EDINBURG CISD
PURCHASING DEPARTMENT
411 N. 8th Ave., Edinburg, TX 78541
(956) 289-2311, (956) 383-7687

ADDENDUM 1
CSP 22-68
Memorial Middle School Heating & Air Condition (HVAC) Improvements Funded through the Elementary & Secondary Emergency Relief (ESSER) Funds
March 28, 2022

I. INSTRUCTIONS:

A. The following changes, omissions or alterations to the specification and drawings shall be made insofar as the specifications and drawings are inconsistent with following, this addendum shall govern.

B. Acknowledge receipt of this addendum by inserting its number and date of issue in the place provided for same in the proposal. This addendum forms a part of the Contract Documents.

C. It is imperative that this addendum be inserted INTO set of specifications.

II. SEE ADDENDUM BELOW:

Item No. 1 Mechanical and Electrical Drawings
A. Replace all mechanical and electrical sheets in their entirety. Reference seal date of 3/23/2022 for the new scope of work.

Item No. 2 Opening of Proposals:
A. Opening of proposals modified to Wednesday, April 13, 2022, 4:00 PM

Respectfully Submitted,

Amaro Tijerina
Director of Purchasing

_____
(Signature of authorized officer) Date

_____
Company Name

SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

200 South 10th Street
Suite 901
McAllen, TX 78501
v 956.683.1640

Addendum

DATE
3/23/2022

ADDENDUM NO.
1

PROJECT 218007.002| Edinburg CISD - Memorial MS - HVAC Improvements

The work described herein shall be added to the scope of work defined by the contract documents or it shall modify the scope of work defined by the contract documents as described. This work shall become a part of the contract documents by addendum.

DRAWINGS

Item 01 **Mechanical and Electrical Drawings**

A. Replace all mechanical and electrical sheets in their entirety. Reference seal date of 3/23/2022 for the new scope of work

END OF ADDENDUM

EDINBURG C.I.S.D
DISTRICT WIDE HVAC IMPROVEMENTS
MEMORIAL MIDDLE SCHOOL

BOARD OF TRUSTEES

Dominga Vela	Board President
Carmen Gonzalez	Vice-President
Oscar Salinas	Secretary
Luis G. Alamia	Member
Leticia Garcia	Member
Miguel Farias	Member
Xavier Salinas	Member
Dr. Mario H. Salinas	Superintendent

100% CONSTRUCTION DOCUMENTS

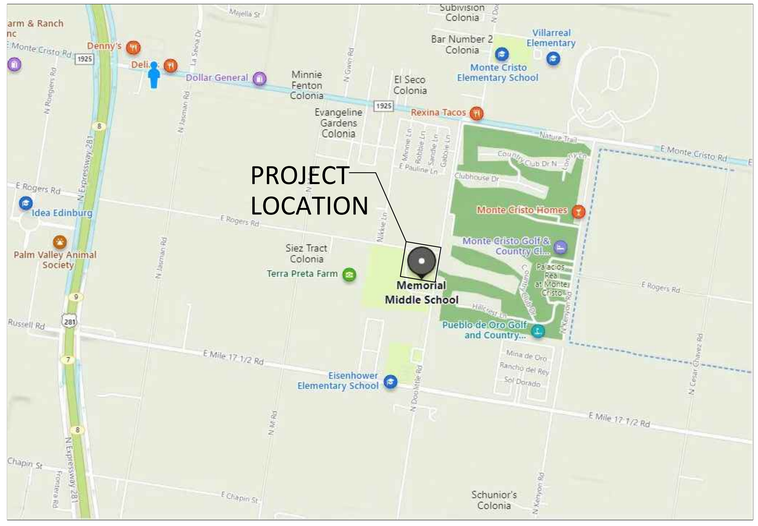
PROJECT TEAM

DBR Inc.
200 S. 10th St.
Suite 901
McAllen, Texas 782501
956-683-1640
MEP Engineer
Roberto H. Tijerina, P.E.
Rtijerina@dbrinc.com

Edinburg C.I.S.D.
411 N. 8th Ave.
Edinburg, Tx 78539

ECISD Project Manager
Carlos Lima

LOCATION



3105 N Doolittle Rd,
Edinburg, Tx 78542
Tel:(956)289-2470

NORTH

SHEET LIST TABLE

Sheet No.	Sheet Title
G0.00	COVER SHEET
M0.01	MECHANICAL LEGEND
MEP1.01	MEP SITE PLAN
MD1.11	COMPOSITE LEVEL 1 MECHANICAL DEMO HYDRONIC PIPING PLAN
MD1.12	COMPOSITE LEVEL 1 MECHANICAL DEMO HYDRONIC PIPING PLAN
MD1.21	COMPOSITE LEVEL 2 MECHANICAL DEMO HYDRONIC PIPING PLAN
MD2.11A	LEVEL 1 MECHANICAL DEMO PLAN - A
MD2.11B	LEVEL 1 MECHANICAL DEMO PLAN - B
MD2.11C	LEVEL 1 MECHANICAL DEMO PLAN - C
MD2.11D	LEVEL 1 MECHANICAL DEMO PLAN - D
MD2.12E	LEVEL 1 MECHANICAL DEMO PLAN - E
MD2.12F	LEVEL 1 MECHANICAL DEMO PLAN - F
MD2.13G	LEVEL 1 MECHANICAL DEMO PLAN - G
MD2.21A	LEVEL 2 MECHANICAL DEMO PLAN - A
MD2.21B	LEVEL 2 MECHANICAL DEMO PLAN - B
MD2.21C	LEVEL 2 MECHANICAL DEMO PLAN - C
MD2.21D	LEVEL 2 MECHANICAL DEMO PLAN - D
MD3.10	ENLARGED MECHANICAL DEMO PLAN
MD3.11	ENLARGED MECHANICAL DEMO PLAN
MD3.12	ENLARGED MECHANICAL DEMO PLAN
MD3.13	ENLARGED MECHANICAL DEMO PLAN
M1.11	COMPOSITE LEVEL 1 MECHANICAL HYDRONIC PIPING PLAN
M1.12	COMPOSITE LEVEL 1 MECHANICAL HYDRONIC PIPING PLAN
M1.21	COMPOSITE LEVEL 2 MECHANICAL HYDRONIC PIPING PLAN
M2.11A	LEVEL 1 MECHANICAL PLAN - A
M2.11B	LEVEL 1 MECHANICAL PLAN - B
M2.11C	LEVEL 1 MECHANICAL PLAN - C
M2.11D	LEVEL 1 MECHANICAL PLAN - D
M2.12E	LEVEL 1 MECHANICAL PLAN - E
M2.12F	LEVEL 1 MECHANICAL PLAN - F
M2.13G	LEVEL 1 MECHANICAL PLAN - G
M2.21A	LEVEL 2 MECHANICAL PLAN - A
M2.21B	LEVEL 2 MECHANICAL PLAN - B
M2.21C	LEVEL 2 MECHANICAL PLAN - C
M2.21D	LEVEL 2 MECHANICAL PLAN - D
M3.10	ENLARGED MECHANICAL ROOM PLANS
M3.11	ENLARGED MECHANICAL ROOM PLANS
M3.12	ENLARGED MECHANICAL ROOM PLANS
M3.13	ENLARGED MECHANICAL ROOM PLANS
M4.01	MECHANICAL CONTROLS
M4.02	MECHANICAL CONTROLS
M4.03	MECHANICAL CONTROLS
M5.01	MECHANICAL SCHEDULES
M5.02	MECHANICAL SCHEDULES
M6.01	MECHANICAL DETAILS
E0.01	ELECTRICAL SYMBOLS AND ABBREVIATIONS
EPD1.11	COMPOSITE LEVEL 1 ELECTRICAL POWER DEMOLITION PLAN
EPD1.12	COMPOSITE LEVEL 1 ELECTRICAL POWER DEMOLITION PLAN
EPD1.21	COMPOSITE LEVEL 2 ELECTRICAL POWER DEMOLITION PLAN
EP2.11A	LEVEL 1 ELECTRICAL POWER PLAN - A
EP2.11B	LEVEL 1 ELECTRICAL POWER PLAN - B
EP2.11C	LEVEL 1 ELECTRICAL POWER PLAN - C
EP2.11D	LEVEL 1 ELECTRICAL POWER PLAN - D
EP2.11E	LEVEL 1 ELECTRICAL POWER PLAN - E
EP2.11F	LEVEL 1 ELECTRICAL POWER PLAN - F
EP2.11G	LEVEL 1 ELECTRICAL POWER PLAN - G
EP2.21A	LEVEL 2 ELECTRICAL POWER PLAN - A
EP2.21B	LEVEL 2 ELECTRICAL POWER PLAN - B
EP2.21C	LEVEL 2 ELECTRICAL POWER PLAN - C
EP2.21D	LEVEL 2 ELECTRICAL POWER PLAN - D
E3.01	ELECTRICAL ENLARGED POWER PLANS
E4.01	ELECTRICAL ONE-LINE DIAGRAM
E4.02	ELECTRICAL ONE-LINE DIAGRAM
E5.01	ELECTRICAL SCHEDULES
E5.02	ELECTRICAL SCHEDULES
E6.01	ELECTRICAL DETAILS

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: COVER SHEET
SHEET NUMBER: G0.00

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

Plotted: Mar 23, 2022, 2:10 PM by user: rtijerina Saved: 3/23/2022 by user: rtijerina
C:\Users\rtijerina\AC3Docs\DBR Inc\218007.002 - ECISD - District Wide HVAC Improvements - MMS\Project Files\Drawings\0M-218007-002-DETAILS AND SCHEDULES.dwg

ABBREVIATIONS

A

	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT, AIR COMPRESSOR
ACCH	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
AHRI	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
CLG	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
EWT	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
HWR	HOT WATER RETURN
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
NIC	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
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
OFCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK

P

PG	PRESSURE GAUGE
PP	POLYPROPYLENE
PPM	PART PER MILLION
PRI	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	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RE	REFERENCE, REFER
RED	REDUCER
REFR	REFRIGERATOR
REG	REGISTER
REINF	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
SIM	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	THRUST BLOCK
THERM	THERMOMETER
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TW	TEMPERED HOT WATER
TYP	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
VIB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VR	VARIABLE AIR VOLUME REHEAT
VTR	VENT THRU ROOF

W

W	WATT, WIDTH
W/	WITH
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

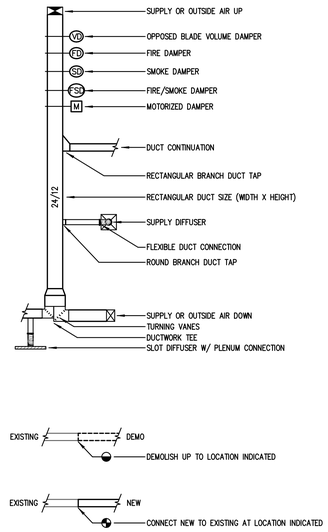
Y

Y	YARD HYDRANT

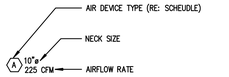
Z

Z	ZONE

DUCTWORK



AIR DEVICE TYPES



SQUARE SUPPLY AIR CEILING DIFFUSER

SQUARE RETURN AIR CEILING DEVICE

SQUARE EXHAUST AIR CEILING DEVICE

ROUND SUPPLY AIR CEILING DEVICE

RECTANGULAR SUPPLY OF RETURN SIDEWALL GRILLE

SUPPLY OR RETURN AIR SLOT CEILING DEVICE

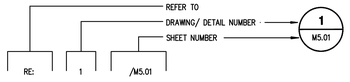
WALL MOUNTED SENSOR TYPES

T	THERMOSTAT
H	HUMIDISTAT
C	CARBON DIOXIDE SENSOR
CM	CARBON MONOXIDE SENSOR
N	NITROGEN DIOXIDE SENSOR
$	ON/OFF SWITCH

PIPING TYPES

CD	CONDENSATE DRAIN LINE
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
REF	REFRIGERANT PIPING SIZED BY MFR.

DRAWING/DETAIL REFERENCE KEY



MECHANICAL GENERAL NOTES

1. 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.
2. EXACT LOCATIONS OF VAV TERMINAL UNITS, GRILLES, AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.
3. 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.
4. 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".
5. PROVIDE CONICAL SPIN-IN CONNECTOR FOR ALL ROUND DUCT CONNECTIONS TO VAV TERMINAL UNIT INLETS.
6. INSTALL VAV TERMINAL UNITS TO ENSURE ACCESS PANELS ARE NOT BLOCKED. ACCESS FOR SERVICE MUST BE PROVIDED.
7. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
8. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS.
9. PROVIDE RECTANGULAR BRANCH DUCT TAP FOR ALL RECTANGULAR DUCT CONNECTIONS TO RECTANGULAR DUCT TRUNKS.
10. ALL MEDIUM AND LOW PRESSURE DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR MEDIUM AND LOW PRESSURE DUCTWORK.
11. 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.
12. 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.
13. ALL EXPOSED DUCTWORK AND PIPING WITH ASSOCIATED ACCESSORIES IN AREAS WITH NO CEILING OR PARTIAL CEILING SHALL BE PAINTED. REFER TO ARCHITECT FOR COLOR.
14. DIVISION 23 MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE SENSORS AND HUMIDITY SENSORS.
15. PROVIDE REMOTE SPIN-IN DAMPER OPERATOR FOR SPIN-IN CONNECTIONS AND VOLUME DAMPERS LOCATED OVER GYPSUM CEILINGS.
16. PROVIDE AIRFOIL TYPE TURNING VANES IN ALL 90 DEGREE ELBOWS.
17. COORDINATE LOCATIONS OF FLOOR AND WALL OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
18. ALL CEILING MOUNTED AND WALL MOUNTED AIR DEVICE FINISHES SHALL MATCH ADJACENT ARCHITECTURAL SURFACE. CONTRACTOR SHALL COORDINATE COLOR WITH ARCHITECT.
19. NO PIPE HANGERS SHALL BE SPACED MORE THAN 10'-0" O.C. COMPLY WITH PIPE SPACING AS SPECIFIED IN THE PIPING SUPPORT SPECIFICATIONS.
20. 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.
21. MECHANICAL CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR FOR ALL CONDENSATE DRAIN PIPES CONNECTING TO A SINK DRAIN TAIL PIECE.
22. CONTRACTOR SHALL CUT AND REMOVE PORTIONS OF "HARD CEILINGS" AS NECESSARY TO INSTALL NEW EQUIPMENT. CONTRACTOR SHALL RE-PAINT ALL HARD CEILINGS TO MATCH EXISTING CONDITIONS. ANY DAMAGED "LAY-IN" CEILINGS DAMAGED DURING THE REMOVAL PROCESS SHALL BE REPLACED WITH NEW "CEILING TILES" AT CONTRACTOR'S EXPENSE.

CONTROLS SCHEMATIC SYMBOLS LEGEND

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

MECHANICAL PIPING SYMBOLS

CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CD	CONDENSATE DRAIN LINE
	CAP ON END OF PIPE
	ELBOW UP
	ELBOW DOWN
	VALVE IN DROP
	VALVE IN RISE
	DIRECTION OF FLOW
	DIRECTION OF SLOPE DOWN
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	TEE OUTLET UP
	TEE OUTLET DOWN
	UNION
	FLANGE
	PIPE ANCHOR
	EXPANSION JOINT
	PRESSURE AND TEMPERATURE TAP
	FLOW VENTURI
	VACUUM BREAKER
	VACUUM RELIEF VALVE
	BACKFLOW PREVENTOR
	THERMOMETER
	CIRCULATING PUMP
	STRAINER WITH BLOW DOWN VALVE
	GATE VALVE, HVAC BALANCING/STOP VALVE
	GLOBE VALVE
	BALL VALVE
	BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS
	OS&Y VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	TWO-WAY MODULATING CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	GAS REGULATOR
	GAS COCK
FCS	SPRINKLER FLOOR CONTROL STATION
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	T&P RELIEF VALVE
	PRESSURE GAUGE WITH GAUGE COCK
	STEAM TRAP
	WATER METER
	FLEXIBLE CONNECTION

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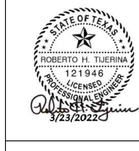
No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:



EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE:

1

MECHANICAL LEGEND

SHEET NUMBER:

M0.01

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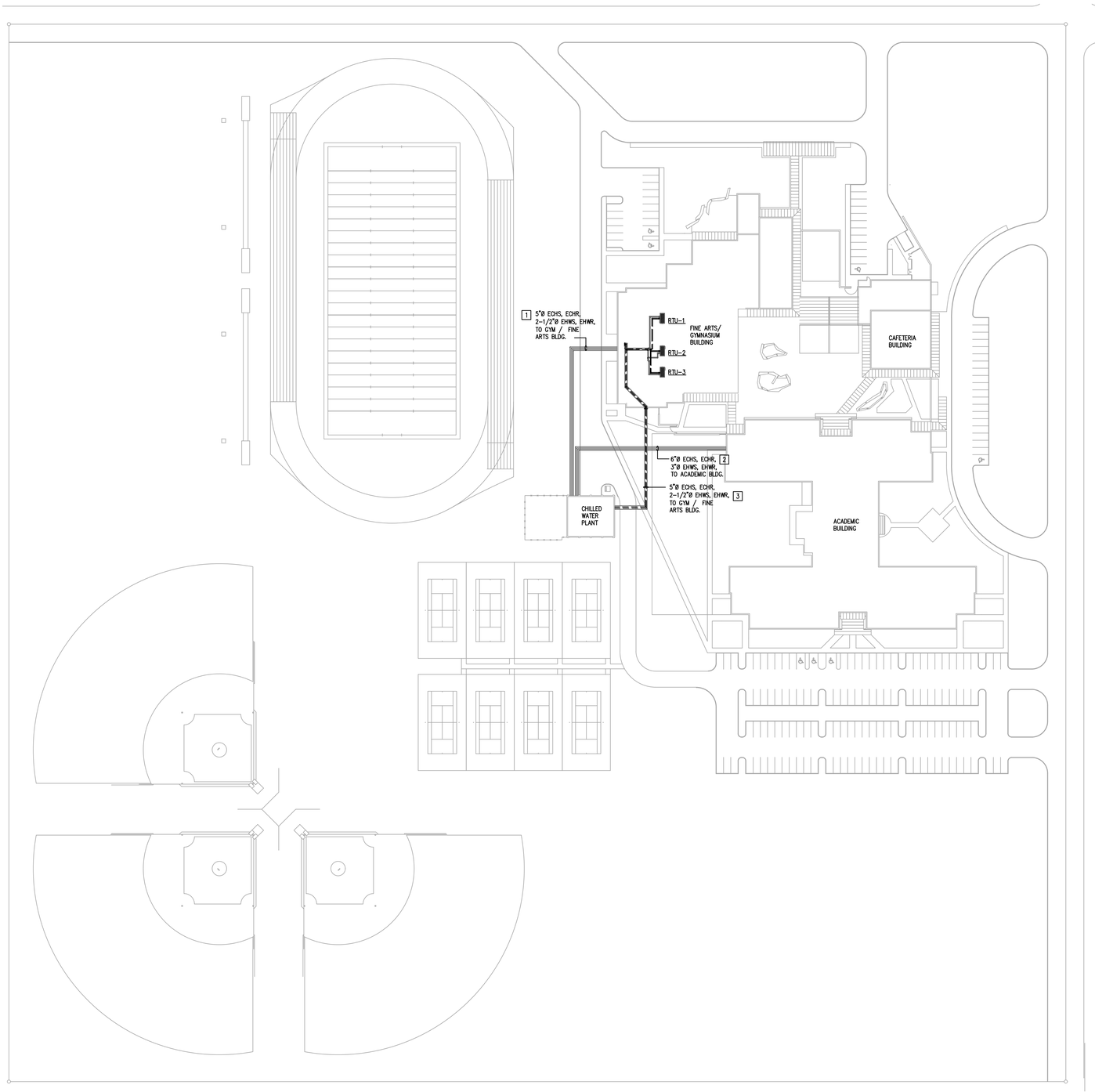
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---



1 MEP1.01 MEP SITE PLAN
1"=60'-0"

MECHANICAL GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPUSHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. WHERE EQUIPMENT IS SCHEDULED TO BE DEMOLISHED/REMOVED AND REPLACED, THE CONTRACTOR SHALL PREP ALL OPENINGS, CONNECTIONS, FLASHING, PENETRATIONS, DUCT OR PIPING FITTINGS, ETC. TO ACCOMMODATE THE NEW EQUIPMENT. IT IS UNLIKELY THAT NEW EQUIPMENT SPECIFIED IN NEW WORK PHASE WILL DIRECTLY ALIGN WITH EXISTING CONDITIONS.

E. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

F. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

G. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

H. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

I. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

J. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

K. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

L. CONTRACTOR SHALL CUT AND REMOVE PORTIONS OF "HARD CEILINGS" AS NECESSARY TO INSTALL NEW EQUIPMENT. CONTRACTOR SHALL RE-PAINT ALL HARD CEILINGS TO MATCH EXISTING CONDITIONS. ANY DAMAGED "LAY-IN" CEILINGS DAMAGED DURING THE REMOVAL PROCESS SHALL BE REPLACED WITH NEW "CEILING TILES" AT CONTRACTOR'S EXPENSE.

M. SCOPE OF WORK REQUIRES CONTRACTOR TO CONNECT TO EXISTING CHILLED WATER DISTRIBUTION PIPING. CONTRACTOR SHALL USE ALL MEANS NECESSARY TO VERIFY THE FUNCTION (SUPPLY AND RETURN) OF THE CHILLED WATER AND HOT WATER PIPE PRIOR TO COMMENCEMENT OF WORK. ANY REWORK REQUIRED DUE TO REVERSE CONNECTION OF PIPE SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.

N. ANY WORK RELATED TO CHILLED WATER SYSTEM SHUT-OFF SHALL BE DONE AFTER HOURS OR WEEKENDS AND SHALL BE COORDINATED WITH OWNER A MINIMUM OF 10 DAYS ADVANCED NOTICE SHALL BE PROVIDED TO OWNER AND ENGINEER.

MECHANICAL DEMOLITION KEY NOTES:

1. EXISTING ABANDONED UNDERGROUND CHS/R AND HWS/R TO REMAIN.
2. EXISTING CHS/R LINES TO REMAIN. CONTRACTOR SHALL DRAIN, CAP, AND ABANDON EXISTING HWS/R LINES. COORDINATE EXTENT OF DEMOLITION WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
3. EXISTING CHS/R AND HWS/R LINES RUN OVERHEAD ON STEEL PIPE SUPPORTS. EXISTING CHS/R LINES TO REMAIN. CONTRACTOR SHALL DEMOLISH EXISTING HWS/R LINES. COORDINATE EXTENT OF DEMOLITION WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.

