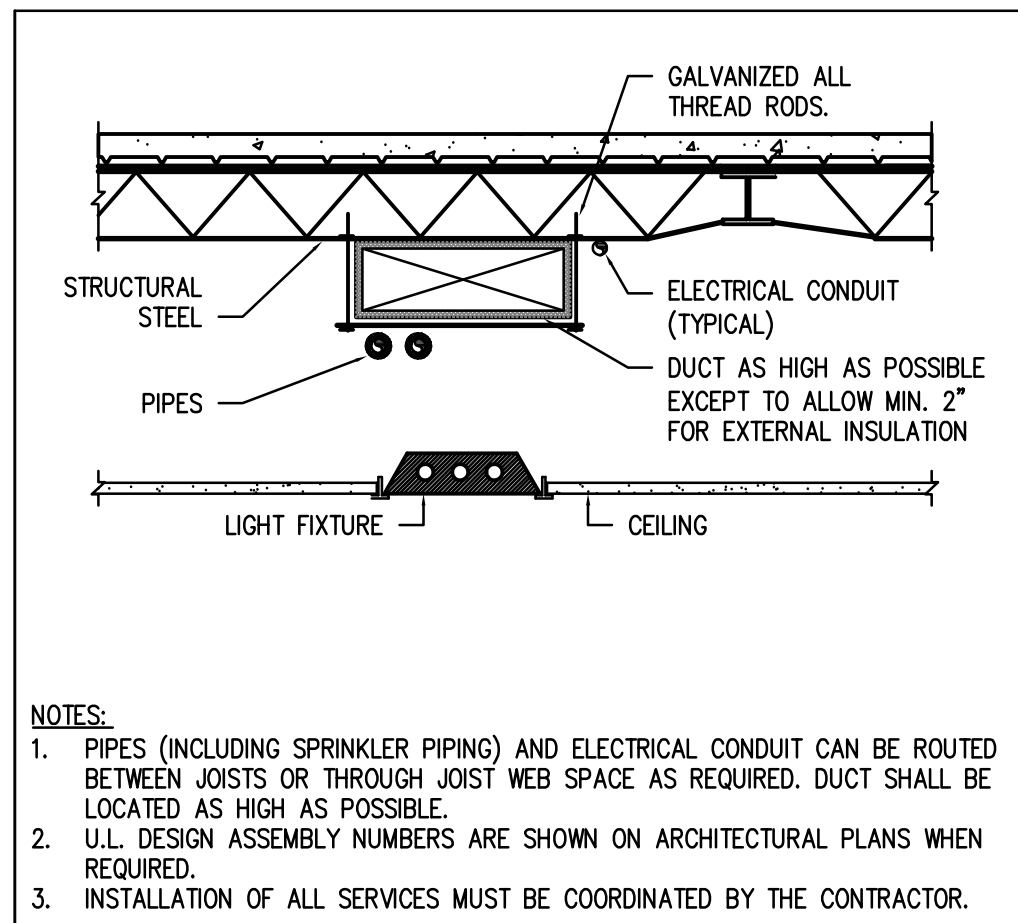
DATE:  
07/28/2022  
DRAWN BY:  
DBR  
CHECKED BY:  
DBR  
PROJECT NUMBER:  
220122.000  
SHEET TITLE:

**MECHANICAL  
PLAN - LEVEL  
2**

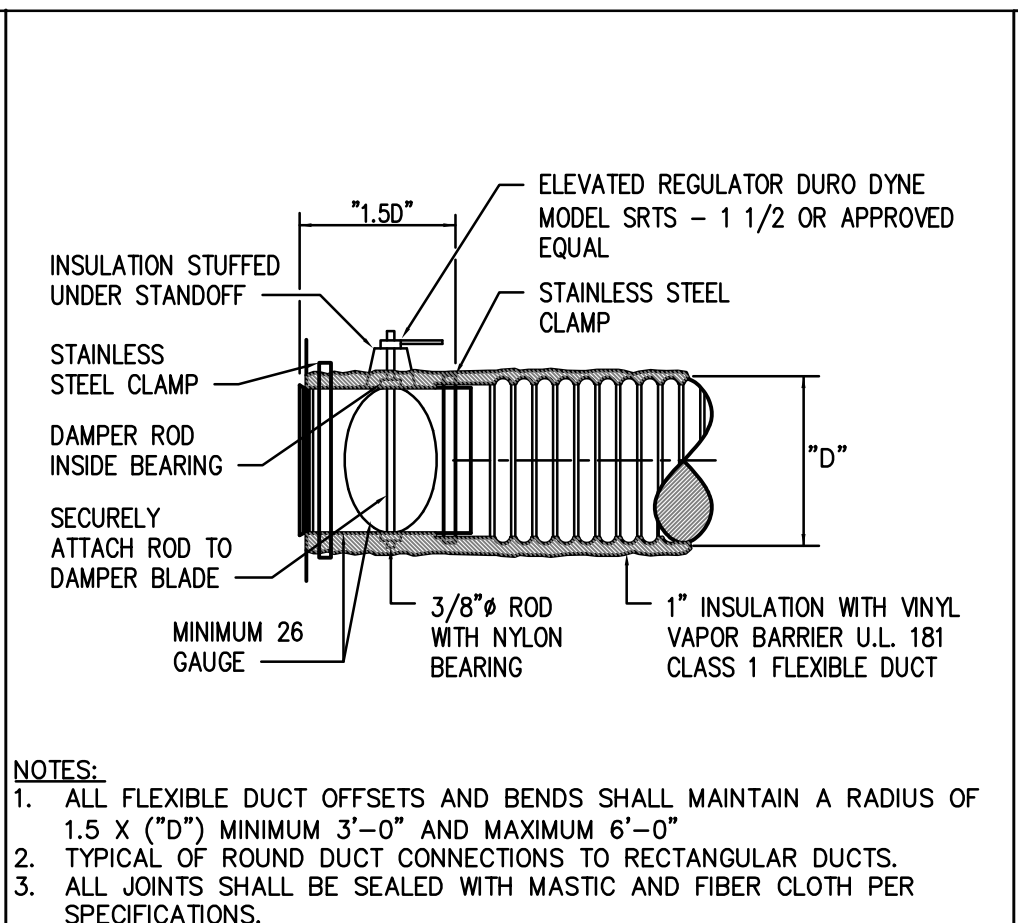
SHEET NUMBER:  
**M2.02**



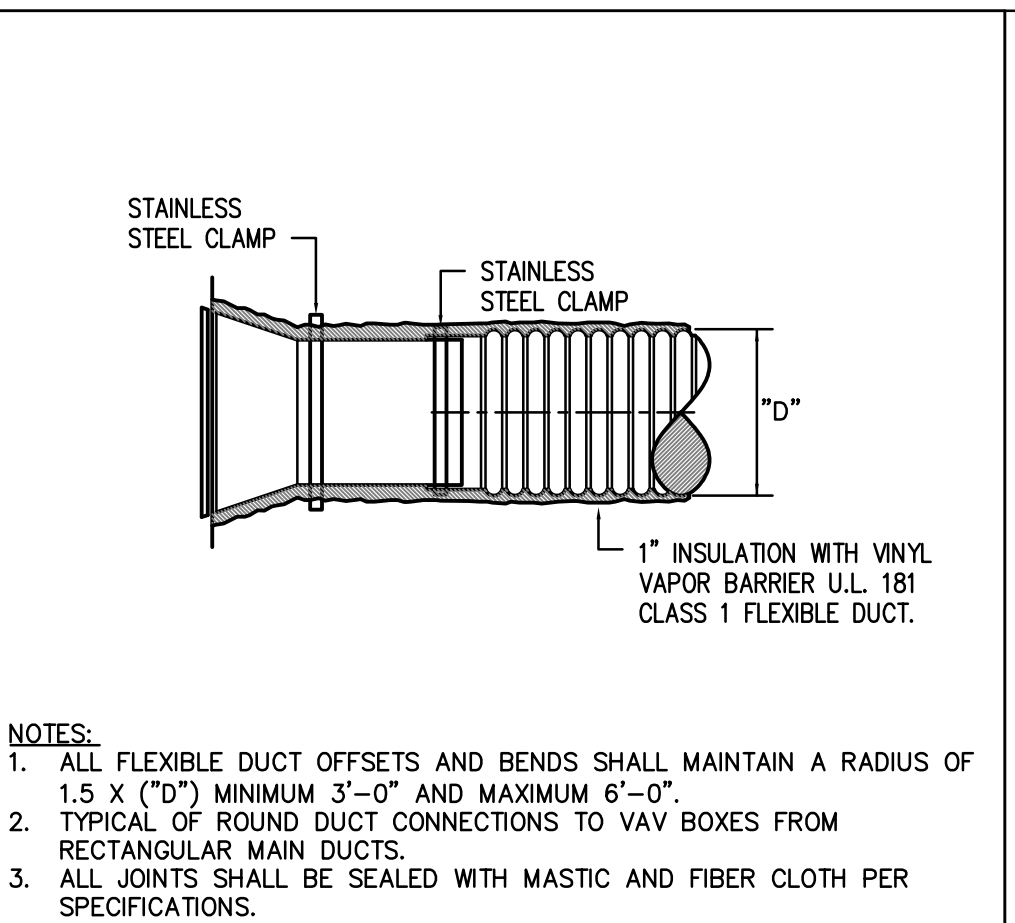
Plotted: Jul 28, 2022, 11:34 AM by user: aormendariz - Saved: 7/28/2022 by user: aormendariz  
 C:\Users\Aormendariz\Documents\DBR Inc\220122.000-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\01-220122-SCHEDULES & DETAILS.dwg



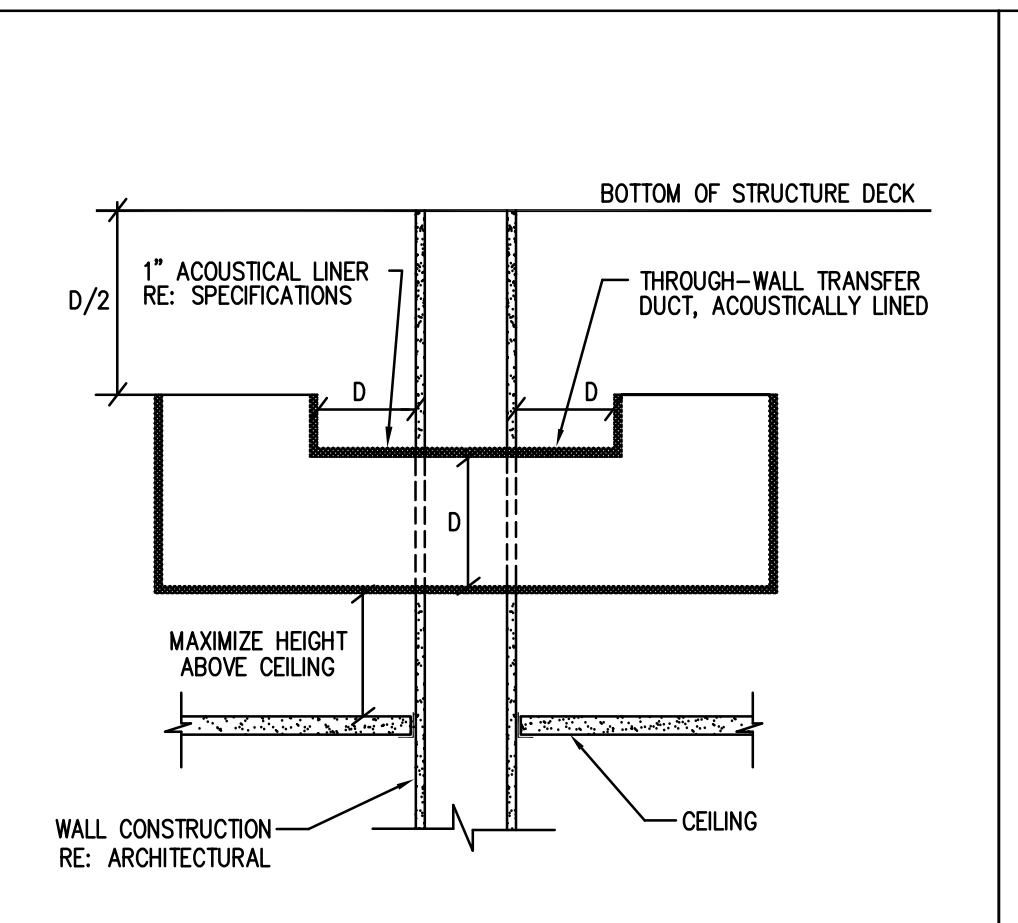
**1 TYP. MEP INSTALLATION DETAIL**  
NOT TO SCALE MAS-01



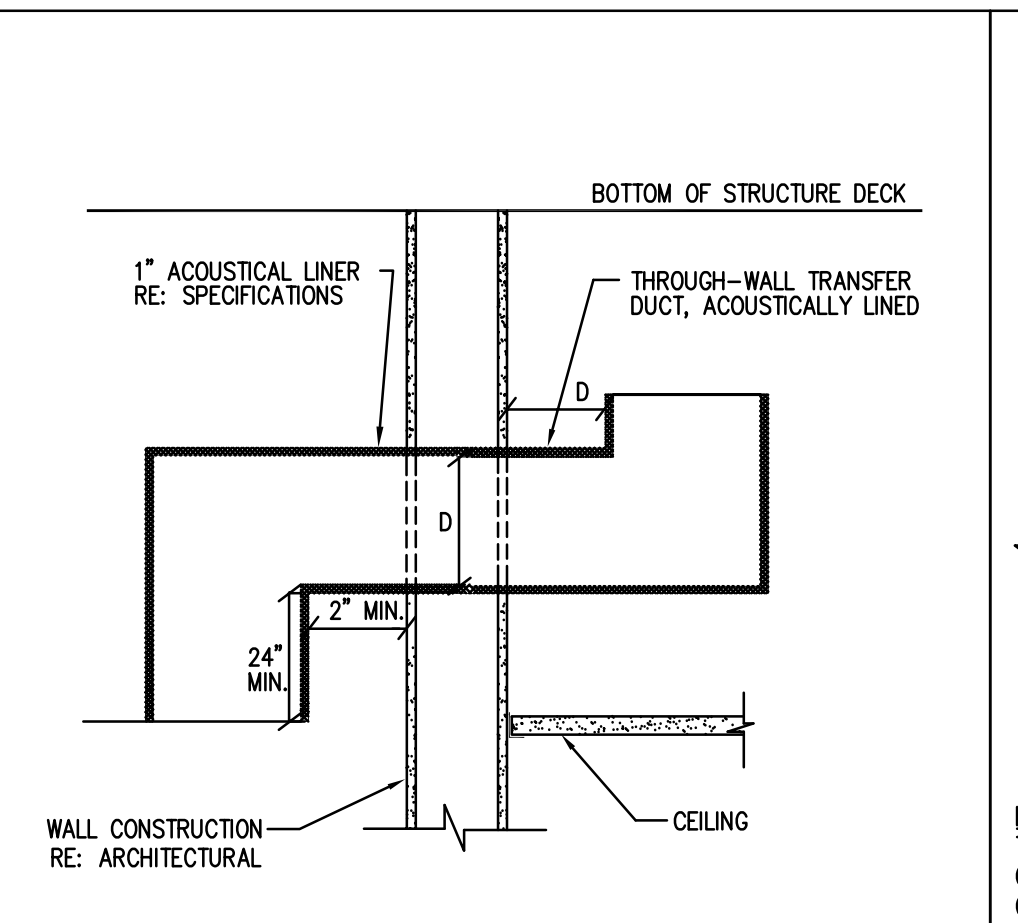
**2 SPIN-IN DETAIL**  
NOT TO SCALE MAS-09



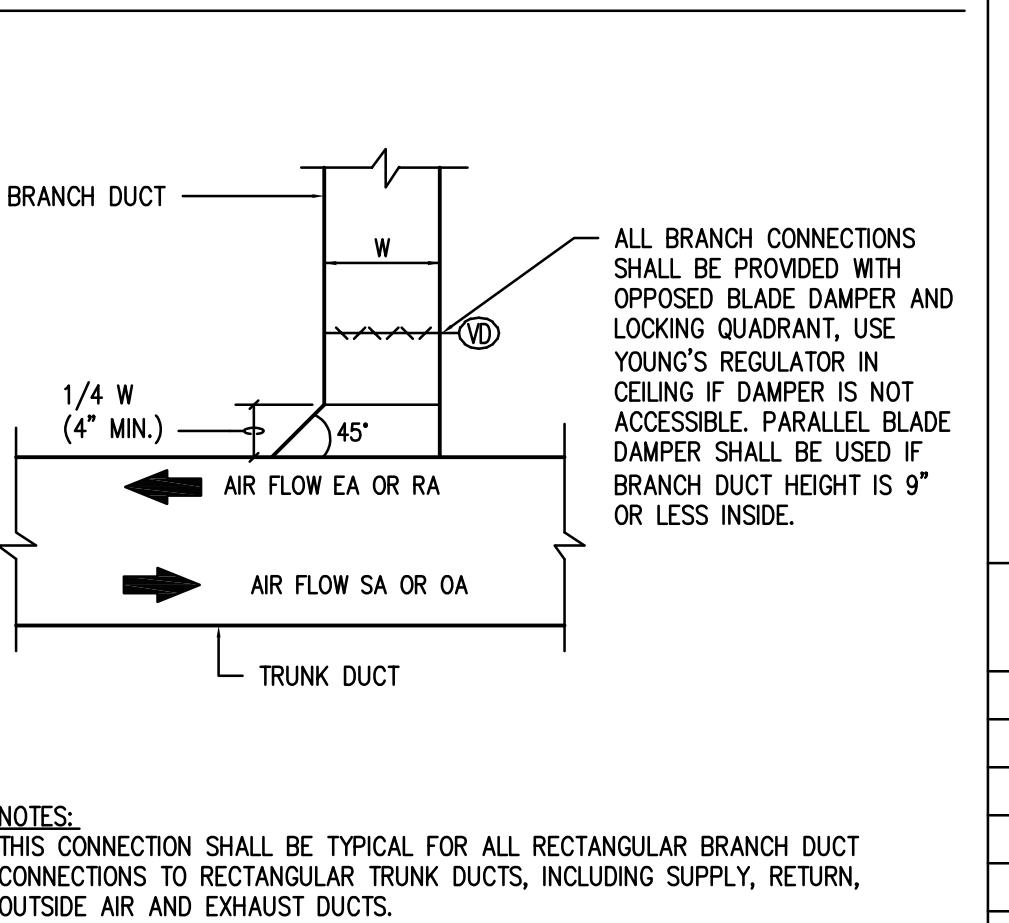
**3 CONICAL SPIN-IN DETAIL**  
NOT TO SCALE MAS-00



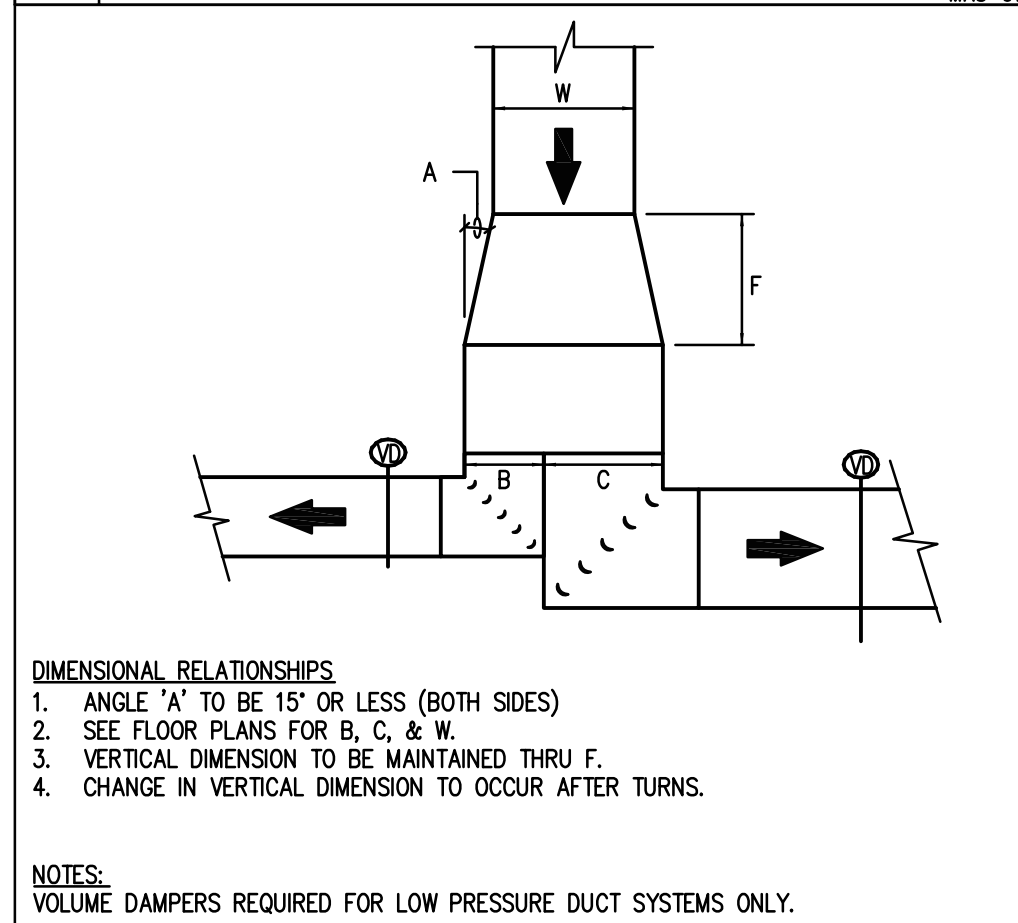
**4 RETURN AIR BOOT THRU WALL**  
NOT TO SCALE MARA.DWG



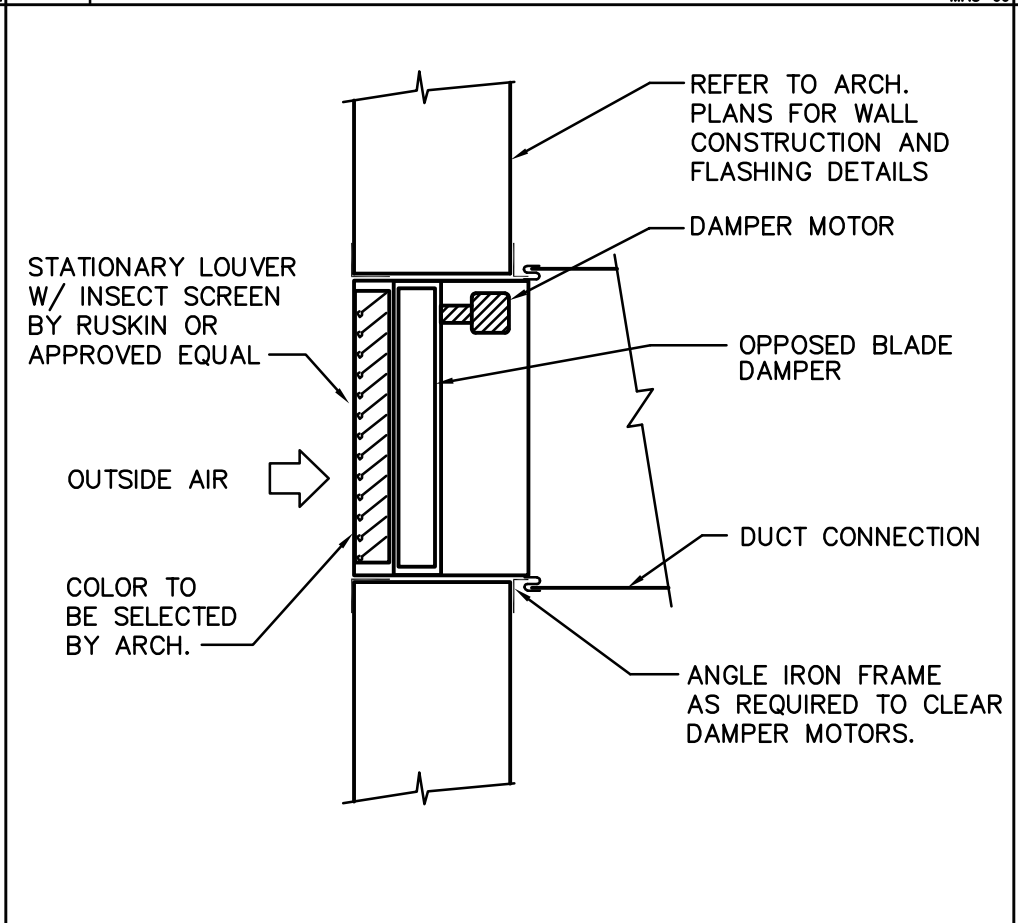
**5 MECHANICAL ROOM R/A BOOT**  
NOT TO SCALE



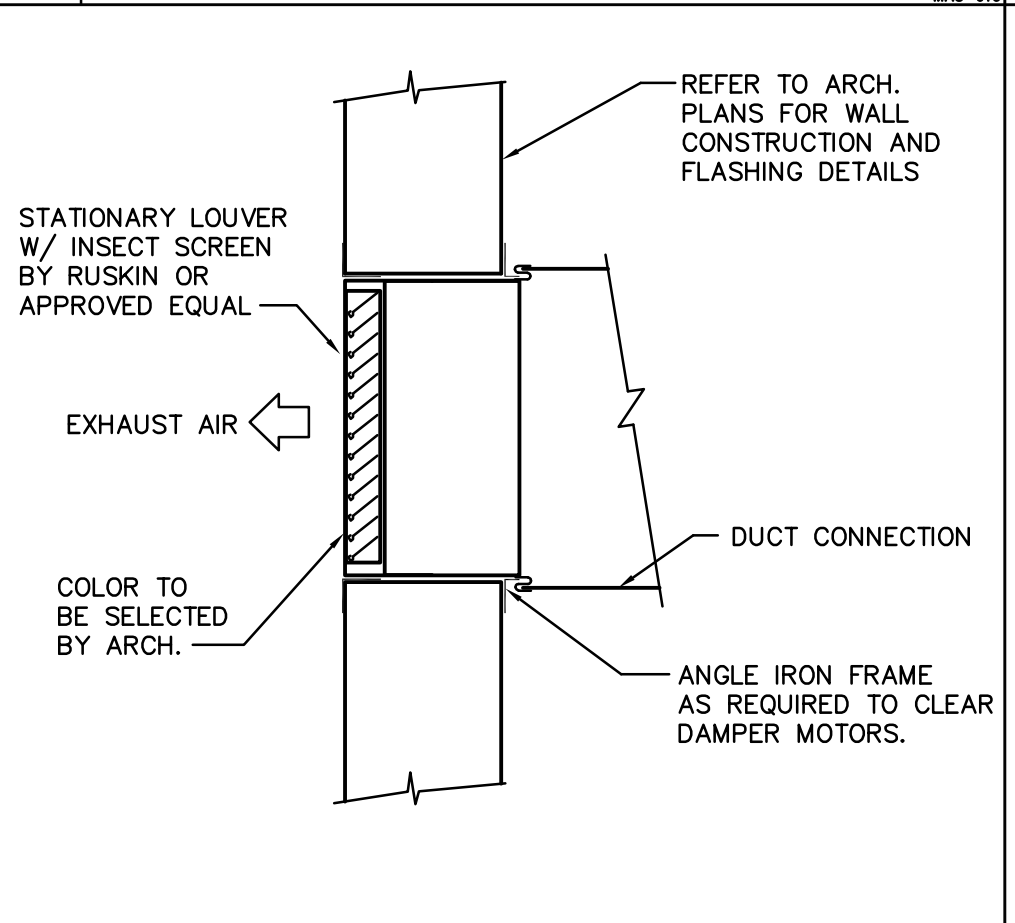
**6 RECTANGULAR BRANCH DUCT TAP**  
NOT TO SCALE MAS-1



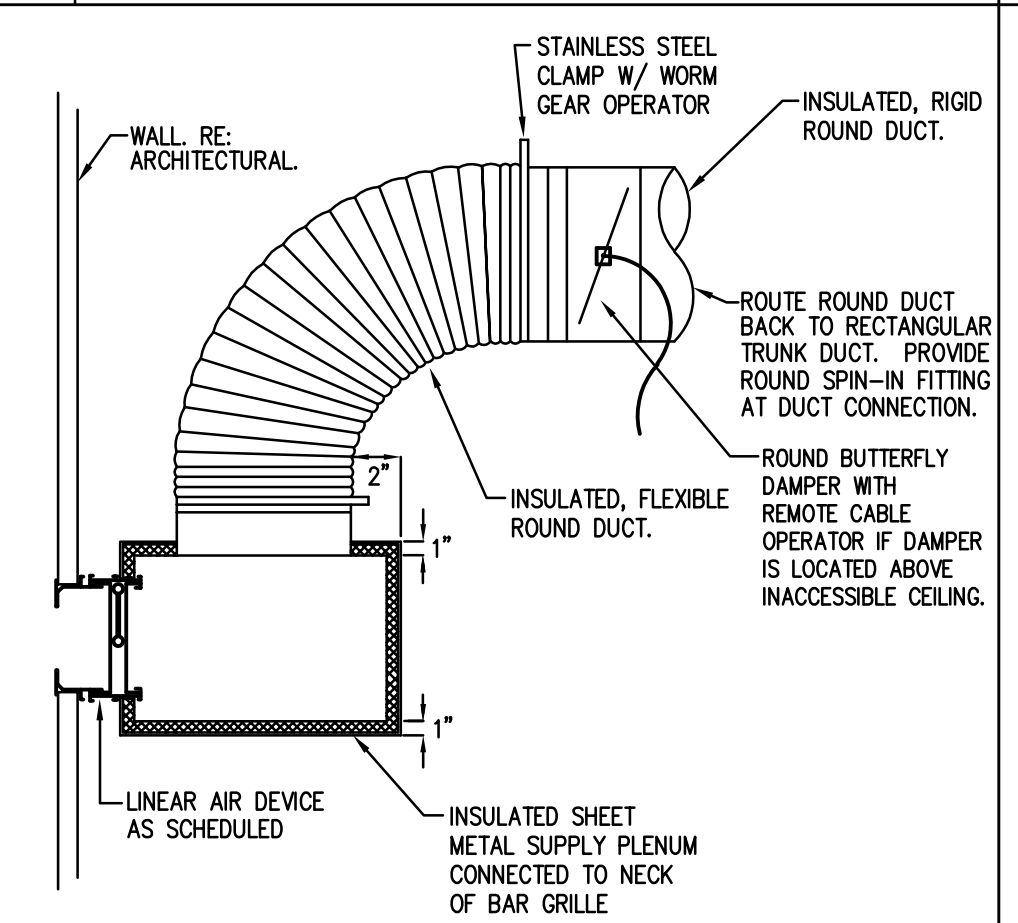
**7 DUCTWORK TEE DETAIL**  
NOT TO SCALE MAS-08



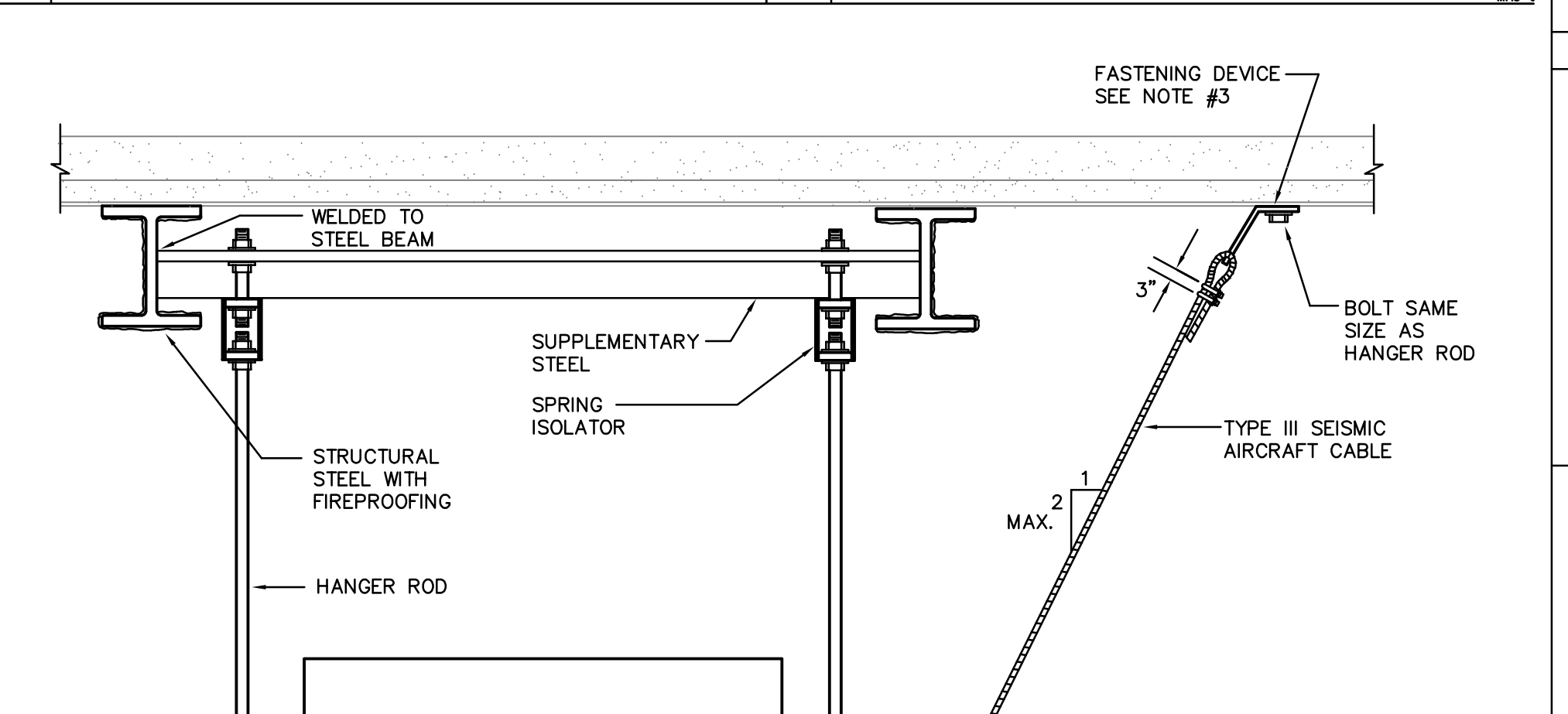
**8 INTAKE LOUVER MOUNTING**  
NOT TO SCALE