LEGEND:

- - - - - - - EXISTING TO BE DEMOLISHED
——————— EXISTING TO REMAIN

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San Antonio, Texas 78216
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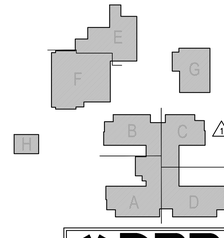
REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542



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Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number	218007.002

HA	JA	JB	---	---

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: MEP SITE PLAN
SHEET NUMBER: MEP1.01

Plotted: Mar 23, 2022, 9:10 PM by user: rtijerina Saved: 3/23/2022 by user: rtijerina
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MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

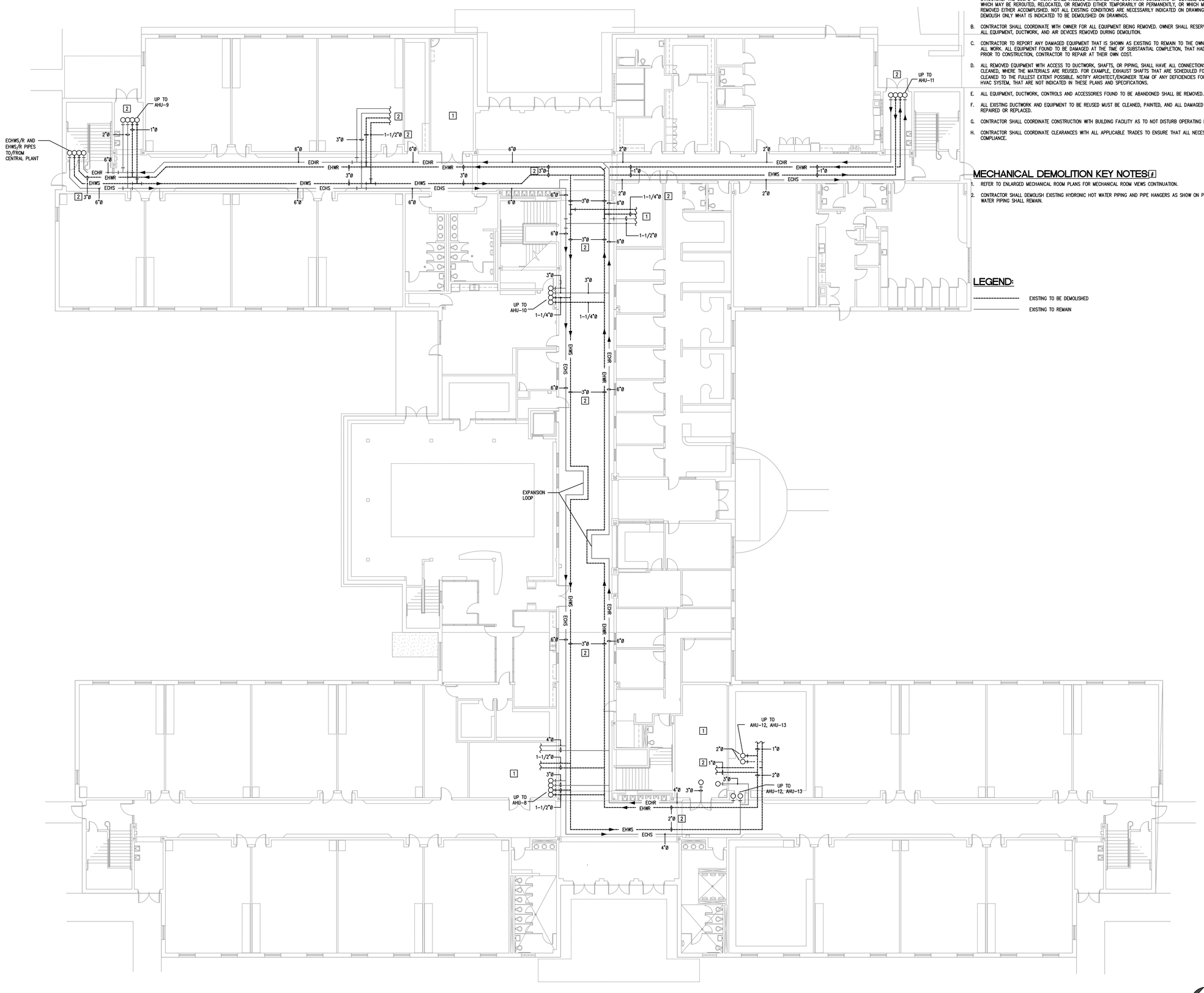
H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. CONTRACTOR SHALL DEMOLISH EXISTING HYDRONIC HOT WATER PIPING AND PIPE HANGERS AS SHOW ON PLANS. CHILLED WATER PIPING SHALL REMAIN.

LEGEND:

- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN



1 MD1.11 COMPOSITE LEVEL 1 MECHANICAL DEMO HYDRONIC PIPING PLAN
3/32" = 1'-0"

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San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

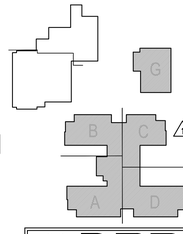
SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



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Houston, Texas 77042
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DBR Project Number	218007.002

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PLAN NORTH

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: COMPOSITE LEVEL 1 MECHANICAL DEMO HYDRONIC PIPING PLAN
SHEET NUMBER: MD1.11

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

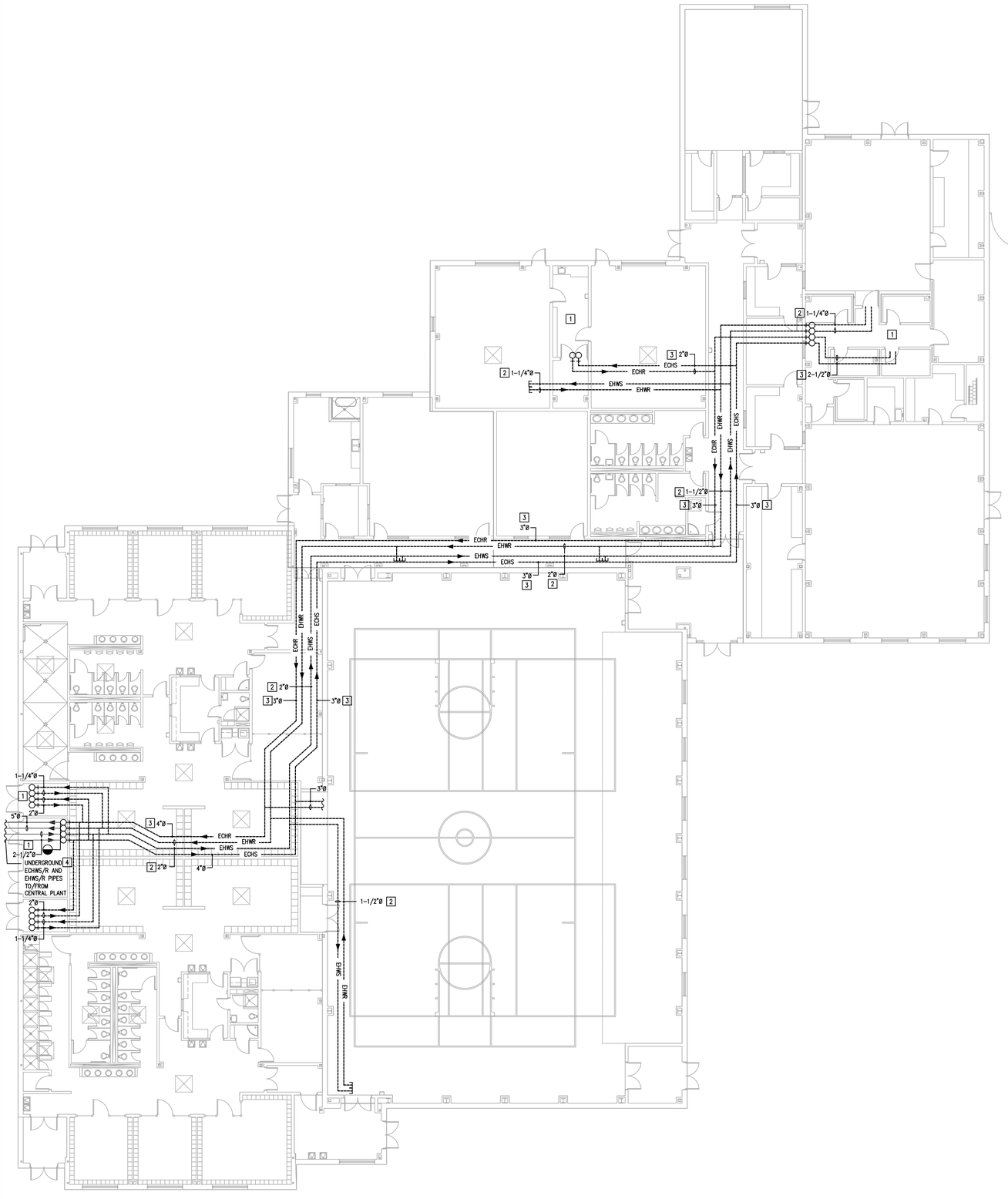
MECHANICAL DEMOLITION KEY NOTES:

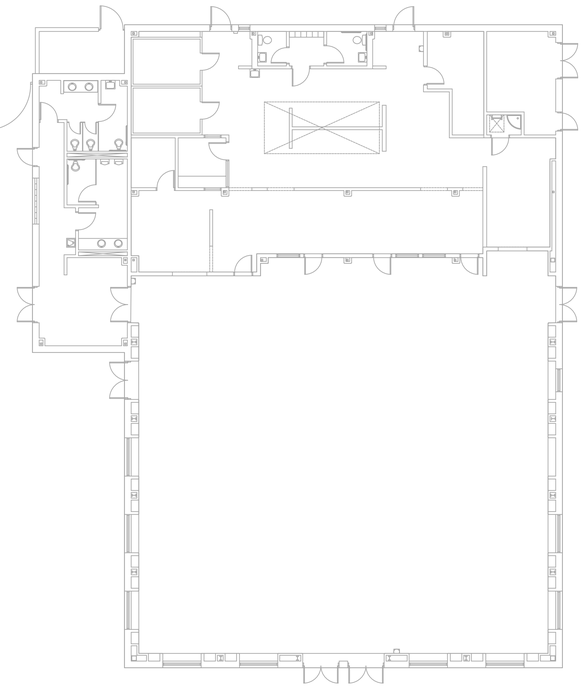
1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. CONTRACTOR SHALL DEMOLISH EXISTING HYDRONIC HOT WATER PIPING AND PIPE HANGERS AS SHOW ON PLANS.
3. CONTRACTOR SHALL DEMOLISH EXISTING CHILLED WATER PIPING AND PROVIDE NEW CHILLED WATER PIPING AS SHOWN ON PLANS. EXISTING PIPE HANGERS MAY BE RE-USED FOR NEW CHILLED WATER PIPING.
4. CONTRACTOR SHALL DRAIN, CAP, AND ABANDON UNDERGROUND CHILLED WATER AND HYDRONIC HOT WATER PIPING.

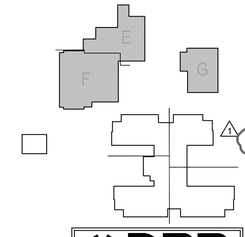
LEGEND:

---------- EXISTING TO BE DEMOLISHED

———— EXISTING TO REMAIN







1 MD1.12 COMPOSITE LEVEL 1 MECHANICAL DEMO HYDRONIC PIPING PLAN
1"=20'-0"

TRUE NORTH

PLAN NORTH

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Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

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210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE:
COMPOSITE LEVEL 1 MECHANICAL DEMO HYDRONIC PIPING PLAN

SHEET NUMBER:
MD1.12

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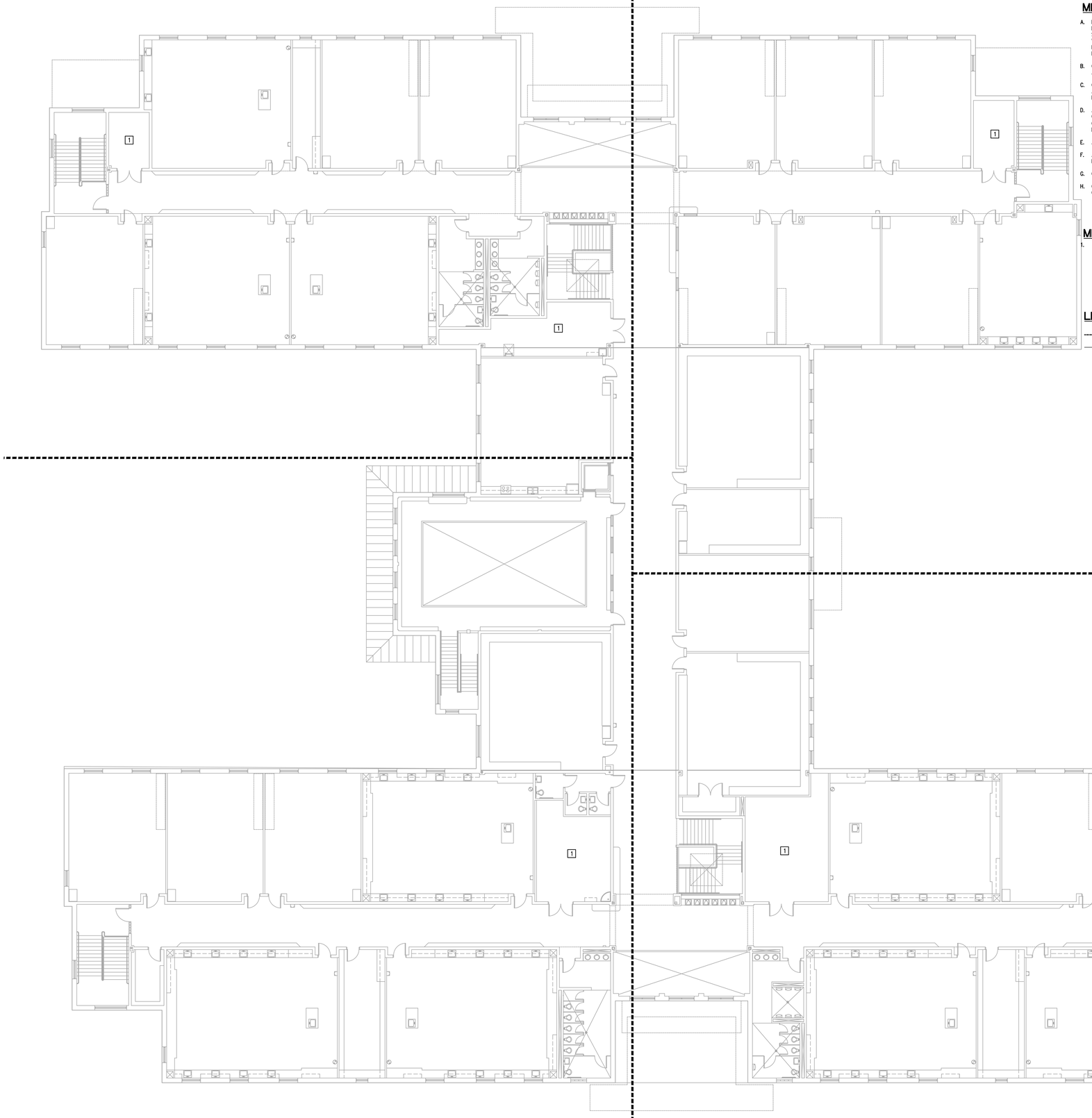

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

———————— EXISTING TO REMAIN

1 MD1.21 COMPOSITE LEVEL 2 MECHANICAL DEMO HYDRONIC PIPING PLAN

3/32" = 1'-0"

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PLAN NORTH

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210.546.0200 v 210.546.0201 f
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San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

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SEAL:

STATE OF TEXAS
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PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE:

COMPOSITE LEVEL 2 MECHANICAL DEMO HYDRONIC PLAN

SHEET NUMBER:

MD1.21

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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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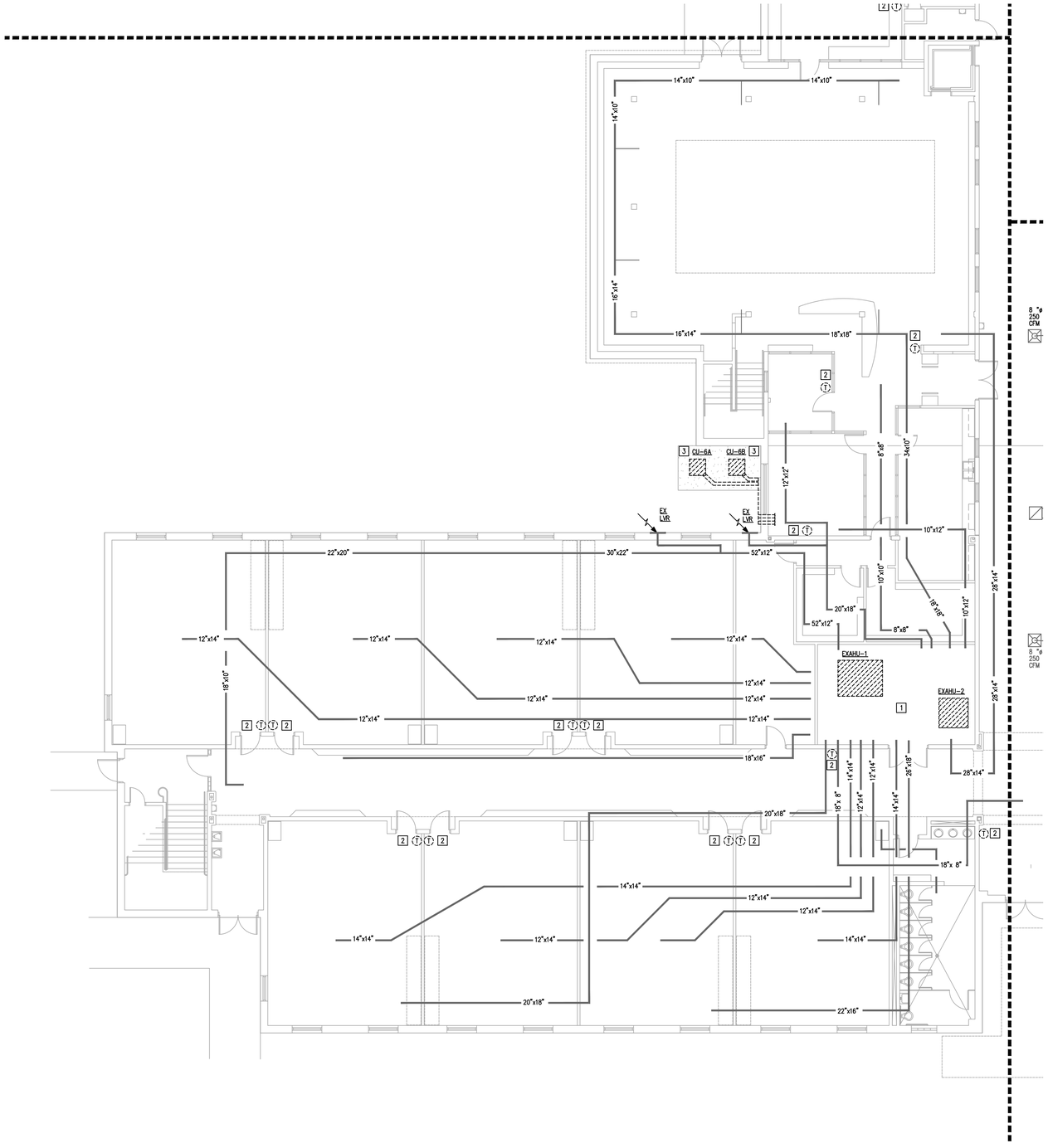

1 LEVEL 1 MECHANICAL DEMO PLAN - A
MD2.11A
1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.
3. CONTRACTOR SHALL DEMOLISH EXISTING CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. HOUSE KEEPING PAD SHALL BE REMOVED.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 MECHANICAL DEMO PLAN - A
SHEET NUMBER: MD2.11A

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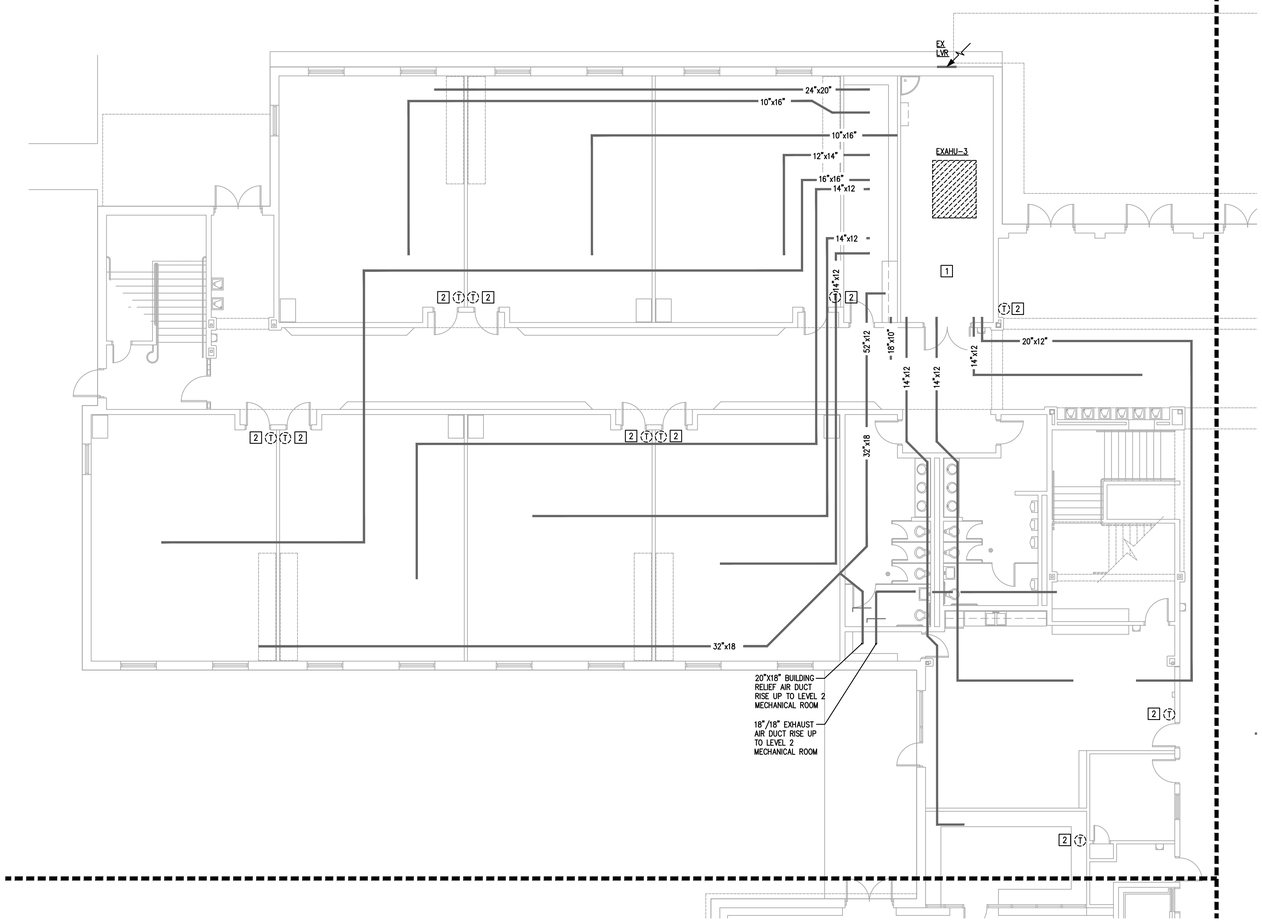
DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---