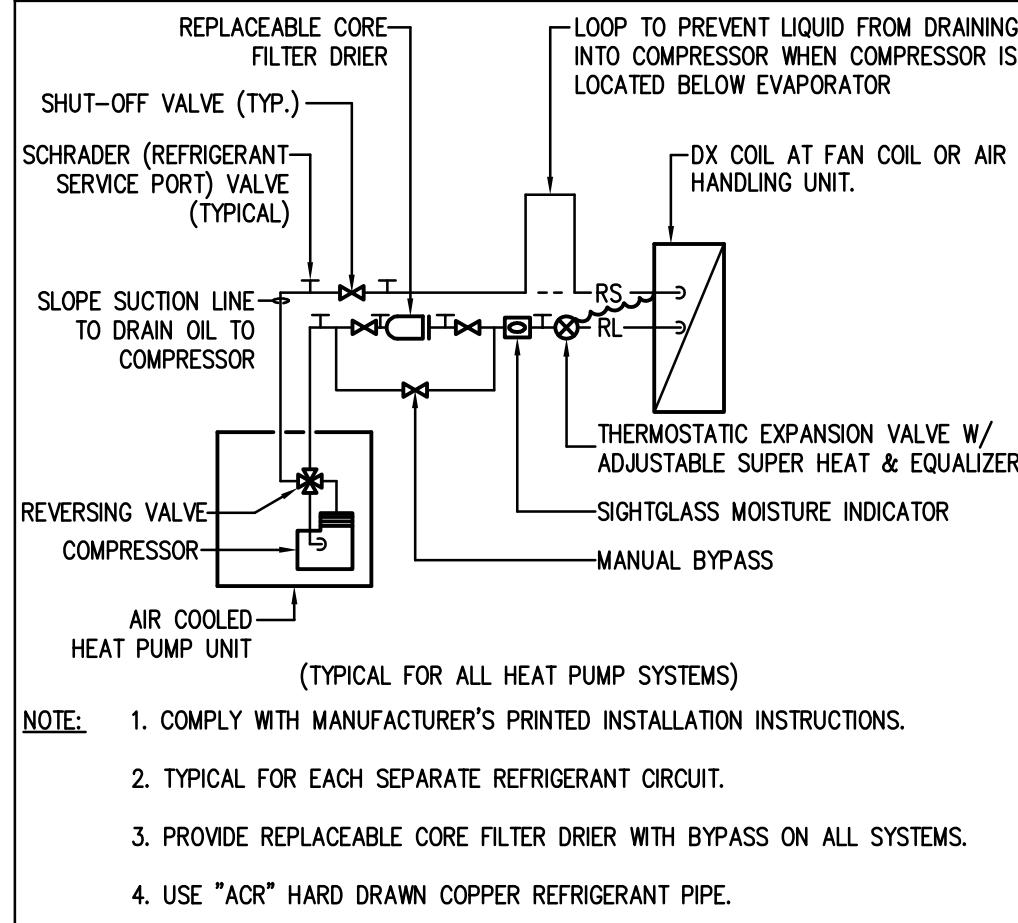
**9 EXHAUST LOUVER MOUNTING**  
NOT TO SCALE MAS-69



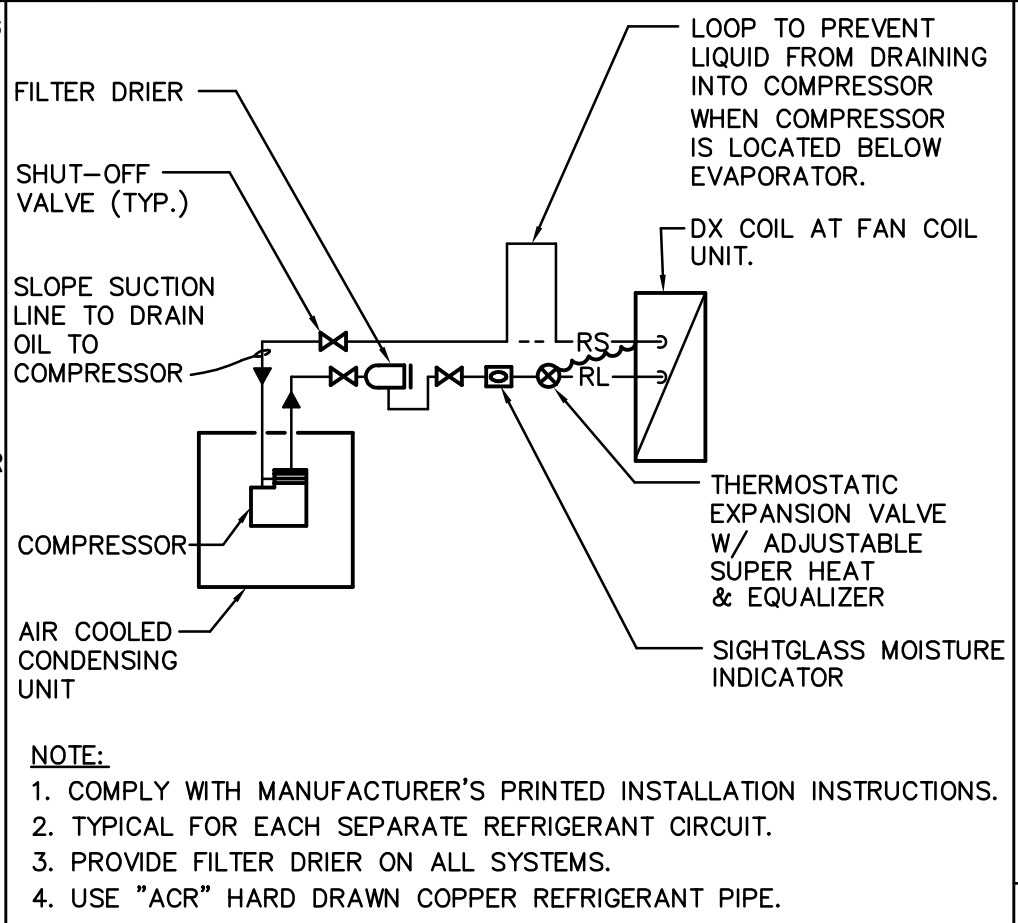
**10 FLOW BAR TOP CONNECTION**  
NOT TO SCALE MAS-54



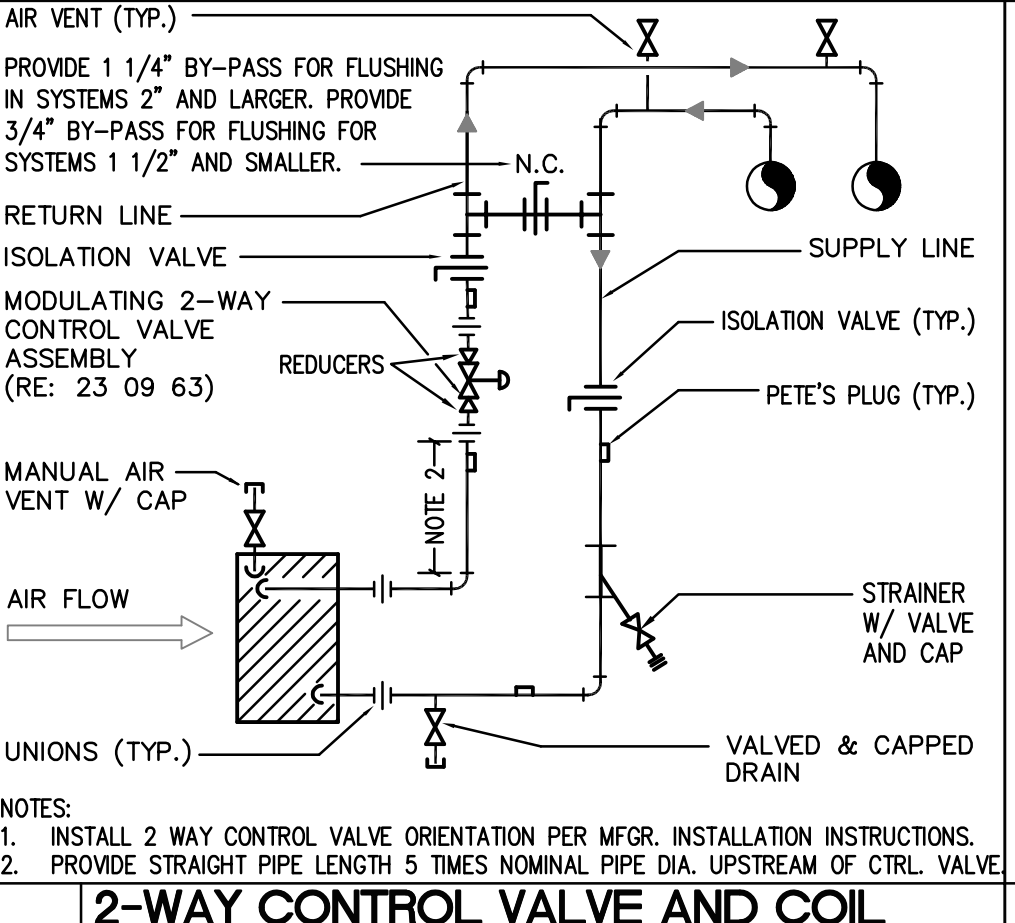
**15 SUSPENDED EQUIPMENT DETAIL**  
NOT TO SCALE MEG0100.DWG



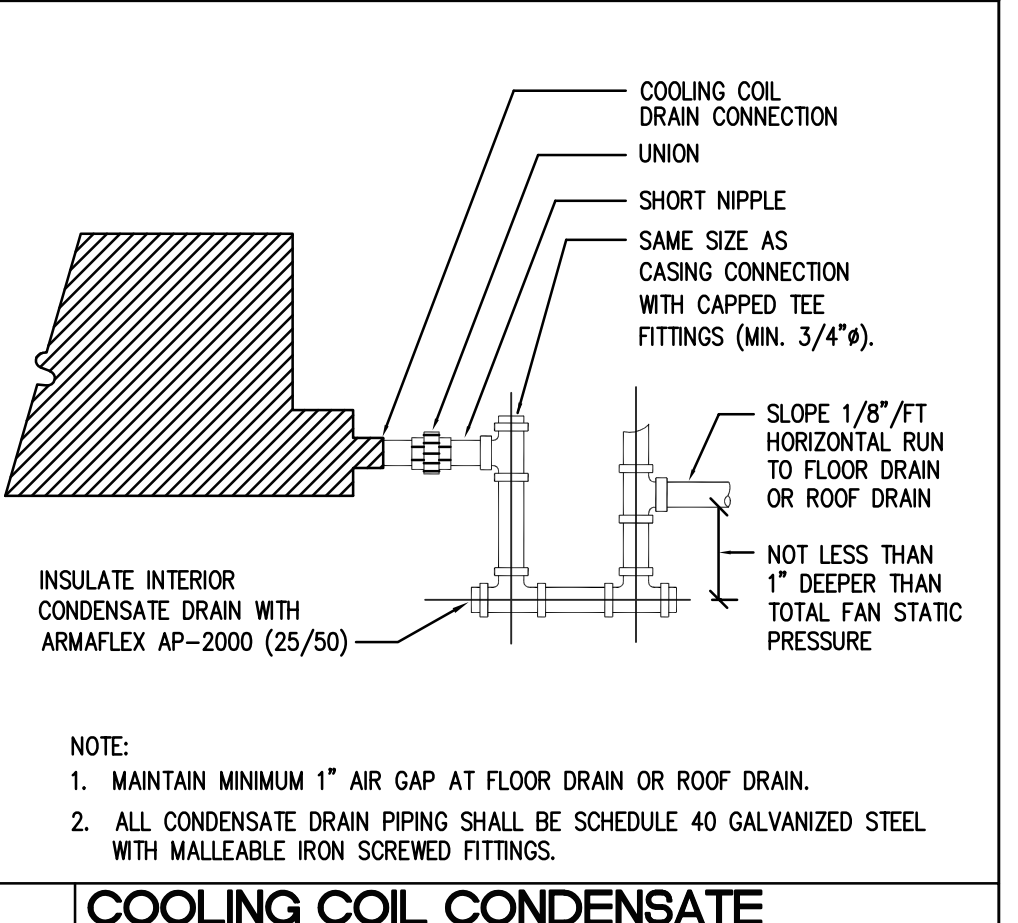
**11 HEAT PUMP PIPING DETAIL**  
NOT TO SCALE MPRE101.DWG



**12 REFRIGERANT PIPING SCHEMATIC**  
NOT TO SCALE MPRE100.DWG



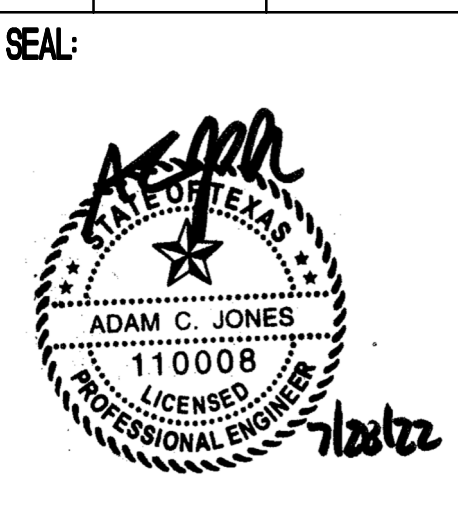
**13 2-WAY CONTROL VALVE AND COIL PIPING**  
NOT TO SCALE MP-01



**14 COOLING COIL CONDENSATE DRAIN**  
NOT TO SCALE MPCE300.DWG



REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE: MECHANICAL DETAILS  
 SHEET NUMBER: M4.01



Plotted: Jul 28, 2022, 11:34 AM by user: aarmentoriz - Saved: 7/28/2022 by user: aarmentoriz - Saved: 7/28/2022 by user: aarmentoriz  
 C:\Users\aarmentoriz\Documents\DBR Inc\220122\00-GP1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0M-220122-SCHEDULES & DETAILS.dwg

<p><b>16 END SUCTION PUMP PIPING</b> NOT TO SCALE</p>	<p><b>17 SERIES FAN POWERED TERMINAL UNIT</b> NOT TO SCALE</p>	<p><b>18 PIPE HANGER DETAIL (1-PIPE)</b> NOT TO SCALE</p>	<p><b>19 PIPE HANGER DETAIL</b> NOT TO SCALE</p>	<p><b>20 PIPE HANGER DETAIL (4-PIPE)</b> NOT TO SCALE</p>	<p><b>21 REFRIGERANT PIPE HANGER</b> NOT TO SCALE</p>
<p><b>22 CONDENSING UNIT ROOF MOUNTED</b> NOT TO SCALE</p>	<p><b>23 SUSPENDED OAHU DETAIL</b> NOT TO SCALE</p>	<p><b>24 HORIZONTAL FIRE DAMPER</b> NOT TO SCALE</p>	<p><b>25 PIPE ROOF CURB PENETRATION DETAIL</b> NOT TO SCALE</p>	<p><b>26 ROOF MTD. REFR. PIPE SUPPORT</b> NOT TO SCALE</p>	<p><b>27 FLOOR MOUNTED REFR. PIPE</b> NOT TO SCALE</p>
<p><b>28 FIRE WALL INSULATED PIPE PENETRATION</b> NOT TO SCALE</p>	<p><b>29 CONDENSING UNIT MOUNTING ON GRADE</b> NOT TO SCALE</p>	<p><b>30 PIPE ENTRY THRU EXTERIOR WALL</b> NOT TO SCALE</p>	<p><b>31 FAN COIL UNIT MOUNTING</b> NOT TO SCALE</p>	<p><b>32 FAN COIL UNIT MOUNTING (DX)</b> NOT TO SCALE</p>	<p><b>33 EXHAUST AIR HOOD</b> NOT TO SCALE</p>

**DBR**  
 SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY  
 713.914.0888 f  
 9990 Richmond Ave. South Bldg. Suite.  
 300 Houston, Texas 77042  
 TBPE Firm Registration NO. 2234

REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

SEAL:

GALENA PARK PURPLE SAGE  
 HVAC UPGRADES

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE: MECHANICAL DETAILS  
 SHEET NUMBER: M4.02



AIR DEVICE SCHEDULE			
MARK	MFR. & MODEL	TYPE	REMARKS
A	TITUS TMS-AA	24"x24" LOUVERED FACE SUPPLY AIR DIFFUSER	ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE. SIZE NECK ACCORDING TO DRAWING.
A1	TITUS TDC-AA	12"x12" LOUVERED FACE SUPPLY AIR DIFFUSER	ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE. SIZE NECK ACCORDING TO DRAWING.
B	TITUS PAR-AA	24"x24" PERFORATED FACE RETURN / EXHAUST AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE. PROVIDE 22"x22" NECK OPEN TO PLENUM UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE O.B.D. WHEN USED FOR DUCTED EXHAUST OR RETURN.
B1	TITUS PAR-AA	12"x12" PERFORATED FACE RETURN / EXHAUST AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE. PROVIDE 10"x10" NECK OPEN TO PLENUM UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE O.B.D. WHEN USED FOR DUCTED EXHAUST.
C	TITUS 300-FL	SEAWALL SUPPLY AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, DOUBLE DEFLECTION WITH FRONT BLADES PARALLEL TO LONG DIMENSION. PROVIDE O.B.D. PROVIDE SIZE ACCORDING TO DRAWING.
D	TITUS 350-FL	SEAWALL RETURN / EXHAUST AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, 35" DEFLECTION WITH BLADES PARALLEL TO LONG DIMENSION. PROVIDE O.B.D. WHEN USED FOR DUCTED EXHAUST. PROVIDE SIZE ACCORDING TO DRAWING.

- NOTES:  
1. INSULATE BACK-PAN OF ALL DEVICES.  
2. PROVIDE FRAME TO MATCH CEILING TYPE INDICATED ON ARCHITECTS REFLECTED CEILING PLAN.  
3. PAINT INTERIOR SURFACES OF DUCTWORK VISIBLE FROM FACE OF RETURN AIR GRILLES FLAT BLACK.

### PUMP SCHEDULE

MARK	SCHP-1,2	PCHP-1,2	CDWP-1,2	HWP-1,2
MANUFACTURER	TACO	TACO	TACO	TACO
MODEL NUMBER	F13009D	F13007D	EM311T	F12508
DESIGN FLOW (GPM)	400	360	570	210
HEAD (FT. H <sub>2</sub> O)	60	25	40	60
APPROX IMPELLER DIA. (INCHES)	8.25	6.35	10.05	8.10
MOTOR RPM	1,800	1,800	1,800	1,800
HORSEPOWER	10	7.5	10	7.5
VOLTS/PHASE/HERTZ	480/3/60	480/3/60	480/3/60	480/3/60
NOTES	1,2,3	1,2,3,4	1,2,4	1,2,3,4

- NOTES:  
1. PUMP SHALL BE NON-OVERLOADING ACROSS ENTIRE GPM RANGE.  
2. PROVIDE WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.  
3. INSTALL ON EXISTING INERTIA BASE.  
4. PROVIDE FOR ALTERNATE 7 SCOPE ONLY.

### VRF HEAT RECOVERY UNIT SCHEDULE

MARK	HURU-1	HURU-2	ACCU-1
SERVES	LEVEL 1 ADMIN	LEVEL 2 ADMIN	LEVEL 1& 2 ADMIN
REQUIRED COOLING CAPACITY (MBH)	142.2	60.7	112.2
AMBIENT TEMP. (°F)	105	105	105
COOLING EFFICIENCY (IEER/EEER)	28.60/12.50	28.40/13.40	29.60/13.10
NOMINAL HEATING CAPACITY (MBH)	162.0	81.0	135.0
ACTUAL HEATING CAPACITY (MBH)	161.6	71.5	119.2
REQUIRED HEATING CAPACITY (MBH)	140.5	140.5	140.5
HEATING EFFICIENCY (COP @ 47 DEG F)	3.84	3.83	3.97
VOLTS/PHASE/HERTZ	460/3/60	460/3/60	460/3/60
MCA	26	13	41
MOCP	35	20	50
REFRIGERANT TYPE	R410A	R410A	R410A
MANUFACTURER	LG	LG	LG
MODEL NUMBER (INDEPENDENT UNITS)	ARUM144DTE5	ARUM072DTE5	ARUM121DTE5
UNIT WEIGHT (LBS)	639	430	507
NOTES	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5

- NOTES:  
1. PROVIDE WITH NEMA 3R WEATHERPROOF DISCONNECT SWITCH(S).  
2. ROUTE REFRIGERANT PIPING TO ASSOCIATED BRANCH SELECTOR BOX REFER TO REFRIGERANT PIPING DIAGRAMS ON M5.02, M5.03, M5.04.  
3. PROVIDE 5 YEAR PART WARRANTY AND 7 YEAR COMPRESSOR WARRANTY.  
4. SYSTEM INDICATE TWINNING MODULE. REFER TO MANUFACTURER INSTALLATION MANUAL FOR PIPING TWINNING UNITS.  
5. PROVIDE ALL NECESSARY CLEARANCES AS RECOMMENDED BY MANUFACTURER.

### VRV FAN COIL UNIT SCHEDULE

MARK	SUPPLY AIR FLOW (CFM)	MAX ESP	COOLING MODE				HEATING MODE			VOLTS/ PHASE/ HERTZ	WEIGHT (LBS.)	RLA	MCA	MFR	MODEL	NOTES
			TOTAL COOLING (BTU/H)	SENSIBLE COOLING (BTU/H)	COOLING EAT DB/WB (°F)	COOLING LAT DB/WB (°F)	TOTAL HEATING (BTU/H)	HEATING EAT (°F)	HEATING LAT (°F)							
VRV-1-01	460	0.5	14,572	10,355	74.5/63.4	55.0/53.7	19,284	67.6	90.0	208/1/60	82.9	2.3	2.9	LG	ARNU243M2A4	1-11
VRV-1-02	350	0.5	9,283	6,637	74.5/63.4	55.0/53.7	12,081	67.6	90.0	208/1/60	82.9	2.3	2.9	LG	ARNU153M2A4	1-11
VRV-1-03	1040	0.5	30,326	21,681	74.5/63.4	55.0/53.7	40,065	67.6	85.0	208/1/60	86.2	2.3	2.9	LG	ARNU283M2A4	1-11
VRV-1-04	400	0.5	13,673	9,705	74.5/63.4	55.0/53.6	18,026	67.6	85.0	208/1/60	82.9	2.3	2.9	LG	ARNU243M2A4	1-11
VRV-1-05	900	0.39	27,294	19,513	74.5/63.4	55.0/53.6	36,119	67.6	85.0	208/1/60	59	1.6	2	LG	ARNU243M1A4	1-11
VRV-1-06	850	0.39	25,778	18,429	74.5/63.4	55.0/53.7	34,112	67.6	85.0	208/1/60	59	1.6	2	LG	ARNU243M1A4	1-11
VRV-1-07	775	0.45	23,503	16,803	74.5/63.4	55.0/53.6	31,102	67.6	85.0	208/1/60	59	1.6	2	LG	ARNU243M1A4	1-11
VRV-2-01	650	0.5	20,591	14,721	74.5/63.4	55.0/53.6	27,249	67.6	90.0	208/1/60	82.9	2.3	2.9	LG	ARNU243M2A4	1-11
VRV-2-02	650	0.5	20,591	14,721	74.5/63.4	55.0/53.6	27,249	67.6	90.0	208/1/60	82.9	2.3	2.9	LG	ARNU243M2A4	1-11
VRV-2-03	600	0.5	20,591	14,721	74.5/63.4	55.0/53.6	27,249	67.6	90.0	208/1/60	82.9	2.3	2.9	LG	ARNU243M2A4	1-11

- NOTES:  
1. EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO COIL(S), FILTERS, HOUSING, NOR ACCESSORIES.  
2. SEE PIPING SCHEMATICS ON M502 FOR REFRIGERANT PIPING CONNECTION DETAILS.  
3. ALL BRANCH "Y" FITTINGS OR MULTI-UNIT HEADER CONNECTION PIECES ARE FACTORY PROVIDED.  
4. DUCTED UNITS SHALL HAVE CONTRACTOR PROVIDED/INSTALLED FILTER HOUSINGS.  
5. UNITS SHALL BE PROVIDED WITH MULTIPLE FAN SPEEDS (LOW-MED-HIGH) AS SCHEDULED.  
6. PROVIDE UNITS WITH MERV 13 FILTERS. INSTALL PER MANUFACTURERS RECOMMENDATIONS.  
7. PROVIDE WITH INTEGRAL FACTORY INSTALLED CONDENSATE PUMP.  
8. UNIT SHALL BE SELECTED FOR A 4 WAY THROW CEILING CASSETTE UNIT.  
9. UNIT SHALL BE SELECTED FOR A DUCTED FAN COIL UNIT.  
10. UNIT SHALL BE SELECTED FOR A WALL MOUNTED DUCTLESS SPLIT SYSTEM.  
11. UNIT SHALL BE SELECTED FOR A FLOOR MOUNTED DUCTED VERTICAL UNIT.

### FAN POWERED TERMINAL UNIT SCHEDULE

MARK	PRIMARY AIR CFM		HEATING CFM	HOT WATER HEATING				INLET SIZE	VOLTS/ PHASE/ HZ	ECM HP	MFR	MODEL NO.
	MAX	MIN.		EWTL/WT	MBTU/H	GPM	ROWS					
FPT-A1-01	875	350	615	180/160	13.9	1.4	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-02	750	300	525	180/160	17.0	1.7	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-03	875	440	615	180/160	21.3	2.1	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-04	750	380	525	180/160	18.3	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-05	725	360	510	180/160	17.6	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-06	725	360	510	180/160	17.6	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-07	900	450	630	180/160	21.9	2.2	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-A1-08	1,040	520	730	180/160	25.3	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-A1-09	690	350	485	180/160	16.8	1.7	1	8"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-A1-10	1,210	610	850	180/160	29.5	2.9	1	12"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-A1-11	1,180	590	830	180/160	28.7	2.9	1	12"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-A1-12	1,300	660	910	180/160	31.8	3.2	1	12"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C1-01	785	390	550	180/160	19.0	1.9	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-02	785	390	550	180/160	19.0	1.9	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-03	750	380	525	180/160	18.3	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-04	815	410	575	180/160	19.8	2.0	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-05	750	380	525	180/160	18.3	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-06	785	390	550	180/160	19.0	1.9	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-07	385	190	270	180/160	9.3	0.9	1	8"Ø	277/1/60	1/4	TITUS	DTFS-B
FPT-C1-08	785	390	550	180/160	19.0	1.9	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-09	735	370	515	180/160	17.9	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-10	975	490	685	180/160	23.7	2.4	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C1-11	725	360	510	180/160	17.6	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-12	600	300	420	180/160	14.6	1.5	1	8"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-13	785	390	550	180/160	19.0	1.9	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-14	660	330	465	180/160	16.0	1.6	1	8"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-15	725	360	510	180/160	17.6	1.8	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-16	600	300	420	180/160	14.6	1.5	1	8"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-17	860	430	605	180/160	20.9	2.1	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C1-18	500	250	350	180/160	12.2	1.2	1	8"Ø	277/1/60	1/4	TITUS	DTFS-B
FPT-C1-19	800	400	560	180/160	19.4	1.9	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C3-01	1,020	510	715	180/160	24.8	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-02	1,030	520	725	180/160	25.1	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-03	840	420	590	180/160	20.4	2.0	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-C3-04	1,030	520	725	180/160	25.1	2.5	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-C3-05	950	480	665	180/160	23.2	2.3	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-01	825	410	580	180/160	20.0	2.0	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-E1-02	825	410	580	180/160	20.0	2.0	1	10"Ø	277/1/60	1/3	TITUS	DTFS-C
FPT-E1-03	950	480	665	180/160	23.2	2.3	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-04	940	470	660	180/160	22.8	2.3	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-05	900	450	630	180/160	21.9	2.2	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-06	900	450	630	180/160	21.9	2.2	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-07	1000	500	700	180/160	24.3	2.4	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-08	1000	500	700	180/160	24.3	2.4	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-09	900	450	630	180/160	21.9	2.2	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-10	900	450	630	180/160	21.9	2.2	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-11	940	470	660	180/160	22.8	2.3	1	10"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-12	1200	600	840	180/160	29.2	2.9	1	12"Ø	277/1/60	1/3	TITUS	DTFS-D
FPT-E1-13	925	460	650	180/160	22.4							

Plotted: Jul 28, 2022, 2:41 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\Documents\DRB Inc\220122\000-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\04-220122-CONTROL.S.dwg

AI	ANALOG INPUT	RA-T	RETURN AIR TEMPERATURE SENSOR
AO	ANALOG OUT PUT	MA-T	MIXED AIR TEMPERATURE SENSOR
DI/B	DIGITAL/BINARY INPUT	OA-T	OUTSIDE AIR TEMPERATURE SENSOR
DO/BO	DIGITAL/BINARY OUTPUT	TEMP	TEMPERATURE SENSOR
MD	ON-OFF MOTORIZED DAMPER	S T	WALL SENSOR/THERMOSTAT
MMD	MODULATING TYPE MOTORIZED DAMPER	CO2	CARBON DIOXIDE SENSOR
AWS	AIR FLOW MEASURING STATION	SP	SET POINT
MV	CONTROL VALVE MODULATING TYPE	S/A	SUPPLY AIR
VD	VARIABLE FREQUENCY DRIVE	R/A	RETURN AIR
CSR	CURRENT SENSING RELAY	O/A	OUTSIDE AIR
FRZ	FREEZESTAT	HC	HEATING COIL
HSR	HIGH STATIC LIMIT	CC	COOLING COIL
SPT	STATIC PRESSURE TRANSMITTER	DX	DIRECT EXPANSION COOLING COIL
DPT	DIFFERENTIAL PRESSURE TRANSDUCER	PCVZ	PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE
FM	FLOW METER	AFC	AIRFLOW CROSS
FS	FLOW SWITCH	DPS	DIFFERENTIAL PRESSURE SWITCH
DAT	DISCHARGE AIR TEMPERATURE SENSOR		

**1 CONTROL SCHEMATIC LEGEND**  
NOT TO SCALE

**Outdoor Air Conditions**

The sensors shall be mounted in an area on the north side of the building where the representative temperature and humidity can be monitored, both shall have sun shields. Based on the outdoor air temperature and humidity the EMCS shall calculate the outdoor air enthalpy, wet bulb and dew point temperatures. These outdoor air conditions shall be broadcast as global data points for use by other control programs. These shall be displayed on all major air and water systems graphics.

**Electrical Switchgear Power Meter Monitoring**

The EMCS shall provide BACnet/IP communications to Shark Meter provided by electrical contractor to monitor the building power usage. The EMCS shall monitor building kW, kWh, kVAR, Power Factor, 3-Phase Amps and Volts, along with all variables available via this interface. The EMCS shall provide a graphic representation to show the current usage, monthly usage, year to date usage, and time and date of the highest peak demand for the month and year. Demand thresholds may be set to adjust setpoints and shed loads in order to reduce peak consumption.

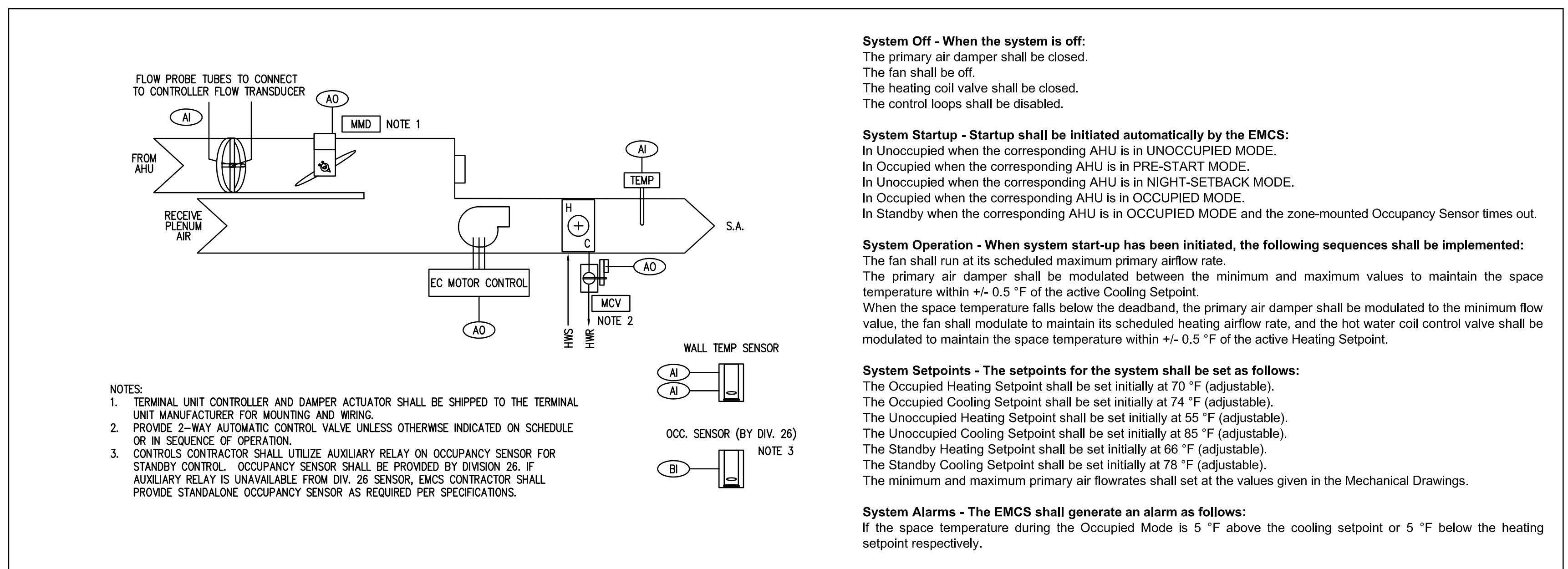
**IDF and MDF Room Monitoring**

The EMCS shall monitor the space temperature and humidity in the IDF and MDF rooms. The primary cooling for IDF and MDF rooms will be supplied by the packaged computer room units. The EMCS shall report high/low temperature/humidity alarms to the computers, pagers, and/or text message compatible devices designated by the Owner. Alarms shall be sent if the space conditions deviate from the following, temperature between 60 °F and 80 °F (adj), humidity between 40% RH and 70% RH (adj), for more than 10 minutes.