1 MD2.11B LEVEL 1 MECHANICAL DEMO PLAN - B
1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

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E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES: 1

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
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3. CONTRACTOR SHALL DEMOLISH EXISTING CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. HOUSE KEEPING PAD SHALL BE REMOVED.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

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210.546.0200 v 210.546.0201 f
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San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

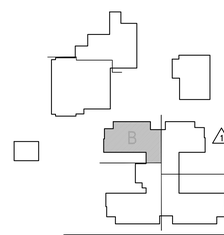
REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542



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DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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DATE: 3/23/2022

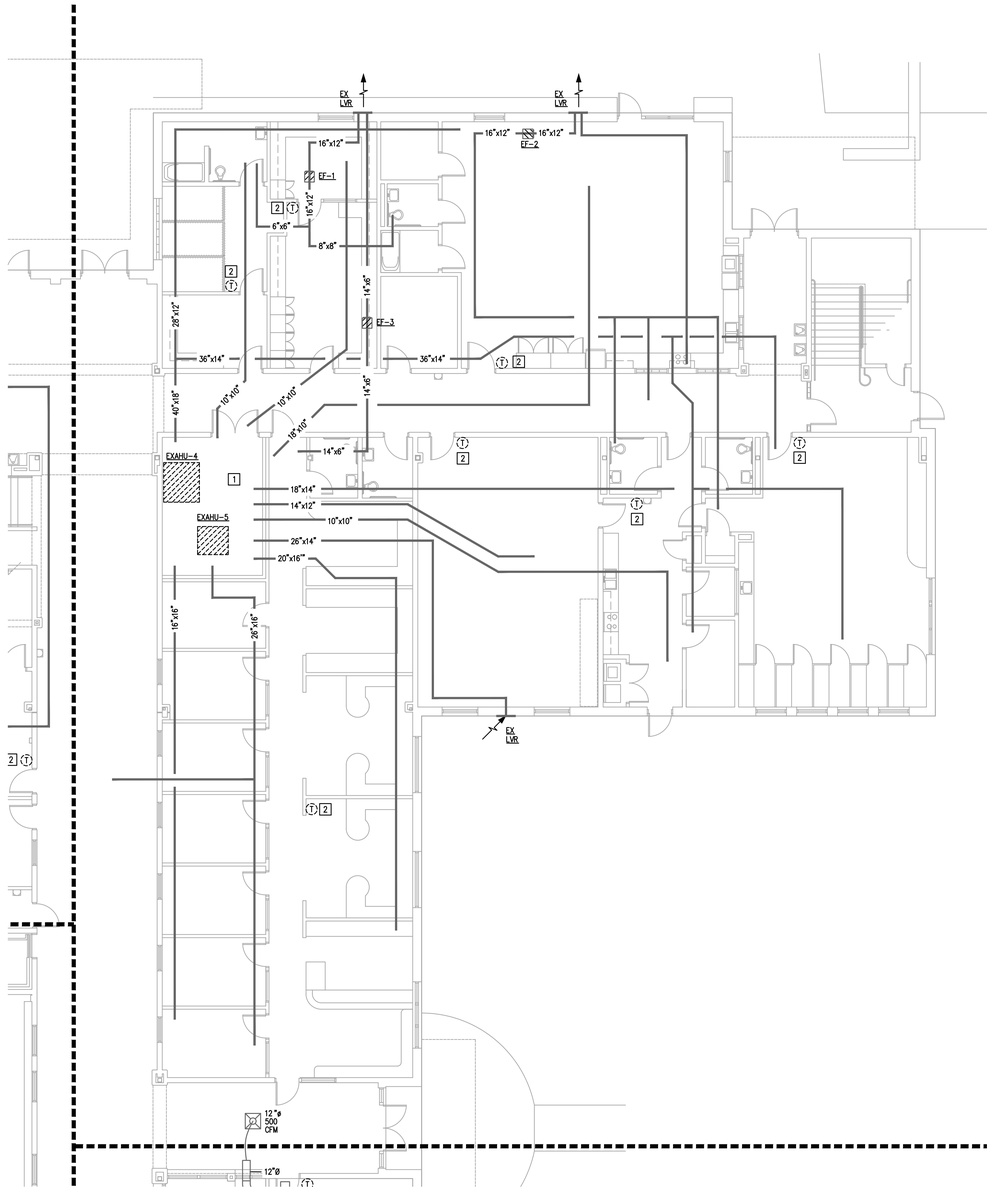
DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL DEMO PLAN - B

SHEET NUMBER: MD2.11B



1 MD2.11C LEVEL 1 MECHANICAL DEMO PLAN - C
1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.
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LEGEND:

---------- EXISTING TO BE DEMOLISHED

_____ EXISTING TO REMAIN

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210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

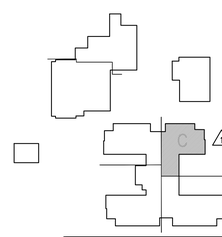
SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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DATE: 3/23/2022

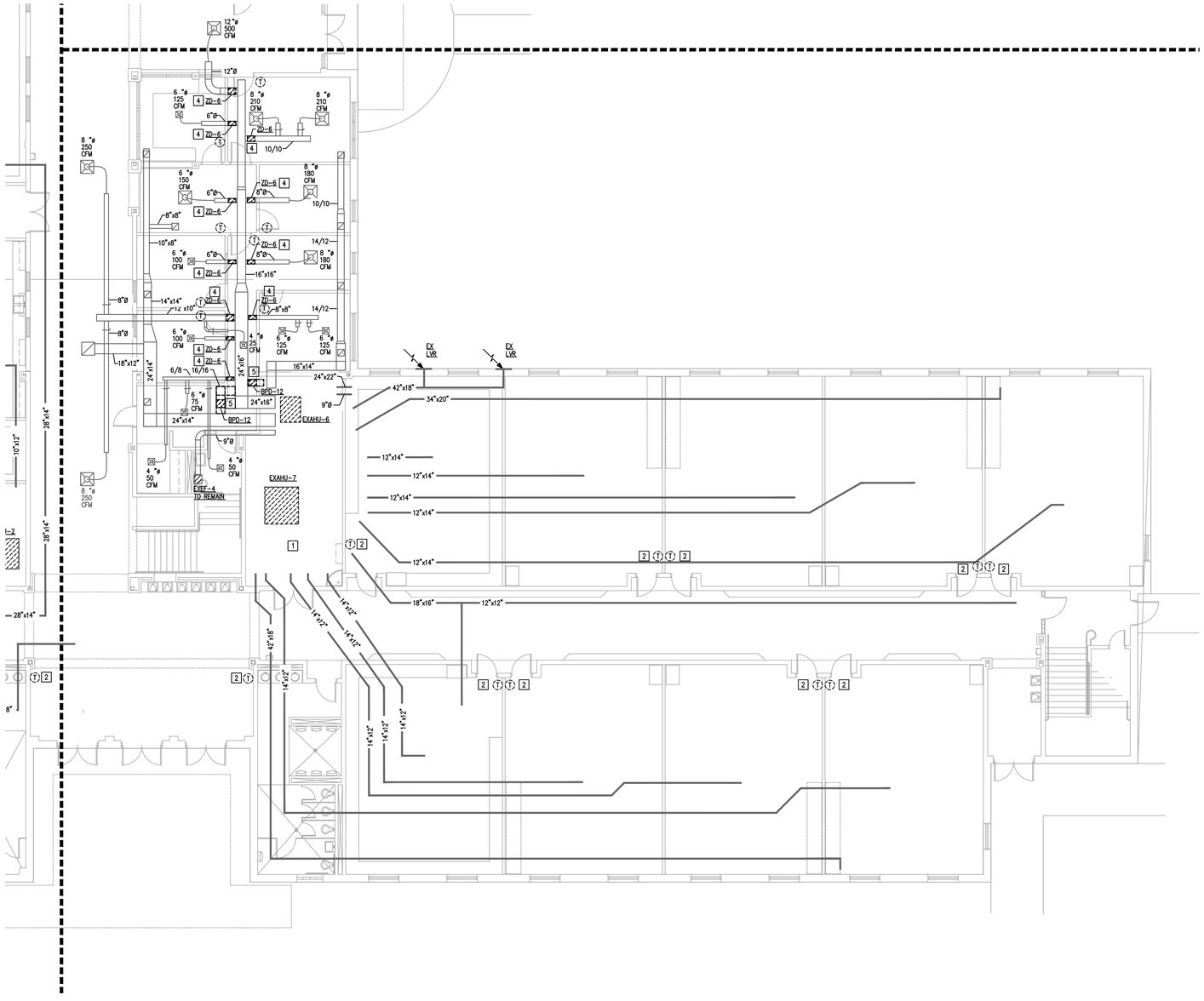
DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL DEMO PLAN - C

SHEET NUMBER: MD2.11C



1 MD2.110 LEVEL 1 MECHANICAL DEMO PLAN - D
1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.
3. CONTRACTOR SHALL DEMOLISH EXISTING CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. HOUSE KEEPING PAD SHALL BE REMOVED.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

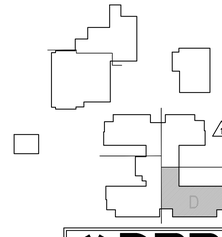
No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 MECHANICAL DEMO PLAN - D
SHEET NUMBER: MD2.11D



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DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
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TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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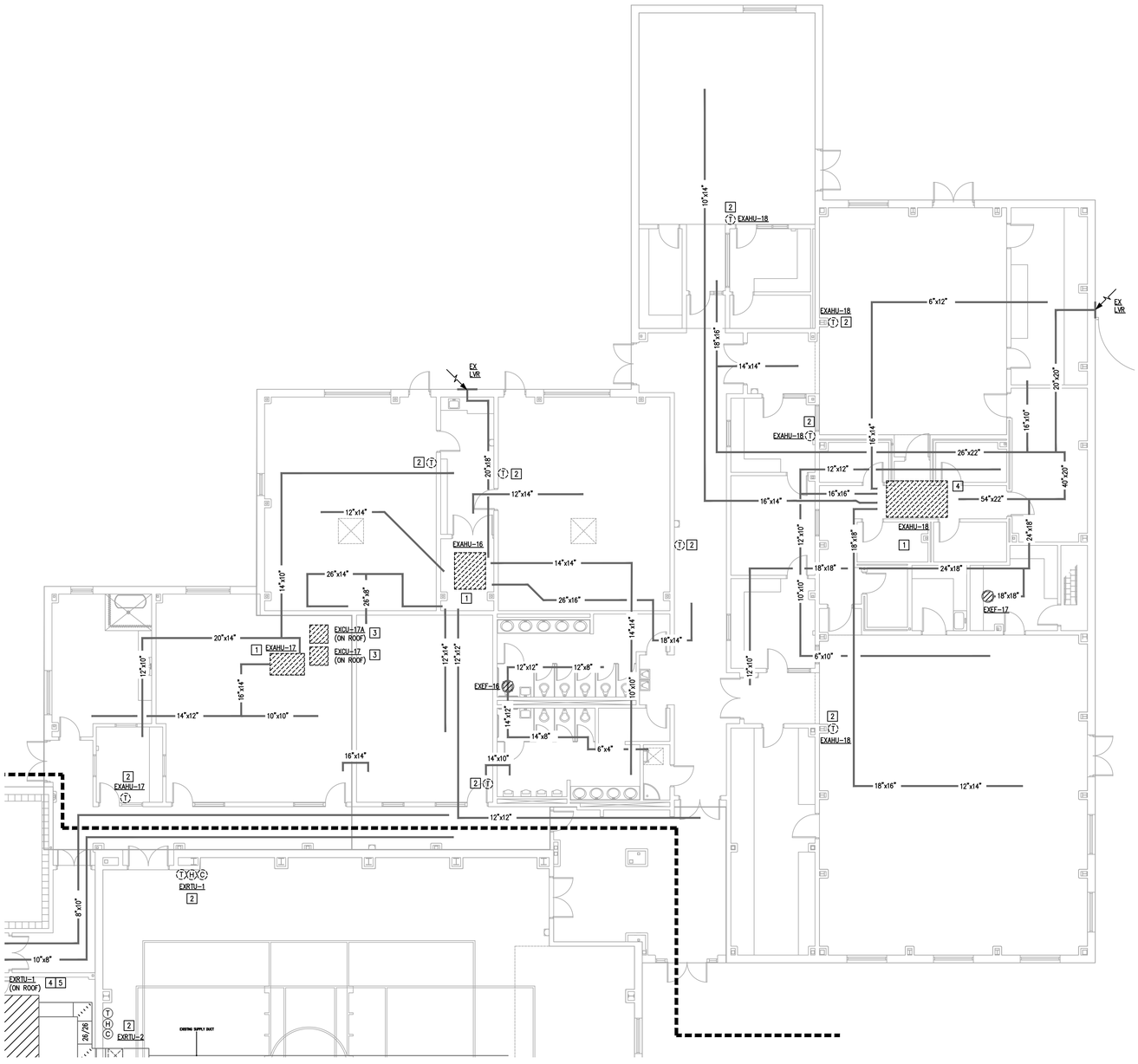

1 LEVEL 1 MECHANICAL DEMO PLAN - E

MD2.12E

1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

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H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.
3. EQUIPMENT LOCATED ON ROOF.
4. EQUIPMENT LOCATED ON MEZZANINE.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

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210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

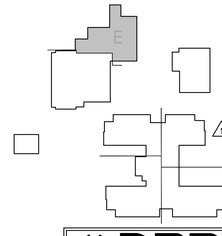
No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



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Houston, Texas 77042
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TBPE Firm Registration No. 2234

DBR Project Number	218007.002

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DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL DEMO PLAN - E

SHEET NUMBER: MD2.12E

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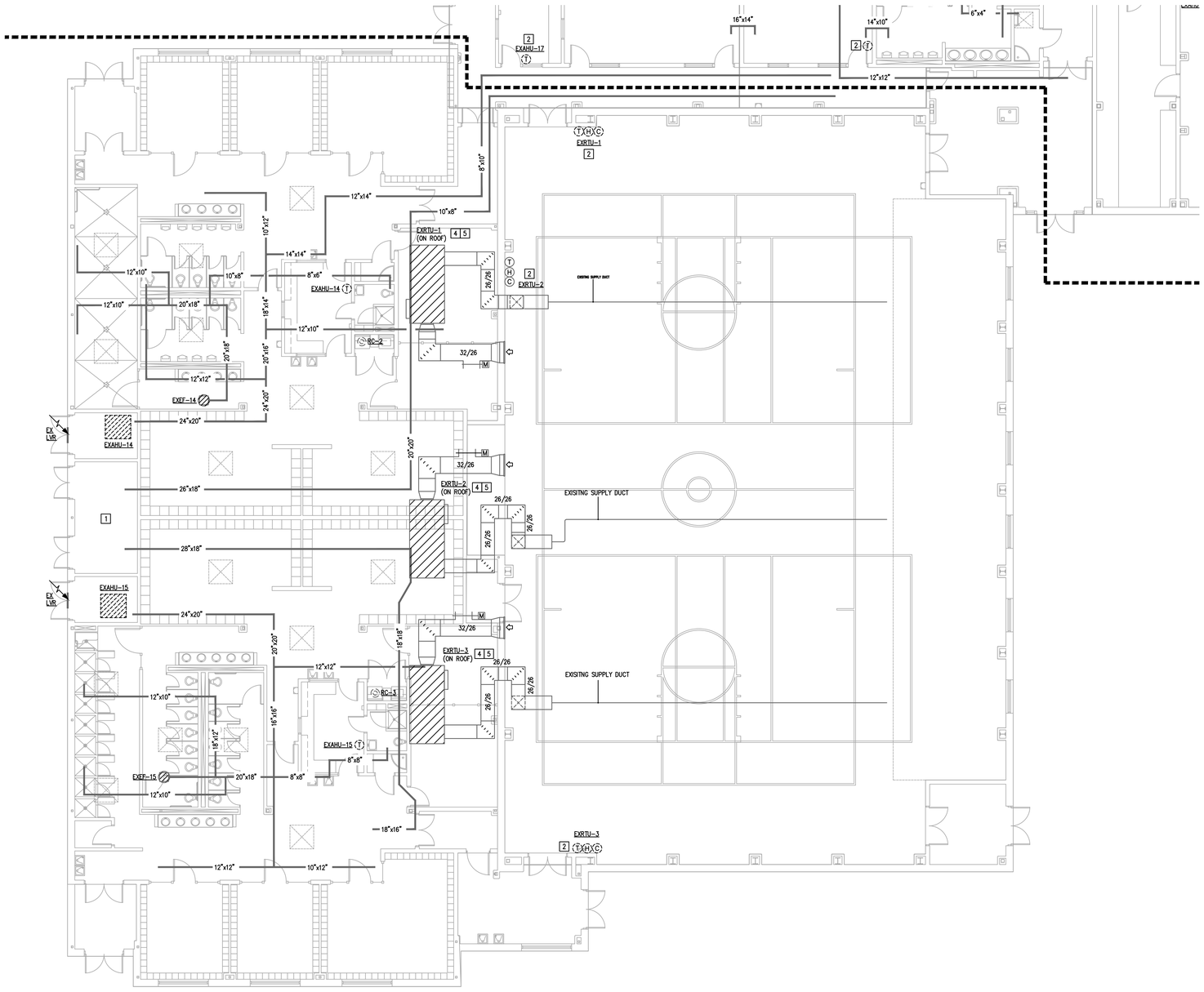

1 LEVEL 1 MECHANICAL DEMO PLAN - F

MD2.12F

1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.
3. CONTRACTOR SHALL DEMOLISH EXISTING CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. HOUSE KEEPING PAD SHALL REMAIN AND BE MODIFIED AS NECESSARY TO ACCOMMODATE NEW EQUIPMENT.
4. EQUIPMENT LOCATED ON ROOF.
5. CONTRACTOR SHALL DEMOLISH HOT WATER PIPING TO ROOF TOP UNIT AND ABANDON HOT WATER COIL. UNIT WILL RECEIVE AN ELECTRIC DUCT HEATER. COORDINATE WITH NEW WORK REQUIREMENTS. REFERENCE SITE PLAN FOR HOT WATER PIPING ROUTING.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

_____ EXISTING TO REMAIN

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210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

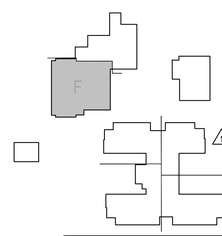
REVISION#

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542



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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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DATE: 3/23/2022

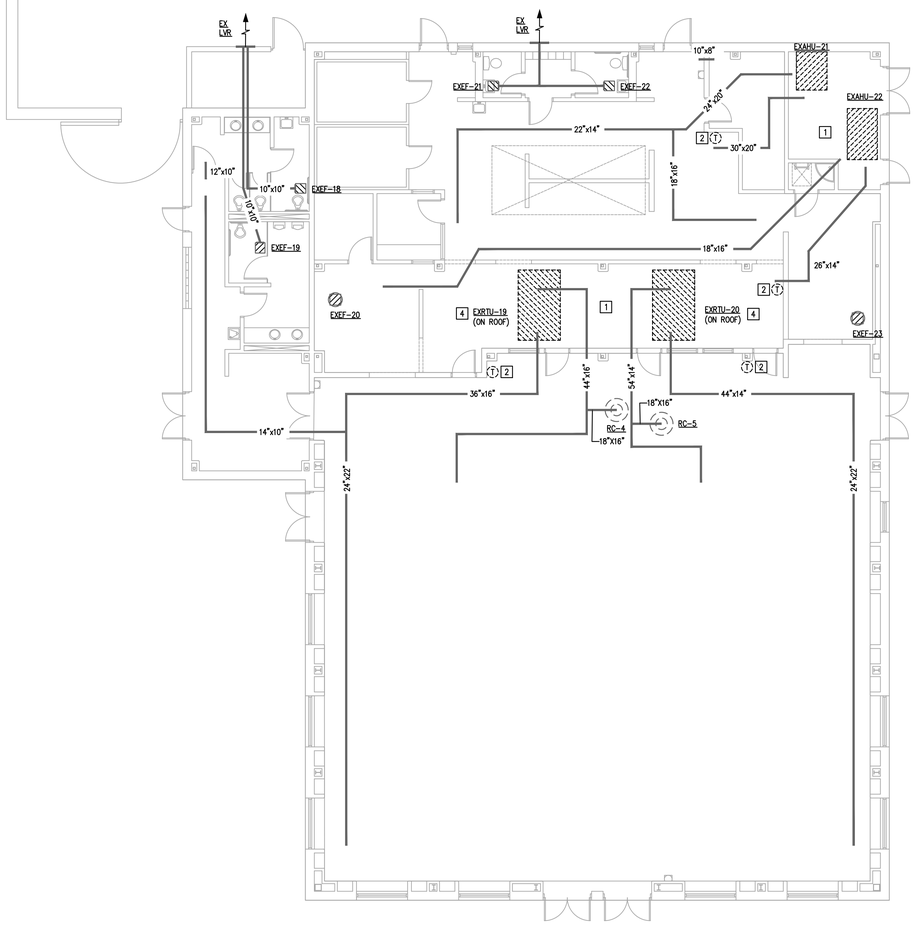
DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL DEMO PLAN - F.

SHEET NUMBER: MD2.12F



1 MD2.13G LEVEL 1 MECHANICAL DEMO PLAN - G

1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.
3. EQUIPMENT LOCATED ON ROOF.
4. EQUIPMENT LOCATED ON MEZZANINE.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

———— EXISTING TO REMAIN

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TBPE Firm Registration NO. 2234

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SEAL:

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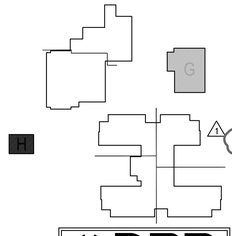
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



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Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number	218007.002			
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DATE: 3/23/2022

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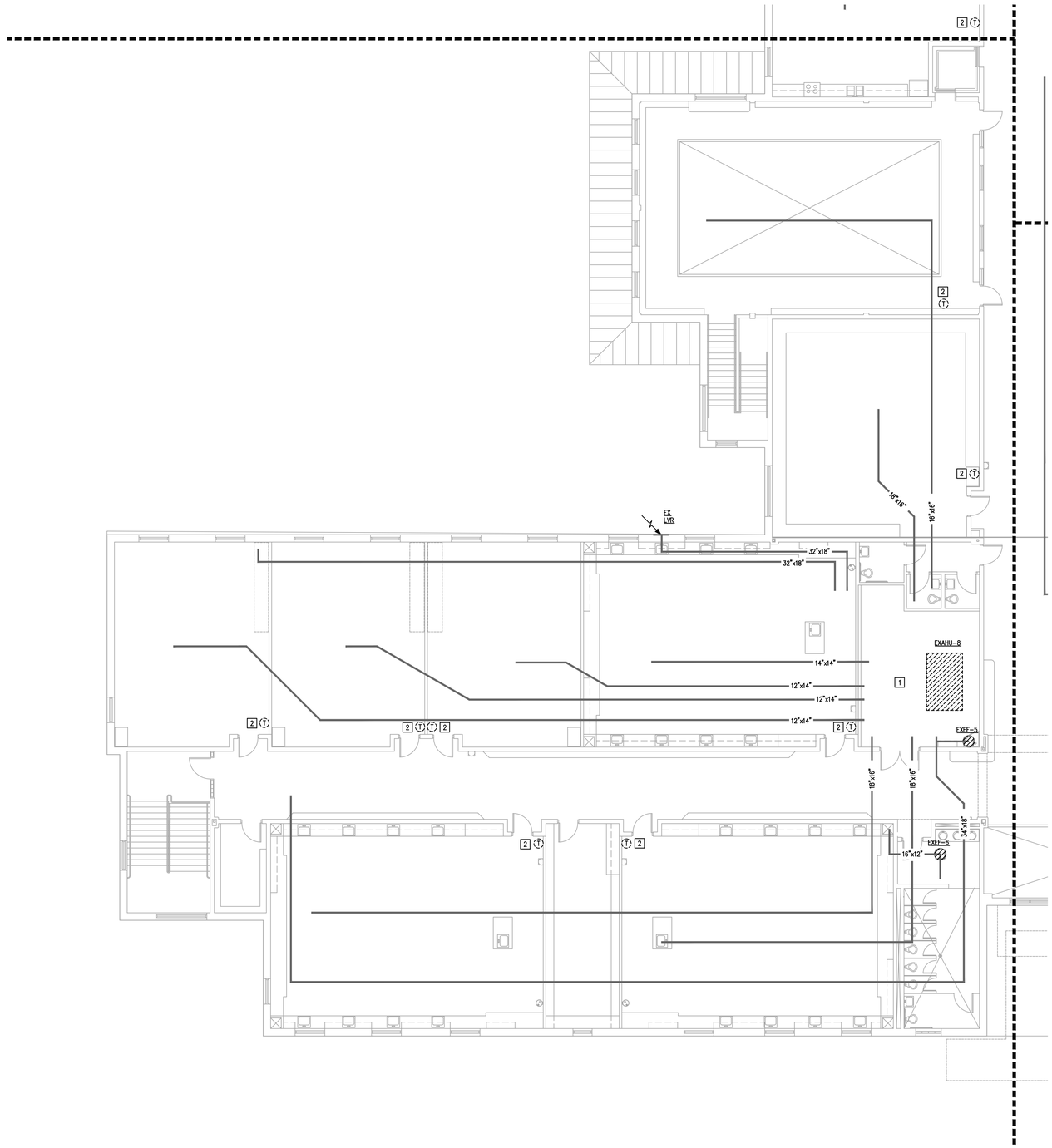
PROJECT NUMBER: 218007.002

SHEET TITLE:

LEVEL 1 MECHANICAL DEMO PLAN - G

SHEET NUMBER:

MD2.13G



MECHANICAL DEMO GENERAL NOTES:

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C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETON, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

1 / MD2.21A LEVEL 2 MECHANICAL DEMO PLAN - A

1/8" = 1'-0"

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REVISION:

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SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
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LICENSED
PROFESSIONAL ENGINEER
3/23/2022

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MEMORIAL MS - HVAC IMPROVEMENTS

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DATE: 3/23/2022

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PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 2 MECHANICAL DEMO PLAN - A

SHEET NUMBER: MD2.21A

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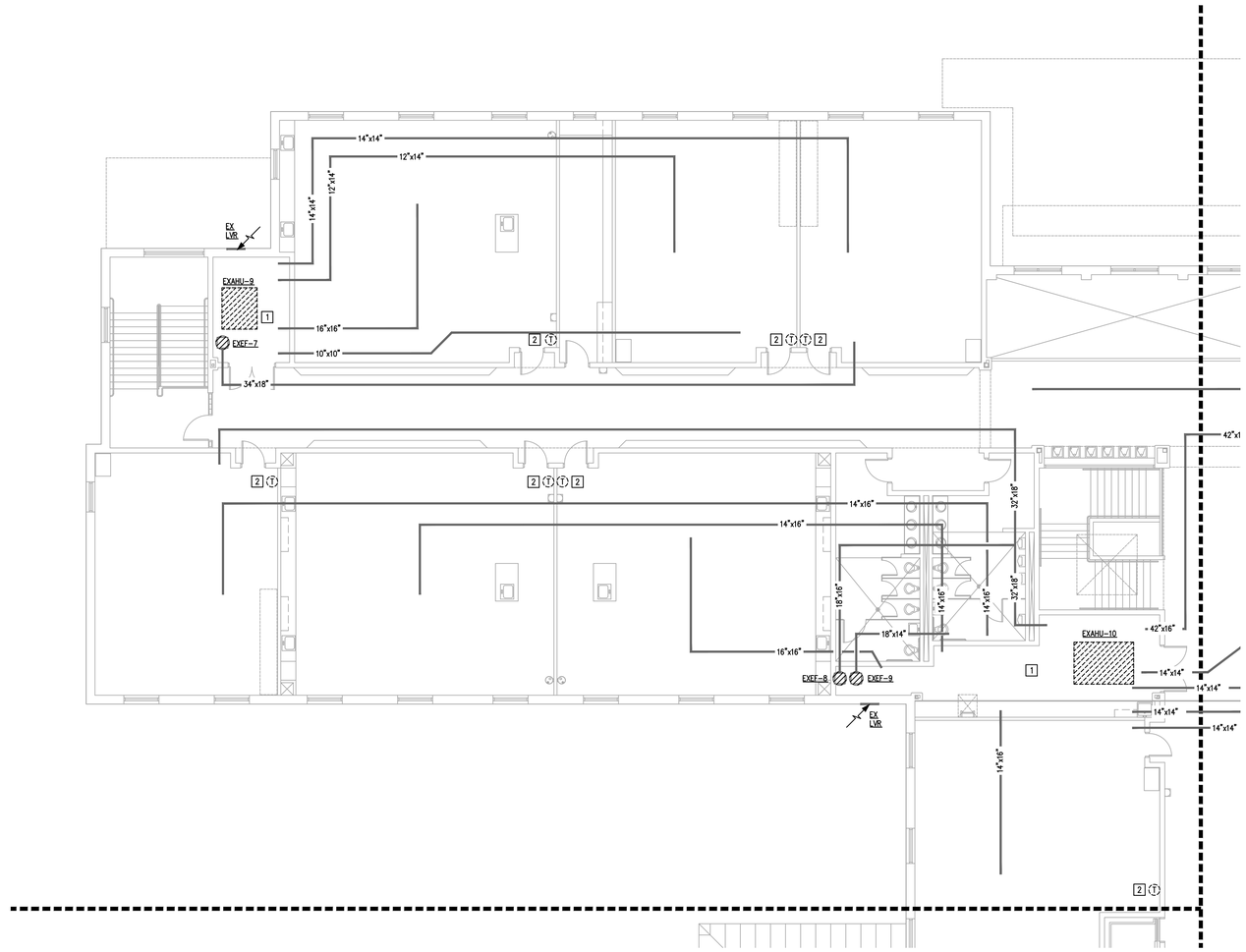

LEVEL 2 MECHANICAL DEMO PLAN - B

1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

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210.546.0200 v 210.546.0201 f
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San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

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SEAL:

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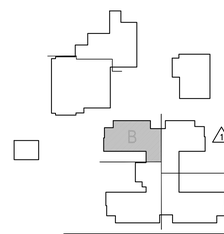
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 2 MECHANICAL DEMO PLAN - B
SHEET NUMBER: MD2.21B



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TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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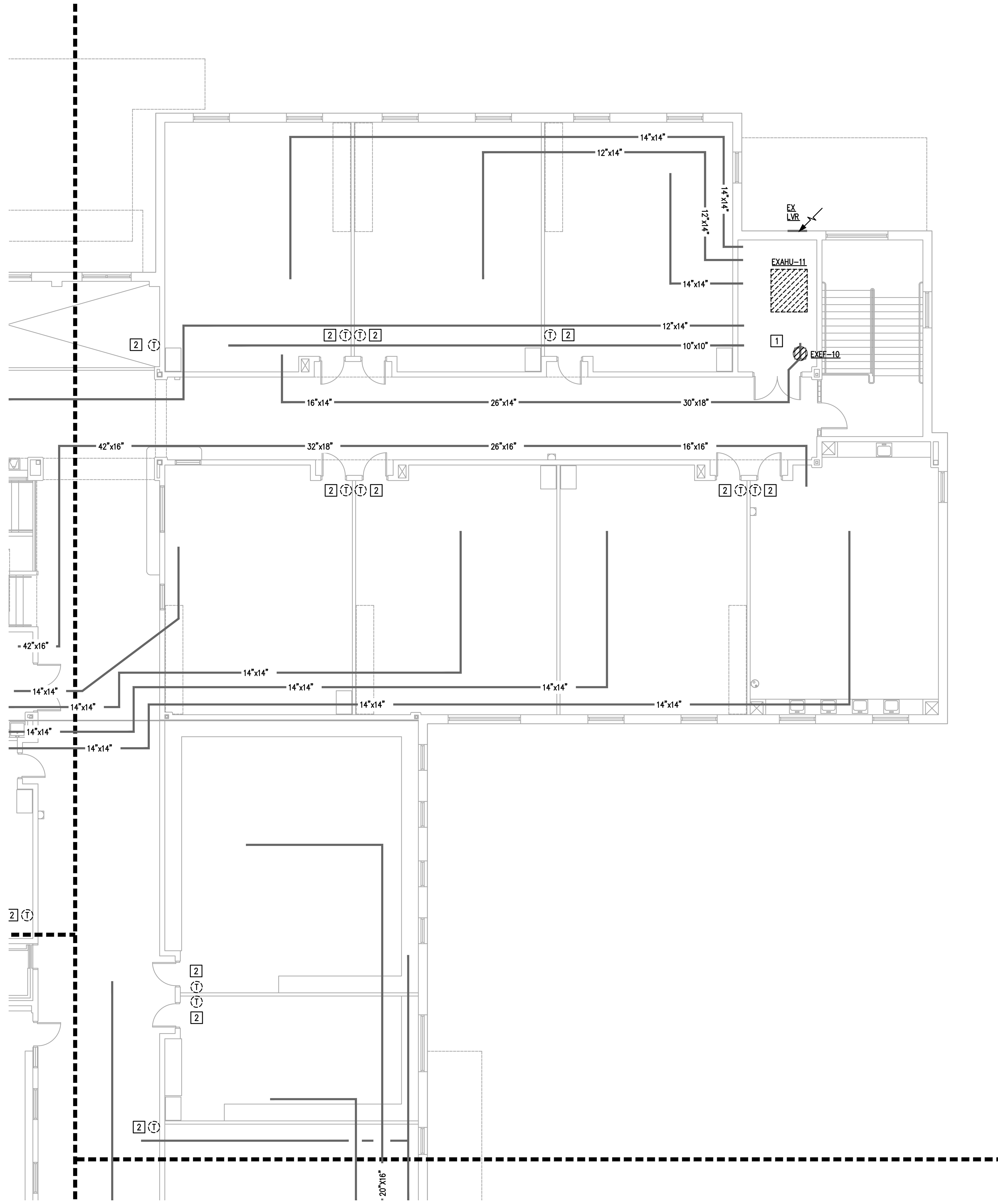

1 MD2.21C LEVEL 2 MECHANICAL DEMO PLAN - C

1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

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G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. EXISTING T-STAT AND CONDUCTORS SHALL BE REMOVED. EXISTING J-BOX SHALL REMAIN FOR RE-USE.

LEGEND:

------------------	EXISTING TO BE DEMOLISHED
══════	EXISTING TO REMAIN

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9601 McAllister Freeway, Suite 410
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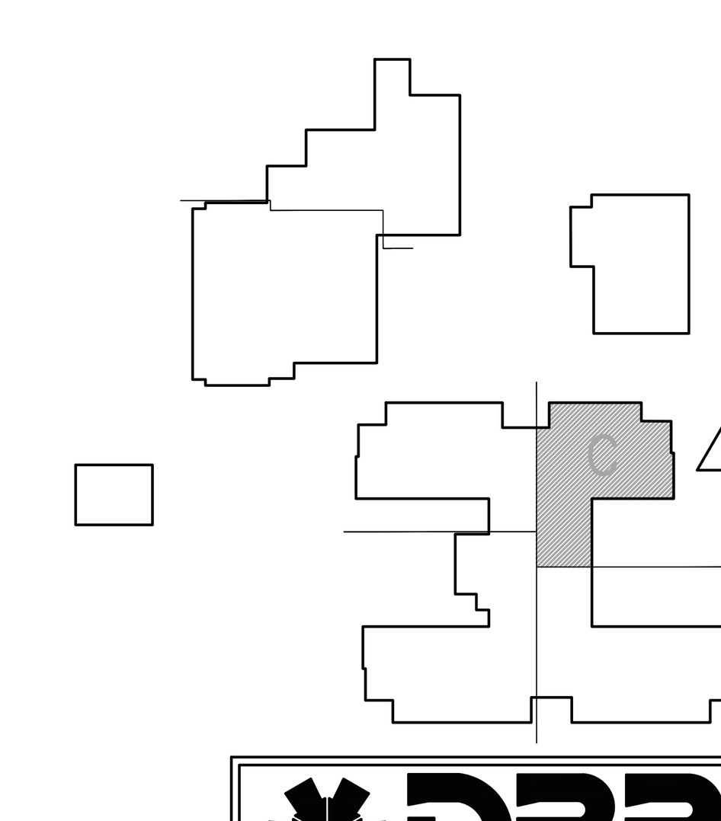
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 2 MECHANICAL DEMO PLAN - C
SHEET NUMBER: MD2.21C



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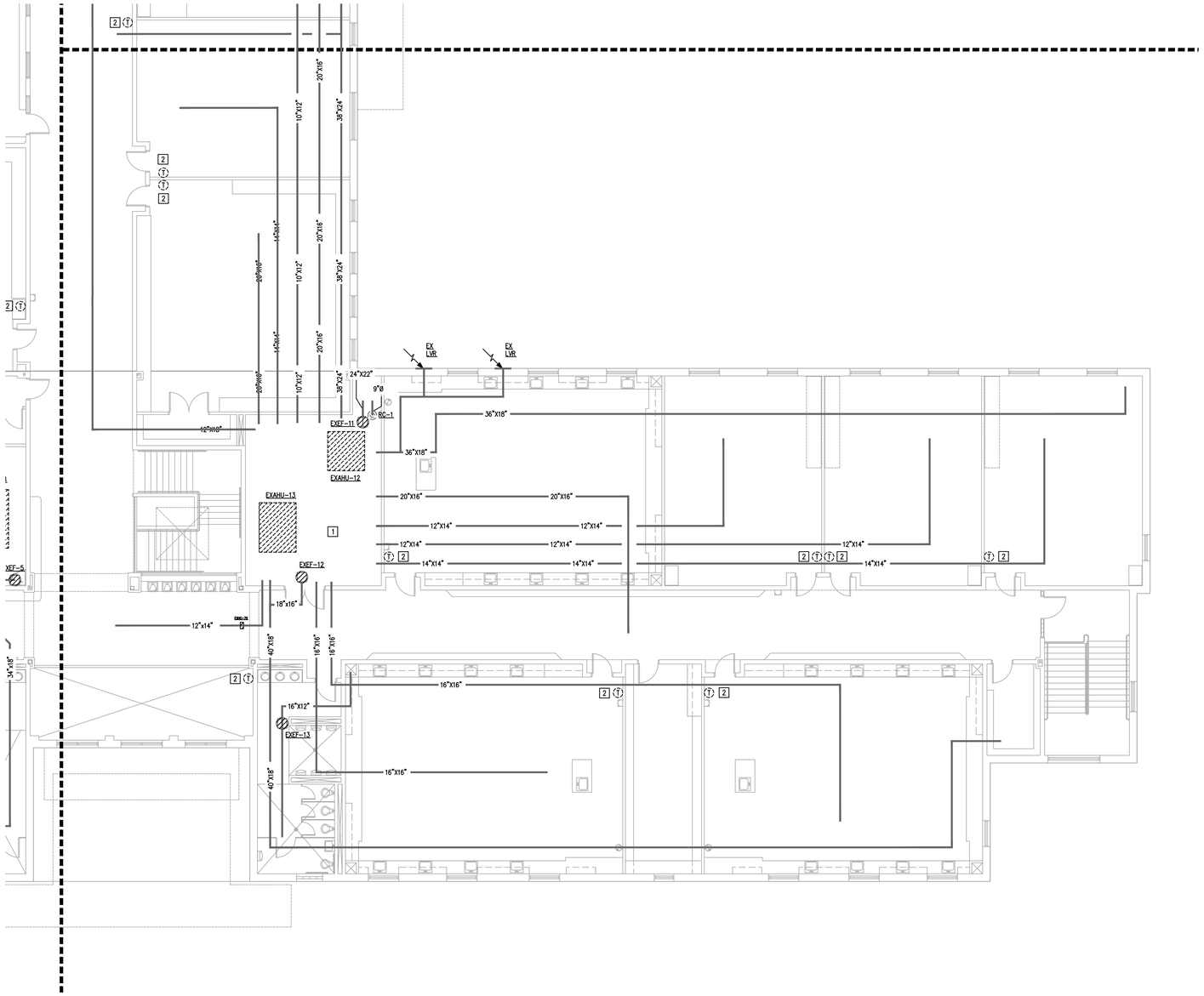

1 MD2.21D LEVEL 2 MECHANICAL DEMO PLAN - D
1/8" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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LEGEND:

---------- EXISTING TO BE DEMOLISHED

EXISTING TO REMAIN

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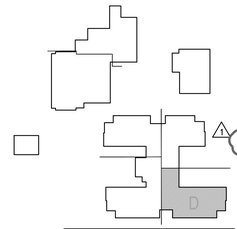
EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 2 MECHANICAL DEMO PLAN - D
SHEET NUMBER: MD2.21D



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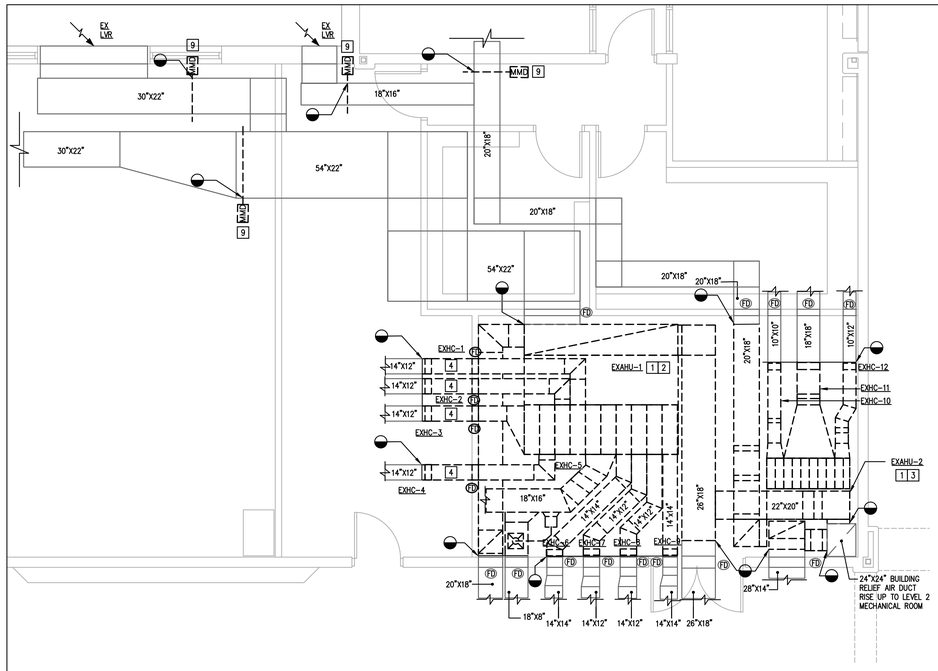
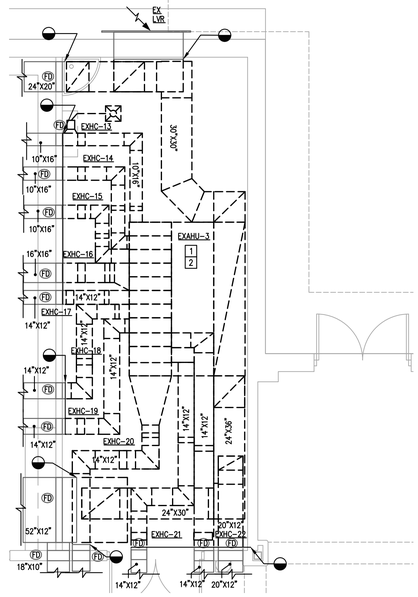
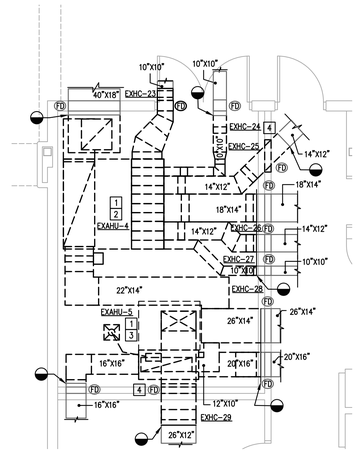


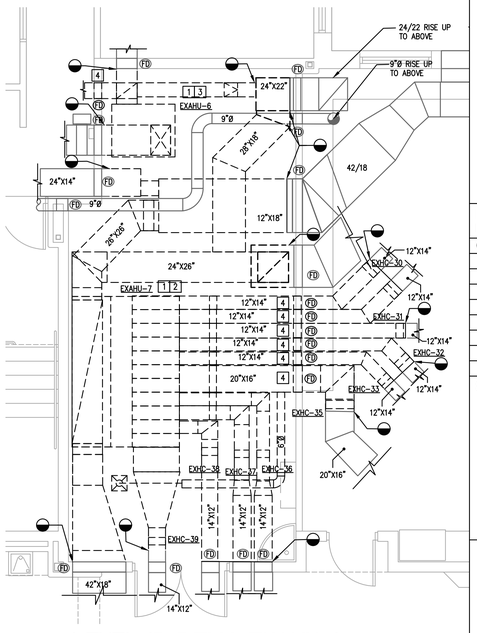
1 MD3.10 **LEVEL 1A DEMO EXAHU-1 AND EXAHU-2**
1/4" = 1'-0"