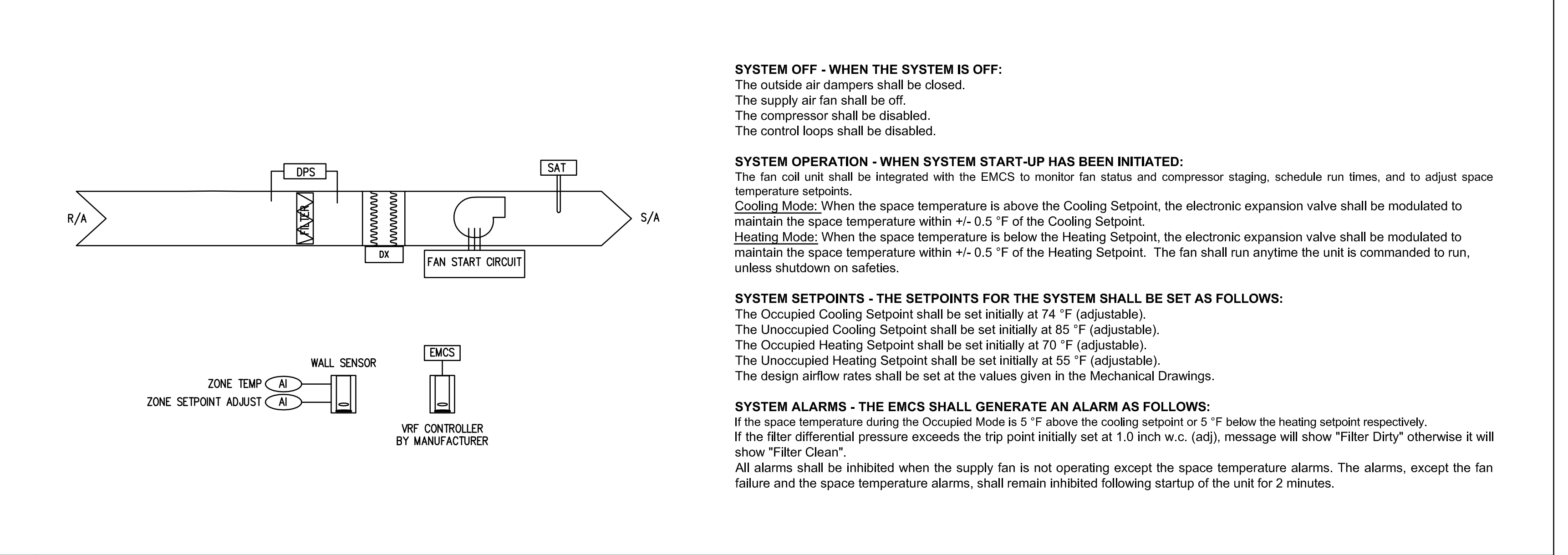
**Outdoor Air Emergency Shutdown Switch**

A maintained mushroom type emergency local override button shall be installed in the administration area to deactivate the HVAC system in case of emergency. Once pushed the button must be reset to allow the HVAC system to resume normal operation. The final location of the building shutdown switch is to be determined by the Owner.

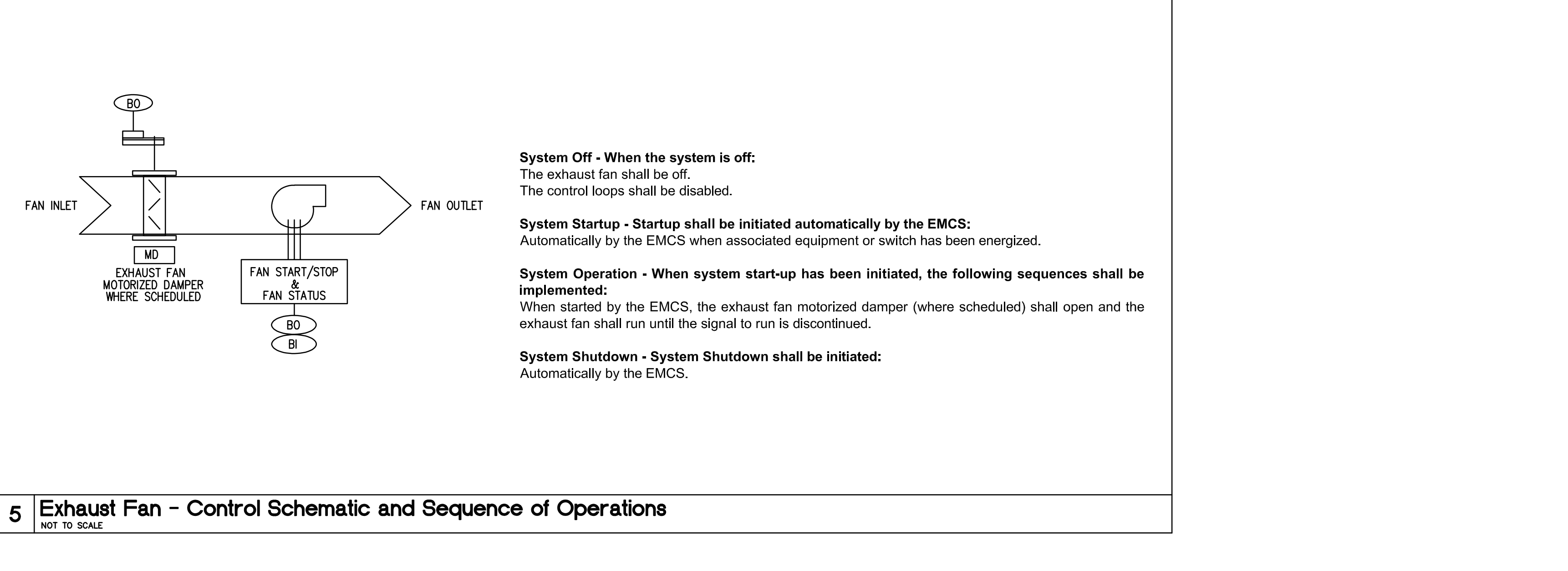
**2 MISCELLANEOUS SYSTEMS**  
NOT TO SCALE



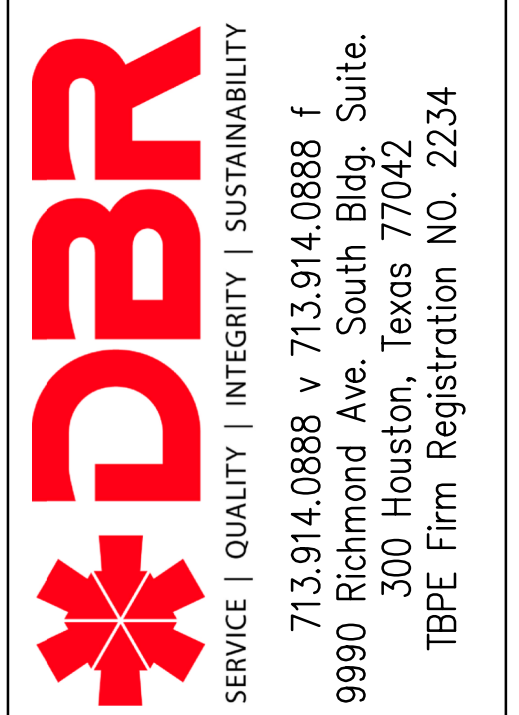
**3 Series Fan-Powered Terminal Unit with Hot Water Reheat - Control Schematic and Sequence of Operations**  
NOT TO SCALE



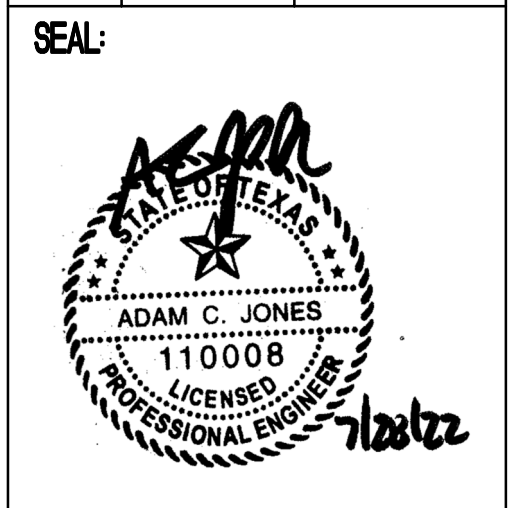
**4 VRF Fan Coil Unit Control Schematic and Sequence of Operations**  
NOT TO SCALE



**5 Exhaust Fan - Control Schematic and Sequence of Operations**  
NOT TO SCALE



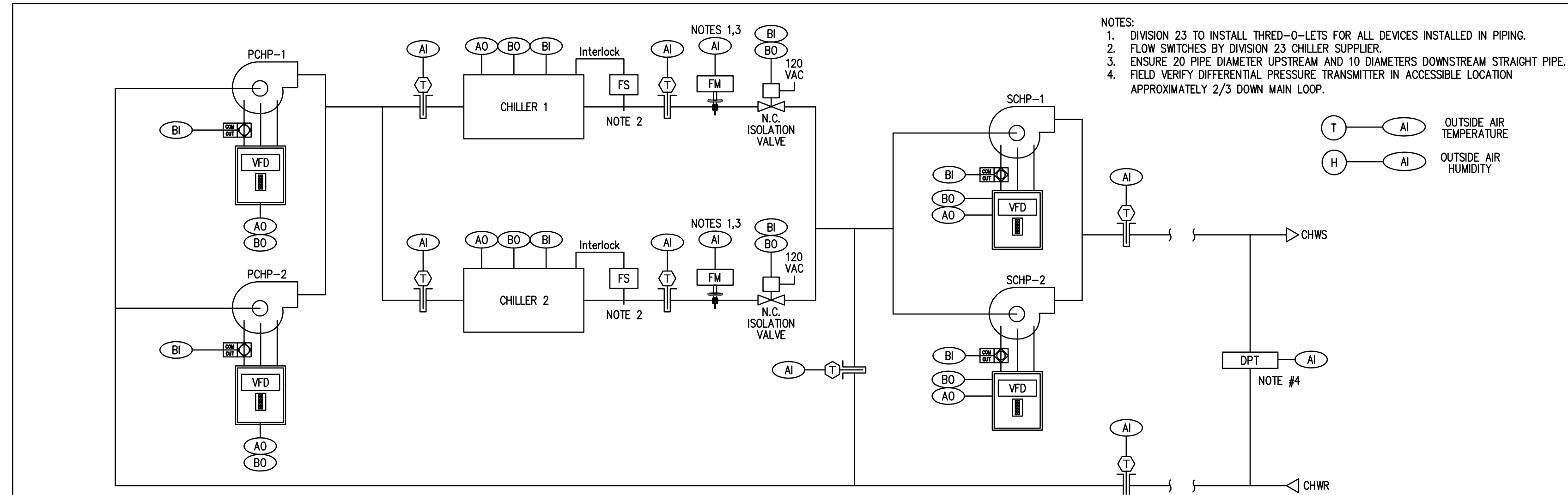
REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	MECHANICAL CONTROL DIAGRAMS
SHEET NUMBER:	M6.01

Plotted: Jul 28, 2022, 11:33 AM by user: aarmandariz - Saved: 7/28/2022 by user: montgomery  
 C:\Users\aarmandariz\Documents\DBR\_Inc\220122\000-GP\ISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0M-220122-CONTROL.DWG



- NOTES:
- DIVISION 23 TO INSTALL THRED-O-LETS FOR ALL DEVICES INSTALLED IN PIPING.
  - FLOW SWITCHES BY DIVISION 23 CHILLER SUPPLIER.
  - ENSURE 20 PIPE DIAMETER UPSTREAM AND 10 DIAMETERS DOWNSTREAM STRAIGHT PIPE.
  - FIELD VERIFY DIFFERENTIAL PRESSURE TRANSMITTER IN ACCESSIBLE LOCATION APPROXIMATELY 2/3 DOWN MAIN LOOP.

T AI OUTSIDE AIR TEMPERATURE  
 H AI OUTSIDE AIR HUMIDITY

**System Off - When the system is off:**

The chillers shall be off.  
 The pumps shall be off.  
 The chiller isolation valves shall be closed.  
 The control loops shall be disabled.

**System Startup - System startup shall be initiated:**

Manually by an Operator command on the chiller graphic at the EMCS.  
 Automatically by the EMCS, when a call for cooling has been received.

**System Operation - When system start-up has been initiated:**

The outside air temperature must be above the outside air lockout setpoint, before the chiller can be activated. The number of cooling requests required and the length of time the requests must be received before activating the chiller plant shall be adjustable. The chillers and pumps shall be lead/lag and rotated weekly at a time and on a day of the week when the chiller plant is not in operation. Rotation shall be based on accumulated runtime for each type of equipment.

When the chiller plant is activated, the lead secondary pump shall be enabled. A differential pressure sensor monitoring the pressure between the building CHWS and CHWR piping shall be used to modulate the speed of the secondary pumps. A PID control loop shall modulate the speed of the CHW pumps from their minimum speed to their maximum speed as the differential pressure deviates from setpoint. If the differential pressure is 2 psi below setpoint and the active pumps output are above the pump stage-up setpoint for 15 minutes (adjustable), a lag pump shall be enabled. When more than one pump is operating and the active pumps output are below the pump stage-down setpoint for 15 minutes (adjustable), the lag pump shall be de-energized. All active pumps shall be modulated with the same ramp signal.

The EMCS shall open the evaporator barrel isolation valve on the lead chiller. When the valve end switch has been proven open, the EMCS shall enable the lead primary pump. A current switch shall prove the pump status at the EMCS, which shall generate an alarm, if the switch is not made within 45 seconds (adjustable). There shall also be a 10 second (adjustable) de-bounce time to prevent nuisance alarms from a bouncing switch. If the pump run status is not proven, the EMCS shall discontinue the enable signal to the pump and rotate pumps. The EMCS shall then energize a lag primary pump to run in the same manner as described above. The lag primary pump shall become the lead primary pump.

When the lead primary pump status is proven, the EMCS shall enable the lead chiller. A flow switch in the chilled water piping shall complete the circuit to the chiller factory installed controller proving that evaporator flow has been established. If the chiller alarm input closes (indicating that the chiller has alarm), the EMCS shall generate an alarm, discontinue the enable signal to the lead chiller and open the evaporator barrel isolation valve on the

lag chiller. When the valve end switch has been proven open, the EMCS shall close the evaporator barrel isolation valve on the failed chiller and it shall be removed from service. The lag chiller shall become the lead chiller. The chiller shall run to maintain the supply water setpoint.

The EMCS shall monitor temperature inputs from sensors mounted in the common supply and return piping and flow meters mounted in the chiller supply piping, and calculate the Building Load in Tons. The combined total Nominal Capacity in Tons of all operating chillers shall be the Total Capacity. If the value of ((Building Load / Total Capacity) \* 100) is greater than the stage-up setpoint for 10 minutes (adjustable) or the CHW supply temperature rises greater than 4 °F (adjustable) above setpoint, a lag chiller shall be enabled into operation. If the value of ((Building Load / Total Capacity) \* 100) is less than the stage-down setpoint for 10 minutes (adjustable), a lag chiller shall be disabled.

The EMCS shall monitor the position of all of the chilled water valves at the units that the plant serves and the differential pressure setpoint shall be reset based on achieving a target valve position of 90%. There shall be a dead band of 5% to prevent hunting of the reset program. The differential pressure setpoint shall not change by more than 1 psi per 5 minute (adj.) interval. The target valve position, the reset time, the deadband, and the rate of change values shall be adjustable.

When a chiller is to be disabled, the EMCS shall discontinue the command for the chiller to run. The EMCS shall continue to hold open the chiller isolation valve until the chiller status has indicated that it is off. Then the EMCS shall close the valve.

When the outdoor air temperature drops below the freeze protection setpoint, the EMCS shall open the chilled water valves to 50% open (adj.) for flow through the AHU coils and the lead secondary chilled water pump shall be activated to run at its minimum referenced speed value until ambient temperature rises above setpoint.

The EMCS shall monitor the outside air temperature and humidity. The EMCS shall calculate the outside air enthalpy, wet bulb temperature, and dew point temperature. These values shall be displayed on all air and water systems graphics.

**System Setpoints - The setpoints for the system shall be set as follows:**

- The outside air temperature lockout setpoint shall be 50 °F (adjustable).
- The chiller leaving water temperature setpoint shall be 42 °F (adjustable).
- The chiller stage-up setpoint shall be 90% (adjustable).
- The chiller stage-down setpoint shall be 50% (adjustable).
- The chilled water system differential pressure setpoint shall be initially set at 12 psi (adj.) and shall have reset limits of 8 psi to 16 psi (adjustable).
- The pump stage-up setpoint shall be 95% (adjustable).
- The pump stage-down setpoint shall be 50% (adjustable).
- The outdoor air temperature freeze protection setpoint shall be 38 °F (adjustable).

**1 Chilled Water System - Decoupled Loop - Control Schematic and Sequence of Operations**

NOT TO SCALE



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

SEAL:



**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

DATE: 07/28/2022

DRAWN BY: DBR

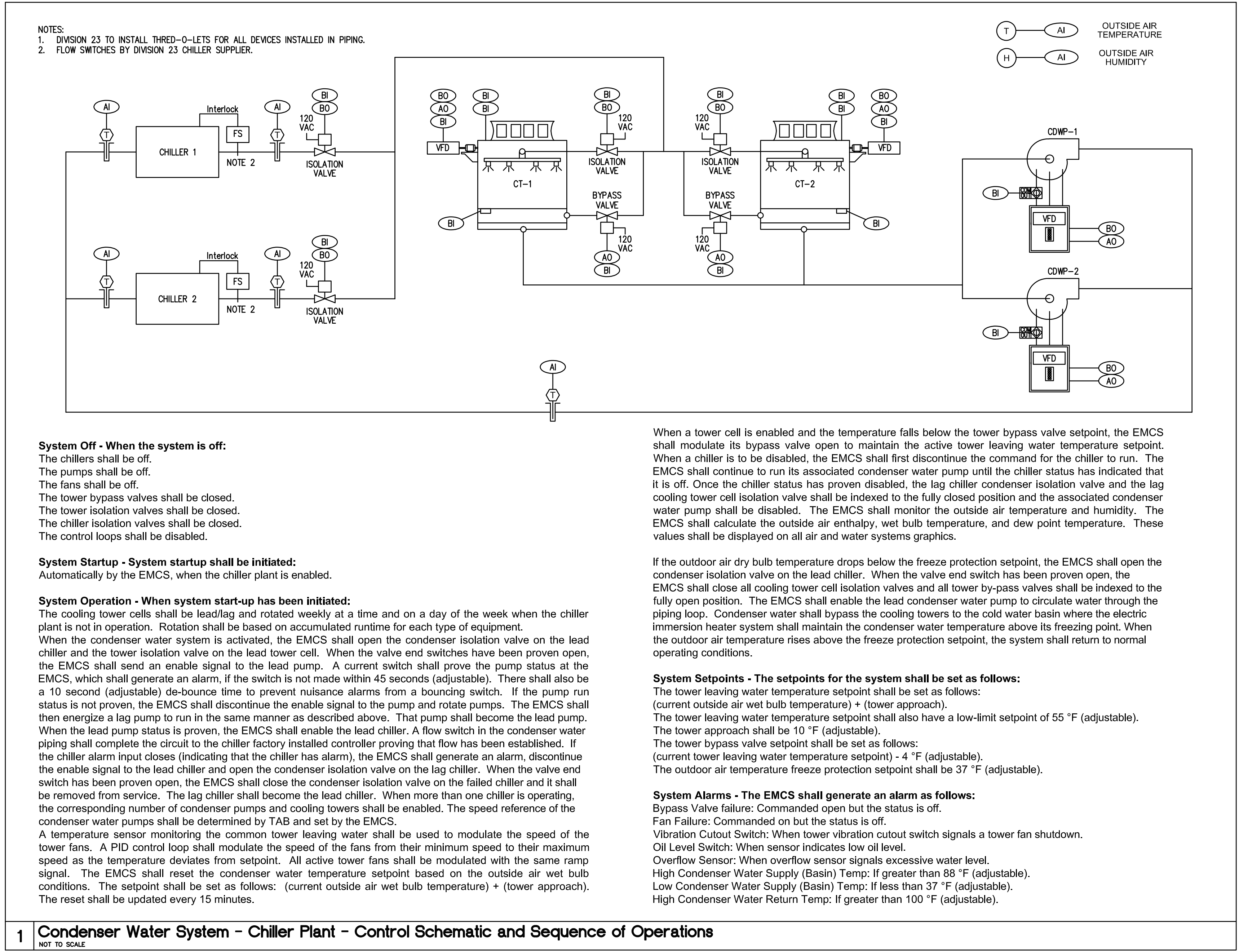
CHECKED BY: DBR

PROJECT NUMBER: 220122.000

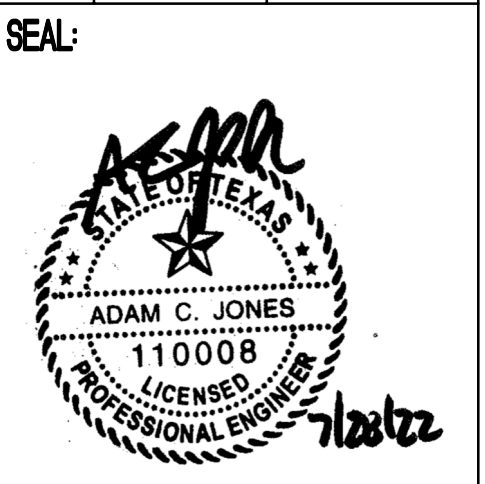
SHEET TITLE: MECHANICAL CONTROL DIAGRAMS

SHEET NUMBER: M6.02

P:\Users\warrenadof\A\CC\Drawings\04-220122-CD\CONTROL\1.dwg  
 C:\Users\warrenadof\A\CC\Drawings\04-220122-CD\CONTROL\1.dwg  
 Saved: 7/28/2022 11:33 AM by user: warrenadof  
 ES - HVAC Upgrades Project Files\Drawings\04-220122-CD\CONTROL\1.dwg



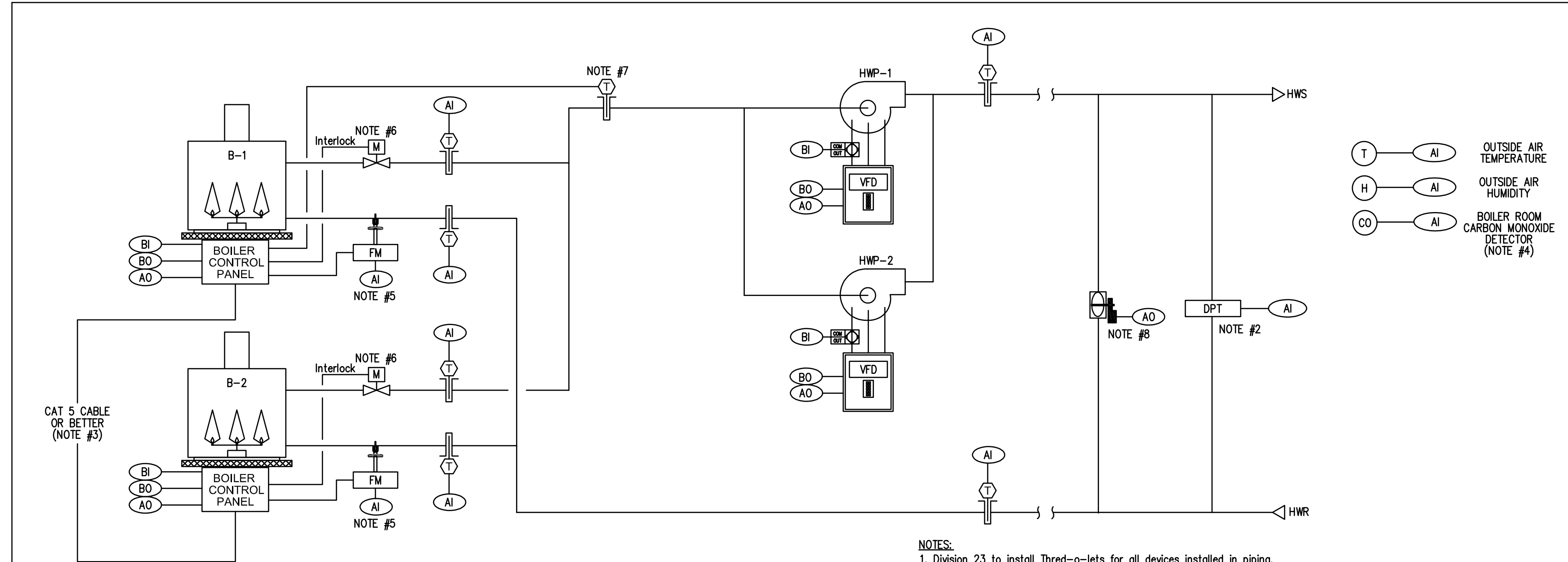
REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

<b>DATE:</b>	07/28/2022
<b>DRAWN BY:</b>	DBR
<b>CHECKED BY:</b>	DBR
<b>PROJECT NUMBER:</b>	220122.000
<b>SHEET TITLE:</b>	MECHANICAL CONTROL DIAGRAMS
<b>SHEET NUMBER:</b>	M6.03

P:\Users\warrenadof\AEC\Drawings\04-220122-CONTRLS.dwg  
 C:\Users\warrenadof\AEC\Drawings\04-220122-CONTRLS.dwg  
 Saved: 7/28/2022 11:33 AM by user: warrenadof  
 Inc:\AEC\Drawings\04-220122-CONTRLS.dwg  
 Saved: 7/28/2022 11:33 AM by user: warrenadof



**System Off - When the system is off:**

The boilers shall be off.  
 The pumps shall be off.  
 The bypass valve shall be closed.  
 The boiler isolation valves shall be closed.  
 The control loops shall be disabled.

**System Startup - System startup shall be initiated:**

Manually by an Operator command on the heating water system graphic at the EMCS.  
 Automatically by the EMCS, when a call for heating has been received.  
 The heating water system shall be disabled if the outside air temperature is greater than the outside air temperature lockout setpoint unless heating water is required for dehumidification.

**System Operation - When system start-up has been initiated:**

The outside air temperature must be below the outside air lockout setpoint before the heating water system can be activated. The number of heating requests required and the length of time the requests must be received before activating the heating water system shall be adjustable. The boilers and pumps shall be lead/lag and rotated weekly at a time and on a day of the week when the heating water system is not in operation. Rotation shall be based on accumulated runtime for each type of equipment.

When the heating water system is activated, the boiler system controller shall open the motorized isolation valve on the lead boiler. When the valve end switch has been proven open, the EMCS shall enable the lead pump. A current switch shall prove the pump status at the EMCS, which shall generate an alarm, if the switch is not made within 45 seconds (adjustable). There shall also be a 10 second (adjustable) de-bounce time to prevent nuisance alarms from a bouncing switch. If the pump run status is not proven, the EMCS shall discontinue the enable signal to the pump and rotate pumps. The EMCS shall then energize a lag pump to run in the same manner as described above. That pump shall become the lead pump.

After the pump status has been proven, the EMCS shall send a signal to enable the lead boiler to fire provided all safeties have been met. A contact in the boiler control panel will provide status to the EMCS. If the heating water supply temperature is less than 100 °F (adjustable) or a heating water pump status is not indicating a heating water pump is running, the EMCS control module will broadcast that heating water is not available.

Whenever the boilers are de-activated, the heating water pump will continue to run for 5 minutes (adjustable) to avoid excessive temperature buildup in the boiler.

The boiler room shall be provided with a manual reset type carbon monoxide (CO) detector. The CO detector shall be interlocked with the boiler control panel such that the burners will not operate when the measured level of carbon monoxide in the room rises above 50 ppm. The boiler control panel should also disable the burners in the event that there is a loss of power to the CO detector.

**NOTES:**

1. Division 23 to install Thred-o-lets for all devices installed in piping.
2. Field verify differential pressure transmitter in accessible location approximately 2/3 down main loop.
3. EMCS contractor shall be responsible for point-to-point ethernet connection between boiler controllers.
4. EMCS contractor shall be responsible for wiring CO detector to auxiliary input at lead boiler controller.
5. Integral water flow rate sensor shall be provided by the boiler manufacturer. EMCS contractor shall utilize flow rate from the manufacturer's flow rate sensor to operate the system bypass valve as indicated in the sequence of operations. Division 23 shall provide the flow sensor if the sensor is not a factory option from the boiler manufacturer.
6. Motorized isolation valve shall be provided by the boiler manufacturer and installed by Division 23. Division 23 shall provide the motorized isolation valve if the valve is not a factory option from the boiler manufacturer.
7. Temperature sensor provided by the boiler manufacturer and installed by Division 23. The lead boiler controller shall sequence the boiler system based on this boiler manufacturer provided temperature sensor.
8. Bypass valve shall be sized based on the minimum flow rate of a single boiler. Confirm minimum boiler flow rate with final equipment submittal prior to valve selection.

The EMCS shall receive inputs from temperature sensors located in the boiler heating water supply and return piping. The heating water supply setpoint shall be reset based on the outdoor air temperature, the limits shall be 170 °F when the outdoor air is at 35 °F and 110 °F when the outdoor air temperature is 65 °F (all adjustable). The boiler system controller shall enable the lag boiler if the heating water supply temperature is more than 5 °F (adjustable) below setpoint for 10 minutes (adjustable). If the heating water supply temperature is not more than 5 °F (adjustable) below setpoint and the heating water delta-T is less than 5 °F for 10 minutes (adjustable) the lag boiler shall be disabled.

A differential pressure sensor across the heating water supply and return lines shall monitor building differential pressure. The EMCS shall modulate the speed of the operating heating water pumps to maintain the building heating water differential pressure at setpoint (adjustable). If the differential pressure is 2 psi below setpoint and the active pumps output are above the pump stage-up setpoint for 15 minutes (adjustable), a lag pump shall be enabled. When more than one pump is operating and the active pumps output are below the pump stage-down setpoint for 15 minutes (adjustable), the lag pump shall be de-energized. All active pumps shall be modulated with the same ramp signal.

The EMCS shall monitor the position of all of the heating water valves at the units that the plant serves and the differential pressure setpoint shall be reset based on achieving a target valve position of 90%. There shall be a dead band of 5% to prevent hunting of the reset program. The differential pressure setpoint shall not change by more than 1 psi per 5 minute (adj.) interval. The target valve position, the reset time, the dead band, and the rate of change values shall be operator adjustable.

While only one boiler is in operation, the corresponding flow rate sensor shall be used to maintain the boiler minimum flow rate by modulating the bypass valve open. The heating water flow rate shall not change by more than 10% per minute.

**System Setpoints - The setpoints for the system shall be set as follows:**

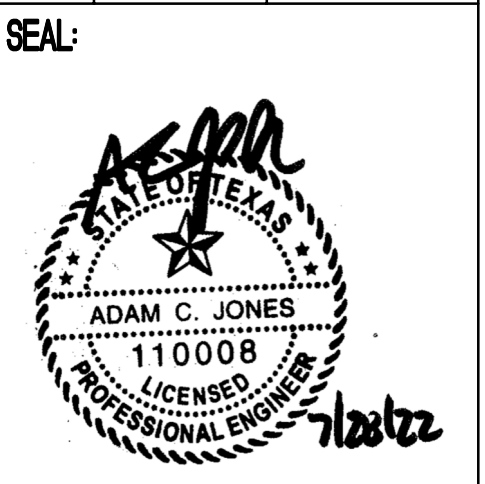
- The outside air temperature lockout setpoint shall be 65 °F (adjustable).
- The boiler minimum flow rate setpoint shall be --- gpm (adjustable).
- The heating water system differential pressure setpoint shall be initially set at 12 psi (adjustable) and shall have reset limits of 8 psi to 16 psi (adjustable).
- The pump stage-up setpoint shall be 95% (adjustable).
- The pump stage-down setpoint shall be 50% (adjustable).