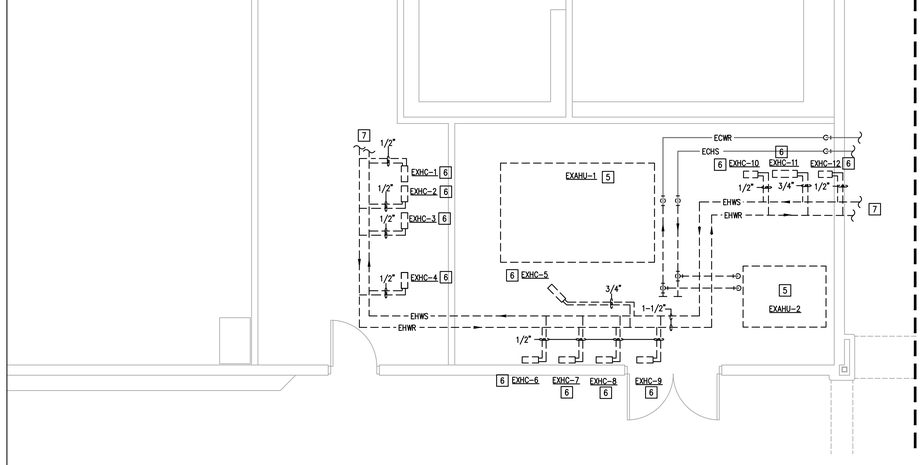
3 MD3.10 **LEVEL 1B DEMO EXAHU-3**
1/4" = 1'-0"



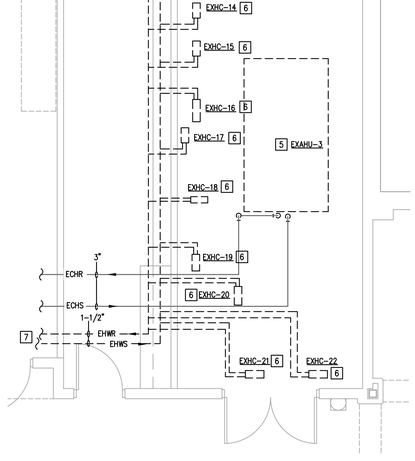
5 MD3.10 **LEVEL 1C DEMO EXAHU-4 AND EXAHU-5**
1/4" = 1'-0"



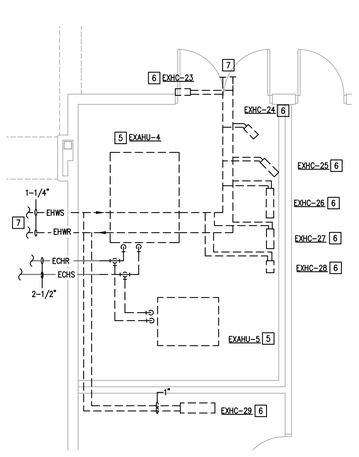
7 MD3.10 **LEVEL 1D DEMO EXAHU-6 AND EXAHU-7**
1/4" = 1'-0"



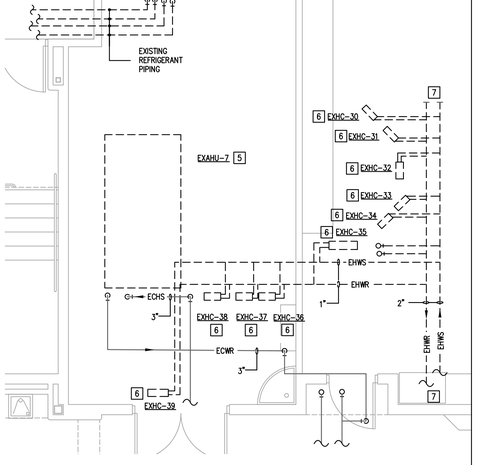
2 MD3.10 **LEVEL 1A DEMO HYDRONIC PIPING EXAHU-1 AND EXAHU-2**
1/4" = 1'-0"



4 MD3.10 **LEVEL 1B DEMO HYDRONIC PIPING EXAHU-3**
1/4" = 1'-0"



6 MD3.10 **LEVEL 1C DEMO HYDRONIC PIPING EXAHU-4 AND EXAHU-5**
1/4" = 1'-0"



8 MD3.10 **LEVEL 1D DEMO HYDRONIC PIPING EXAHU-6 AND EXAHU-7**
1/4" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES: [#]

1. EXISTING AIR HANDLING UNIT TO BE REMOVED IN ITS ENTIRETY. REMOVE THE SUPPLY, RETURN (WHERE APPLICABLE), AND OUTSIDE AIR DUCT AS INDICATED. REMOVE EXISTING BUILDING AUTOMATION SENSORS.
2. HOUSE KEEPING PAD SHALL REMAIN AND BE MODIFIED AND NECESSARY TO ACCOMMODATE THE NEW AIR HANDLING UNIT FOOTPRINT. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
3. REMOVE EXISTING HOUSE KEEPING PAD.
4. REMOVE EXISTING FIRE DAMPER AS INDICATED. PROVIDE NEW FIRE DAMPER AND SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING. COORDINATE WITH NEW WORK REQUIREMENTS AND EXISTING FLOOR DRAINS. FIELD VERIFY EXISTING CONDITIONS.
5. REMOVE EXISTING CHILLED WATER CONNECTION TO THE CLOSEST ISOLATION VALVE.
6. EXISTING DUCT MOUNTED HOT WATER COIL TO BE REMOVED IN ITS ENTIRETY.
7. REMOVE EXISTING HWS/R LINES INCLUSIVE OF MAINS, BRANCHES, RISERS, VALVES, ACCESSORIES, ETC. AS INDICATED. SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING.
8. REMOVE EXISTING REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING.
9. REMOVE EXISTING CONTROL DAMPER AND ACTUATOR. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

_____ EXISTING TO REMAIN

TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

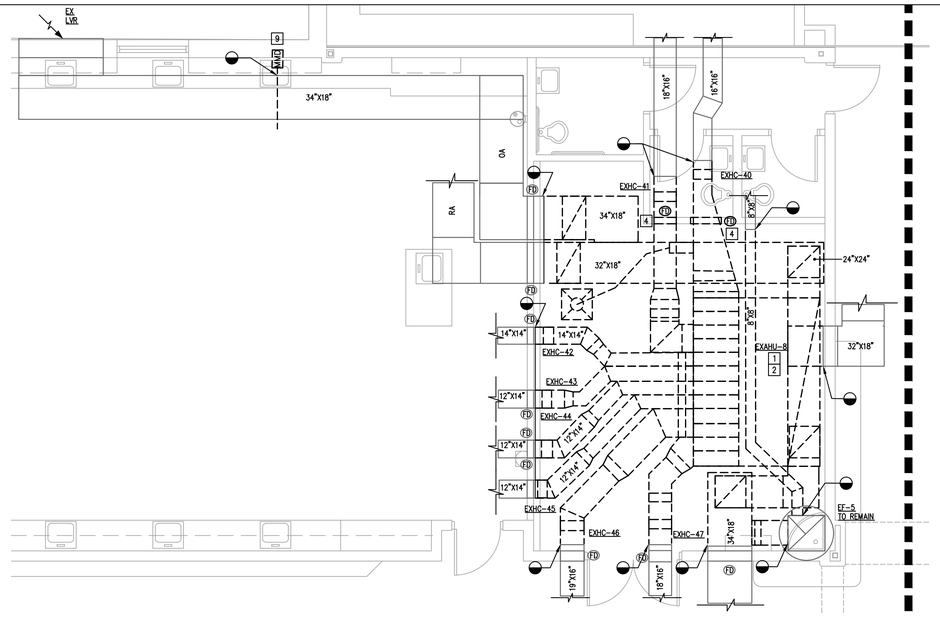
PROJECT NUMBER: 218007.002

SHEET TITLE:

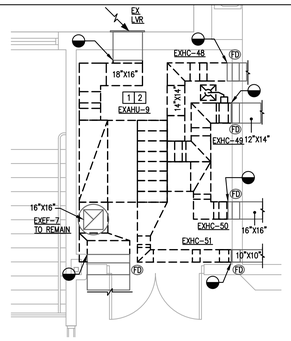
ENLARGED MECHANICAL DEMO PLAN

SHEET NUMBER:

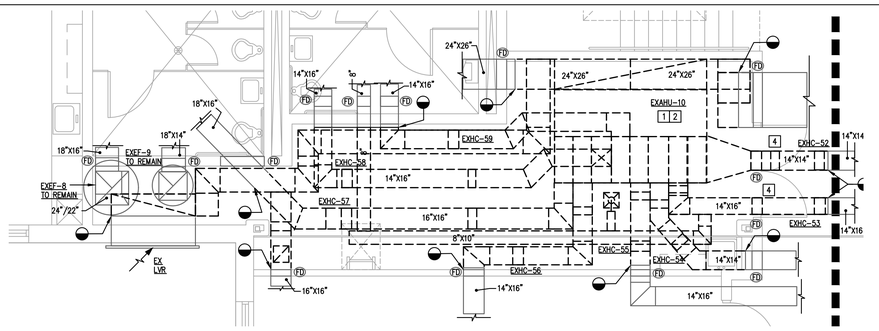
MD3.10



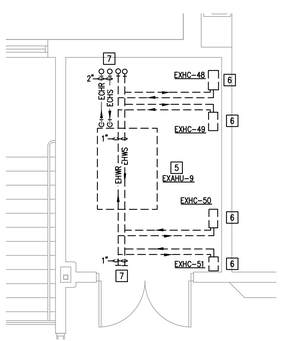
1 MD3.11 **LEVEL 2A DEMO EXAHU-8**
1/4" = 1'-0"



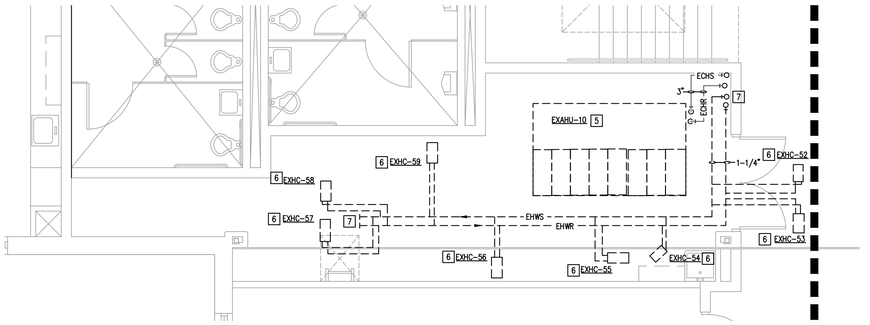
3 MD3.11 **LEVEL 2B DEMO EXAHU-9**
1/4" = 1'-0"



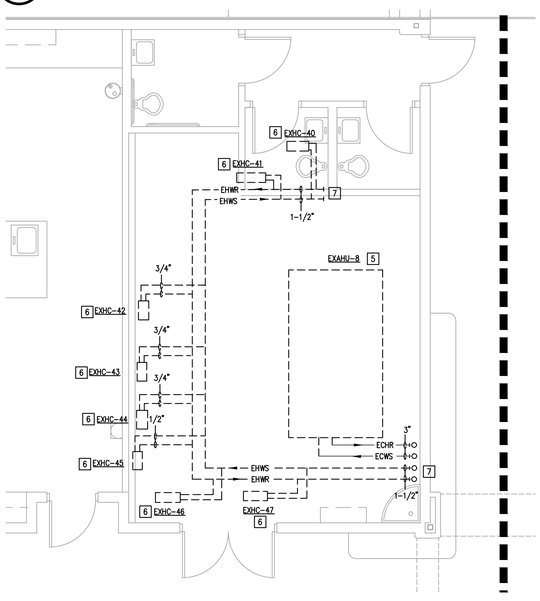
5 MD3.11 **LEVEL 2B DEMO EXAHU-10**
1/4" = 1'-0"



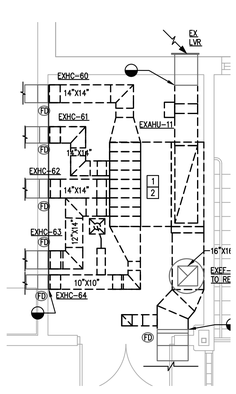
4 MD3.11 **LEVEL 2B DEMO HYDRONIC PIPING EXAHU-9**
1/4" = 1'-0"



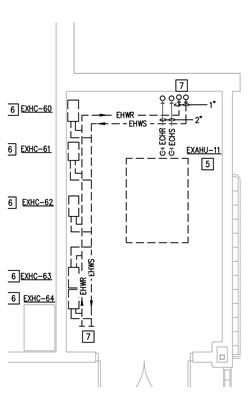
6 MD3.11 **LEVEL 2B DEMO HYDRONIC PIPING EXAHU-10**
1/4" = 1'-0"



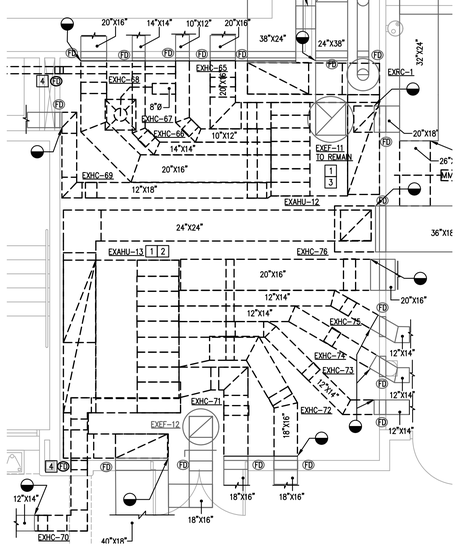
2 MD3.11 **LEVEL 2A HYDRONIC PIPING EXAHU-8**
1/4" = 1'-0"



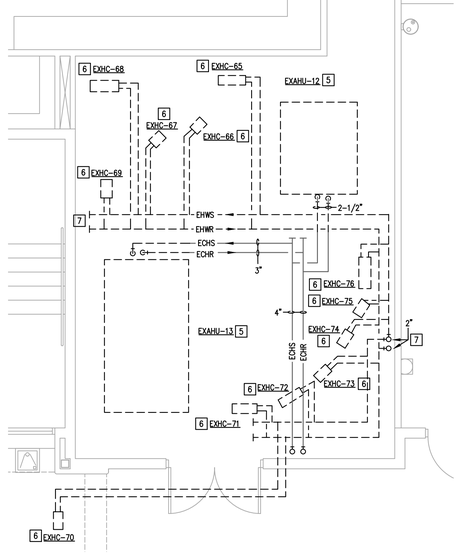
7 MD3.11 **LEVEL 2C DEMO EXAHU-11**
1/4" = 1'-0"



8 MD3.11 **LEVEL 2C DEMO HYDRONIC PIPING EXAHU-11**
1/4" = 1'-0"



9 MD3.11 **LEVEL 2D DEMO EXAHU-12 AND EXAHU-13**
1/4" = 1'-0"



10 MD3.11 **LEVEL 2 DEMO HYDRONIC PIPING EXAHU-12 AND EXAHU-13**
1/4" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

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D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED; WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

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8. REMOVE EXISTING REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING.
9. REMOVE EXISTING CONTROL DAMPER AND ACTUATOR. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.

LEGEND:

---------- EXISTING TO BE DEMOLISHED

———— EXISTING TO REMAIN

TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: ENLARGED MECHANICAL DEMO PLAN
SHEET NUMBER: MD3.11

Plotted: Mar 23, 2022, 9:11 PM by user: rtijerina Saved: 3/23/2022 by user: rtijerina
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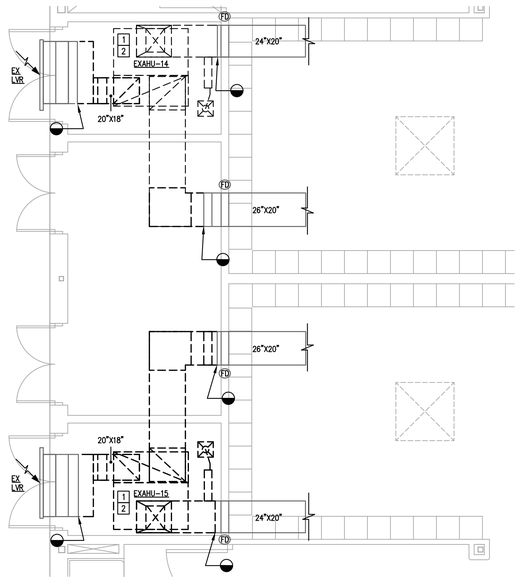
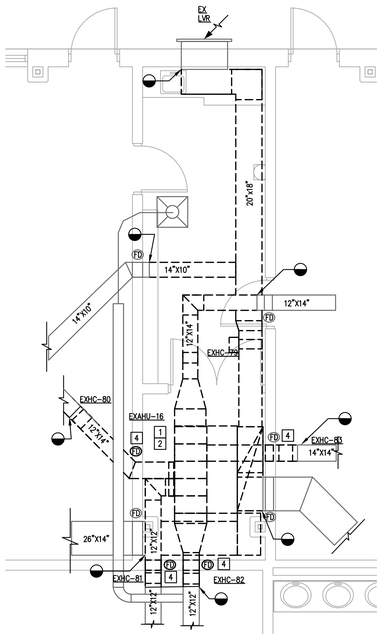
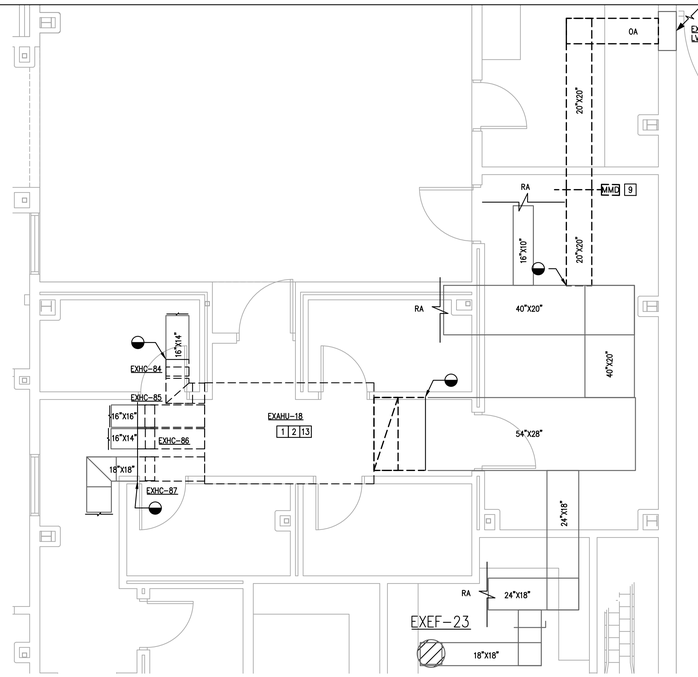


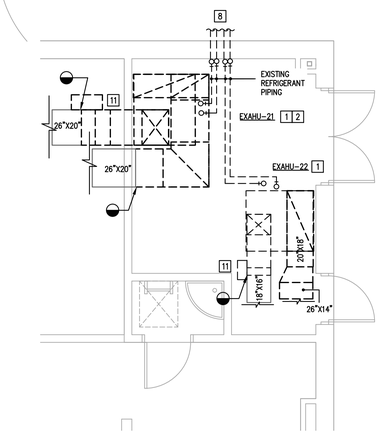
1 MD3.12 LEVEL 1F DEMO EXAHU-14 AND EXAHU-15
1/4" = 1'-0"



4 MD3.12 LEVEL 1E DEMO EXAHU-16
1/4" = 1'-0"



6 MD3.12 LEVEL 1E DEMO EXAHU-18
1/4" = 1'-0"



9 MD3.12 LEVEL 1G DEMO EXAHU-21 AND EXAHU-22
1/4" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL REMOVED EQUIPMENT WITH ACCESS TO DUCTWORK, SHAFTS, OR PIPING, SHALL HAVE ALL CONNECTIONS TO THESE MATERIAL CLEANED, WHERE THE MATERIALS ARE REUSED. FOR EXAMPLE, EXHAUST SHAFTS THAT ARE SCHEDULED FOR REUSE AND SHALL BE CLEANED TO THE FULLEST EXTENT POSSIBLE. NOTIFY ARCHITECT/ENGINEER TEAM OF ANY DEFICIENCIES FOUND UPON REMOVAL OF HVAC SYSTEM, THAT ARE NOT INDICATED IN THESE PLANS AND SPECIFICATIONS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

G. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

H. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

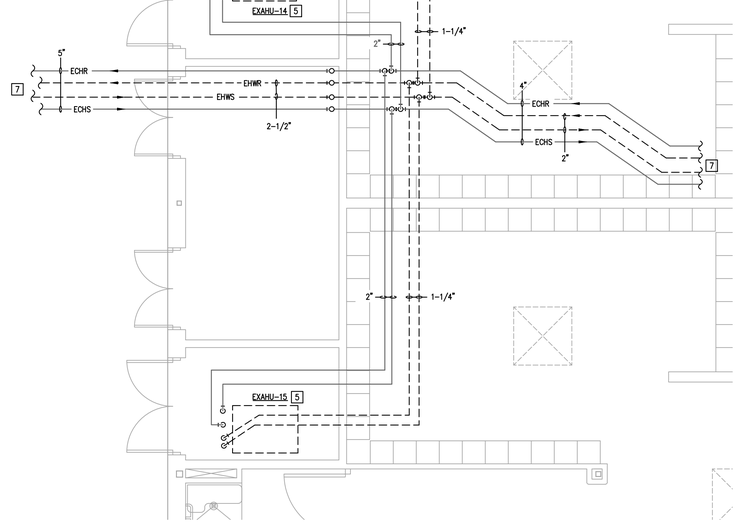
MECHANICAL DEMOLITION KEY NOTES:

1. EXISTING AIR HANDLING UNIT TO BE REMOVED IN ITS ENTIRETY. REMOVE THE SUPPLY, RETURN (WHERE APPLICABLE), AND OUTSIDE AIR DUCT AS INDICATED. REMOVE EXISTING BUILDING AUTOMATION SENSORS.
2. HOUSE KEEPING PAD SHALL REMAIN AND BE MODIFIED AND NECESSARY TO ACCOMMODATE THE NEW AIR HANDLING UNIT FOOTPRINT. COORDINATE WITH NEW WORK REQUIREMENTS AND EXISTING FLOOR DRAINS. FIELD VERIFY EXISTING CONDITIONS.
3. CONTRACTOR SHALL DEMOLISH EXISTING CONDENSING UNIT, ASSOCIATED REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU, AND ROOF CURB. PATCH AND REPAIR ROOF TO MATCH EXISTING. COORDINATE WITH NEW WORK REQUIREMENTS.
4. REMOVE EXISTING FIRE DAMPER AS INDICATED. PROVIDE NEW FIRE DAMPER AND SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
5. REMOVE EXISTING CHILLED WATER PIPING AS INDICATED.
6. EXISTING DUCT MOUNTED HOT WATER COIL TO BE REMOVED IN ITS ENTIRETY.
7. REMOVE EXISTING HWS/R LINES INCLUSIVE OF MAINS, BRANCHES, RISERS, VALVES, ACCESSORIES, ETC. AS INDICATED. SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING.
8. REMOVE EXISTING REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND AHU. PIPING IN WALLS SHALL BE CAPPED AND ABANDONED. SEAL WALL PENETRATION IN ORDER TO MAINTAIN EXISTING FIRE RATING.
9. REMOVE EXISTING CONTROL DAMPER AND ACTUATOR. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
10. REMOVE EXISTING ROOFTOP UNIT AND ASSOCIATED CONDENSATE PIPING. REMOVE EXISTING ROOF CURB TO DECK. REMOVE DUCTWORK AS INDICATED.
11. REMOVE EXISTING ELECTRIC DUCT HEATER.
12. EQUIPMENT LOCATED ON ROOF.
13. EQUIPMENT LOCATED ON MEZZANINE.
14. EQUIMENT SUSPENDED ABOVE CEILING.