**1 Hot Water System - All Condensing - Variable Primary Flow with Headered Pumps - Control Schematic and Sequence of Operations**

NOT TO SCALE



REVISION No.	DATE	DESCRIPTION
05/16/2022		SD SET
05/25/2022		100% DD SET
06/22/2022		75% CD SET
07/20/2022		100% REVIEW
07/28/2022		PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

<b>DATE:</b>	07/28/2022
<b>DRAWN BY:</b>	DBR
<b>CHECKED BY:</b>	DBR
<b>PROJECT NUMBER:</b>	220122.000
<b>SHEET TITLE:</b>	MECHANICAL CONTROL DIAGRAMS

**SHEET NUMBER:**  
**M6.04**





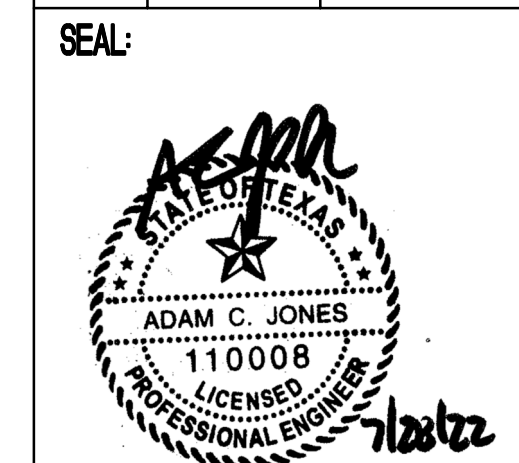




Plotted: Jul 28, 2022, 11:44 AM by user: aarmendariz - Saved: 7/28/2022 by user: aarmendariz  
 C:\Users\armendariz\Documents\DR Inc\220122-000-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0M-220122-CDNTRDLS.dwg



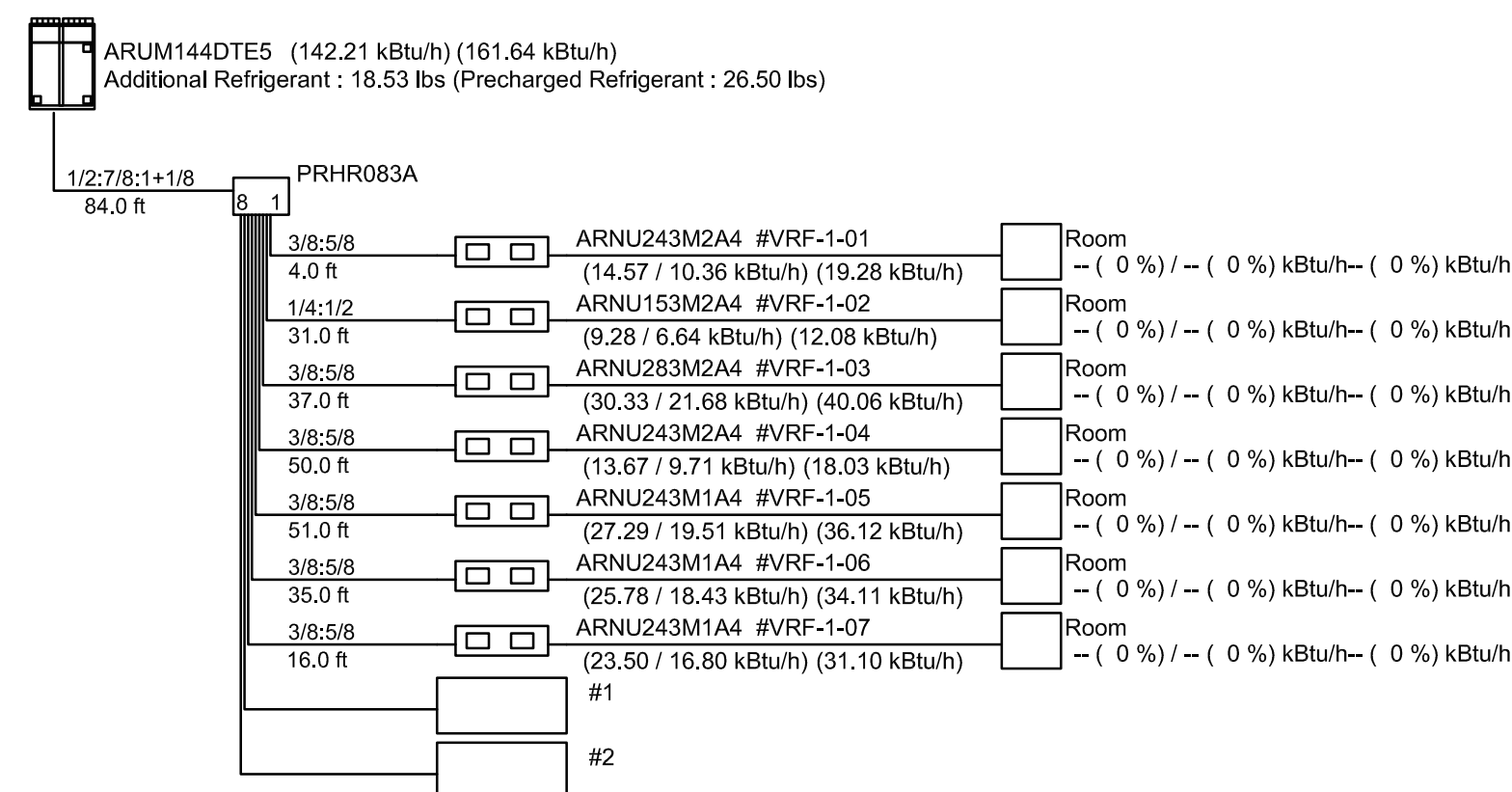
REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



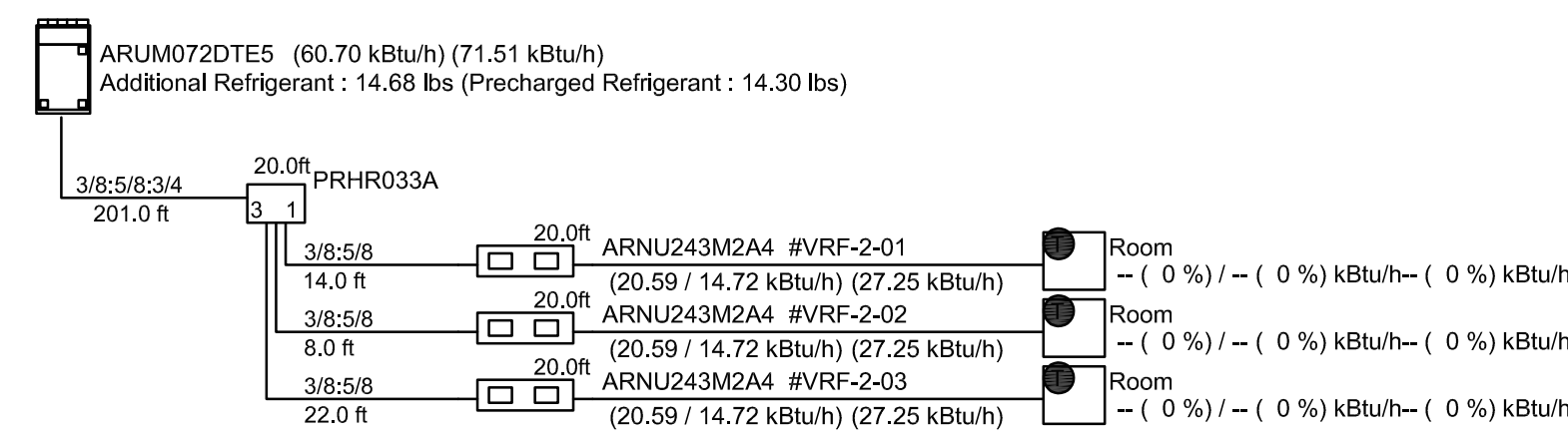
**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

<b>DATE:</b> 07/28/2022
<b>DRAWN BY:</b> DBR
<b>CHECKED BY:</b> DBR
<b>PROJECT NUMBER:</b> 220122.000
<b>SHEET TITLE:</b>  MECHANICAL VRF PIPING DIAGRAMS

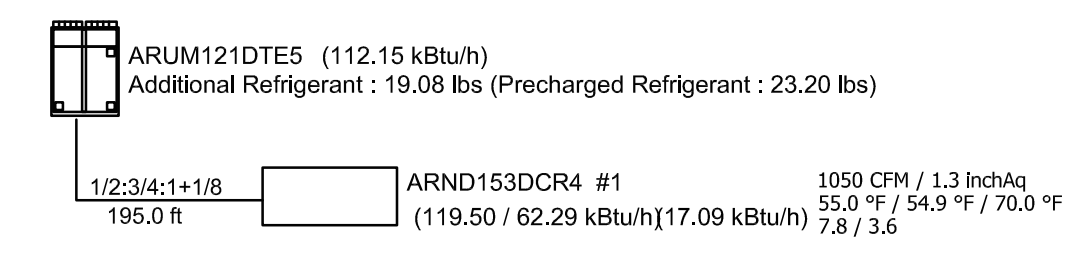
**SHEET NUMBER:**  
  
**M7.01**



**1 VRF PIPING DIAGRAM - HRU-1**  
M7.01 NOT TO SCALE



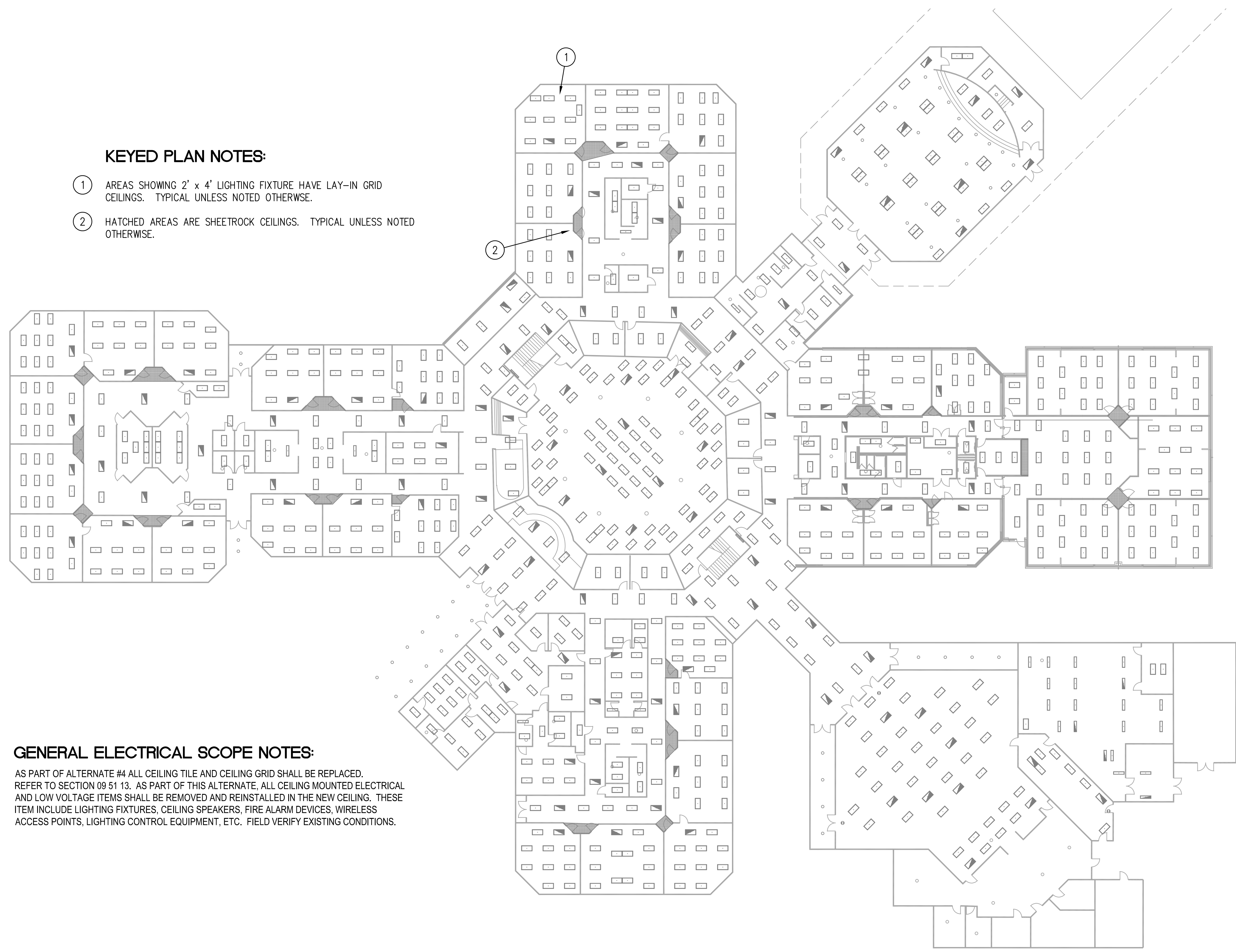
**2 VRF PIPING DIAGRAM - HRU-2**  
M7.01 NOT TO SCALE



**3 VRF PIPING DIAGRAM - ACCU-1**  
M7.01 NOT TO SCALE



Plotted: Jul 28, 2022, 11:34 AM by user: nmontgomery - Saved: 7/28/2022 by user: nmontgomery  
 C:\Users\montgomery\ACCDocs\DBR Inc\220122.000-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\VE-220122-01\_CDMF.dwg



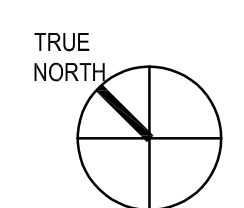
**KEYED PLAN NOTES:**

- ① AREAS SHOWING 2' x 4' LIGHTING FIXTURE HAVE LAY-IN GRID CEILINGS. TYPICAL UNLESS NOTED OTHERWISE.
- ② HATCHED AREAS ARE SHEETROCK CEILINGS. TYPICAL UNLESS NOTED OTHERWISE.

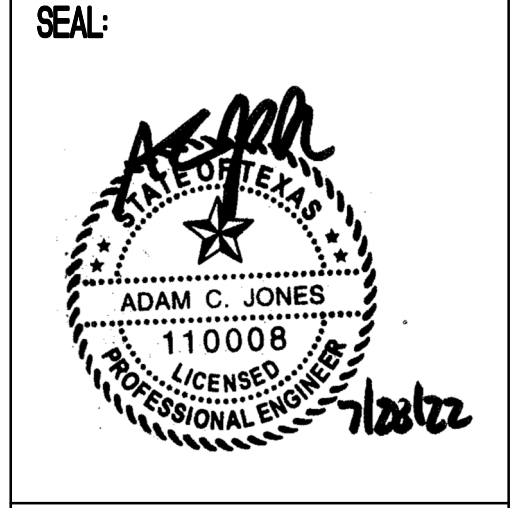
**GENERAL ELECTRICAL SCOPE NOTES:**

AS PART OF ALTERNATE #4 ALL CEILING TILE AND CEILING GRID SHALL BE REPLACED. REFER TO SECTION 09 51 13. AS PART OF THIS ALTERNATE, ALL CEILING MOUNTED ELECTRICAL AND LOW VOLTAGE ITEMS SHALL BE REMOVED AND REINSTALLED IN THE NEW CEILING. THESE ITEM INCLUDE LIGHTING FIXTURES, CEILING SPEAKERS, FIRE ALARM DEVICES, WIRELESS ACCESS POINTS, LIGHTING CONTROL EQUIPMENT, ETC. FIELD VERIFY EXISTING CONDITIONS.

**1** COMPOSITE ELECTRICAL PLAN - LEVEL 1  
 E1.01 SCALE: 1" = 20'-0"



REVISION		
No.	DATE	DESCRIPTION
05/16/2022		SD SET
05/25/2022		100% DD SET
06/22/2022		75% CD SET
07/20/2022		100% REVIEW
07/28/2022		PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

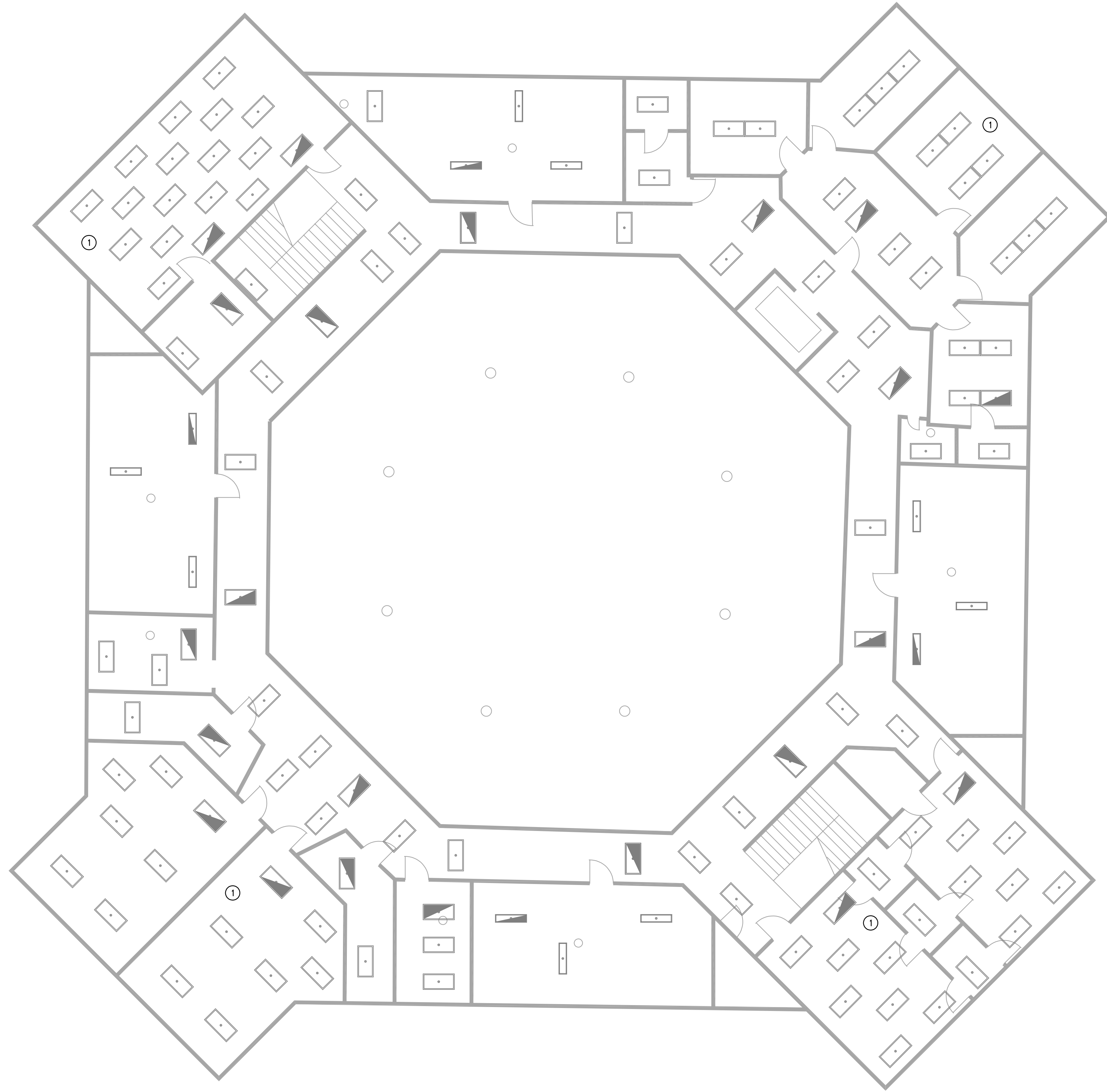
CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:  
**COMPOSITE  
 ELECTRICAL  
 PLAN - LEVEL  
 1**

SHEET NUMBER:  
**E1.01**

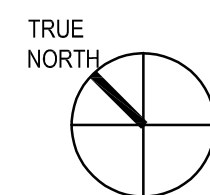
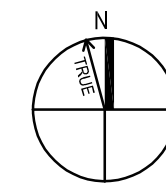
Plotted: Jul 28, 2022, 11:36 AM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
C:\Users\mmontgomery\Documents\JBR Inc\220122000-GFISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\01E-220122-02 CDMP.dwg



**KEYED PLAN NOTES:**

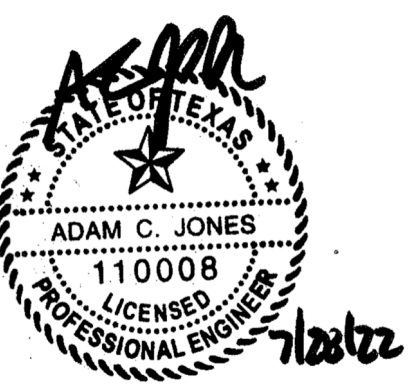
- ① AREAS SHOWING 2' x 4' LIGHTING FIXTURE HAVE LAY-IN GRID CEILINGS. TYPICAL UNLESS NOTED OTHERWISE.
- ② HATCHED AREAS ARE SHEETROCK CEILINGS. TYPICAL UNLESS NOTED OTHERWISE.

**① COMPOSITE ELECTRICAL PLAN - LEVEL 2**  
E1.02 SCALE: 1/8" = 1'-0"



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

SEAL:



**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

DATE:

07/28/2022

DRAWN BY:

DBR

CHECKED BY:

DBR

PROJECT NUMBER:

220122.000

SHEET TITLE:

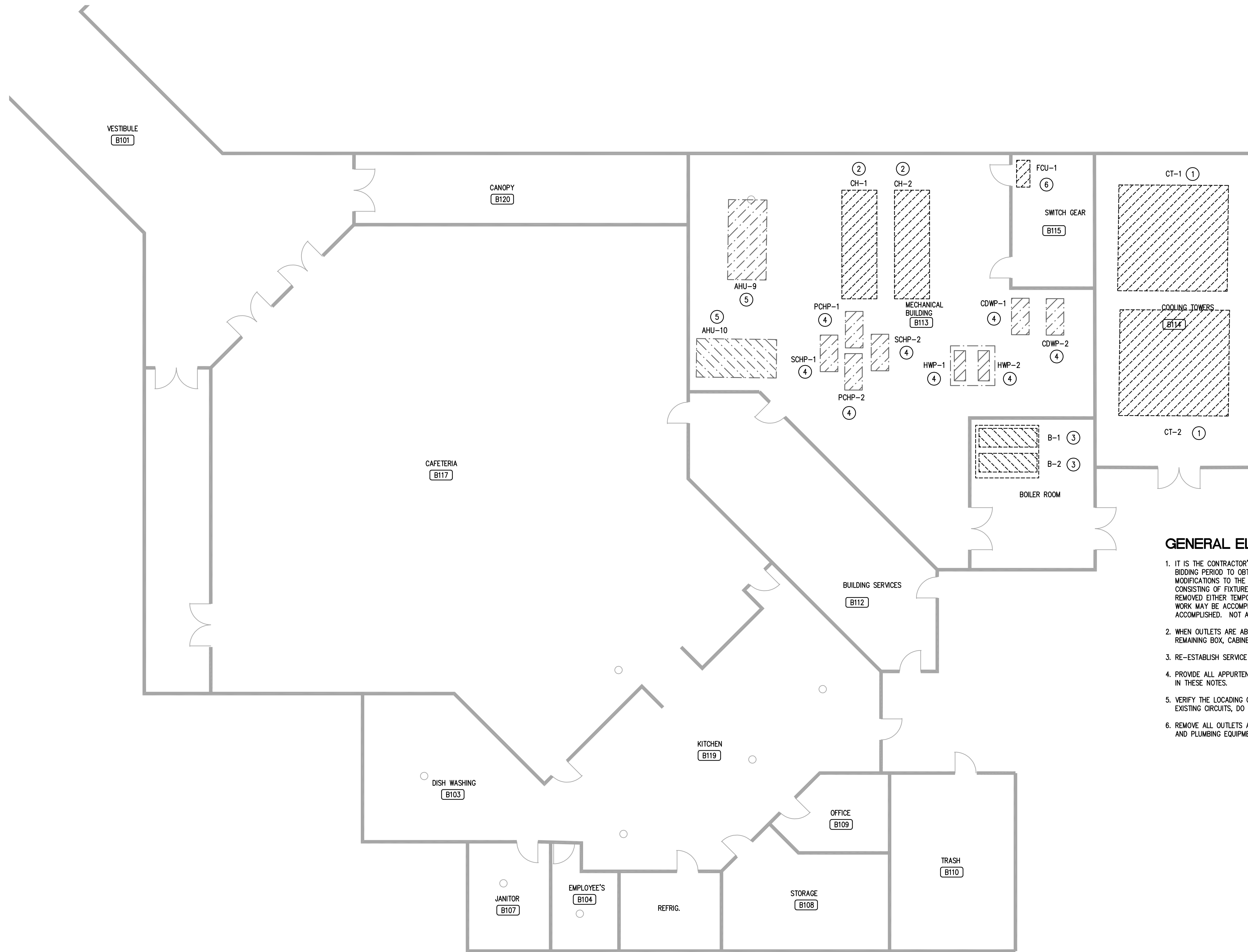
**COMPOSITE  
ELECTRICAL  
PLAN - LEVEL  
2**

SHEET NUMBER:

**E1.02**



Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\Documents\DBR Inc 220122\000-gp1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\ED-220122-01.dwg



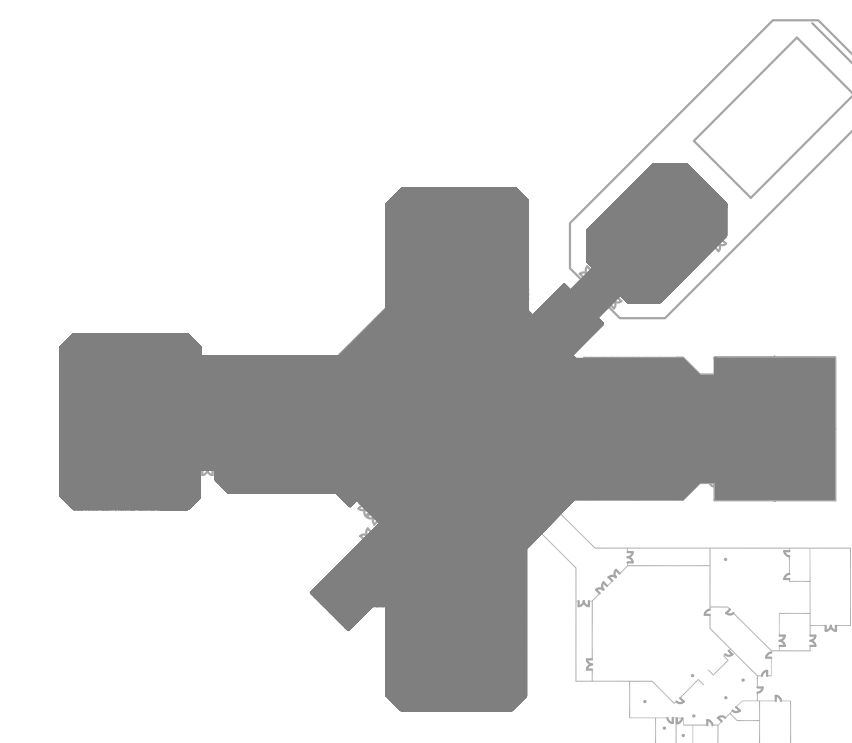
**KEYED PLAN NOTES**

- ① EXISTING COOLING TOWER TO REMAIN. REFER TO MECHANICAL DRAWINGS FOR MECHANICAL SCOPE OF WORK. ELECTRICAL SCOPE OF SHALL INCLUDE ANY DISCONNECTION AND RECONNECTION OF EXISTING POWER SUPPLIES IF REMOVED BY MECHANICAL SCOPE. COORDINATE WITH MECHANICAL CONTRACTOR.
- ② EXISTING CHILLER TO REMAIN.
- ③ EXISTING BOILER TO REMAIN.
- ④ EXISTING PUMP TO BE REMOVE UNDER ALTERNATE.
- ⑤ EXISTING AIR HANDLING UNIT TO BE REMOVED. RETAIN EXISTING BRANCH CIRCUIT WIRING FOR REUSE.
- ⑥ EXISTING FAN COIL UNIT TO REMAIN.

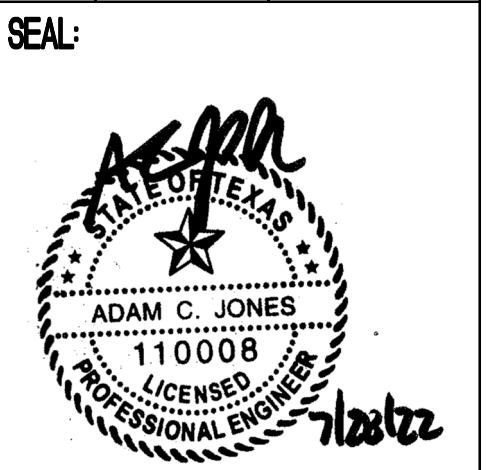
**GENERAL ELECTRICAL REMODELING NOTES:**

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
2. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
3. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
4. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
5. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
6. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**1** ELECTRICAL DEMO PLAN - AREA B  
 ED2.01B SCALE: 1/8" = 1'-0"



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

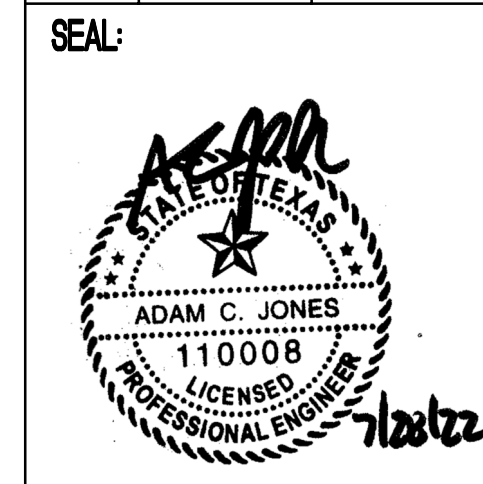
DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>ELECTRICAL DEMO PLAN - AREA B</b>
SHEET NUMBER:	<b>ED2.01B</b>



Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACDdocs\DBR Inc\220122\00-gp15J-Purple Sage -HVAC Upgrades\Project Files\Drawings\ED-220122-01.dwg

**REVISION:**

No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
07/28/2022  
 DRAWN BY:  
DBR  
 CHECKED BY:  
DBR  
 PROJECT NUMBER:  
220122.000  
 SHEET TITLE:

**ELECTRICAL  
 DEMO PLAN -  
 AREA C1**

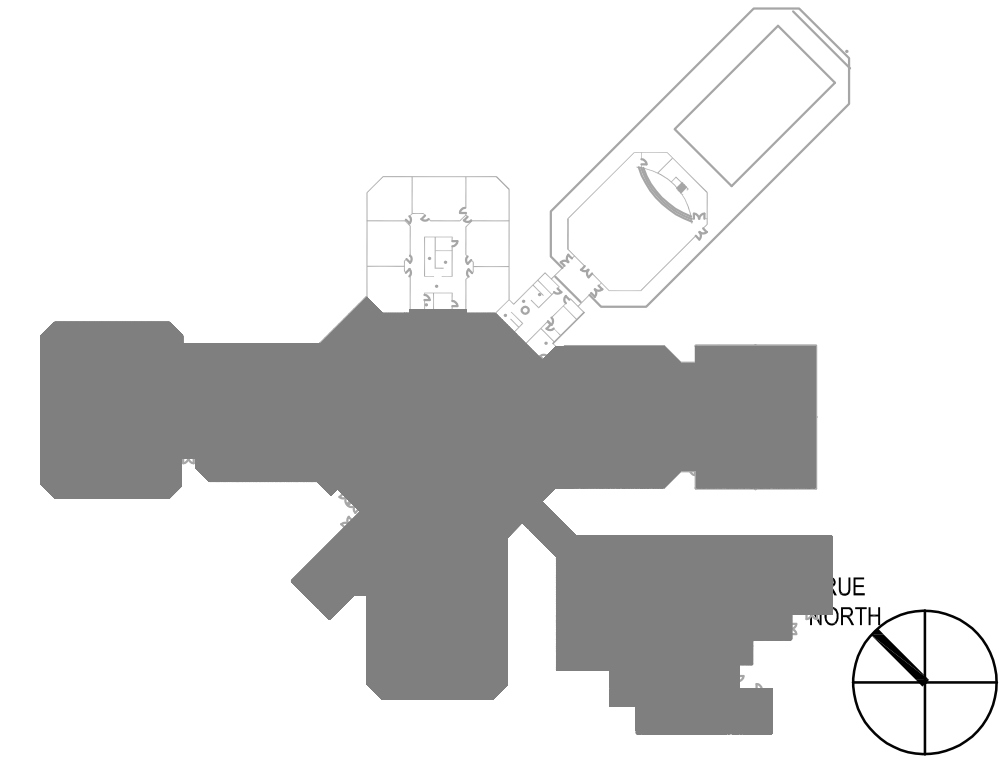
SHEET NUMBER:  
**ED2.01C1**



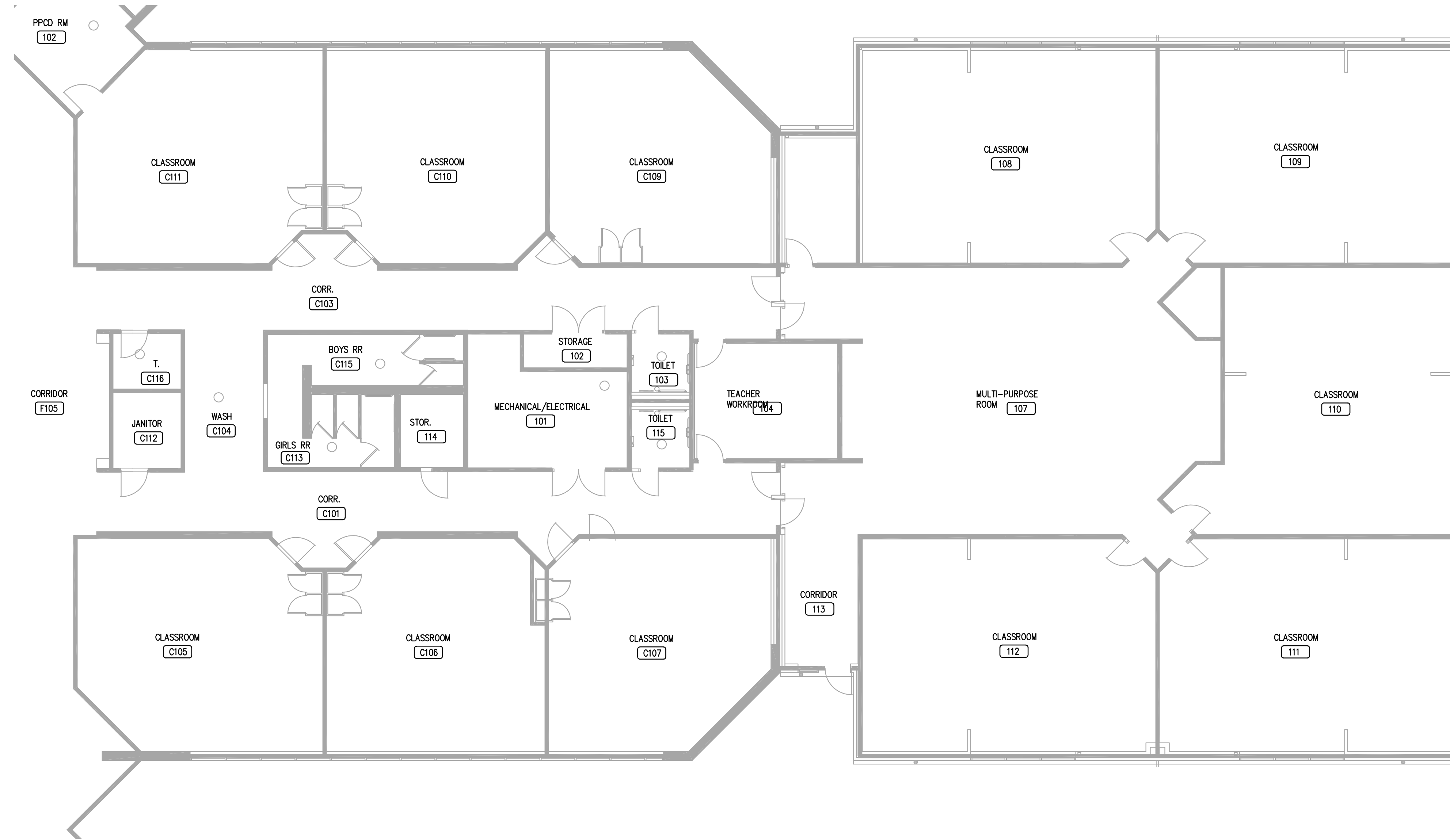
**1** ELECTRICAL DEMO PLAN - AREA C1  
 ED2.01C1 SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL REMODELING NOTES:**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED BOX OF THE CIRCUIT RATING.
- REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



Plotfile: Jul 28, 2022, 2:47 PM by user: montgomery - Saved: 7/28/2022 by user: montgomery  
 C:\Users\montgomery\ACCdocs\JBR, Inc.\220122000-EP\ISP-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0ED-220122-01.dwg



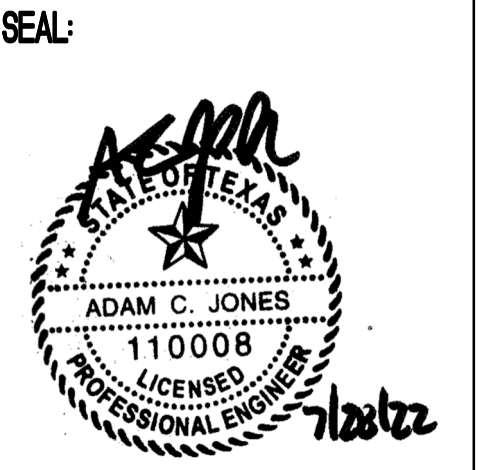
**1** ELECTRICAL DEMO PLAN - AREA C2  
 ED2.01C2 SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL REMODELING NOTES:**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

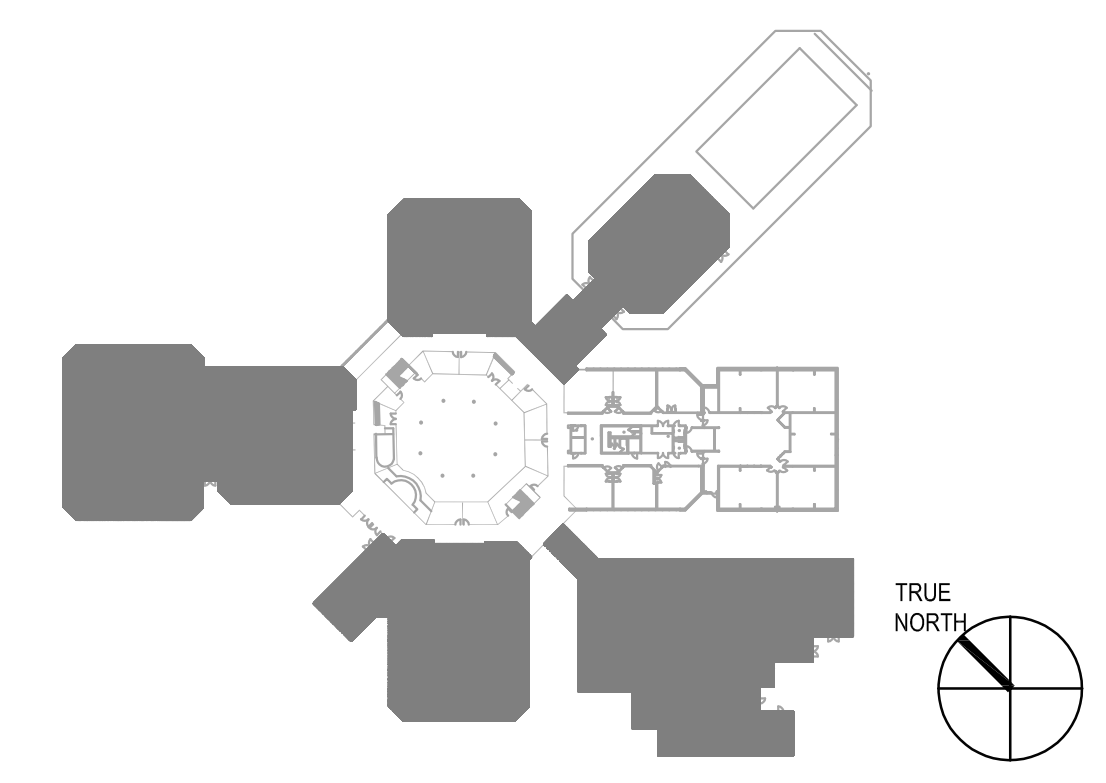


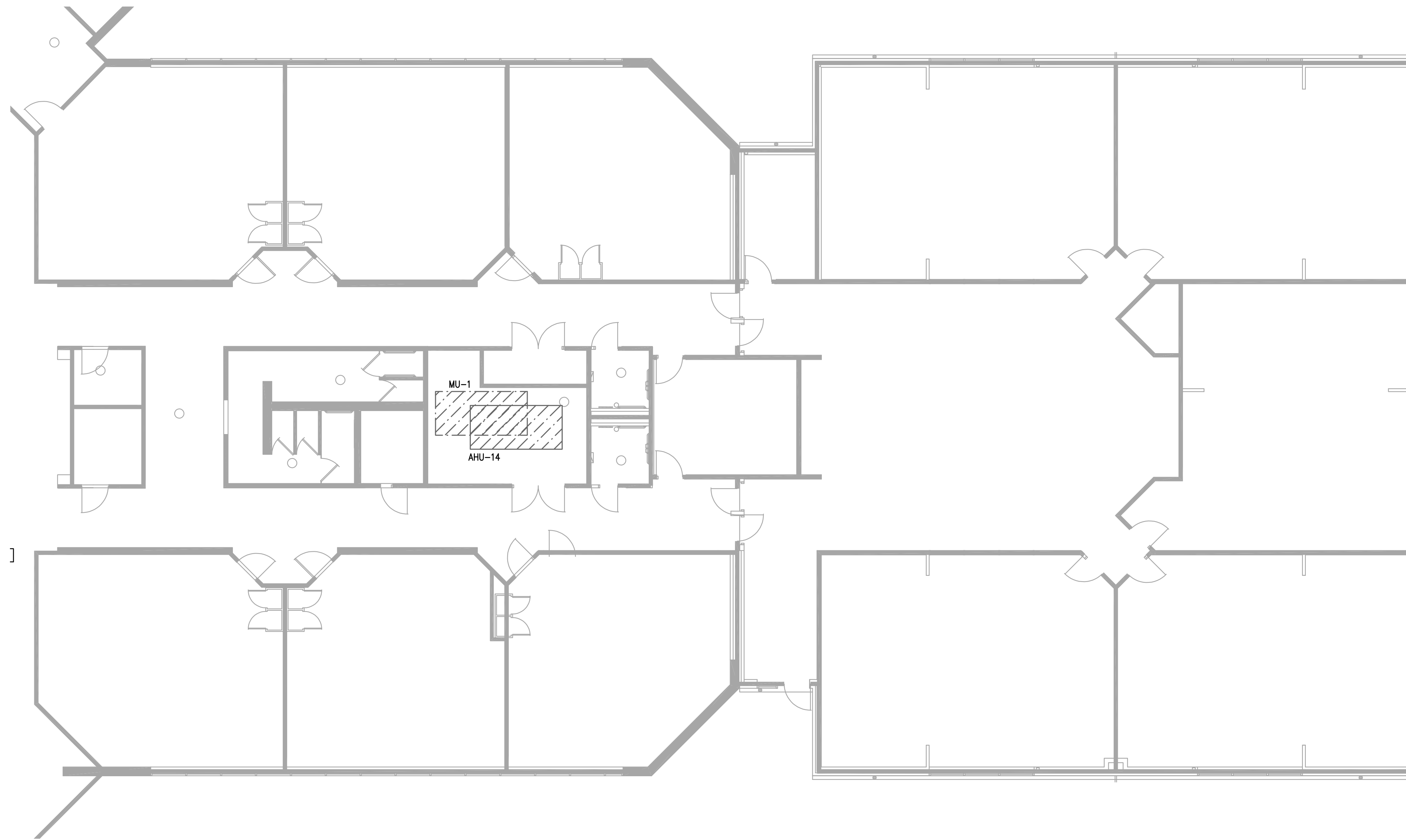
**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE:

**ELECTRICAL  
 DEMO PLAN -  
 AREA C2**

SHEET NUMBER:  
**ED2.01C2**

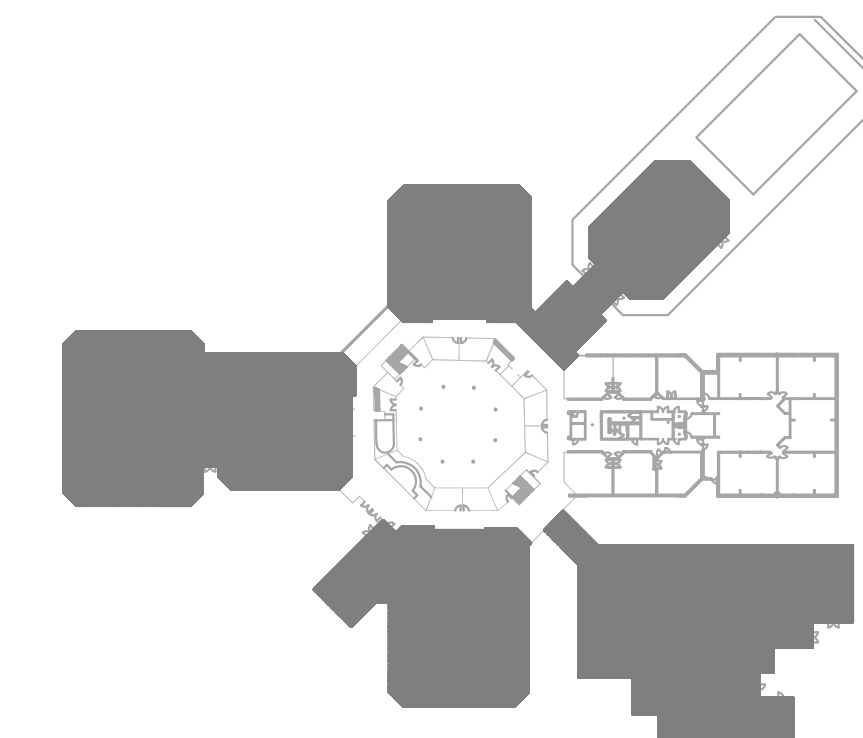




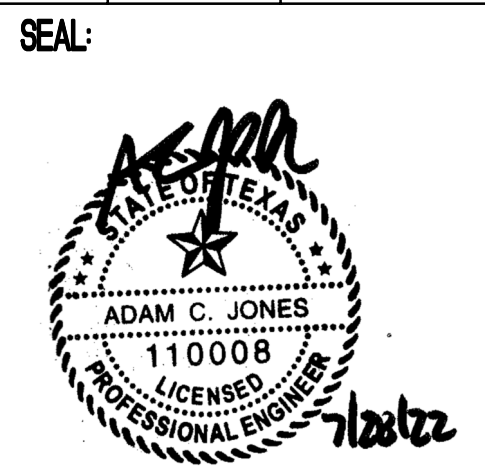
**1** ELECTRICAL DEMO PLAN - AREA C2 (ALTERNATIVE)  
 ED2.01C3 SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL REMODELING NOTES:**

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
2. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
3. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
4. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
5. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
6. REMOVE ALL OUTLETS AND WRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

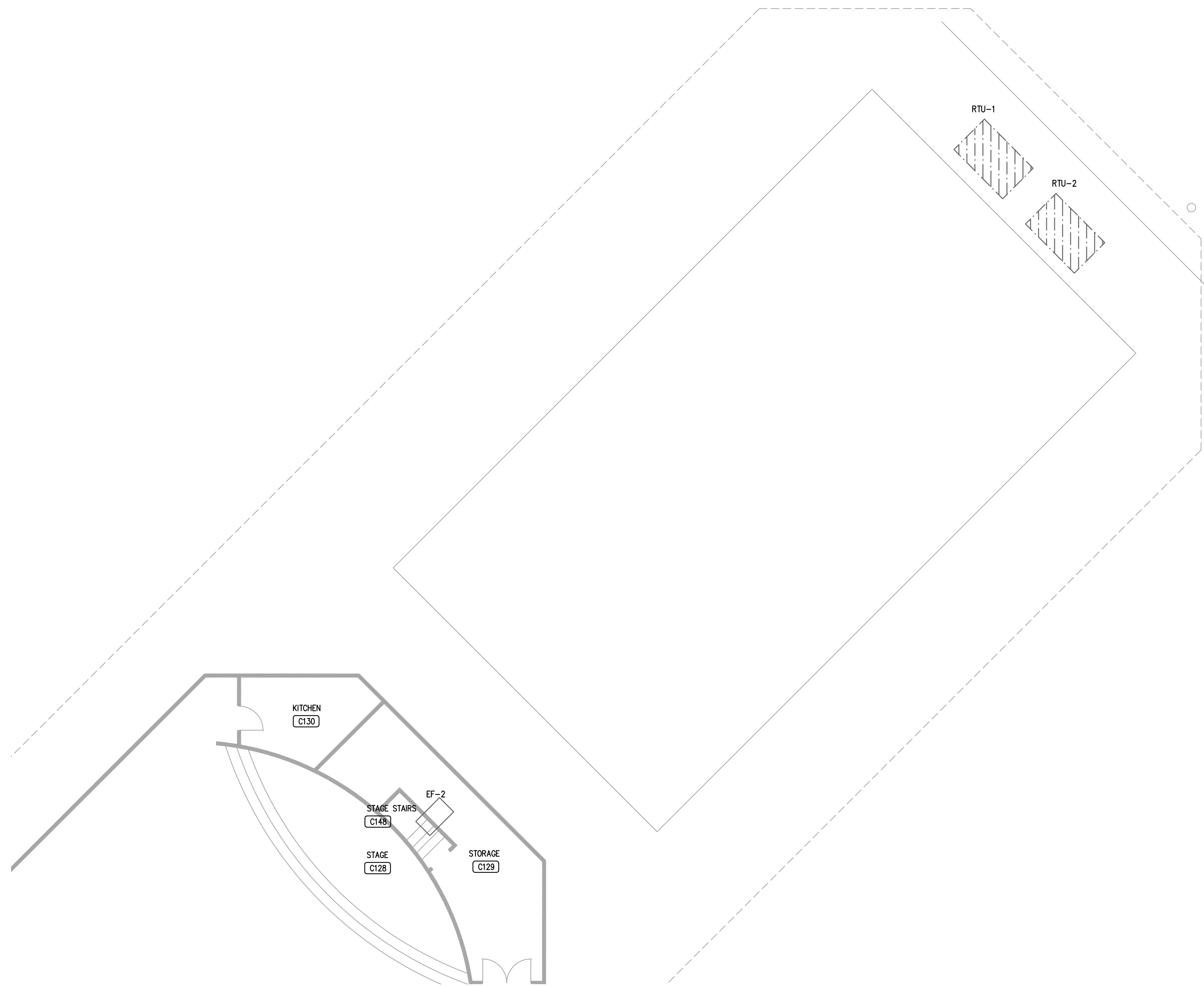
DATE:  
07/28/2022  
 DRAWN BY:  
DBR  
 CHECKED BY:  
DBR  
 PROJECT NUMBER:  
220122.000  
 SHEET TITLE:

**ELECTRICAL  
 DEMO PLAN -  
 AREA C2 ALT**

SHEET NUMBER:  
**ED2.01C3**

Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\Documents\DBR Inc\220122\000-GPISD-Purple Sage ES-HVAC Upgrades\Project Files\Drawings\VED-220122-01.dwg

Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\AppData\Local\Temp\15D-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0ED-220122-01.dwg



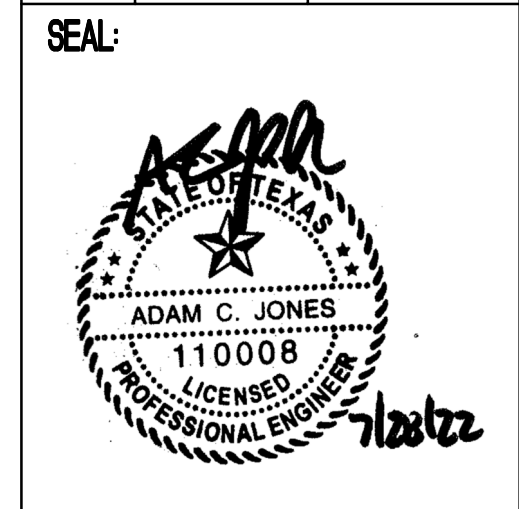
**1** ELECTRICAL DEMO PLAN - AREA D  
 ED2.01D SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL REMODELING NOTES:**

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
2. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
3. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
4. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
5. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
6. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

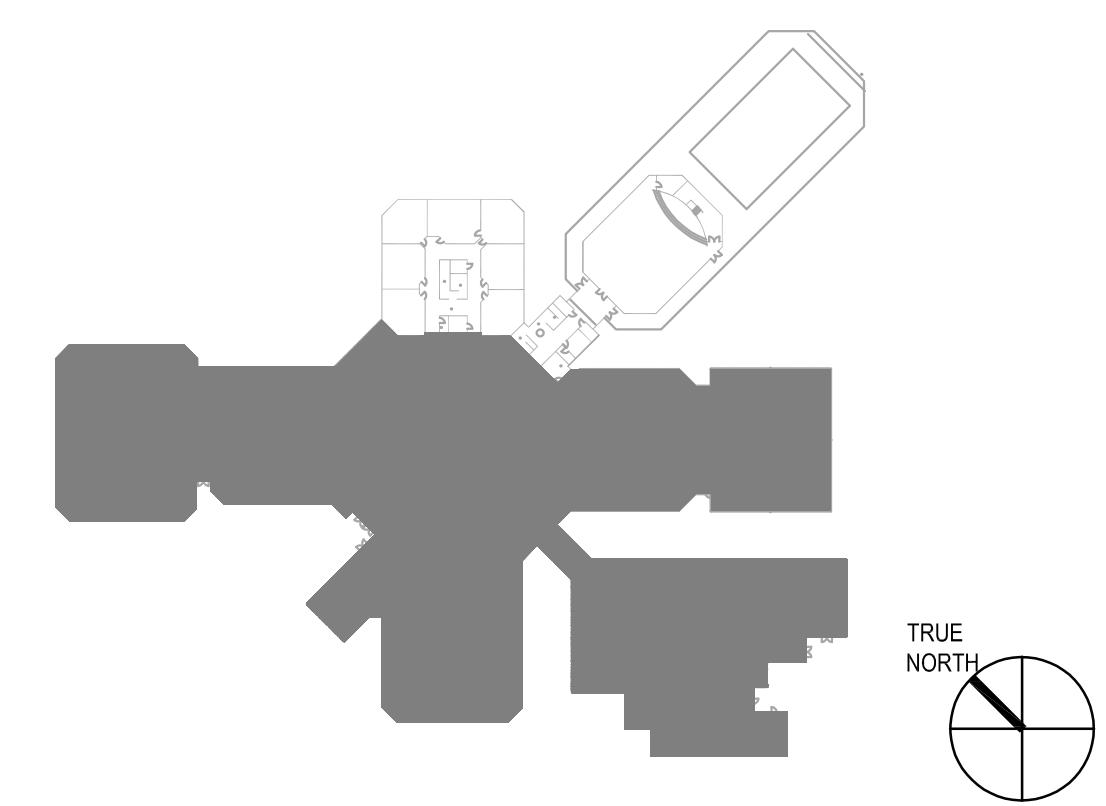


**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE:

**ELECTRICAL DEMO PLAN - AREA D**

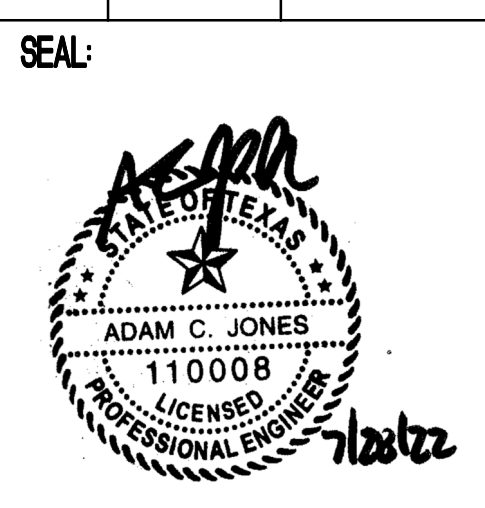
SHEET NUMBER:  
**ED2.01D**



Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\AppData\Local\Temp\1\220122-00-CPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\VED-220122-01.dwg

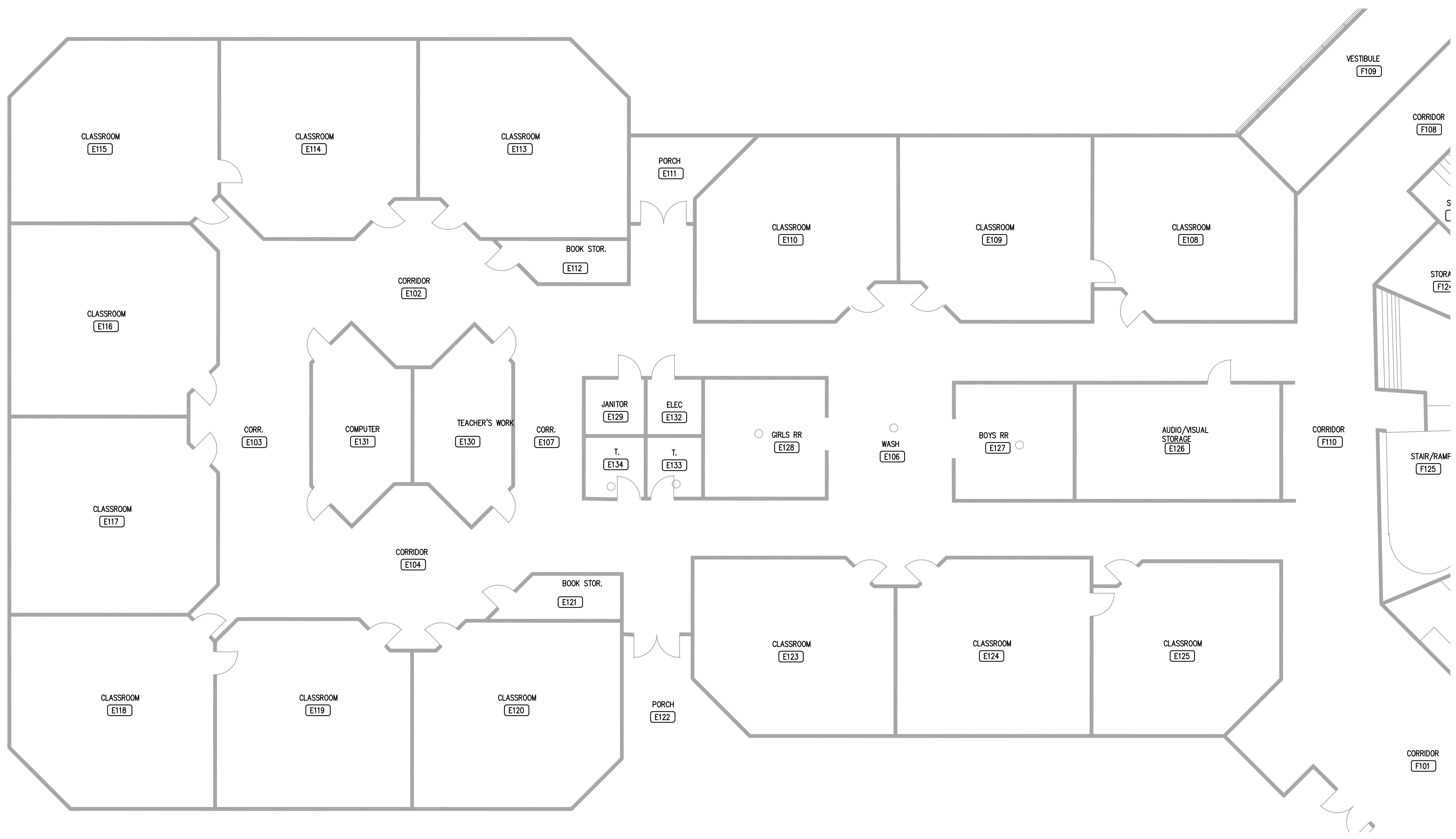


REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



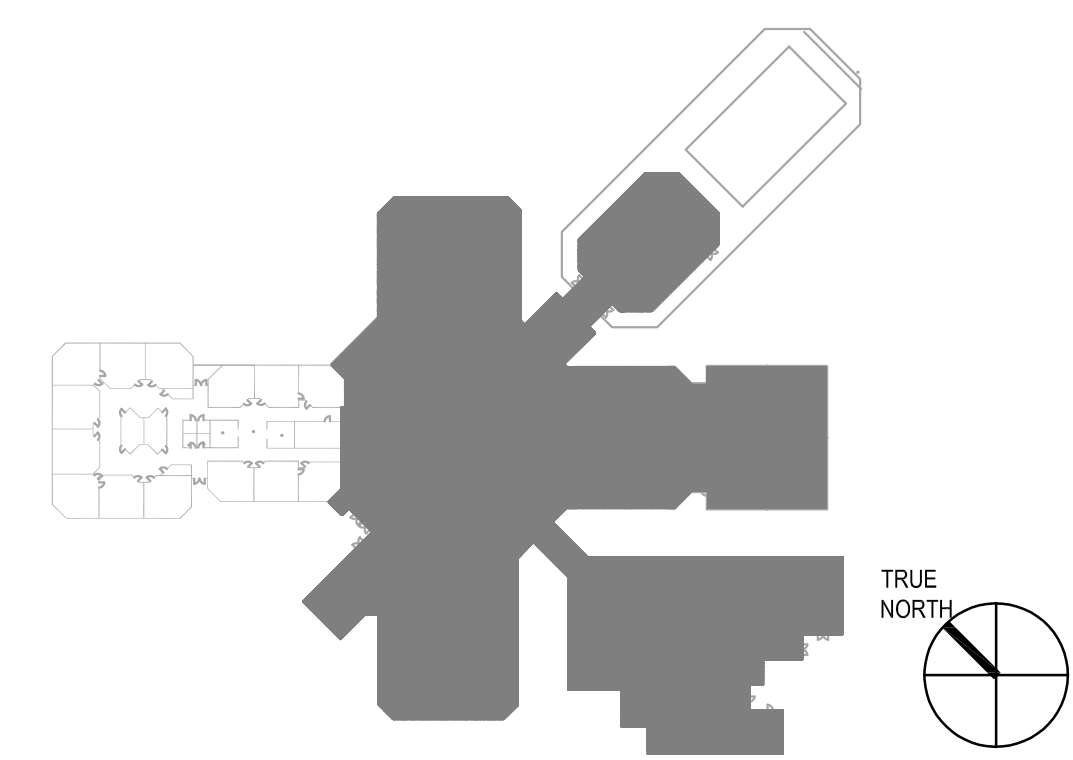
**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>ELECTRICAL DEMO PLAN - AREA E</b>
SHEET NUMBER:	<b>ED2.01E</b>

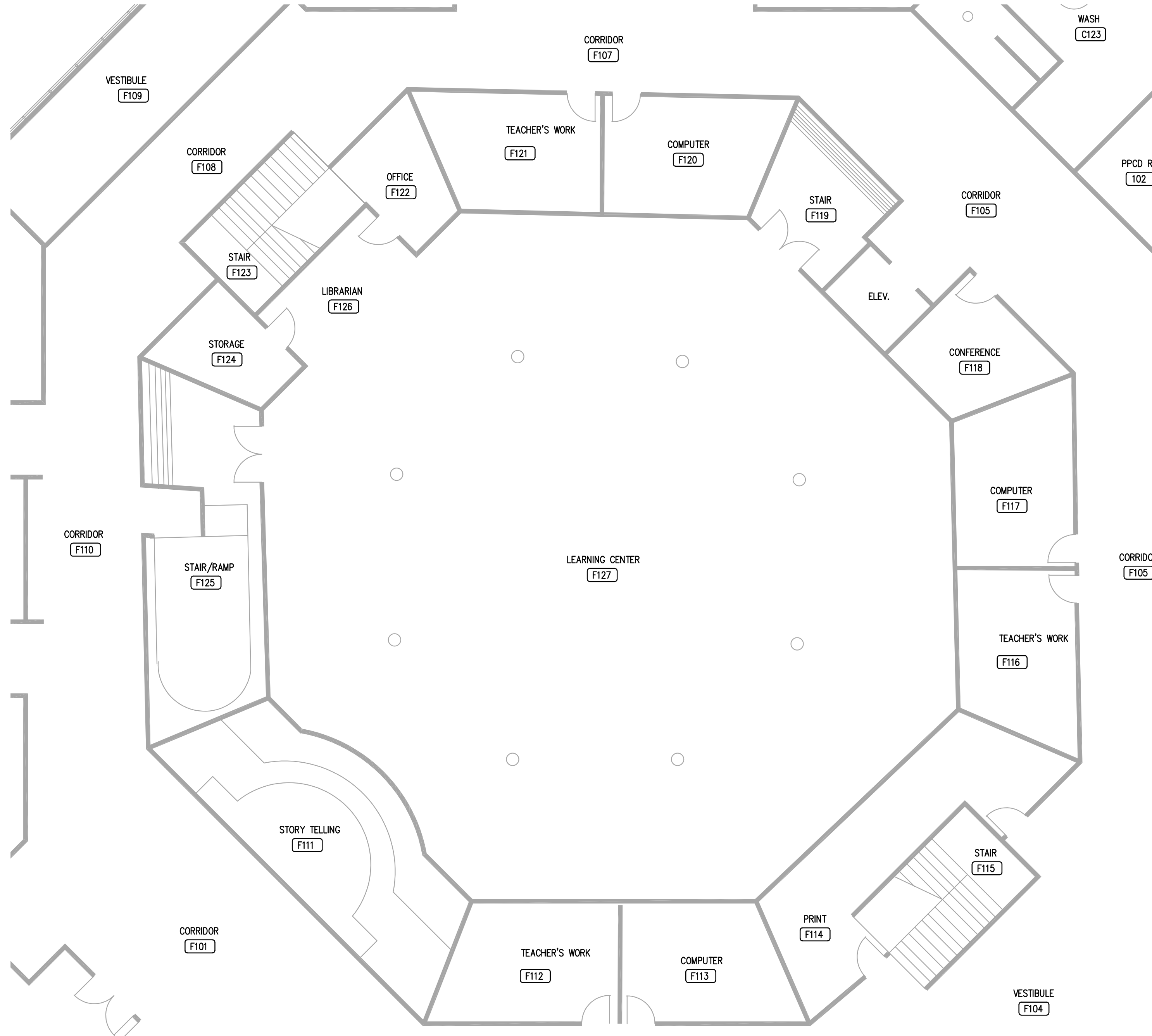


**1** ELECTRICAL DEMO PLAN - AREA E  
 ED2.01E SCALE: 1/8" = 1'-0"

- GENERAL ELECTRICAL REMODELING NOTES:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
  - WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
  - RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
  - PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
  - VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
  - REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