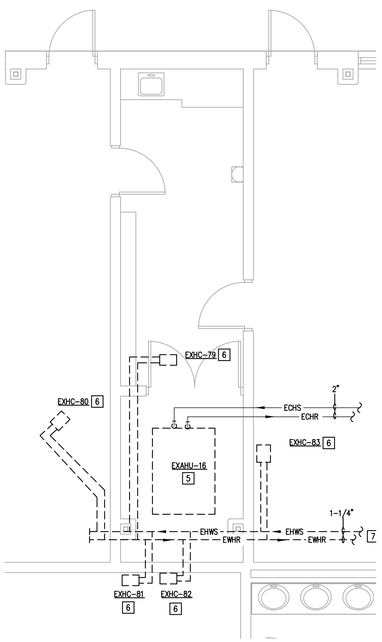
LEGEND:

---------- EXISTING TO BE DEMOLISHED

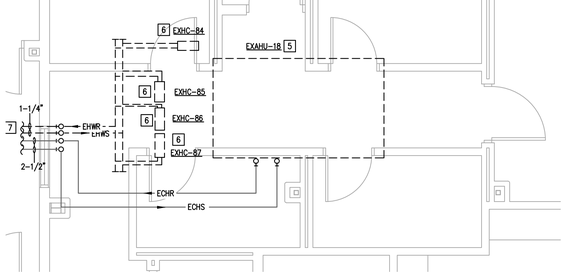
———— EXISTING TO REMAIN



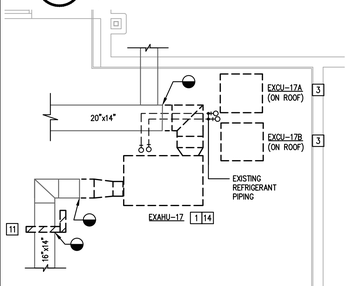
2 MD3.12 LEVEL 1 DEMO HYDRONIC PIPING EXAHU-14 AND EXAHU-15
1/4" = 1'-0"



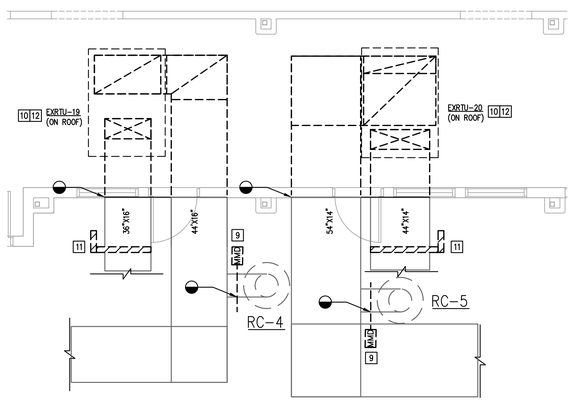
5 MD3.12 LEVEL 1E DEMO HYDRONIC PIPING EXAHU-16
1/4" = 1'-0"



7 MD3.12 LEVEL 1E DEMO HYDRONIC PIPING EXAHU-18
1/4" = 1'-0"



3 MD3.12 LEVEL 1E DEMO EXAHU-17
1/4" = 1'-0"



8 MD3.12 LEVEL 1G DEMO EXRTU-19 AND EXRTU-20
1/4" = 1'-0"

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EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: ENLARGED MECHANICAL DEMO PLAN
SHEET NUMBER: MD3.12

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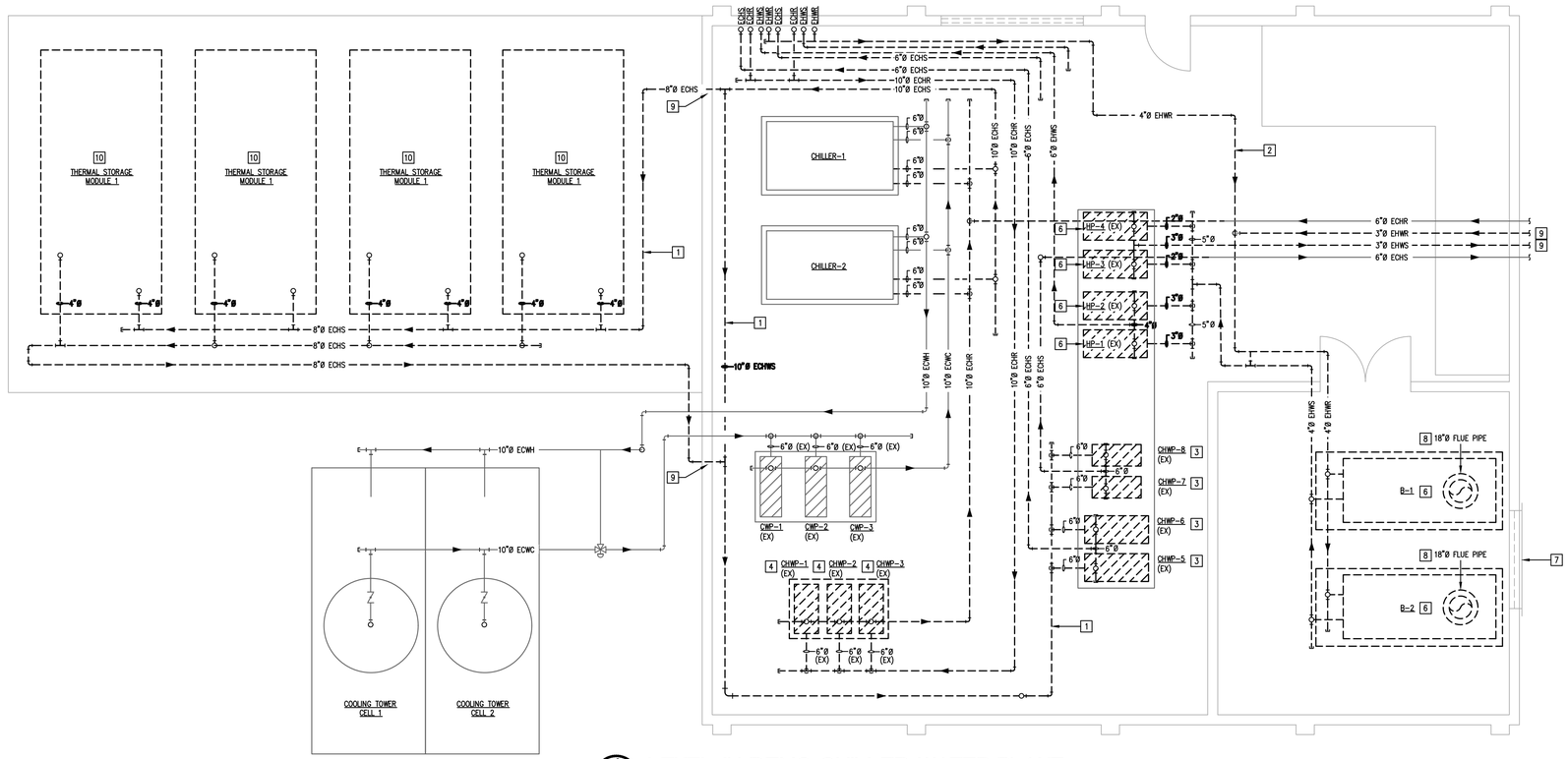

1 MD3.13 LEVEL 1H DEMO CHILLED WATER PLANT

1/4" = 1'-0"

MECHANICAL DEMO GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

E. ALL EXISTING DUCTWORK AND EQUIPMENT TO BE REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL DEMOLITION KEY NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING CHILLED WATER PIPE INCLUSIVE OF MAINS, BRANCHES, RISERS, VALVES, ETC. AS INDICATED ON PLAN. COORDINATE EXTENT OF DEMOLITION WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
2. CONTRACTOR SHALL REMOVE EXISTING HOT WATER PIPE INCLUSIVE OF MAINS, BRANCHES, RISERS, VALVES, ETC. AS INDICATED ON PLAN. COORDINATE EXTENT OF DEMOLITION WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
3. CONTRACTOR SHALL DEMOLISH EXISTING CHILLED WATER PUMPS AS INDICATED. HOUSE KEEPING PAD SHALL REMAIN AND BE MODIFIED AS NECESSARY TO ACCOMMODATE NEW PUMPS NO EQUIPMENT. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
4. CONTRACTOR SHALL DEMOLISH EXISTING CHILLED WATER PUMPS AND HOUSE KEEPING PAD AS INDICATED. COORDINATE WITH NEW WORK REQUIREMENTS. FIELD VERIFY EXISTING CONDITIONS.
5. REMOVE EXISTING LOUVER AS INDICATED. PATCH AND REPAIR WALL AND BASE FINISH TO MATCH EXISTING ADJACENT SURFACES. FIELD VERIFY EXISTING CONDITIONS.
6. CONTRACTOR SHALL DEMOLISH EXISTING BOILER 1, BOILER 2 AND ASSOCIATED HP-1 THRU HP-4 IN ITS ENTIRETY AND DISPOSE OF PROPERLY. CONTRACTOR SHALL DISCONNECT VENT, ELECTRICAL, WATER CONNECTIONS, GAS CONNECTION AND BUILDING AUTOMATION WIRING.
7. REMOVE EXISTING LOUVER AS INDICATED. PATCH AND REPAIR WALL AND BASE FINISH TO MATCH EXISTING ADJACENT SURFACES. FIELD VERIFY EXISTING CONDITIONS.
8. CONTRACTOR SHALL REMOVE FLUE PIPING, CAP ROOF CAP, AND MAKE WATERTIGHT.
9. CONTRACTOR SHALL PATCH AND REPAIR WALL AND BASE FINISH TO MATCH EXISTING ADJACENT SURFACES. FIELD VERIFY EXISTING CONDITIONS.
10. CONTRACTOR SHALL DEMOLISH EXISTING THERMAL STORAGE MODULES IN THEIR ENTIRETY AND DISPOSE OF PROPERLY.

LEGEND:

- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN

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3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

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PROJECT NUMBER: 218007.002

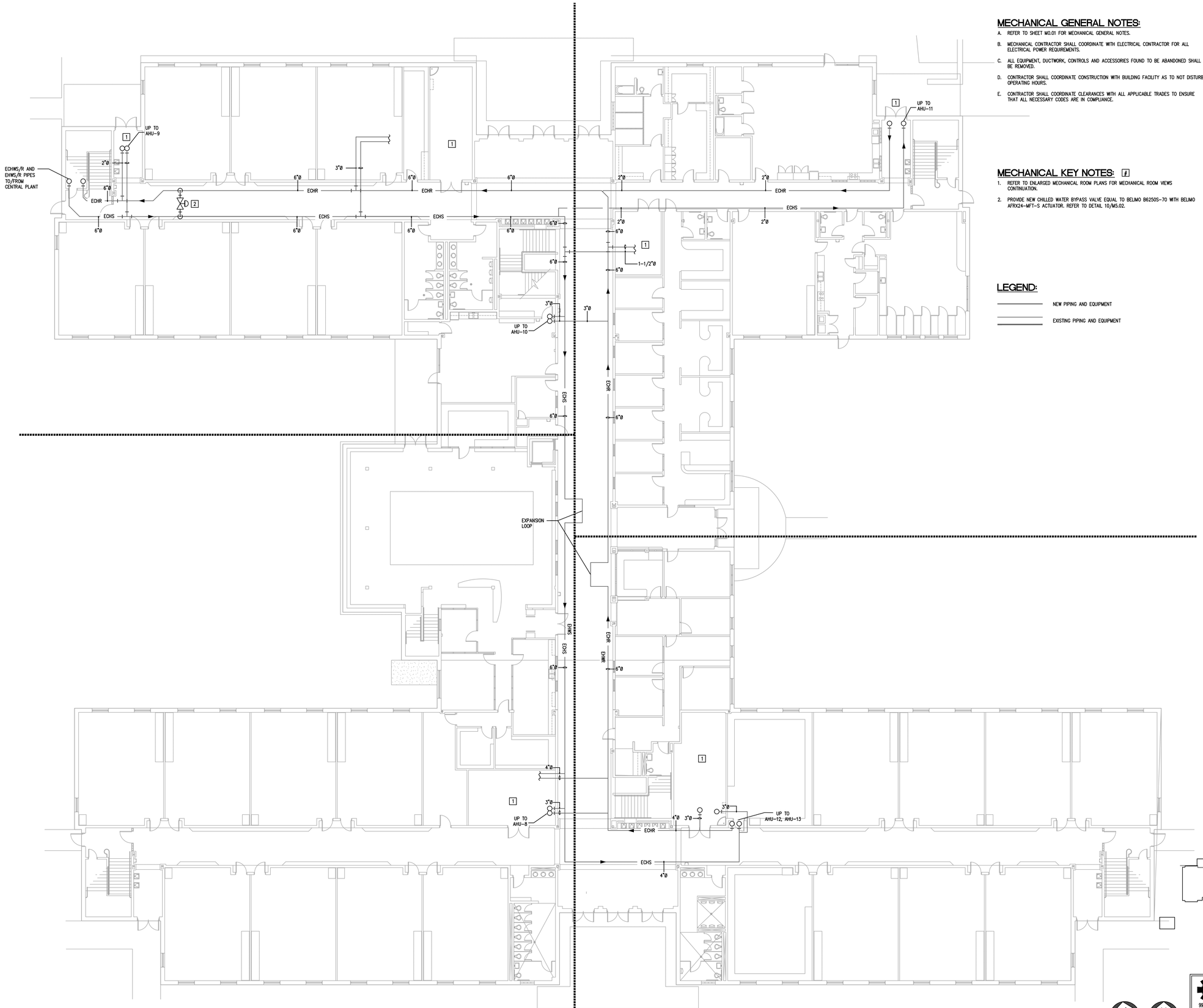
SHEET TITLE:

1

ENLARGED MECHANICAL DEMO PLAN

SHEET NUMBER:

MD3.13



MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

C. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

D. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

E. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL KEY NOTES: [1]

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. PROVIDE NEW CHILLED WATER BYPASS VALVE EQUAL TO BELIMO B6250S-70 WITH BELIMO AFRX24-MFT-S ACTUATOR. REFER TO DETAIL 10/M5.02.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 M1.11 COMPOSITE LEVEL 1 MECHANICAL HYDRONIC PIPING PLAN

3/32" = 1'-0"

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MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

C. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

D. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

E. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

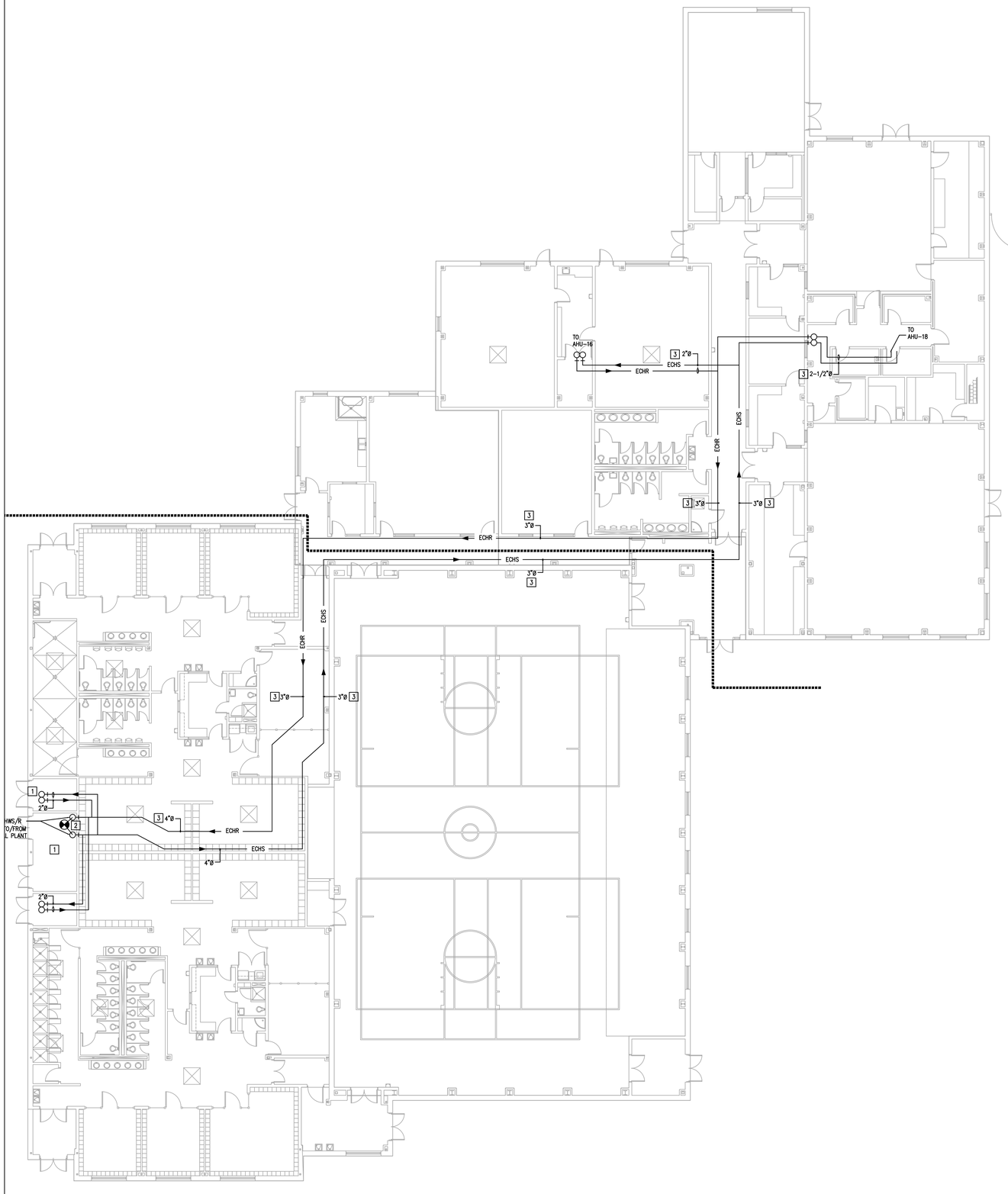
MECHANICAL KEY NOTES:

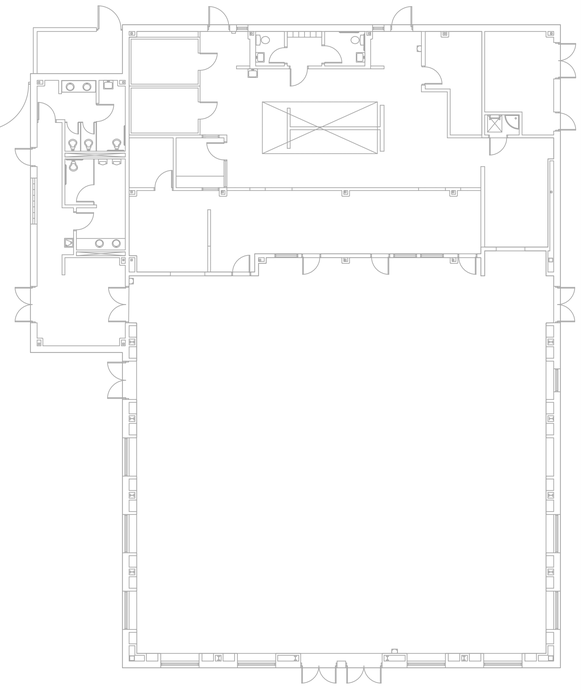
1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.
2. CONNECT NEW 5"Ø CHILLED WATER SUPPLY/RETURN PIPES TO EXISTING 5"Ø CHILLED WATER SUPPLY/RETURN PIPES AS INDICATED. PROVIDE 5"Ø CHW ISOLATION VALVES AT RISERS. FIELD VERIFY SIZE, LOCATION, AND ELEVATION.
3. PROVIDE NEW CHILLED WATER SUPPLY/RETURN PIPES AS INDICATED. EXISTING HANGERS MAY BE RE-USED FOR NEW CHILLED WATER PIPING.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT





1 M1.12 COMPOSITE LEVEL 1 MECHANICAL HYDRONIC PIPING PLAN
1"=20'-0"

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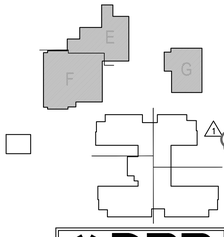

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SHEET TITLE:

COMPOSITE LEVEL 1 MECHANICAL HYDRONIC PIPING PLAN

SHEET NUMBER:

M1.12

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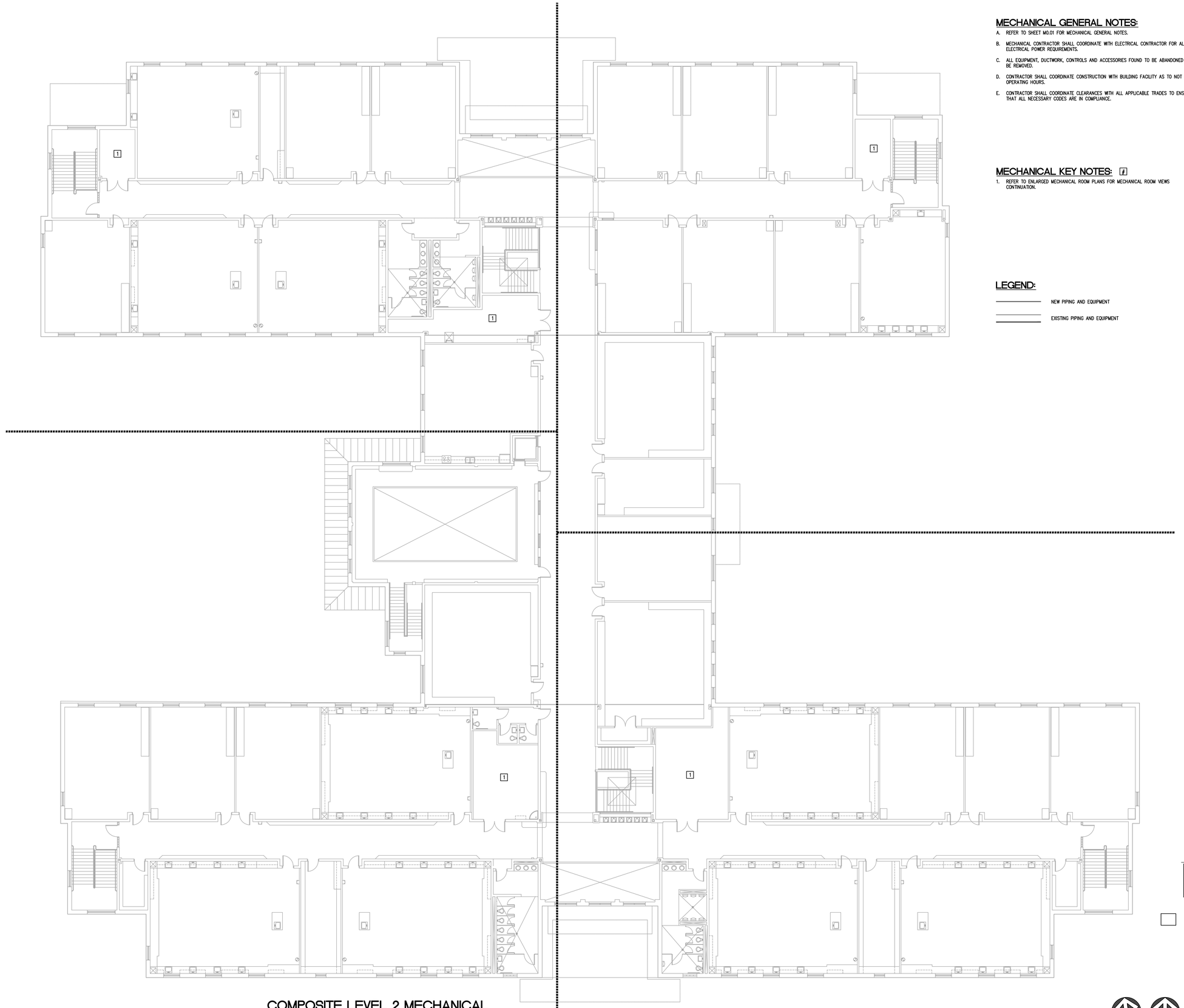

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

C. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

D. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

E. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL KEY NOTES:

1. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEWS CONTINUATION.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 / M1.21 COMPOSITE LEVEL 2 MECHANICAL HYDRONIC PIPING PLAN

3/32" = 1'-0"

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COMPOSITE LEVEL 2 MECHANICAL HYDRONIC PIPING PLAN

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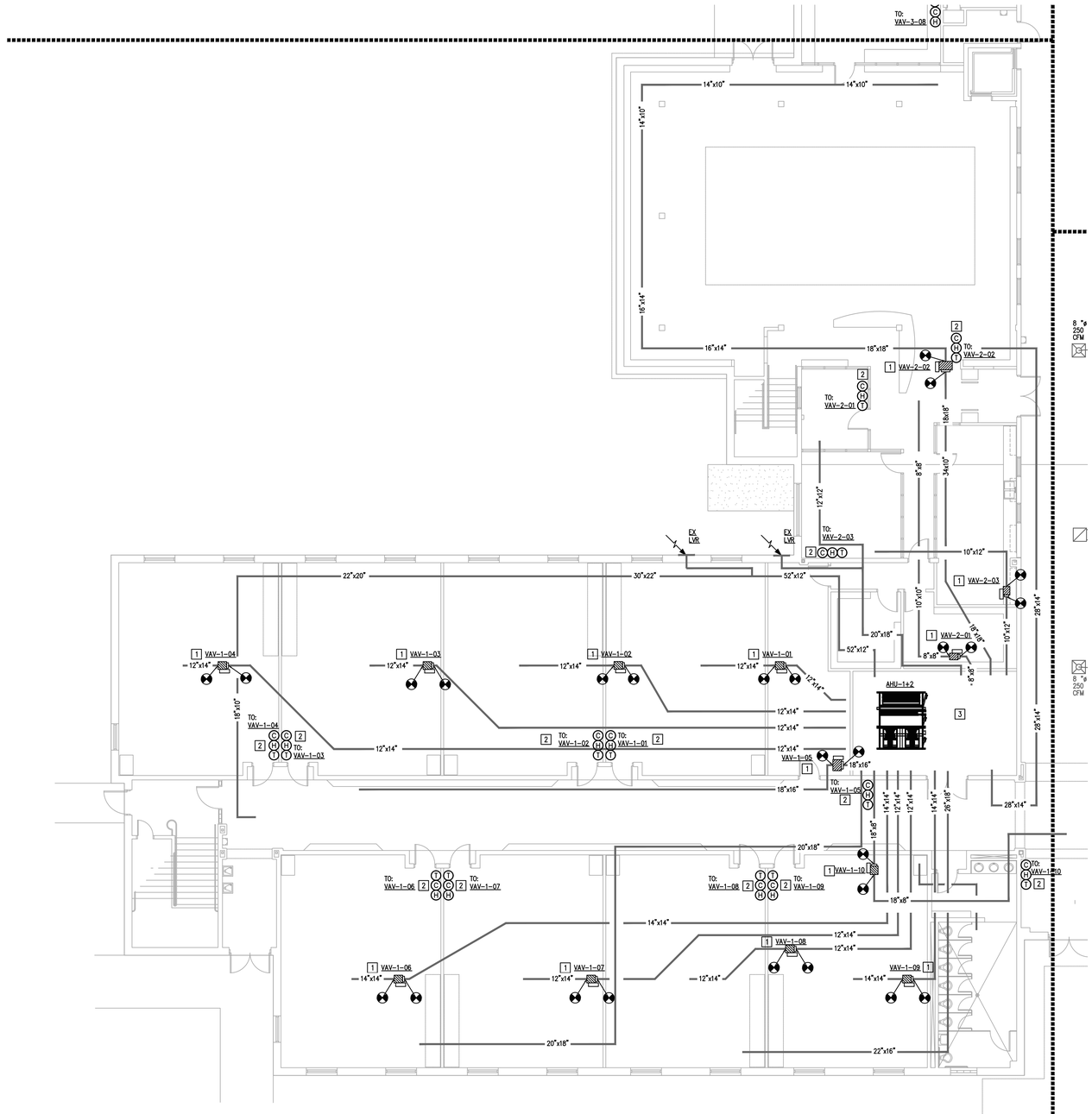

1 M2.11A LEVEL 1 MECHANICAL PLAN - A

1/8" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. APPROXIMATE LOCATION OF NEW SINGLE DUCT BOX. CONTRACTOR SHALL INSTALL NEW SINGLE DUCT BOX IN EXISTING DUCTWORK. CONTRACTOR SHALL REMOVE AND PATCH EXISTING DUCTWORK AS NECESSARY. TYP.
2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. PROVIDE NEW MANUAL BALANCING DAMPER.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

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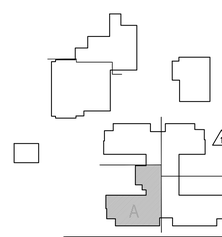
DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 MECHANICAL PLAN - A
SHEET NUMBER: M2.11A



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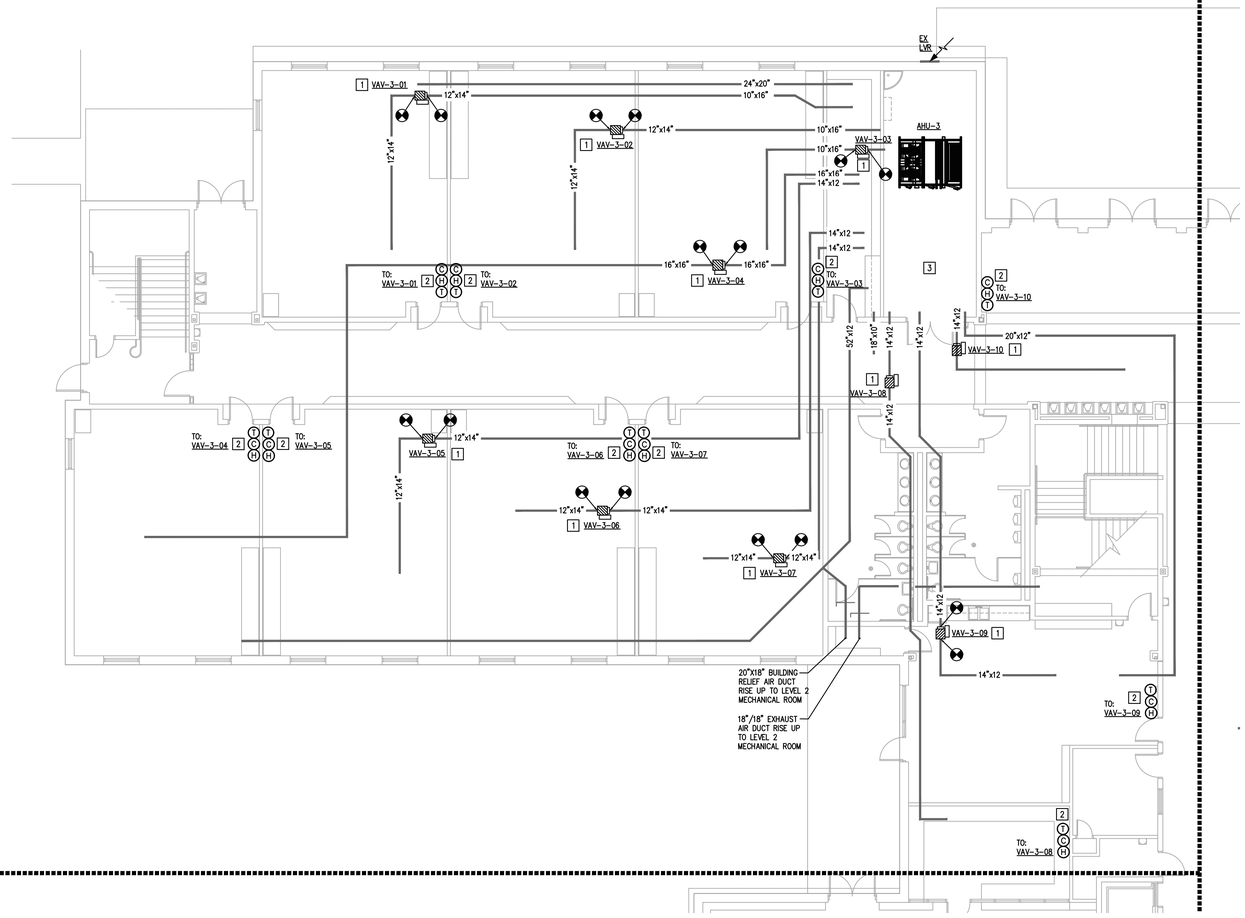

1 M2.11B LEVEL 1 MECHANICAL PLAN - B

1/8" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. APPROXIMATE LOCATION OF NEW SINGLE DUCT BOX. CONTRACTOR SHALL INSTALL NEW SINGLE DUCT BOX IN EXISTING DUCTWORK. CONTRACTOR SHALL REMOVE AND PATCH EXISTING DUCTWORK AS NECESSARY. TYP.
2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. PROVIDE NEW MANUAL BALANCING DAMPER.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

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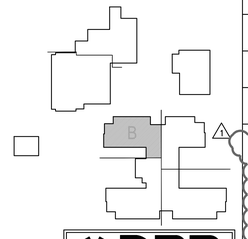
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 MECHANICAL PLAN - B
SHEET NUMBER: M2.11B



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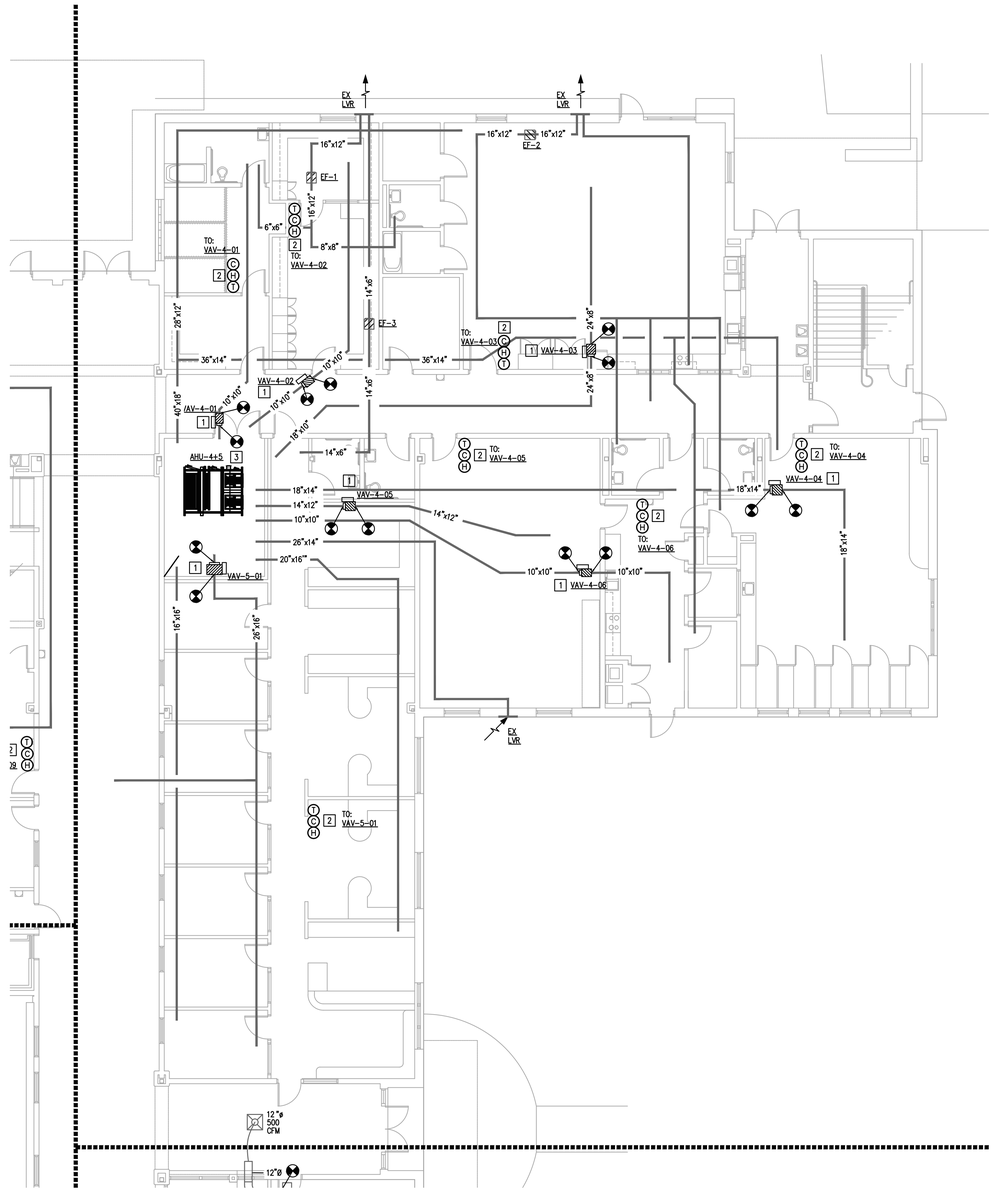


1 LEVEL 1 MECHANICAL PLAN - C
M2.11C
1/8" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. APPROXIMATE LOCATION OF NEW SINGLE DUCT BOX. CONTRACTOR SHALL INSTALL NEW SINGLE DUCT BOX IN EXISTING DUCTWORK. CONTRACTOR SHALL REMOVE AND PATCH EXISTING DUCTWORK AS NECESSARY. TYP.
2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. PROVIDE NEW MANUAL BALANCING DAMPER.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL PLAN - C

SHEET NUMBER: M2.11C

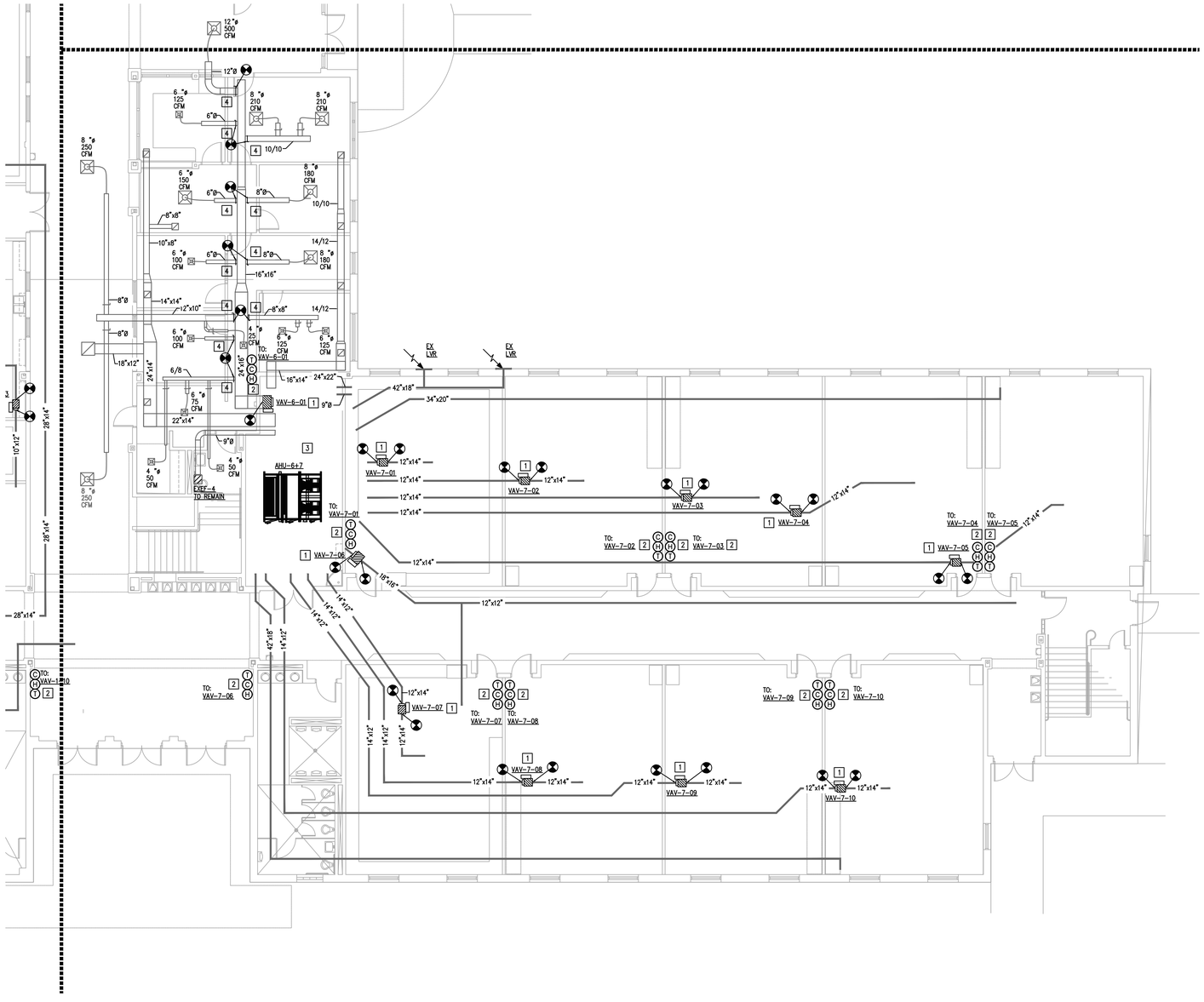
TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---



MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. APPROXIMATE LOCATION OF NEW SINGLE DUCT BOX. CONTRACTOR SHALL INSTALL NEW SINGLE DUCT BOX IN EXISTING DUCTWORK. CONTRACTOR SHALL REMOVE AND PATCH EXISTING DUCTWORK AS NECESSARY. TYP.
2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. PROVIDE NEW MANUAL BALANCING DAMPER.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 M2.11D LEVEL 1 MECHANICAL PLAN - D

1/8" = 1'-0"

DBR
210.546.0200 v 210.546.0201 f
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San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

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STATE OF TEXAS
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PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

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CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL PLAN - D

SHEET NUMBER: M2.11D

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Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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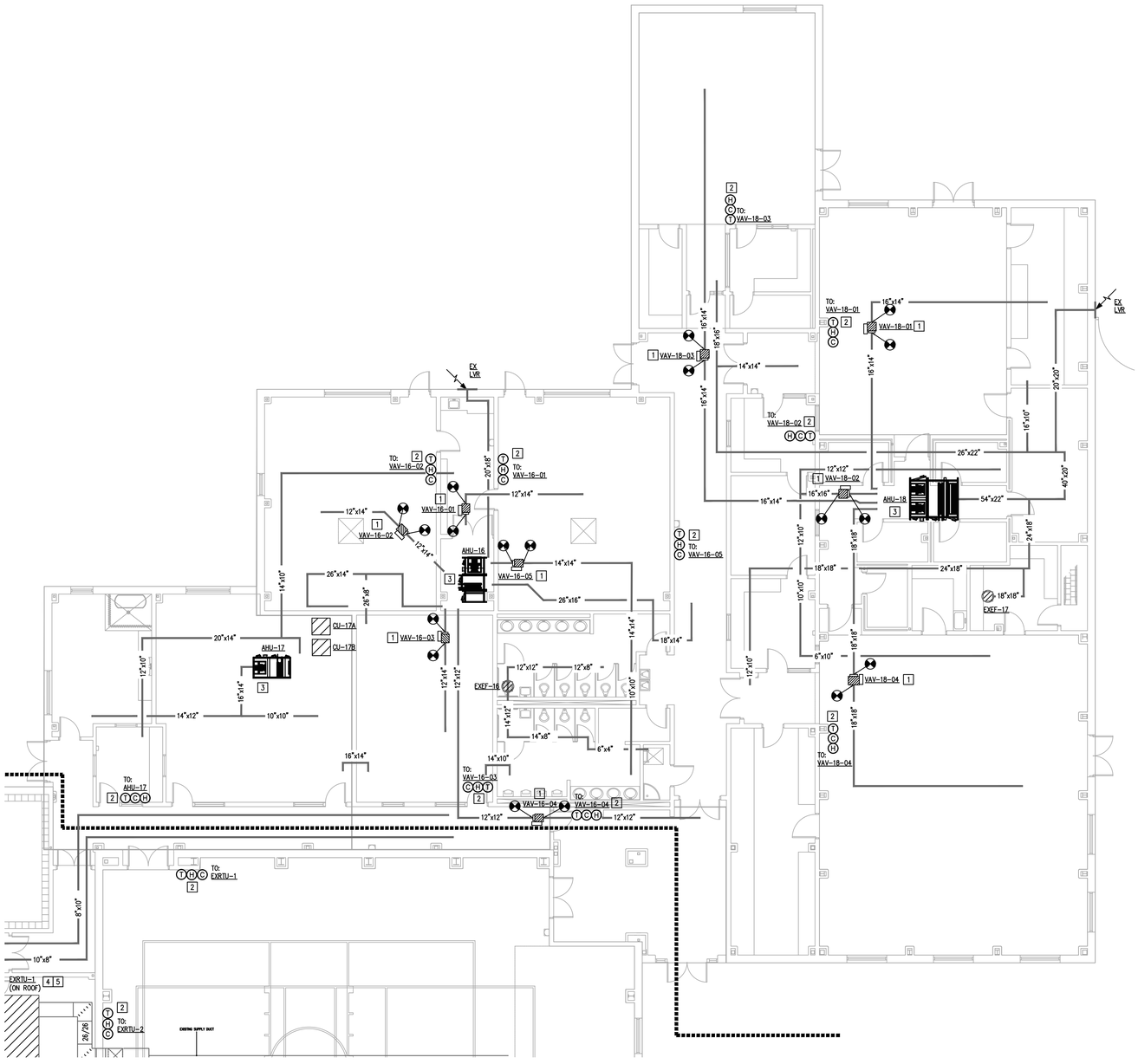
TRUE NORTH