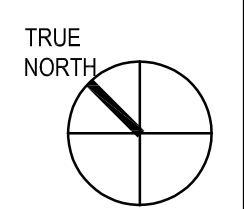
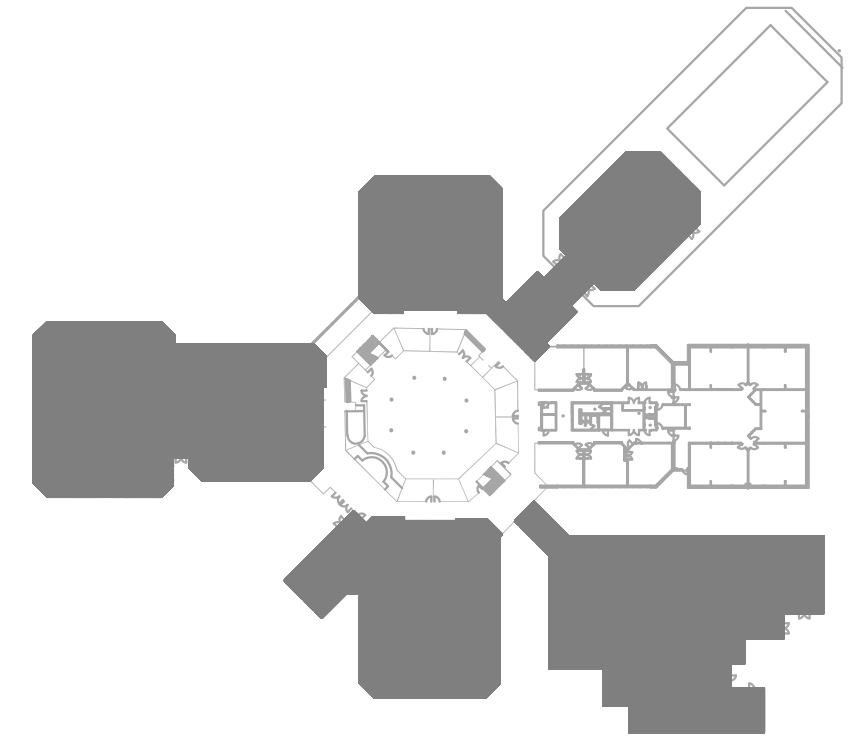
Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACC\docs\JBR Inc\220122.000-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\VED-220122-01.dwg



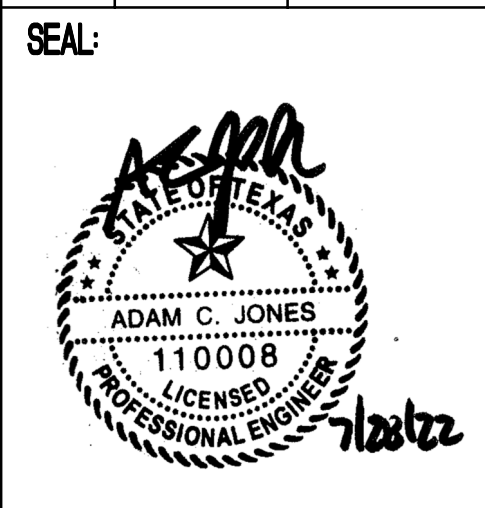
**1** ELECTRICAL DEMO PLAN - AREA F  
 ED2.01F SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL REMODELING NOTES:**

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
2. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
3. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
4. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
5. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
6. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



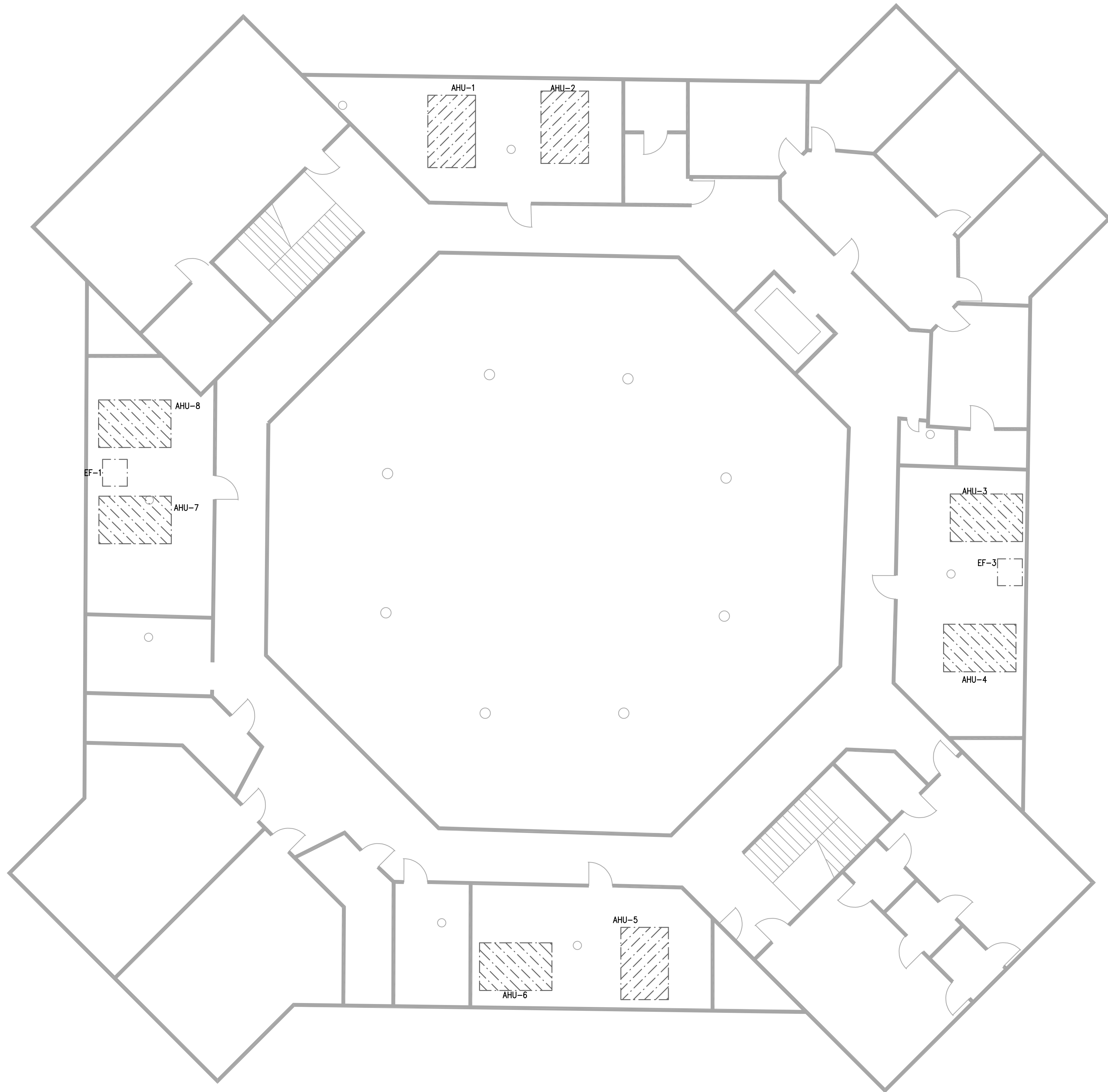
REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>ELECTRICAL DEMO PLAN - AREA F</b>
SHEET NUMBER:	<b>ED2.01F</b>

Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery... Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\AppData\Local\Temp\13131-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\VED-220122-01.dwg



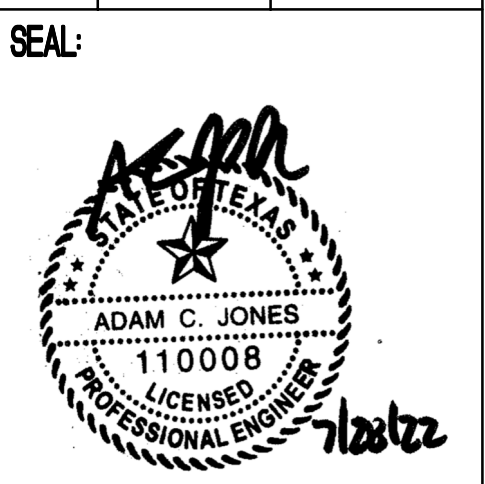
**1** ELECTRICAL DEMO PLAN - LEVEL 2  
 ED2.02 SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL REMODELING NOTES:**

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS. ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
2. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
3. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
4. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
5. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
6. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

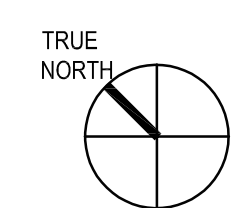


**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

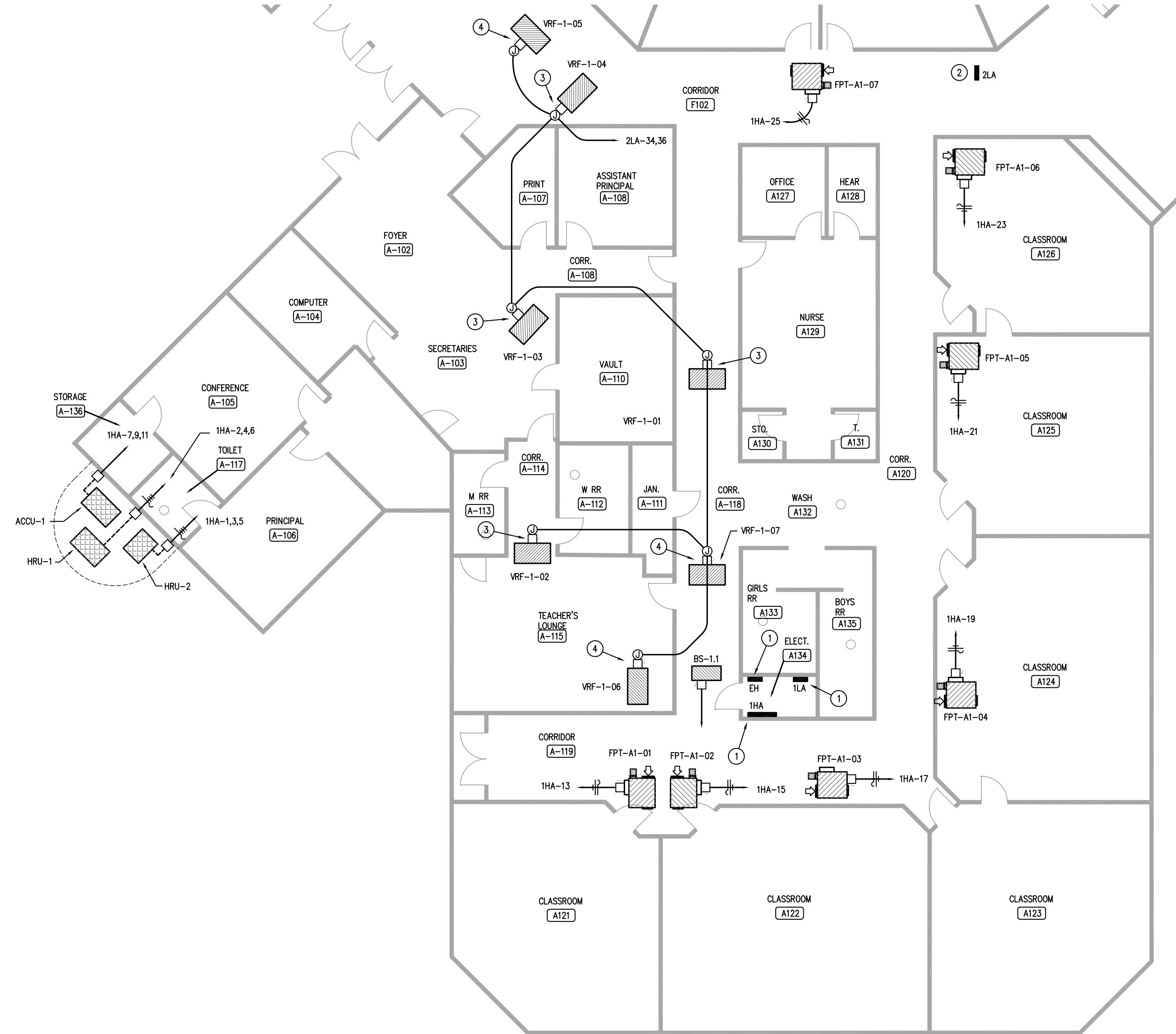
DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	

**ELECTRICAL DEMO PLAN - LEVEL 2**

SHEET NUMBER:	ED2.02
---------------	--------



Plotfiled Jul. 28, 2022, 2:46 PM by user: mmontgomery - Saved 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\AppData\Local\Temp\1\ACD\Projects\Galena Park Purple Sage ES - HVAC Upgrades\Project Files\Drawings\GEP-220122-01.dwg



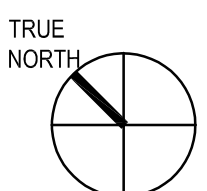
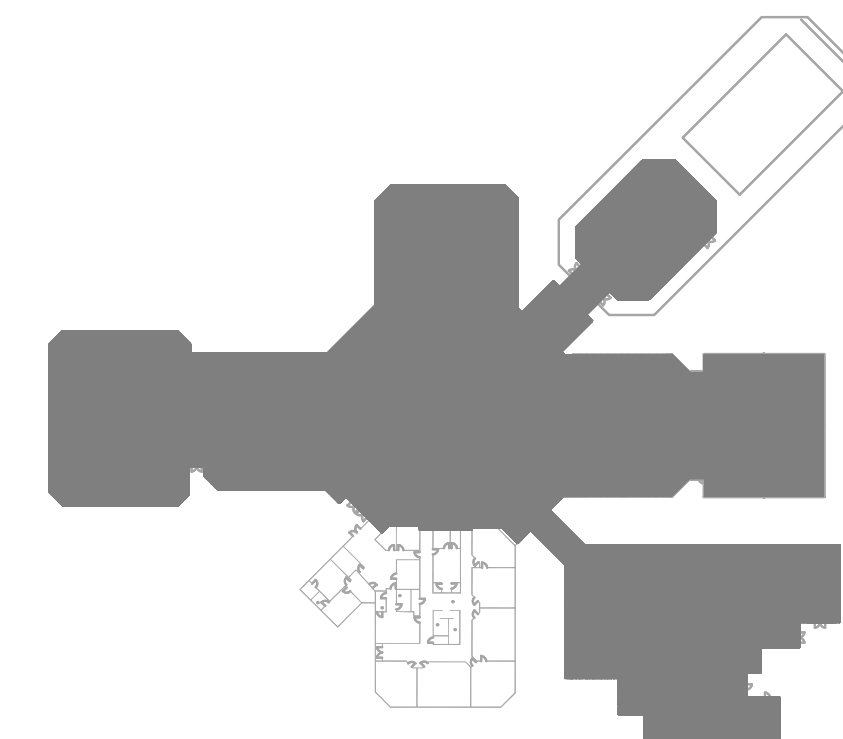
**1** POWER PLAN - AREA A  
 EP2.01A SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL NOTES:**

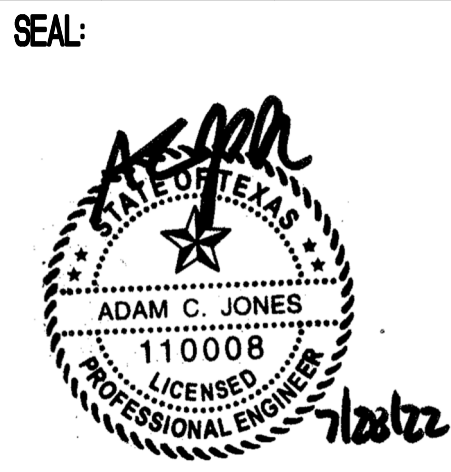
- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**ELECTRICAL KEYED NOTES**

- 1 EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.
- 2 APPROXIMATE LOCATION OF EXISTING PANEL "2LA" ON SECOND FLOOR.
- 3 30A/2P/4AF
- 4 30A/2P/3AF



REVISION:		
No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:

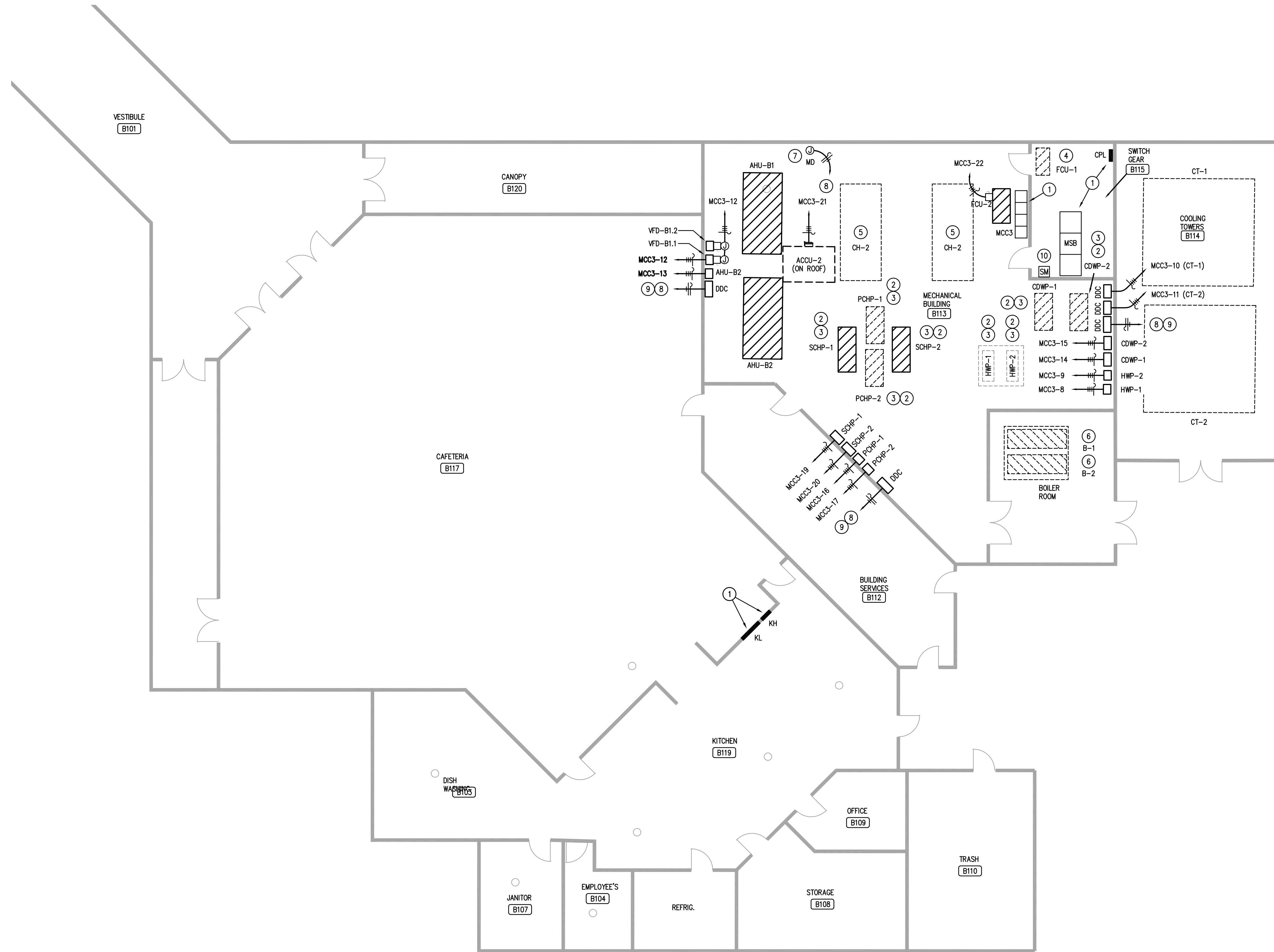
**PARTIAL  
 POWER PLAN  
 - LEVEL 1**

SHEET NUMBER:

**EP2.01A**



Plotted: Jul 28, 2022, 2:46 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACC\Drawings\DBR Inc\220122\000-gPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\UEP-220122-01.dwg



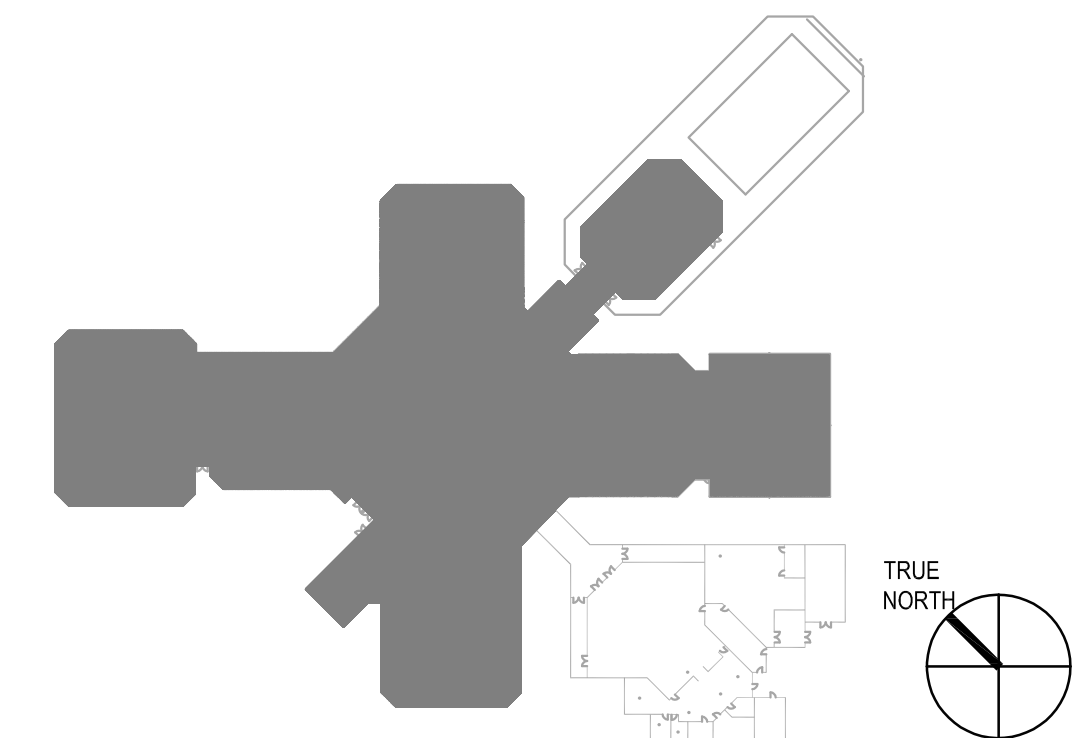
**1** POWER PLAN - AREA B  
 EP2.01B SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL NOTES:**

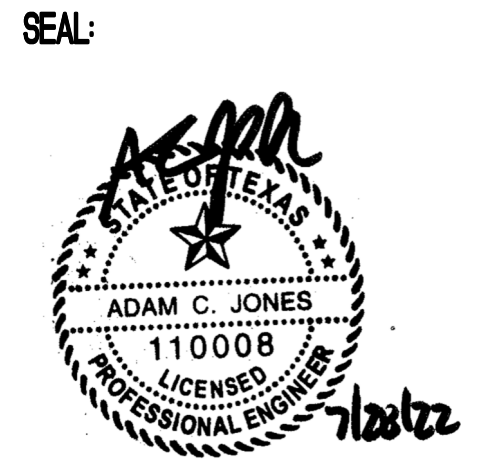
- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCATING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**ELECTRICAL KEYED NOTES**

- ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.
- ② UNDER ALTERNATE #7, THE SCOPE OF ELECTRICAL WORK TO INCLUDED DISCONNECTION OF THE EXISTING PUMP BRANCH WIRING FROM THE EXISTING POWER SOURCE AND RECONNECTION TO THE EXISTING MOTOR CONTROL CENTER. REFER TO ELECTRICAL ON LINE DIAGRAM FOR ADDITIONAL INFORMATION. PROVIDE ALL MATERIALS AND LABOR REQUIRED TO RE-ESTABLISH POWER TO THE PUMPS VIA THE NEW VARIABLE FREQUENCY DRIVES. COORDINATE LOCATIONS OF VFD'S WITH MECHANICAL CONTRACTOR.
- ③ THIS PUMP TO BE REPLACED UNDER ALTERNATE #7.
- ④ EXISTING MECHANICAL EQUIPMENT TO REMAIN.
- ⑤ EXISTING CHILLER TO REMAIN.
- ⑥ EXISTING BOILER TO REMAIN
- ⑦ JUNCTION BOX FOR 120V POWER TO MOTORIZED DAMPER. FIELD COORDINATE ROUGH-IN WITH MECHANICAL CONTRACTOR.
- ⑧ 2 #12 AND 1 #12 GROUND IN 3/4" CONDUIT TO EXISTING PANEL CPL. REMOVE EXISTING 20A/2P CIRCUIT BREAKER AT CPL-21,23 THAT IS CURRENTLY IN THE "OFF" POSITION. INSTALL NEW 20A/1P CIRCUIT BREAKERS.
- ⑨ PROVIDE A COMMON 20A, 120V CIRCUIT FOR ALL DDC CONTROL PANELS IN CENTRAL PLANT.
- ⑩ NEW EMCS MONITORED SHARK METER. REFER TO SHEET E4.01. FIELD COORDINATE EXACT LOCATION WITH EXISTING CONDITIONS.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL POWER PLAN - LEVEL 1</b>
SHEET NUMBER:	<b>EP2.01B</b>

Plotted: Jul. 28, 2022, 2:46 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACD\docs\DBR Inc\220122\00-GP-1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\VEP-220122-01.dwg



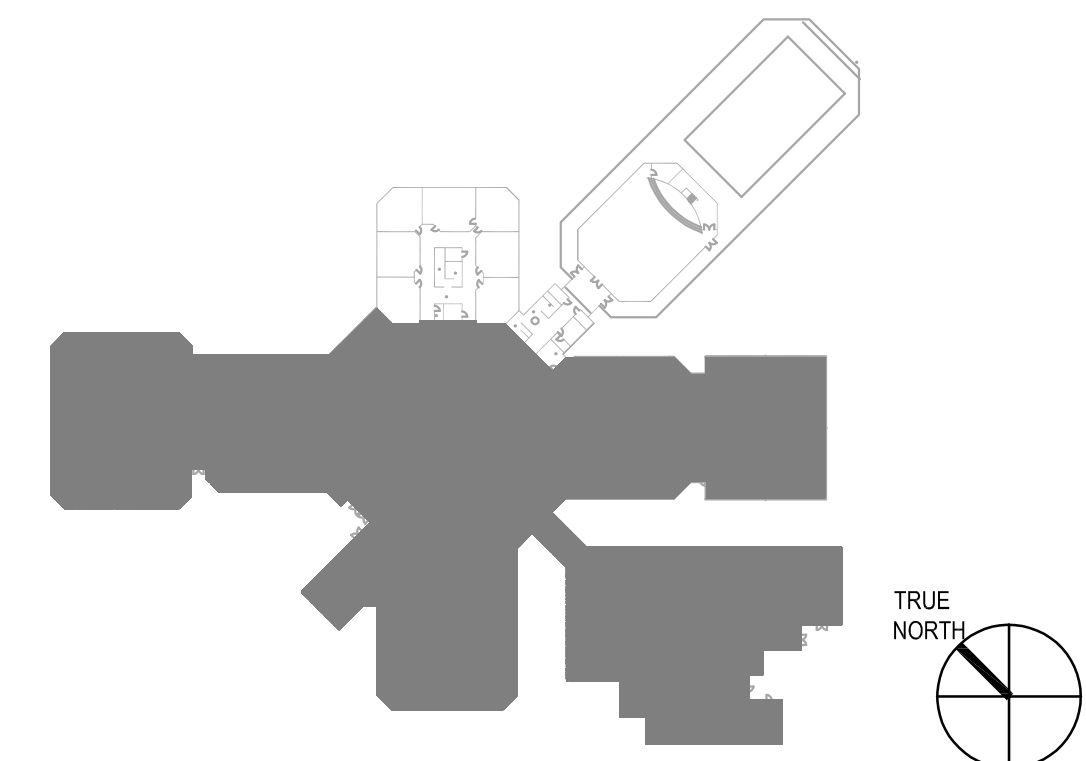
**1** POWER PLAN - AREA C1  
 EP2.01C1 SCALE: 1/8" = 1'-0"

**ELECTRICAL KEYED NOTES**

- ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.
- ② PROPOSED LOCATION OF NEW 277/480V, THREE PHASE, FOUR WIRE PANEL FOR NEW FAN POWERED TERMINAL UNITS.

**GENERAL ELECTRICAL NOTES:**

- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCATING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



REVISION No.	DATE	DESCRIPTION
05/16/2022	05/16/2022	SD SET
05/25/2022	05/25/2022	100% DD SET
06/22/2022	06/22/2022	75% CD SET
07/20/2022	07/20/2022	100% REVIEW
07/28/2022	07/28/2022	PROPOSAL SET

SEAL:



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:  
 07/28/2022

DRAWN BY:  
 DBR

CHECKED BY:  
 DBR

PROJECT NUMBER:  
 220122.000

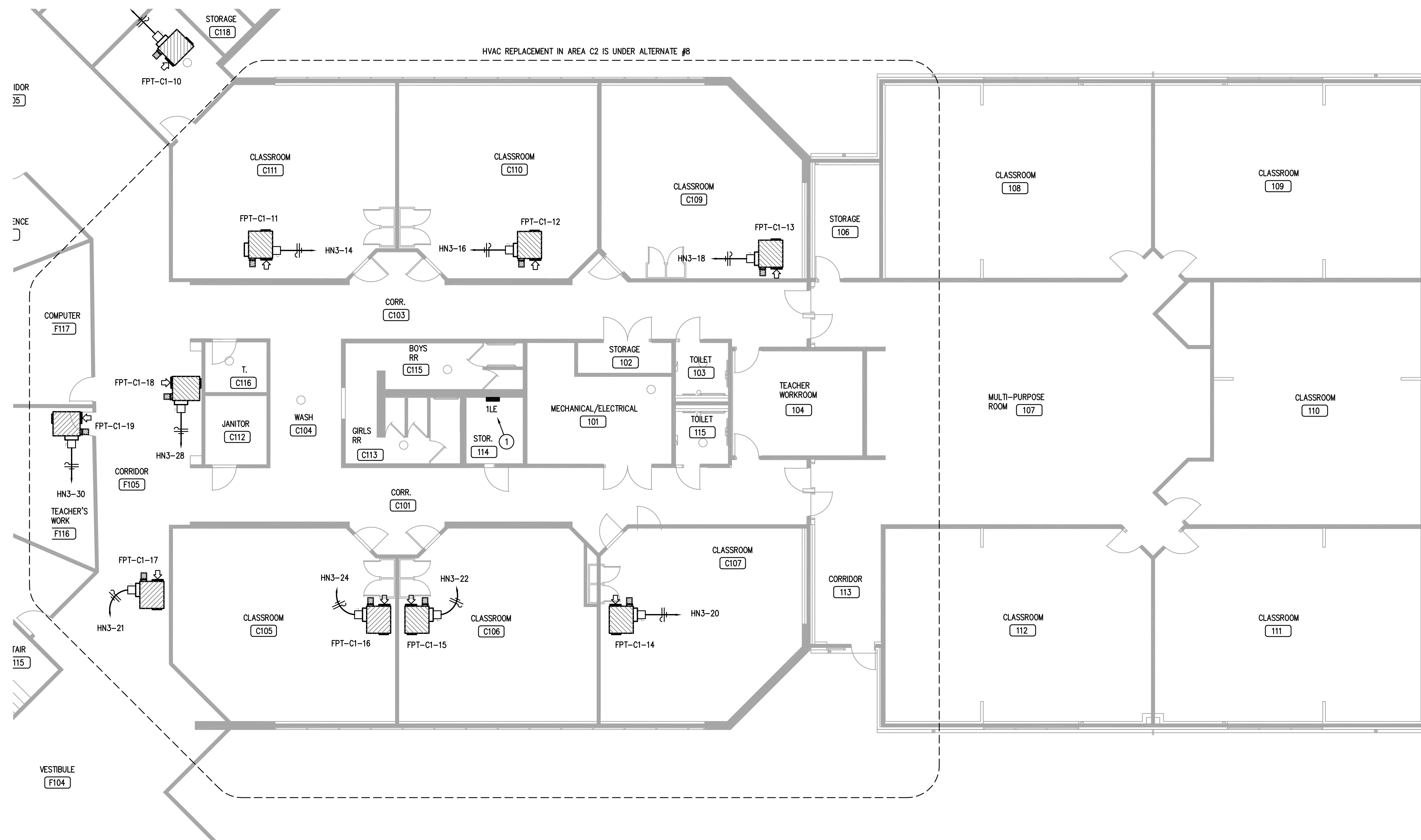
SHEET TITLE:

**PARTIAL  
 POWER PLAN  
 - LEVEL 1**

SHEET NUMBER:

**EP2.01C1**

Plotfile: Jul 28, 2022, 2:46 PM by user: mmontgomery -- Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\My Documents\DBR Inc\EP2.01C2-Partial Power Plan - Purple Sage ES - HVAC Upgrades\Project Files\Drawings\0EP-220122-01.dwg



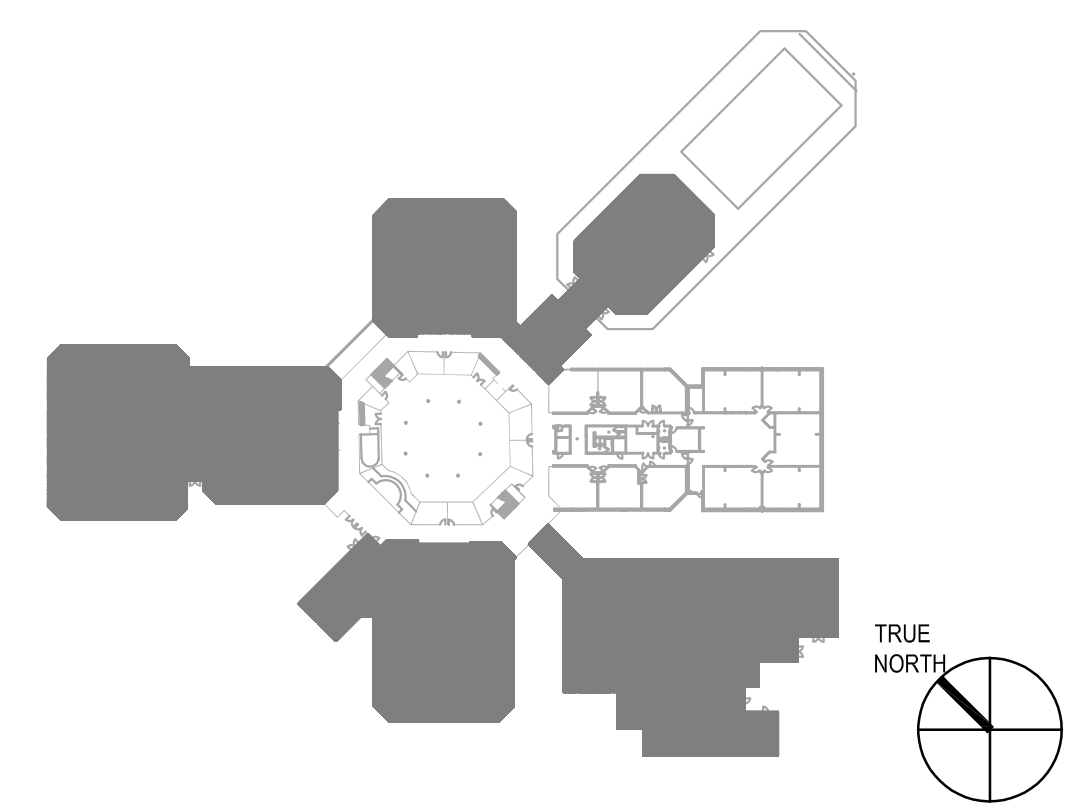
**1** POWER PLAN - AREA C2  
 EP2.01C2 SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL NOTES:**

- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**ELECTRICAL KEYED NOTES**

- ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.



**DBR**  
 SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY  
 713.914.0888 f  
 9990 Richmond Ave., South Bldg., Suite.  
 300 Houston, Texas 77042  
 TBPE Firm Registration NO. 2234

**REVISION:**

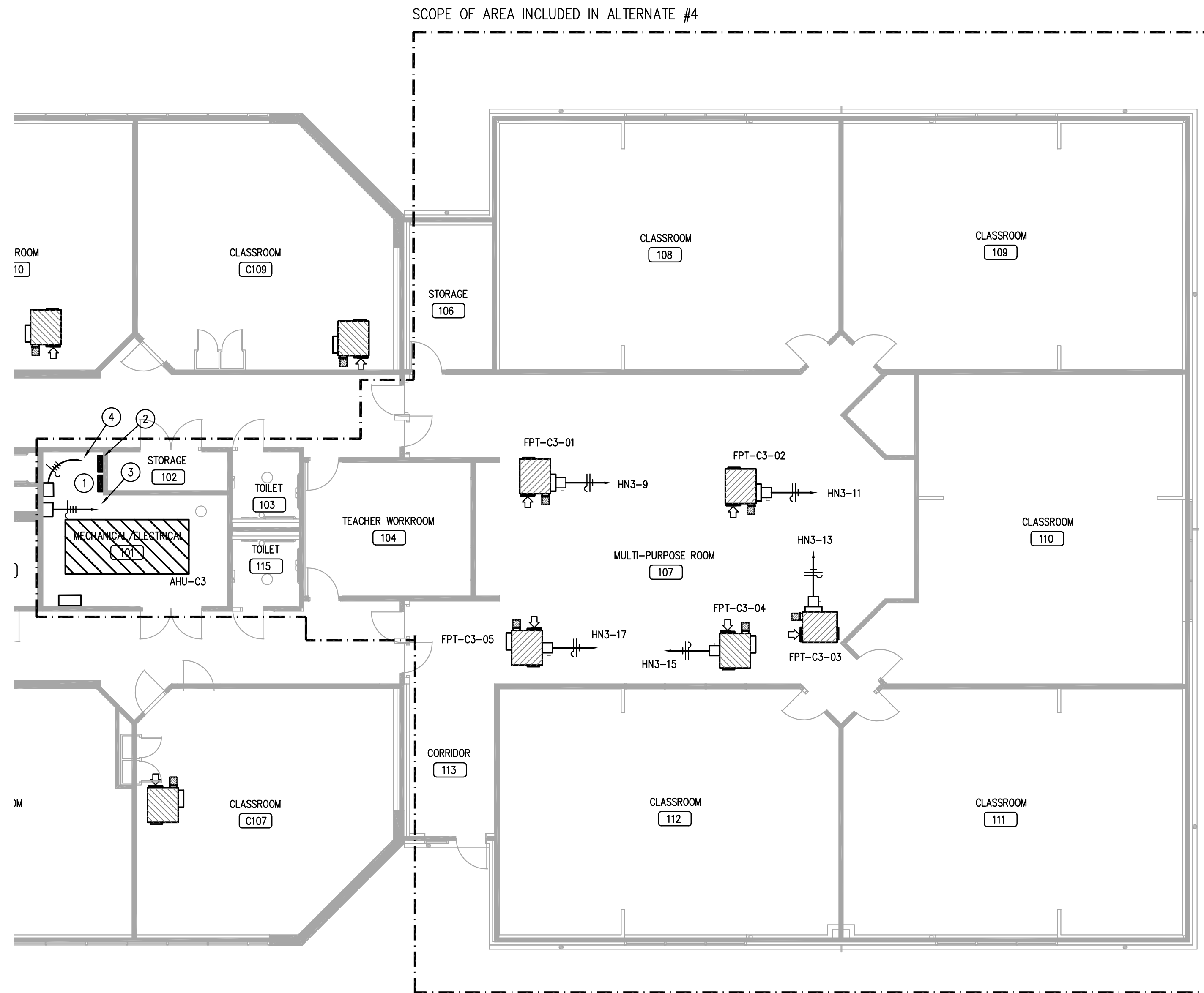
No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

SEAL:

**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL        POWER PLAN        - LEVEL 1</b>
SHEET NUMBER:	<b>EP2.01C2</b>

Plotted: Jul 28, 2022, 2:46 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\AppData\Local\Temp\20220728\20220728-000-01\20220728-000-01\20220728-000-01.dwg



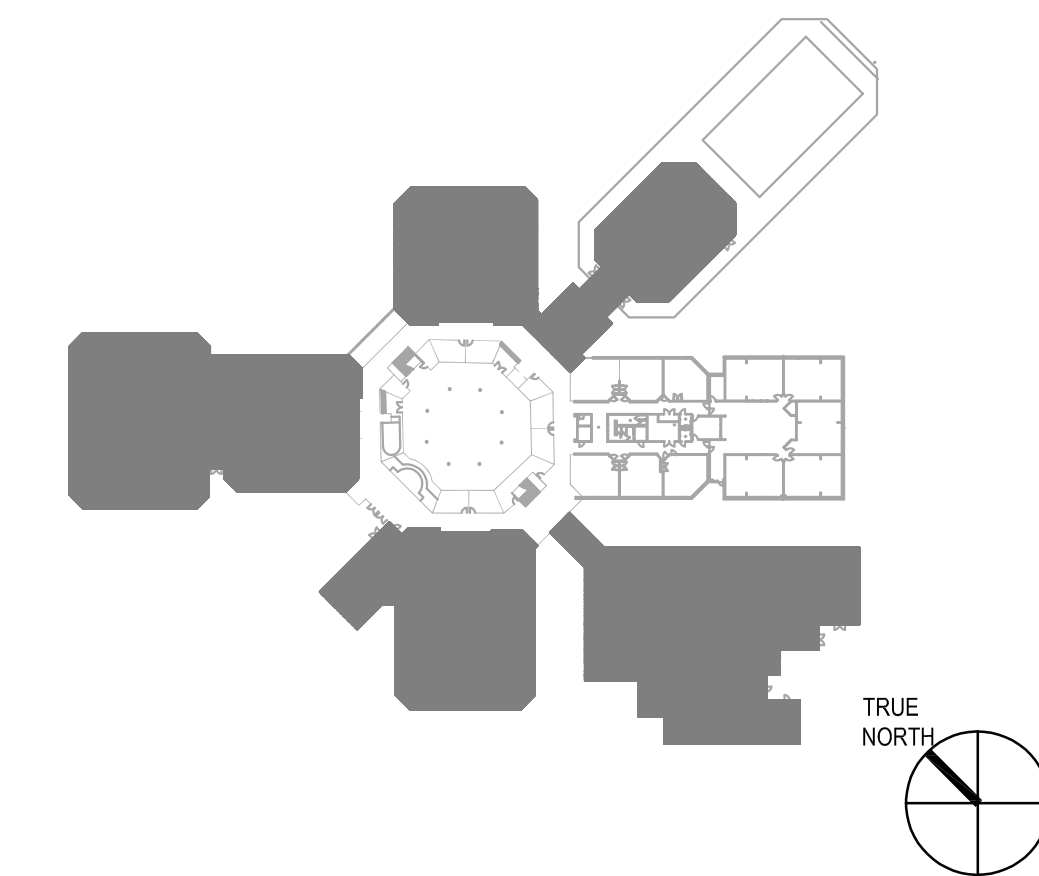
**1** POWER PLAN - AREA C3 (ALTERNATE #4)  
 EP2.01C3 SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL NOTES:**

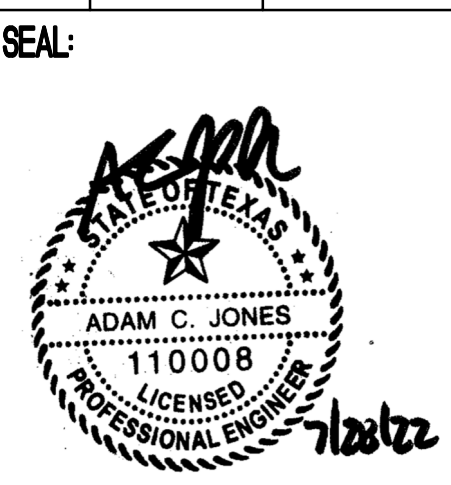
- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**ELECTRICAL KEYED NOTES**

- 1 APPROXIMATE LOCATION OF EXISTING PANEL "HP"
- 2 APPROXIMATE LOCATION OF EXISTING PANEL "LP"
- 3 REUSE EXISTING 15A/3P CIRCUIT BREAKER PREVIOUSLY SERVING EXISTING AIR HANDLING UNIT TO BE REMOVED. PROVIDE 3 #12 AND 1 #12 GROUND IN 3/4" CONDUIT.
- 4 3 #12 AND 1 #12 GROUND IN 3/4" CONDUIT TO A NEW 15A/3P CIRCUIT BREAKER INSTALLED IN EXISTING PANEL SPACE.



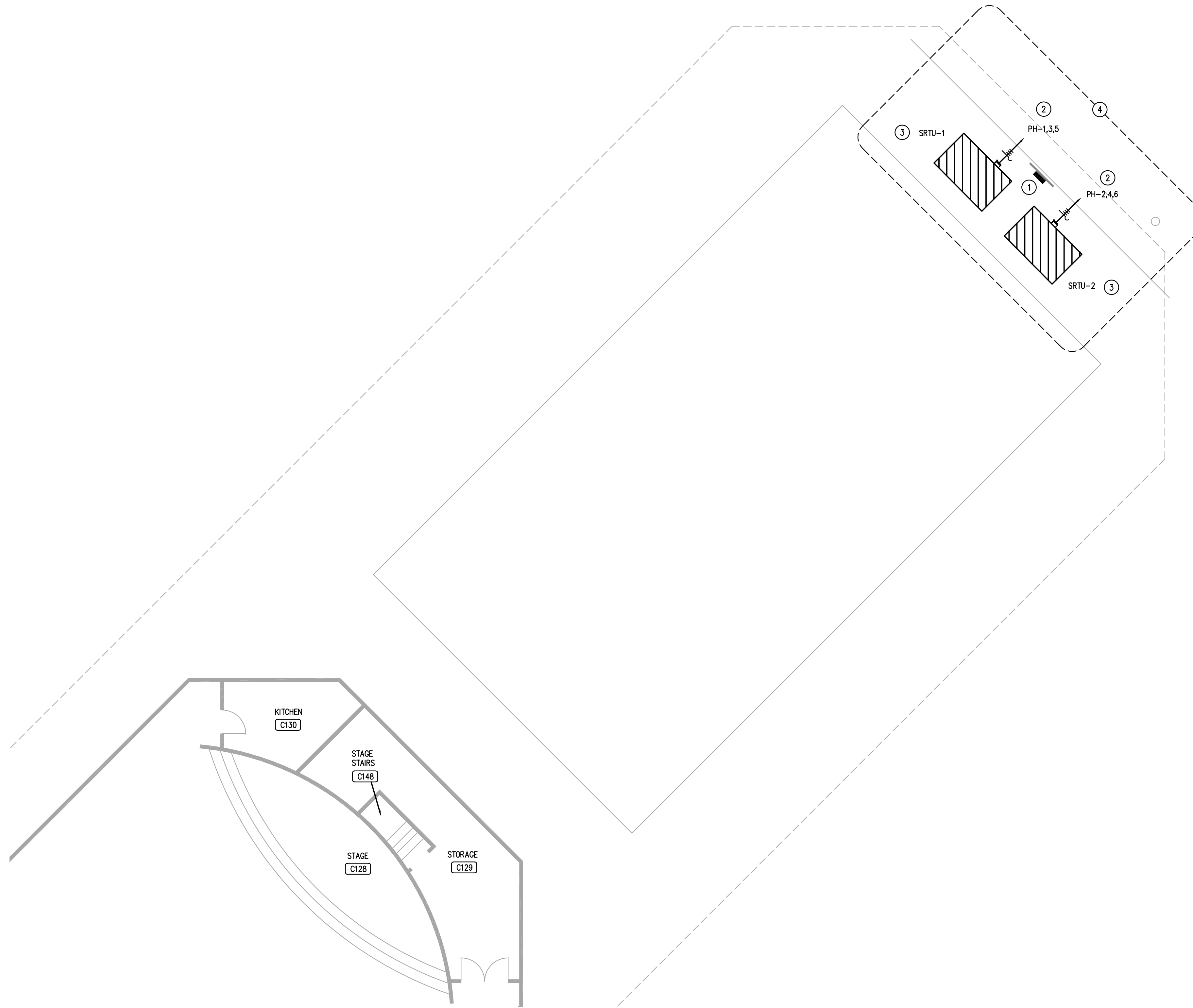
REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL        POWER PLAN        - LEVEL 1</b>
SHEET NUMBER:	<b>EP2.01C3</b>

Plotfile: Jul 28, 2022, 2:46 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACC\Docs\JBR Inc\220122.000-GRISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0EP-220122-01.dwg



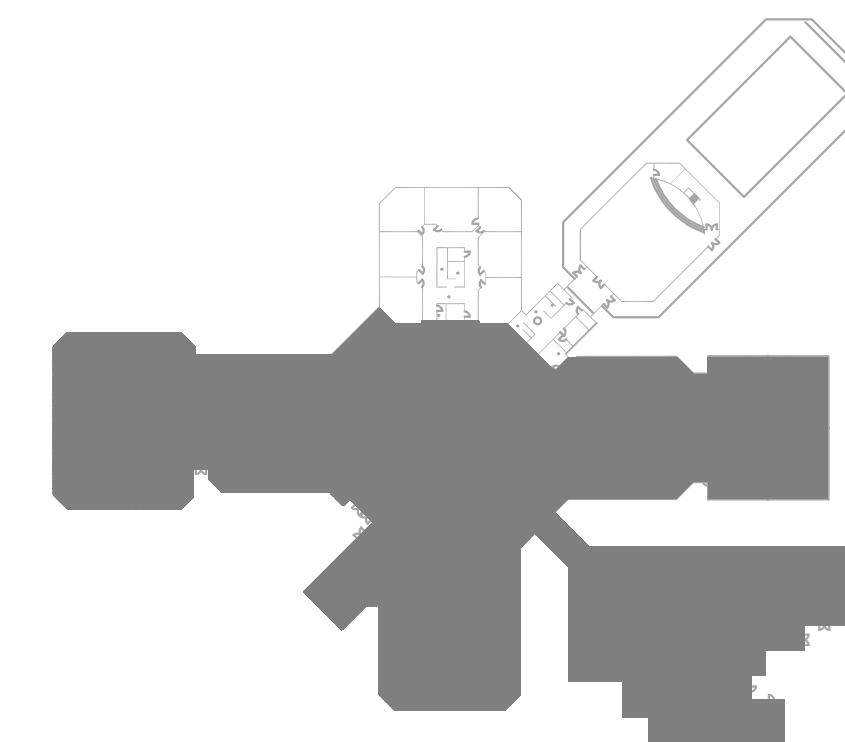
**1** POWER PLAN - AREA D  
 EP2.01D SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL NOTES:**

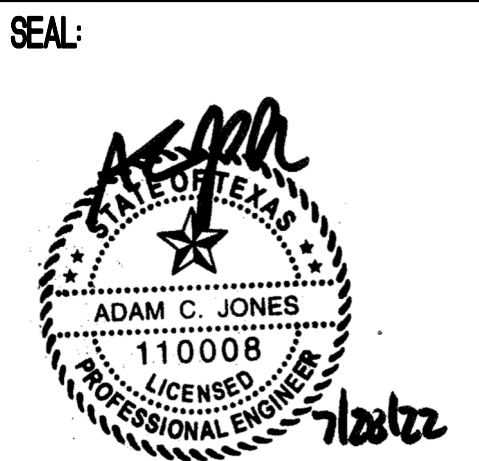
- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**ELECTRICAL KEYED NOTES**

- ① EXISTING NE3R PANEL "PH" IN UNISTRUT RACK.
- ② REUSE EXISTING POWER SUPPLY FROM DEMOLISHED UNIT.
- ③ NEW UNIT TO REPLACE EXISTING AS AN ALTERNATE
- ④ SRTU-1 AND SRTU-2 ARE BEING REPLACED UNDER ALTERNATE #5



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET



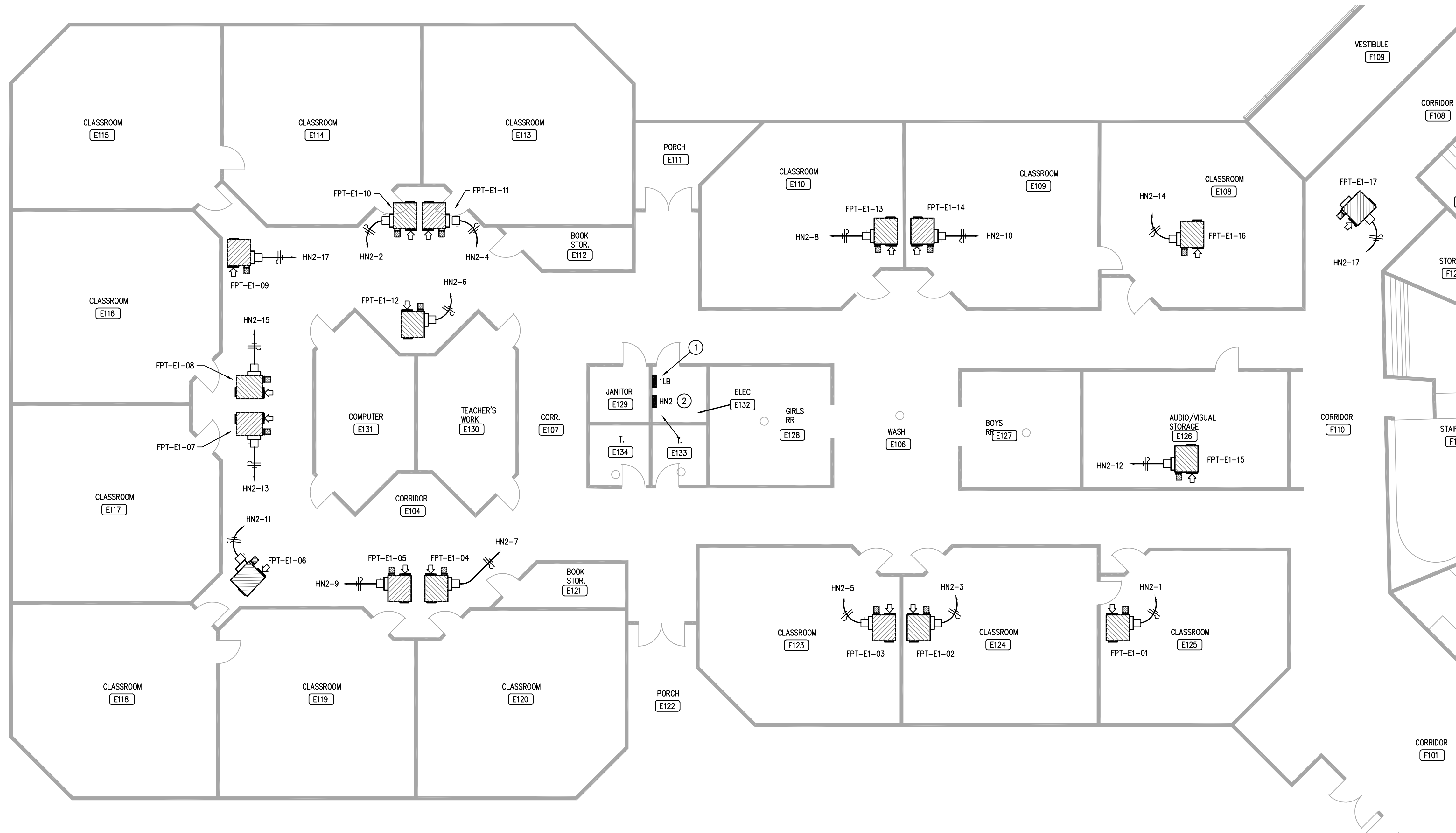
**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000

SHEET TITLE:  
**PARTIAL  
 POWER PLAN  
 - LEVEL 1**

SHEET NUMBER:  
**EP2.01D**

Plotted: Jul 28, 2022, 2:47 PM by user: nmontgomery - Saved: 7/28/2022 by user: nmontgomery  
 C:\Users\mmontgomery\ACCDocs\JBR Inc\220122\00-EP2.01E-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\EP-220122-01.dwg



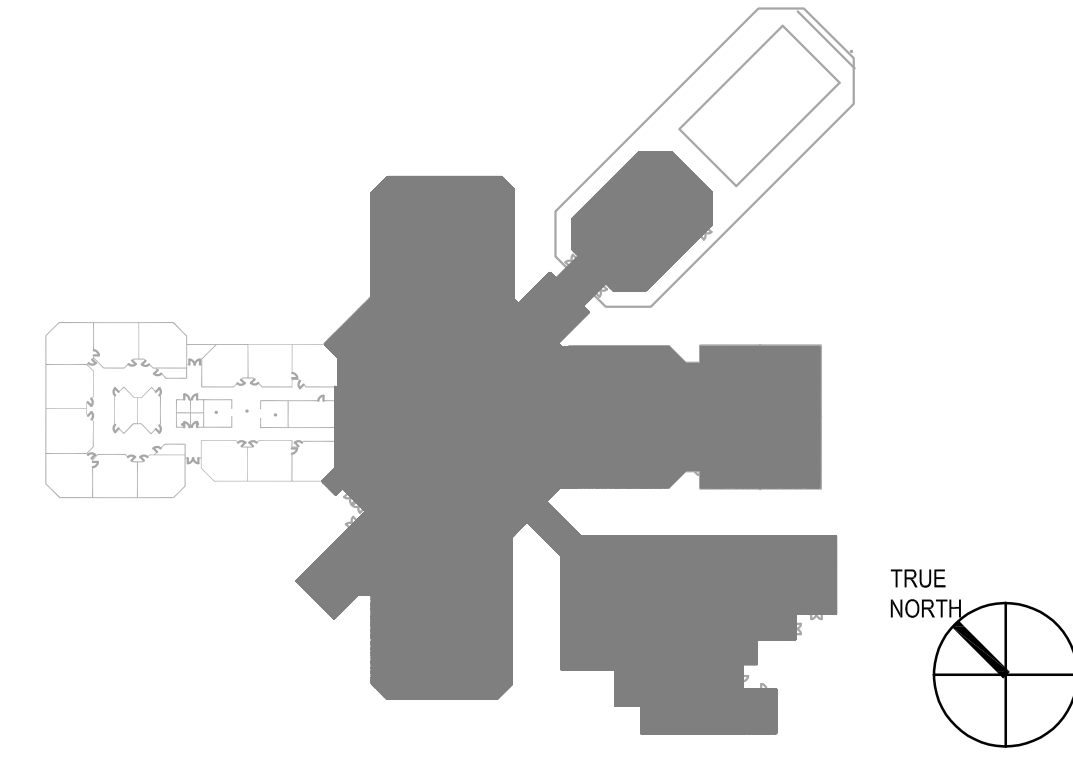
**1** POWER PLAN - AREA E  
 EP2.01E SCALE: 1/8" = 1'-0"

**ELECTRICAL KEYED NOTES**

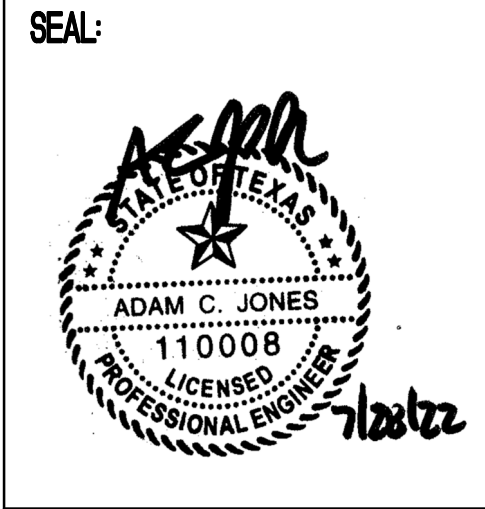
- ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.
- ② PROPOSED LOCATION OF NEW 277/480V, THREE PHASE, FOUR WIRE PANEL FOR NEW FAN POWERED TERMINAL UNITS.

**GENERAL ELECTRICAL NOTES:**

- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.



REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



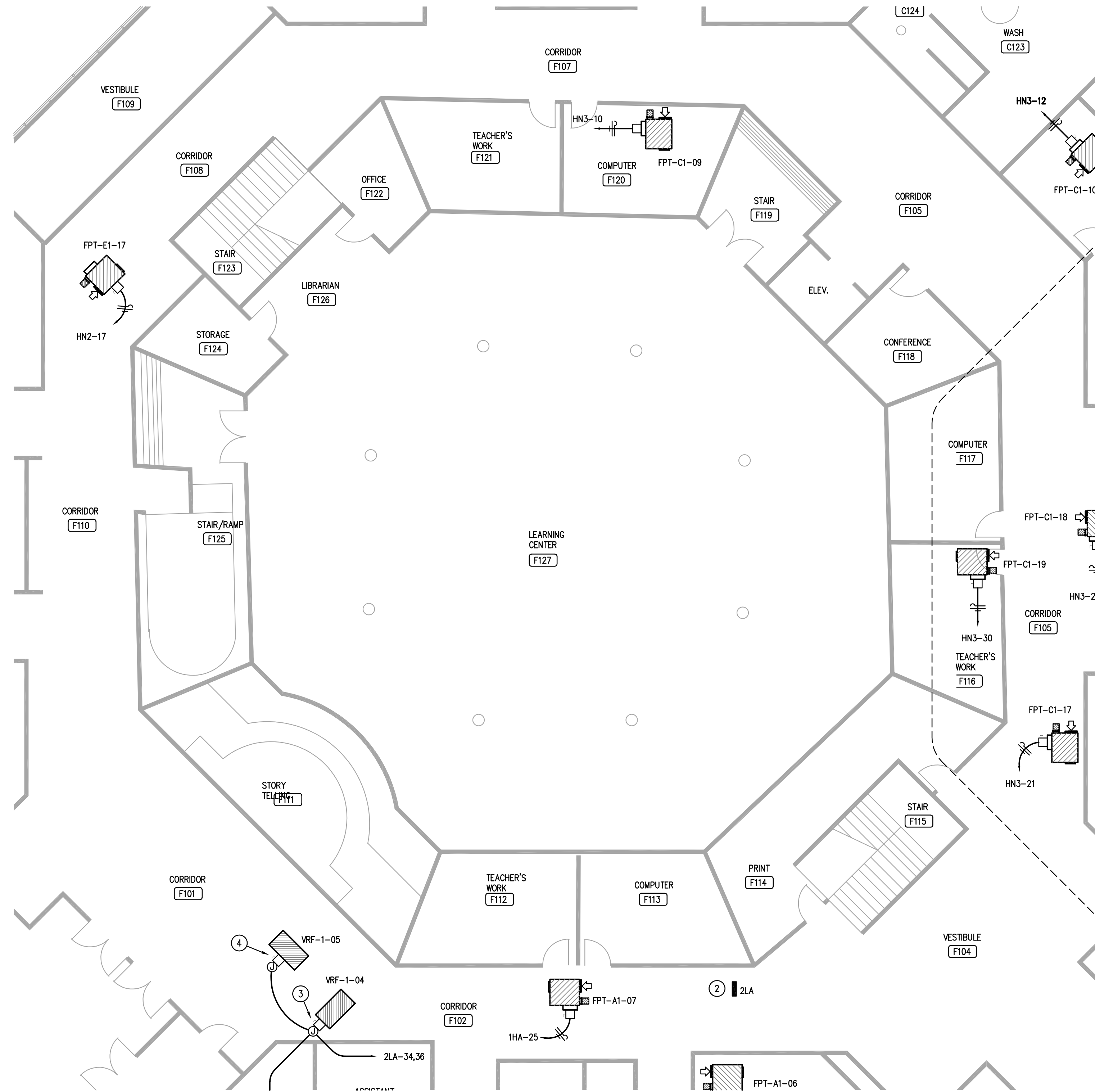
**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	

**PARTIAL  
 POWER PLAN  
 - LEVEL 1**

SHEET NUMBER:  
**EP2.01E**

Plotted: Jul 28, 2022, 2:47 PM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACCDocs\JBR Inc\220122\00-GF1SD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\01F-220122-01.dwg



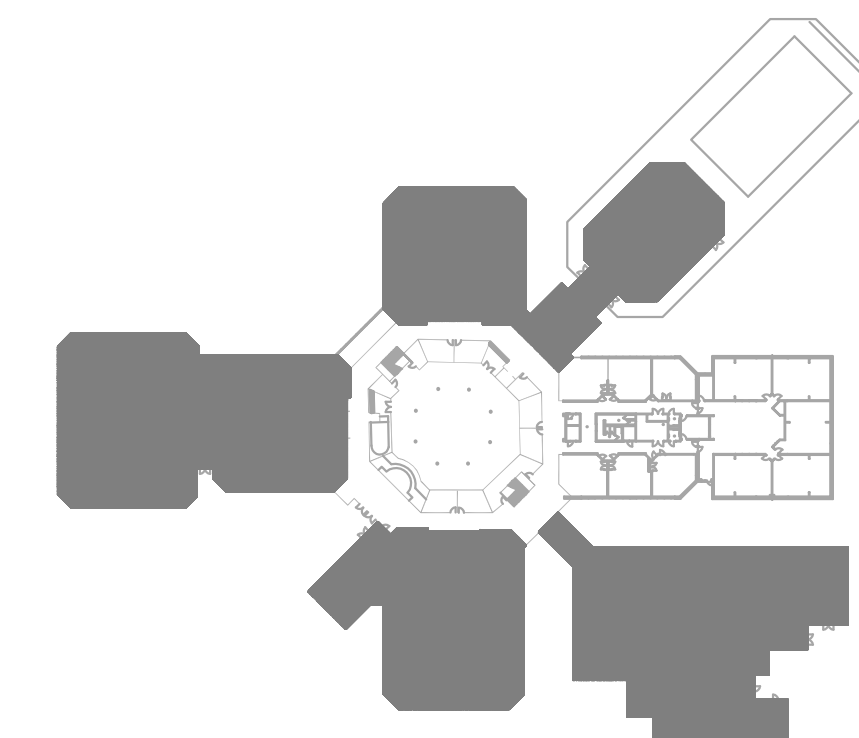
**1** POWER PLAN - AREA F  
 EP2.01F SCALE: 1/8" = 1'-0"

**GENERAL ELECTRICAL NOTES:**

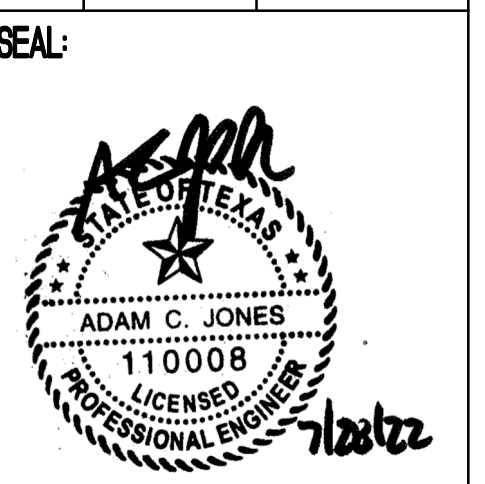
- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
- B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
- C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
- D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
- E. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
- F. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**ELECTRICAL KEYED NOTES**

- ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.
- ② APPROXIMATE LOCATION OF EXISTING PANEL "2LA" ON SECOND FLOOR.
- ③ 30A/2P/4AF
- ④ 30A/2P/3AF



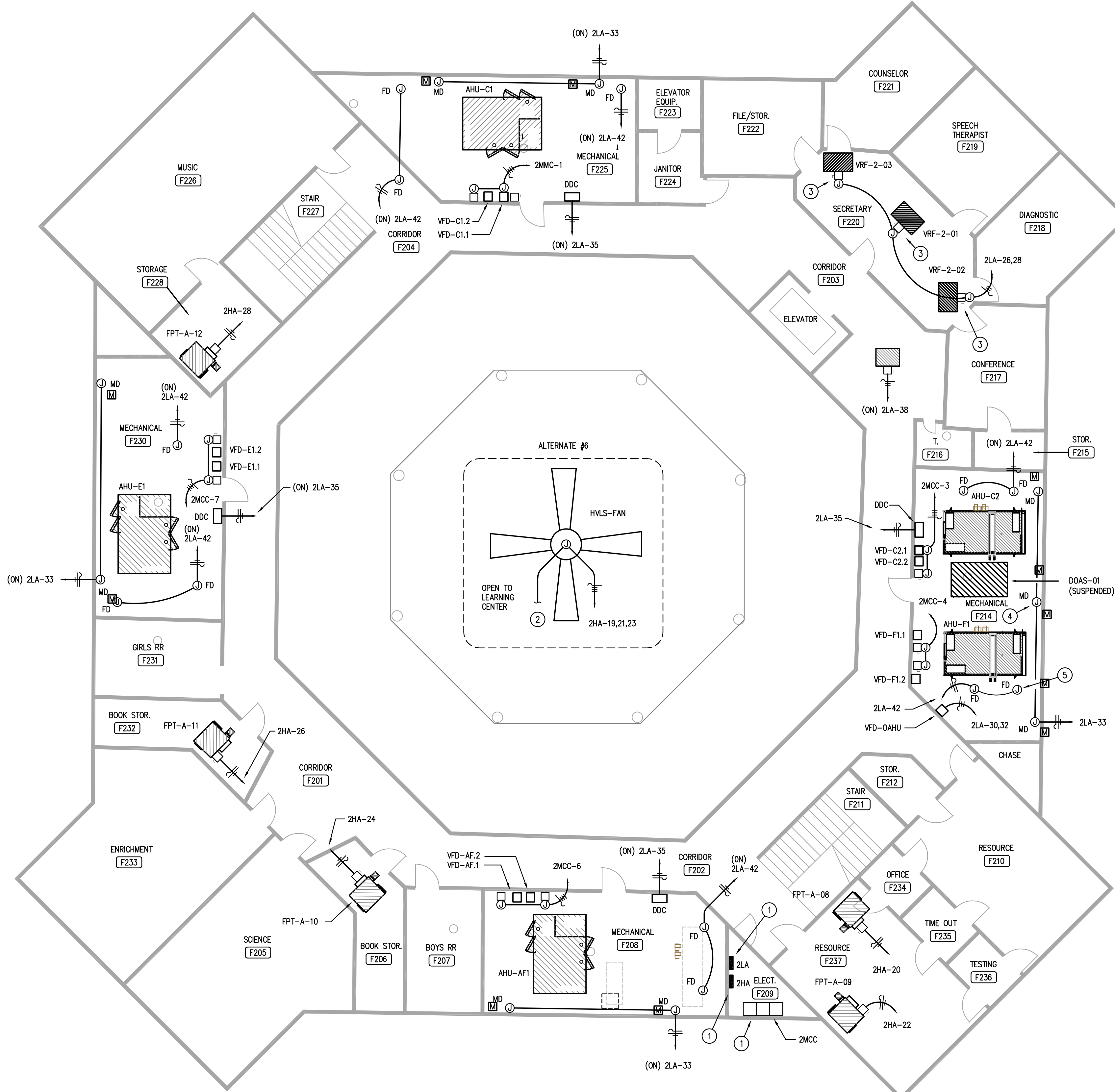
REVISION No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE: PARTIAL POWER PLAN - LEVEL 1  
 SHEET NUMBER: EP2.01F

Plotted: Jul. 28, 2022, 11:36 AM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\AppData\Local\Temp\1\13D-Purple Sage ES - HVAC Upgrades\Project Files\Drawings\0EP-220122-02.dwg



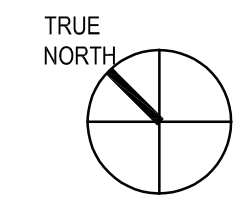
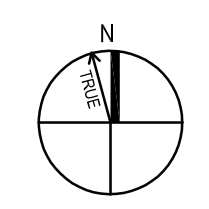
**ELECTRICAL KEYED NOTES**

- ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.
- ② DOWN TO HVLS-FAN CONTROLLER. REFER TO MECHANICAL PLANS FOR LOCATION OF CONTROLLER.
- ③ 30A/2P/4AF
- ④ JUNCTION BOX FOR 120V POWER TO MOTORIZED DAMPER. FIELD COORDINATE ROUGH-IN WITH MECHANICAL CONTRACTOR. TYPICAL.
- ⑤ JUNCTION BOX FOR 120V POWER TO FIRE DAMPER. FIELD COORDINATE ROUGH-IN WITH MECHANICAL CONTRACTOR. PROVIDE FIRE ALARM CONTROL MODULE AND PULL TO EXISTING FIRE ALARM SYSTEM. ACTIVATION OF FIRE ALARM.

**GENERAL ELECTRICAL NOTES:**

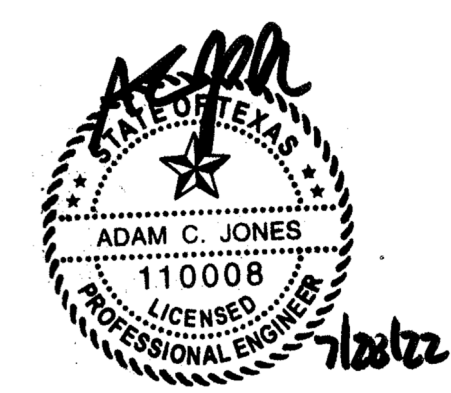
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED AS A RESULT OF THE ARCHITECTURAL MODIFICATIONS TO THE EXISTING CONDITIONS. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND OUTLETS, CONSISTING OF FIXTURES, DEVICES, EQUIPMENT OR APPARATUS, WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE REMODELING WORK MAY BE ACCOMPLISHED. NOT ALL EXISTING OUTLETS ARE NECESSARILY INDICATED ON THE DRAWINGS.
2. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX, CABINET OR PANEL. ANY EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.
3. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF THE REMODELING WORK.
4. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
5. VERIFY THE LOCADING OF EACH CIRCUIT AFFECTED BY THE REMODELING WORK. WHEN ADDING OUTLETS TO ANY EXISTING CIRCUITS, DO NOT EXCEED 80% OF THE CIRCUIT RATING.
6. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT THAT IS BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

**1 PARTIAL POWER PLAN - LEVEL 2**  
 EP2.02 SCALE: 1/8" = 1'-0"



REVISION:		
No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	

SEAL:

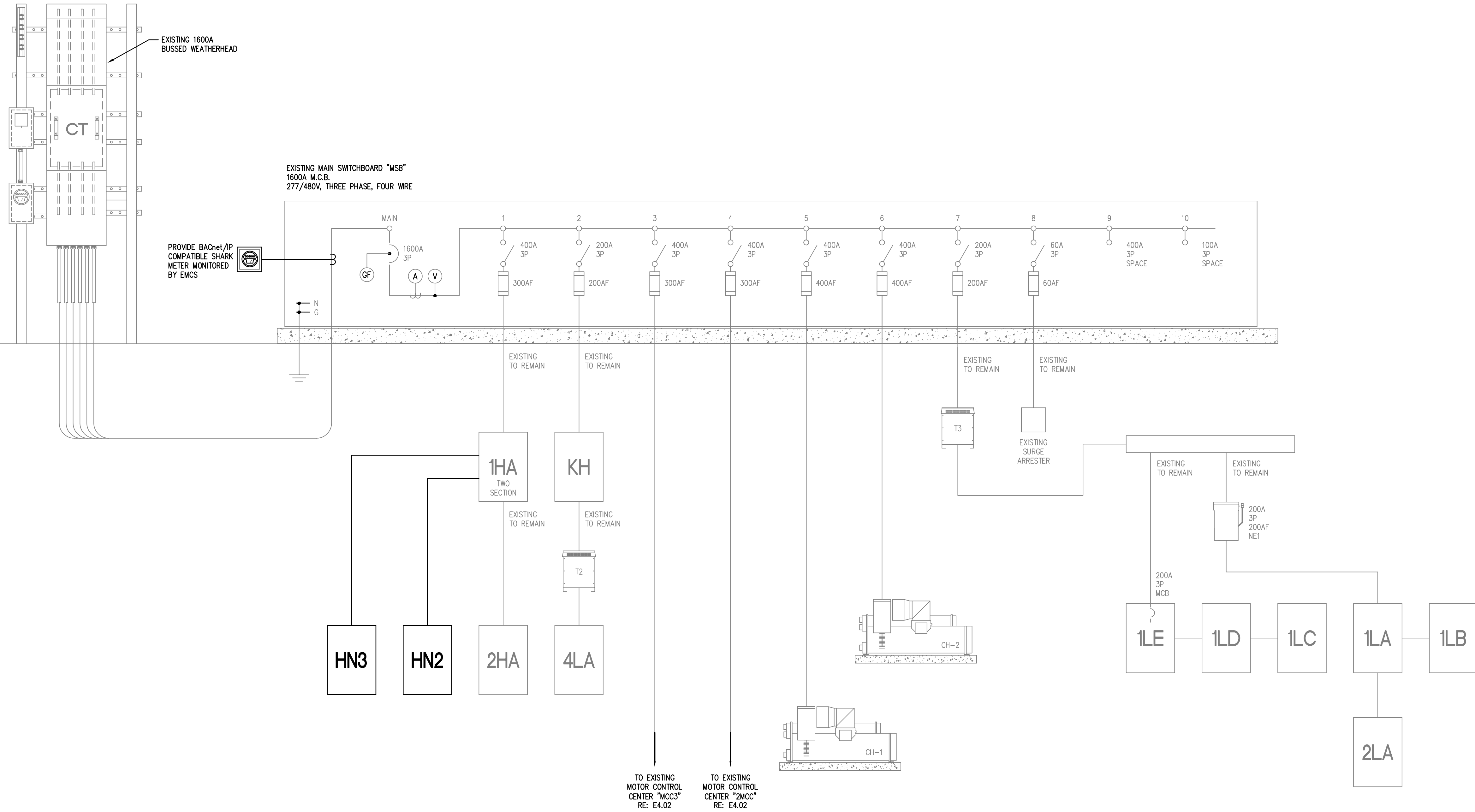


**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

DATE:	07/28/2022
DRAWN BY:	DBR
CHECKED BY:	DBR
PROJECT NUMBER:	220122.000
SHEET TITLE:	<b>PARTIAL POWER PLAN - LEVEL 2</b>
SHEET NUMBER:	<b>EP2.02</b>



Plotted: Jul 28, 2022, 11:36 AM by user: mcmontgomery - Saved: 7/28/2022 by user: mcmontgomery  
 C:\Users\mcmontgomery\Documents\Projects\220122\00-GPISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0E-220122-SCHEDULES & DETAILS.dwg



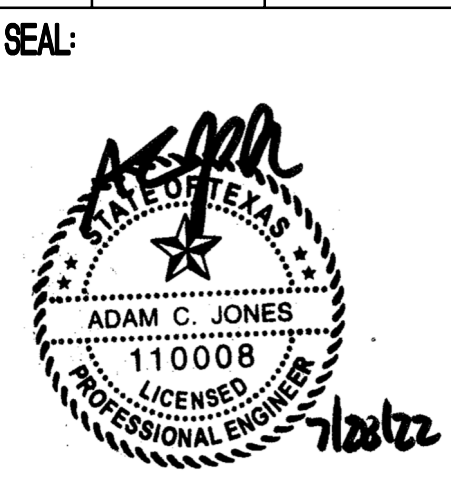
1
E4.01
**ELECTRICAL ONE LINE DIAGRAM**  
 NOT TO SCALE

FEEDER SCHEDULE COPPER ONLY			
RATING	SETS	CONDUCTOR SIZE	CONDUIT
30A	1	4#10, 1#10 G.	3/4"
40A	1	4#8, 1#10 G.	1"
50A	1	4#8, 1#10 G.	1"
60A	1	4#6, 1#10 G.	1"
70A	1	4#4, 1#8 G.	1 1/4"
80A	1	4#4, 1#8 G.	1 1/4"
90A	1	4#3, 1#8 G.	1 1/4"
100A	1	4#3, 1#8 G.	1 1/4"
125A	1	4#1, 1#6 G.	1 1/2"
150A	1	4#1/0, 1#6 G.	1 1/2"
175A	1	4#2/0, 1#6 G.	2"
200A	1	4#3/0, 1#6 G.	2"
225A	1	4#4/0, 1#4 G.	2 1/2"
250A	1	4#250, 1#4 G.	2 1/2"
300A	1	4#350, 1#4 G.	3"
350A	1	4#500, 1#3 G.	3 1/2"
400A	1	4#600, 1#3 G.	4"
450A	2	4#4/0, 1#2 G.	2 1/2"
500A	2	4#250, 1#2G.	2 1/2"
600A	2	4#350, 1#1G.	3"
700A	2	4#500, 1#1/0G.	4"
800A	2	4#600, 1#1/0G.	4"
1000A	3	4#500, 1#2/0G.	4"
1200A	4	4#350, 1#3/0G.	3"
1600A	4	4#600, 1#4/0G.	4"
	5	4#500, 1#4/0G.	4"
2000A	5	4#600, 1#250G.	4"
	6	4#500, 1#250G.	4"
2500A	6	4#600, 1#350G.	4"
	7	4#500, 1#350G.	4"
3000A	7	4#600, 1#400G.	4"
	8	4#500, 1#400G.	4"
3500A	9	4#600, 1#500G.	4"
	10	4#500, 1#500G.	4"
4000A	10	4#600, 1#500G.	4"
	11	4#500, 1#500G.	4"
5000A	12	4#600, 1#750G.	4"
	14	4#500, 1#750G.	4"

- ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
- GROUND NOT REQUIRED AT SERVICE LATERAL.



REVISION No.	DATE	DESCRIPTION
	05/16/2022	SD SET
	05/25/2022	100% DD SET
	06/22/2022	75% CD SET
	07/20/2022	100% REVIEW
	07/28/2022	PROPOSAL SET

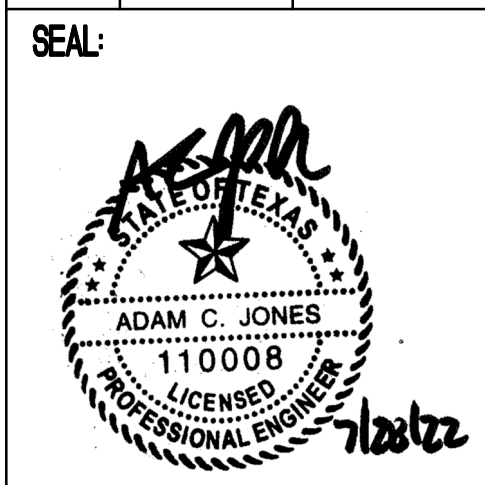


**GALENA PARK PURPLE SAGE**  
 HVAC UPGRADES

DATE: 07/28/2022  
 DRAWN BY: DBR  
 CHECKED BY: DBR  
 PROJECT NUMBER: 220122.000  
 SHEET TITLE: **ELECTRICAL ONE-LINE DIAGRAM**  
 SHEET NUMBER: **E4.01**

**REVISION:**

No.	DATE	DESCRIPTION
05/16/2022	SD SET	
05/25/2022	100% DD SET	
06/22/2022	75% CD SET	
07/20/2022	100% REVIEW	
07/28/2022	PROPOSAL SET	



**GALENA PARK PURPLE SAGE  
 HVAC UPGRADES**

**DATE:**  
07/28/2022

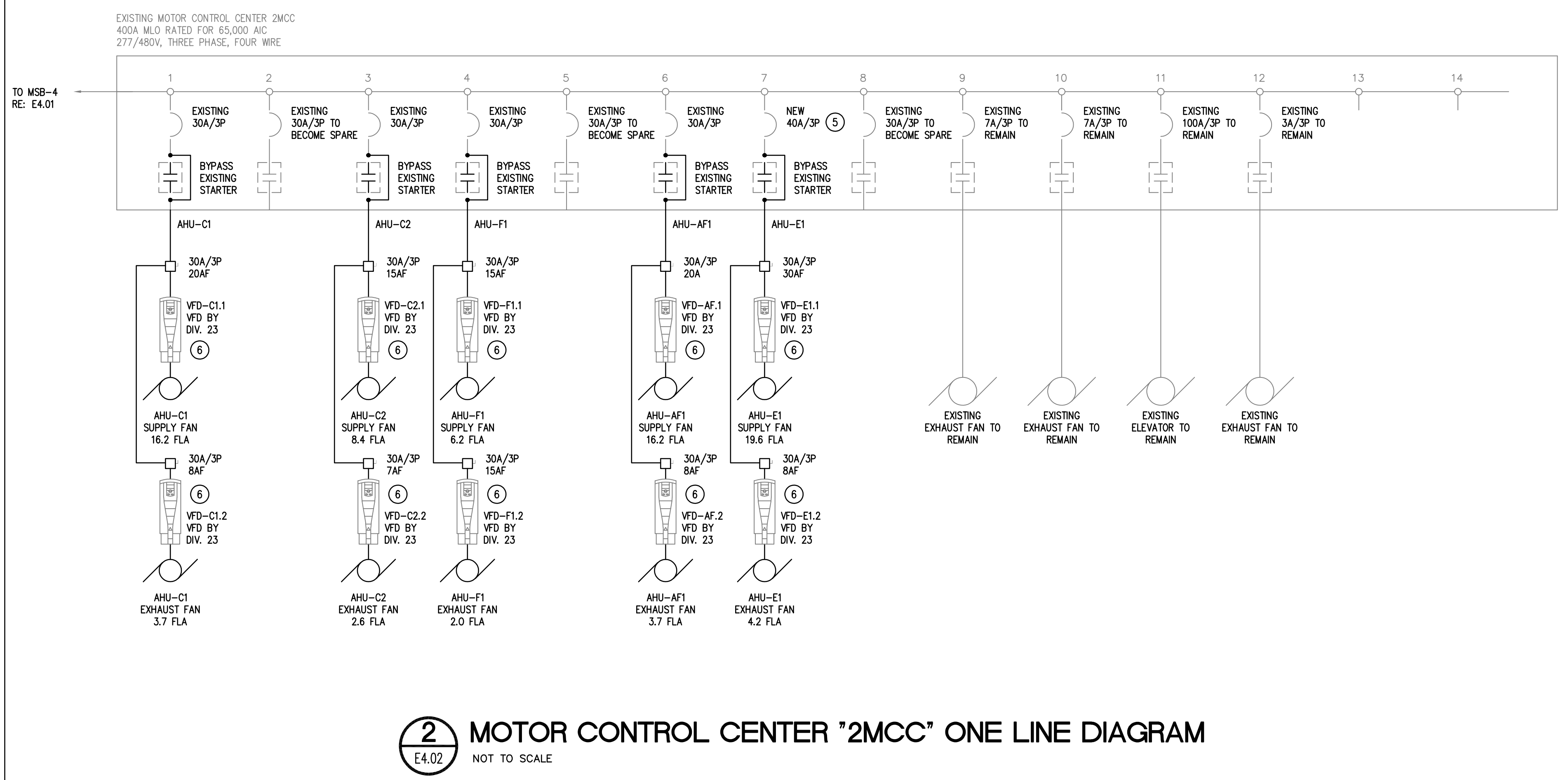
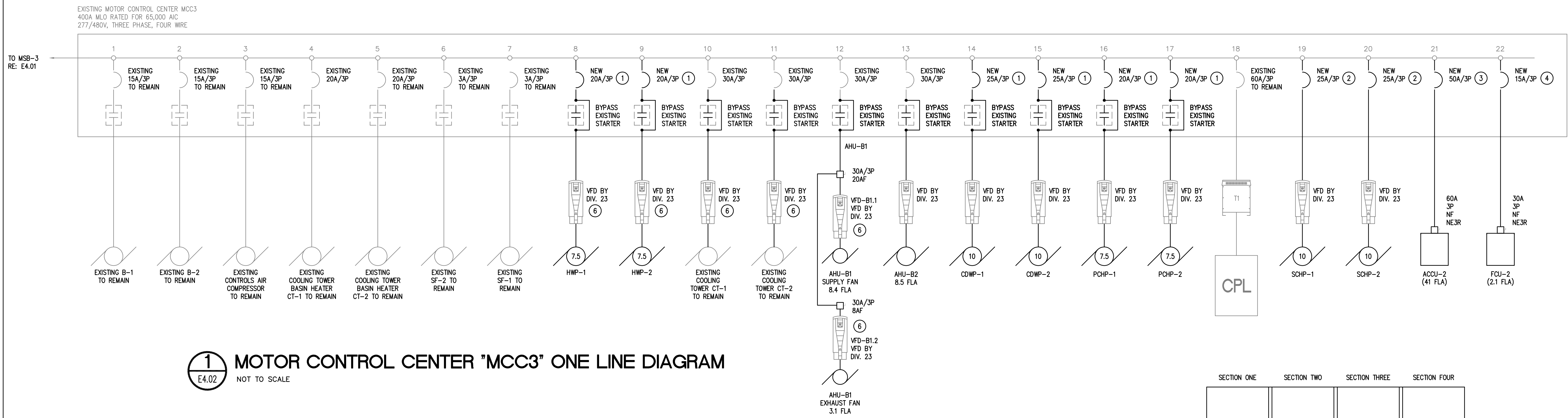
**DRAWN BY:**  
DBR

**CHECKED BY:**  
DBR

**PROJECT NUMBER:**  
220122.000

**SHEET TITLE:**  
**ELECTRICAL  
 ONE-LINE  
 DIAGRAM**

**SHEET NUMBER:**  
**E4.02**



- KEYED PLAN NOTES**
- REPLACE EXISTING CIRCUIT BREAKER WITH NEW CIRCUIT BREAKER AS SHOWN.
  - INSTALL NEW 25A/3P CIRCUIT BREAKER IN EXISTING MOTOR CONTROL CENTER "MCC3" SPACE FOR NEW SCHP.
  - INSTALL NEW 50A/3P CIRCUIT BREAKER IN EXISTING MOTOR CONTROL CENTER "MCC3" SPACE FOR NEW ACCU-2.
  - INSTALL NEW 15A/3P CIRCUIT BREAKER IN EXISTING MOTOR CONTROL CENTER "MCC3" SPACE FOR NEW FCU-2.
  - INSTALL NEW 40A/3P CIRCUIT BREAKER IN EXISTING MOTOR CONTROL CENTER "2MCC" SPACE

**SECTION ONE SECTION TWO SECTION THREE SECTION FOUR**

INCOMING LINE	20A 3P	HWP-1	25A 3P	CDMP-1	60A PANEL CPL	18
INCOMING METERING					SPACE	
15A 3P B-1	1				SPACE	
15A 3P B-2	2				SPACE	
25A 3P AIR COMP.	3				SPACE	
20A 3P CT-1 HTR.	4				40A 3P SCHP-1	19
30A 3P CT-2 HTR.	5				SPACE	
3A 3P SF-2	6				40A 3P SCHP-2	20
3A 3P SF-1	7				50A 3P ACCU-2	21
					SPACE	
					SPACE	

**3 "MCC3" ELEVATION**  
 E4.02 NOT TO SCALE

**SECTION ONE SECTION TWO SECTION THREE**

INCOMING LINE	30A 3P	SPARE	100A 3P ELEV	11
INCOMING METERING				
30A 3P AHU-C1				
30A 3P SPARE				
30A 3P AHU-C2				
30A 3P AHU-F1				
SPACE				

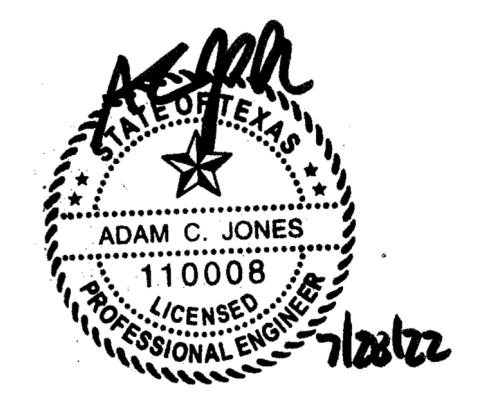
**4 MCC2" ELEVATION**  
 E4.02 NOT TO SCALE

Plotted: Jul 28, 2022, 11:36 AM by user: mmontgomery - Saved: 7/28/2022 by user: mmontgomery  
 C:\Users\mmontgomery\ACC\Docs\JBR\_Inc\220122\000-GP\ISD-Purple Sage ES -HVAC Upgrades\Project Files\Drawings\0E-220122-SCHEDULES & DETAILS.dwg

REVISION:  
 No. / DATE / DESCRIPTION

05/16/2022	SD SET
05/25/2022	100% DD SET
06/22/2022	75% CD SET
07/20/2022	100% REVIEW
07/28/2022	PROPOSAL SET

SEAL:



**GALENA PARK PURPLE SAGE  
HVAC UPGRADES**

DATE:  
07/28/2022

DRAWN BY:  
DBR

CHECKED BY:  
DBR

PROJECT NUMBER:  
220122.000

SHEET TITLE:

**ELECTRICAL  
PANELBOARD  
SCHEDULES**

SHEET NUMBER:

**E5.01**

SECTION TWO OF PANEL 1HA

Panelboard 1HA														
EXISTING AIC Rating														
X Existing New														
277/480 Volt, 3-Phase, 4-Wire 2 Section 1 - Nema Rating		MCB X MLO		400		AMP MCB AMP BUS (Copper)		X Single Double Feed - Thru		Mounting X Surface Flush				
Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
2	3501	HRU-2	M	12	20/3	1	A	2	35/3	8	M	HRU-1	7202	3
	3601	-	M	12	-	3	B	4	-	8	M	-	7202	
	3601	-	M	12	-	5	C	6	-	8	M	-	7202	
3	11357	ACCU-1	C	8	50/3	7	A	8	40/3	EX		EXISTING CIRCUIT		
	11357	-	C	8	-	9	B	10	-	EX		-		
	11357	-	C	8	-	11	C	12	-	EX		-		
1		FPT-A1-01	F	12	15/1	13	A	14				SPACE		
1		FPT-A1-02	F	12	15/1	15	B	16	20/1	EX		EXISTING CIRCUIT		
1		FPT-A1-03	F	12	15/1	17	C	18	60/3	6	SP	PANEL HN2	5621	
1		FPT-A1-04	F	12	15/1	19	A	20	-	6	SP	-	4818	
1		FPT-A1-05	F	12	15/1	21	B	22	-	6	SP	-	3212	
1		FPT-A1-06	F	12	15/1	23	C	24	60/3	6	SP	PANEL HN3	8722	
1		FPT-A1-07	F	12	15/1	25	A	26	-	6	SP	-	7863	
		SPACE				27	B	28	-	6	SP	-	6398	
		SPACE				29	C	30				SPACE		
		SPACE				31	A	32				SPACE		
		SPACE				33	B	34				SPACE		
		SPACE				35	C	36				SPACE		
		SPACE				37	A	38				SPACE		
		SPACE				39	B	40				SPACE		
		SPACE				41	C	42				SPACE		
		SPACE				43	A	44				SPACE		
		SPACE				44	B	44				SPACE		
		SPACE				45	C	44				SPACE		
		SPACE				46	A	44				SPACE		
		SPACE				47	B	44				SPACE		
		SPACE				48	C	44				SPACE		
		SPACE				49	A	44				SPACE		
		SPACE				50	B	44				SPACE		
		SPACE				51	C	44				SPACE		
		SPACE				52	A	44				SPACE		
		SPACE				53	B	44				SPACE		
		SPACE				54	C	44				SPACE		
		SPACE				55	A	44				SPACE		
		SPACE				56	B	44				SPACE		
		SPACE				57	C	44				SPACE		
		SPACE				58	A	44				SPACE		
		SPACE				59	B	44				SPACE		
		SPACE				60	C	44				SPACE		
		SPACE				61	A	44				SPACE		
		SPACE				62	B	44				SPACE		
		SPACE				63	C	44				SPACE		
		SPACE				64	A	44				SPACE		
		SPACE				65	B	44				SPACE		
		SPACE				66	C	44				SPACE		
		SPACE				67	A	44				SPACE		
		SPACE				68	B	44				SPACE		
		SPACE				69	C	44				SPACE		
		SPACE				70	A	44				SPACE		
		SPACE				71	B	44				SPACE		
		SPACE				72	C	44				SPACE		
		SPACE				73	A	44				SPACE		
		SPACE				74	B	44				SPACE		
		SPACE				75	C	44				SPACE		
		SPACE				76	A	44				SPACE		
		SPACE				77	B	44				SPACE		
		SPACE				78	C	44				SPACE		
		SPACE				79	A	44				SPACE		
		SPACE				80	B	44				SPACE		
		SPACE				81	C	44				SPACE		
		SPACE				82	A	44				SPACE		
		SPACE				83	B	44				SPACE		
		SPACE				84	C	44				SPACE		
		SPACE				85	A	44				SPACE		
		SPACE				86	B	44				SPACE		
		SPACE				87	C	44				SPACE		
		SPACE				88	A	44				SPACE		
		SPACE				89	B	44				SPACE		
		SPACE				90	C	44				SPACE		
		SPACE				91	A	44				SPACE		
		SPACE				92	B	44				SPACE		
		SPACE				93	C	44				SPACE		
		SPACE				94	A	44				SPACE		
		SPACE				95	B	44				SPACE		
		SPACE				96	C	44				SPACE		
		SPACE				97	A	44				SPACE		
		SPACE				98	B	44				SPACE		
		SPACE				99	C	44				SPACE		
		SPACE				100	A	44				SPACE		
		SPACE				101	B	44				SPACE		
		SPACE				102	C	44				SPACE		
		SPACE				103	A	44				SPACE		
		SPACE				104	B	44				SPACE		
		SPACE				105	C	44				SPACE		
		SPACE				106	A	44				SPACE		
		SPACE				107	B	44				SPACE		
		SPACE				108	C	44				SPACE		
		SPACE				109	A	44				SPACE		
		SPACE				110	B	44				SPACE		
		SPACE				111	C	44				SPACE		
		SPACE				112	A	44				SPACE		
		SPACE				113	B	44				SPACE		
		SPACE				114	C	44				SPACE		
		SPACE				115	A	44				SPACE		
		SPACE				116	B	44				SPACE		
		SPACE				117	C	44				SPACE		
		SPACE				118	A	44				SPACE		
		SPACE				119	B	44				SPACE		
		SPACE				120	C	44				SPACE		
		SPACE				121	A	44				SPACE		
		SPACE				122	B	44				SPACE		
		SPACE				123	C	44				SPACE		
		SPACE				124	A	44				SPACE		
		SPACE				125	B	44				SPACE		
		SPACE				126	C	44				SPACE		
		SPACE				127	A	44				SPACE		
		SPACE				128	B	44				SPACE		
		SPACE				129	C	44				SPACE		
		SPACE				130	A	44				SPACE		
		SPACE				131	B	44				SPACE		
		SPACE				132	C	44				SPACE		
		SPACE				133	A	44				SPACE		
		SPACE				134	B	44				SPACE		
		SPACE				135	C	44				SPACE		
		SPACE				136	A	44				SPACE		
		SPACE				137	B	44				SPACE		
		SPACE				138	C	44				SPACE		
		SPACE				139	A	44				SPACE		
		SPACE				140	B	44				SPACE		
		SPACE				141	C	44				SPACE		
		SPACE				142	A	44				SPACE		
		SPACE				143	B	44				SPACE		
		SPACE				144	C	44				SPACE		
		SPACE				145	A	44				SPACE		
		SPACE				146	B	44				SPACE		
		SPACE				147	C	44				SPACE		
		SPACE				148	A	44				SPACE		
		SPACE				149	B	44				SPACE		
		SPACE				150	C	44				SPACE		
		SPACE				151	A	44				SPACE		
		SPACE				152	B	44				SPACE		
		SPACE				153	C	44				SPACE		
		SPACE				154	A	44				SPACE		
		SPACE				155	B	44				SPACE		
		SPACE				156	C	44				SPACE		
		SPACE				157	A	44				SPACE		
		SPACE				158	B	44				SPACE		
		SPACE				159	C	44				SPACE		
		SPACE				160	A	44				SPACE		
		SPACE				161	B	44				SPACE		
		SPACE				162								