PLAN NORTH



1 LEVEL 1 MECHANICAL PLAN - E
M2.12E
1/8" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

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2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

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3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
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PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 MECHANICAL PLAN - E
SHEET NUMBER: M2.12E

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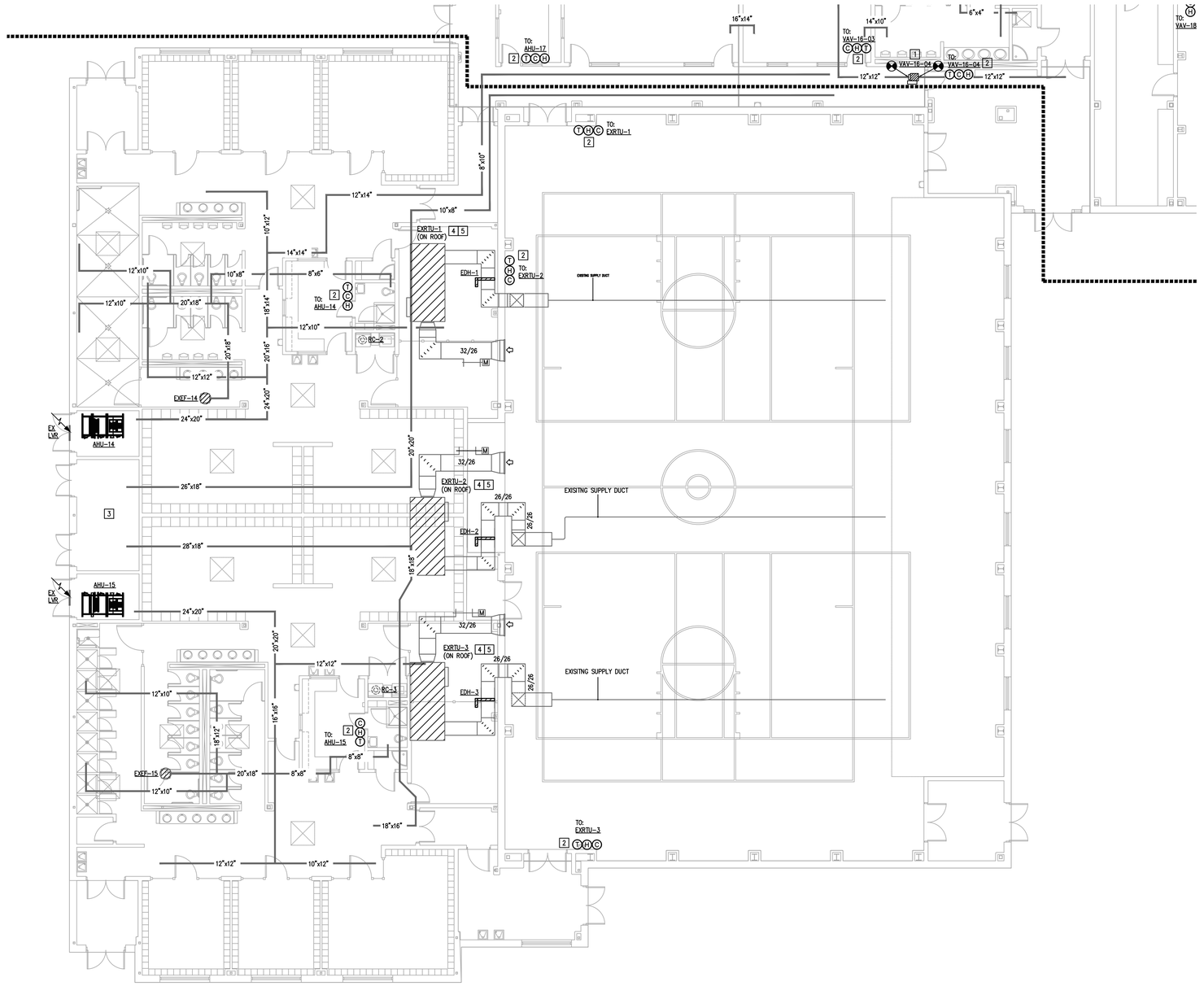

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

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D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

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G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

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2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. EQUIPMENT LOCATED ON ROOF.
5. PROVIDE NEW OUTDOOR RATED ELECTRIC DUCT HEATER AS SCHEDULED. PATCH, SEAL, AND RE-INSULATE DUCT.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 M2.12F LEVEL 1 MECHANICAL PLAN - F

1/8" = 1'-0"

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TBPE Firm Registration NO. 2234

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SEAL:

STATE OF TEXAS
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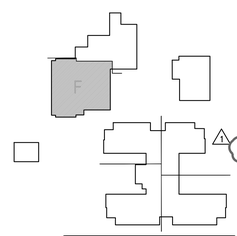
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL PLAN - F

SHEET NUMBER: M2.12F

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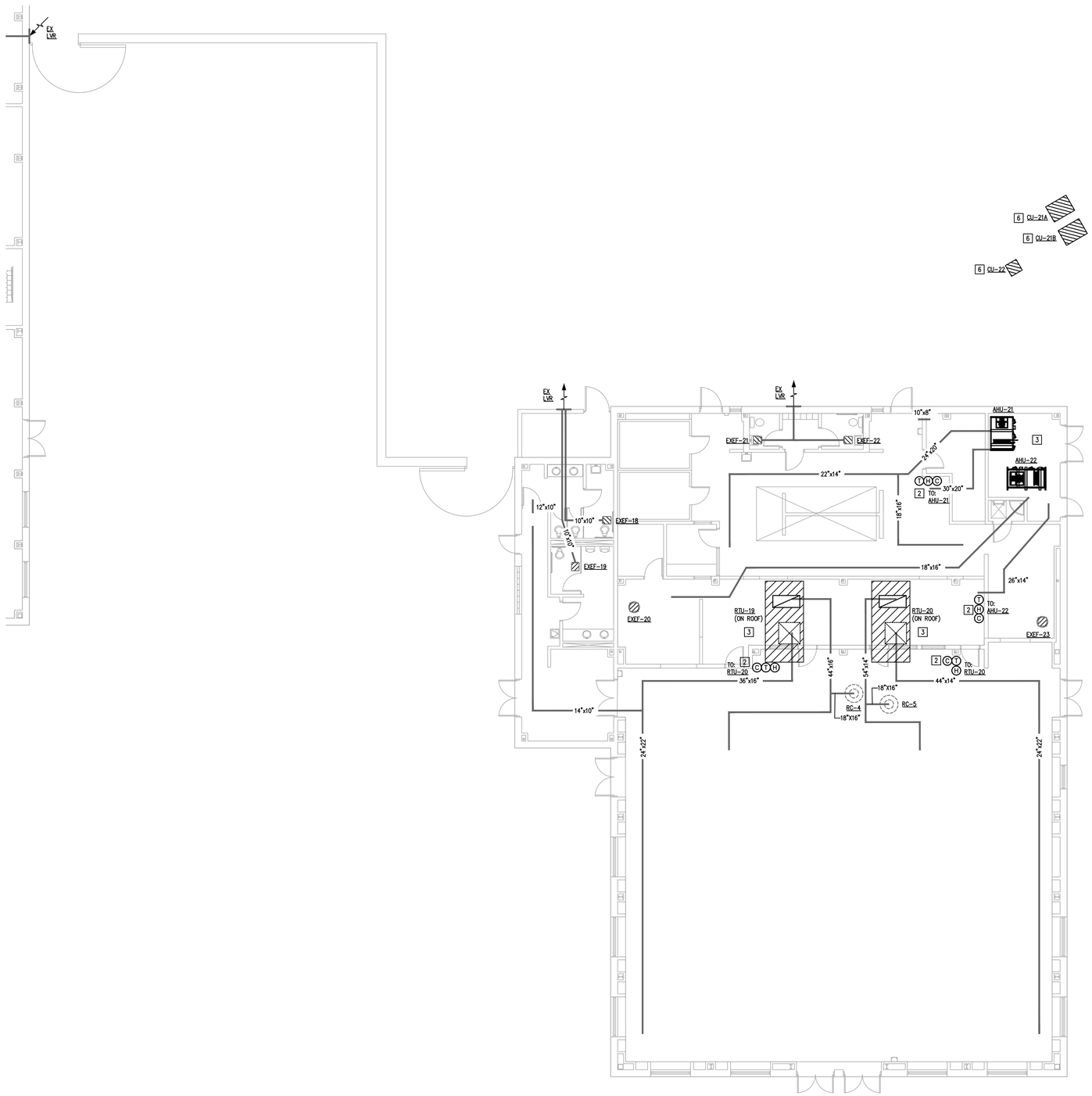

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

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D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

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H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

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2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. EQUIPMENT LOCATED ON ROOF.
5. PROVIDE NEW OUTDOOR RATED ELECTRIC DUCT HEATER AS SCHEDULED, PATCH, SEAL, AND RE-INSULATE DUCT.
6. PROVIDE NEW CONDENSING UNIT AS SCHEDULED. ROUTE NEW REFRIGERANT LINES FROM AIR HANDLING UNIT BACK TO ASSOCIATED CONDENSING UNIT. SIZE AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ROUTE NEW REFRIGERANT LINES DOWN EXTERIOR OF BUILDING WALL IN SHEET METAL ENCLOSURE. FINISH SHEET METAL ENCLOSURE TO MATCH ADJACENT WALL COLOR.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 M2.13G LEVEL 1 MECHANICAL PLAN - G

1/8" = 1'-0"

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 MECHANICAL PLAN - G

SHEET NUMBER: M2.13G

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PLAN NORTH

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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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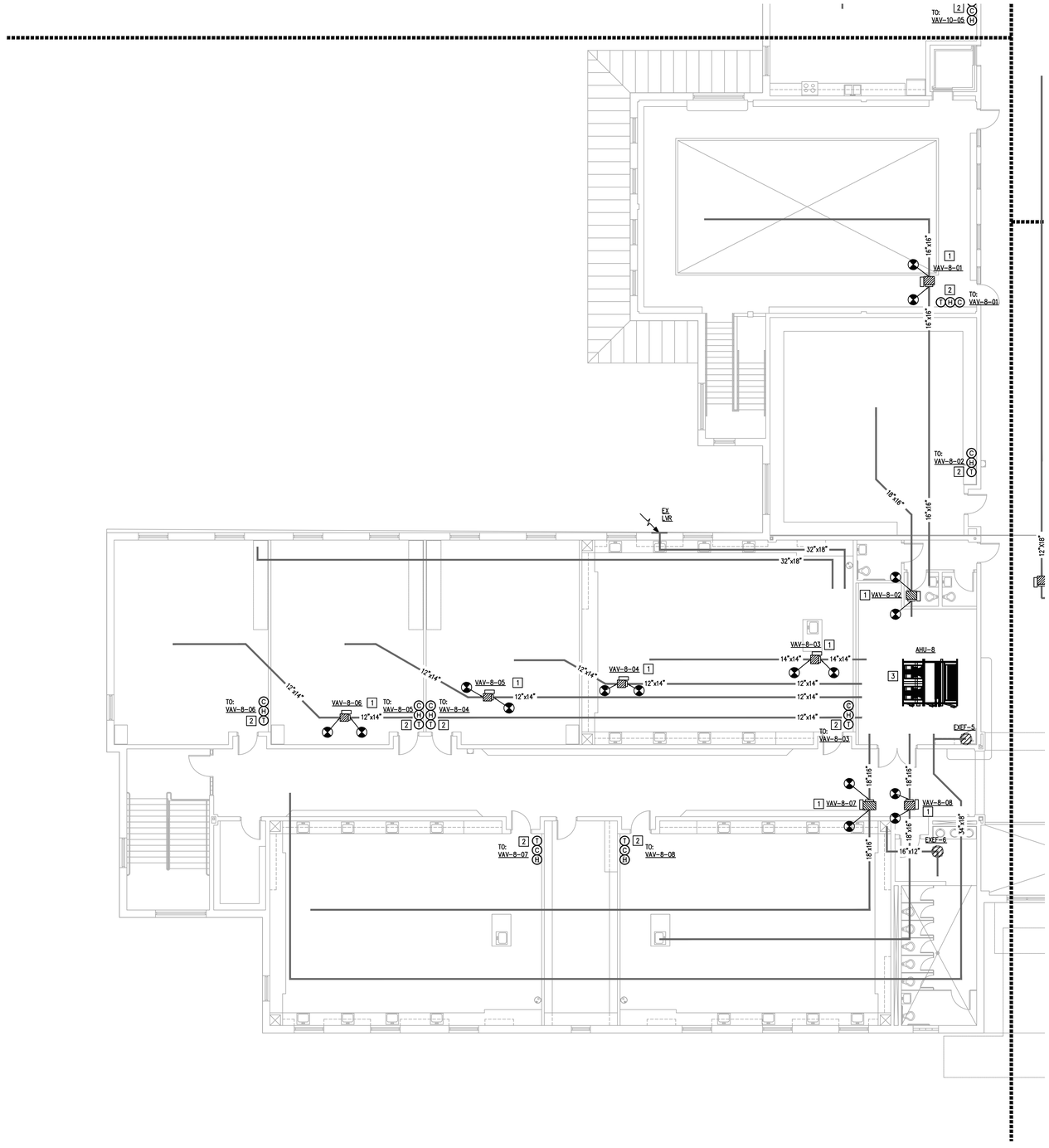

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

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2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 M2.21A — LEVEL 2 MECHANICAL PLAN - A
1/8" = 1'-0"

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210.546.0200 v 210.546.0201 f
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San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

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STATE OF TEXAS
ROBERTO H. TIJERINA
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PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 2 MECHANICAL PLAN - A
SHEET NUMBER: M2.21A

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713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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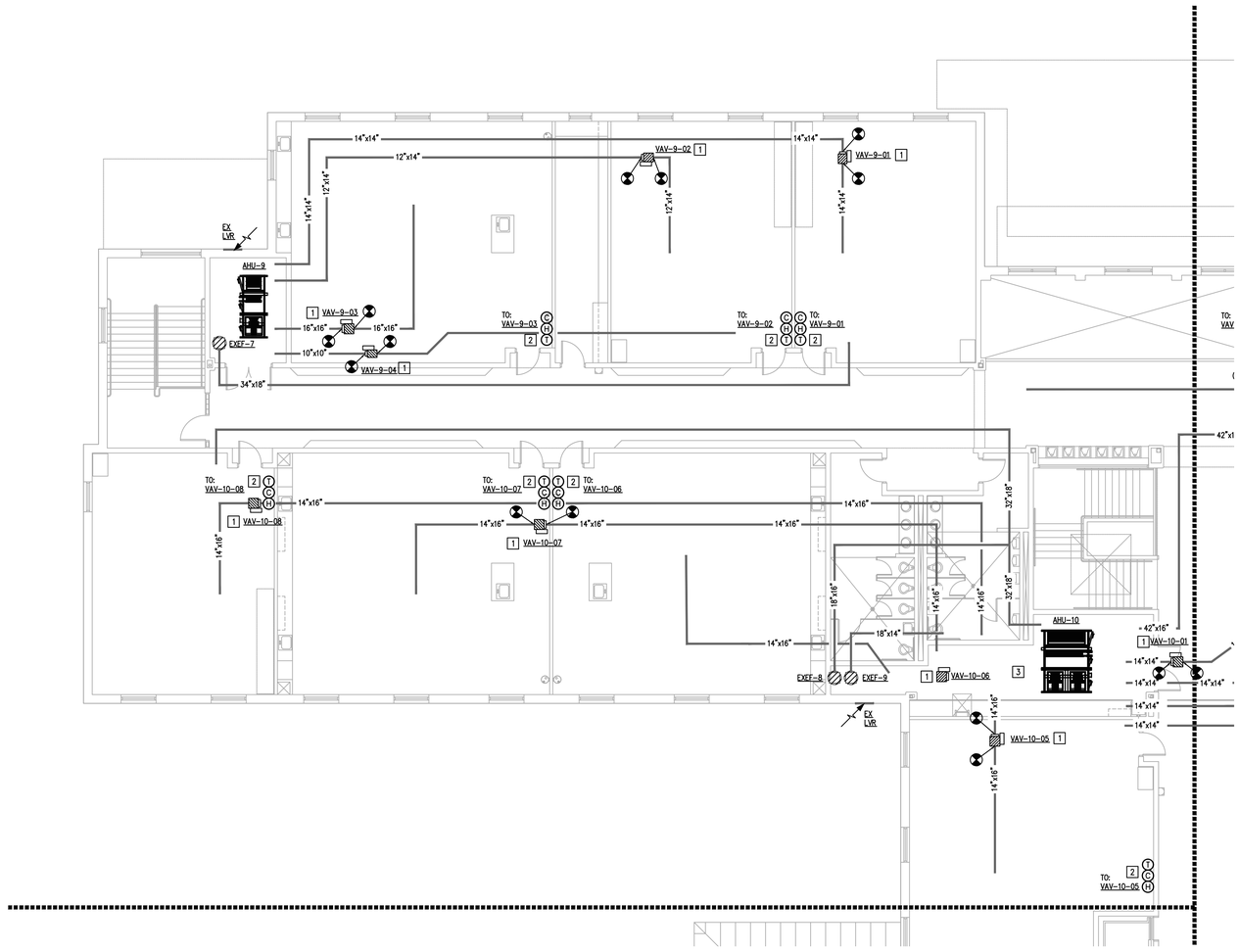

1 M2.21B LEVEL 2 MECHANICAL PLAN - B

1/8" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

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G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

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2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

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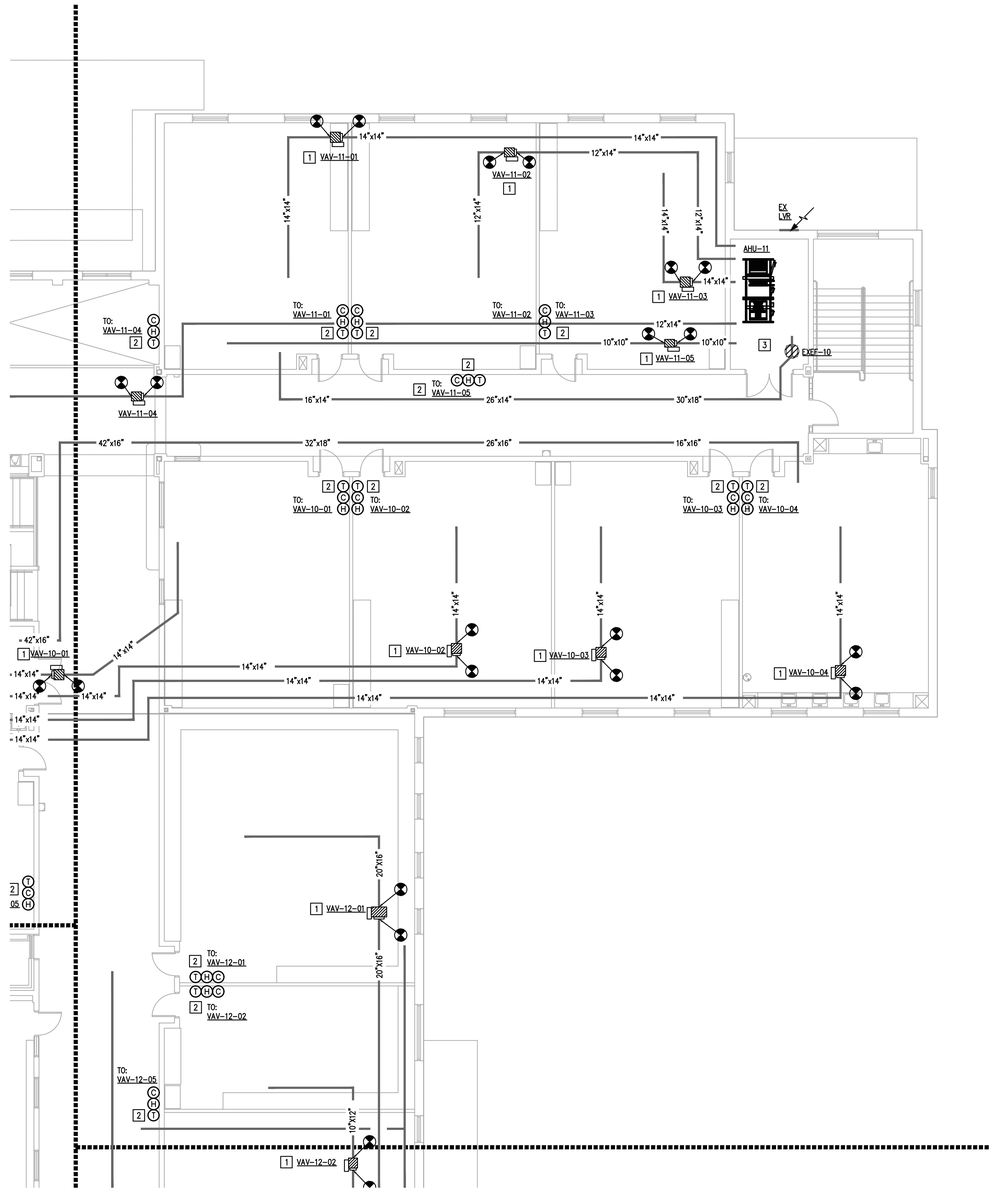
PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 2 MECHANICAL PLAN - B

SHEET NUMBER: M2.21B



1 M2.21C LEVEL 2 MECHANICAL PLAN - C
1/8" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

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3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

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3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
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PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 2 MECHANICAL PLAN - C
SHEET NUMBER: M2.21C

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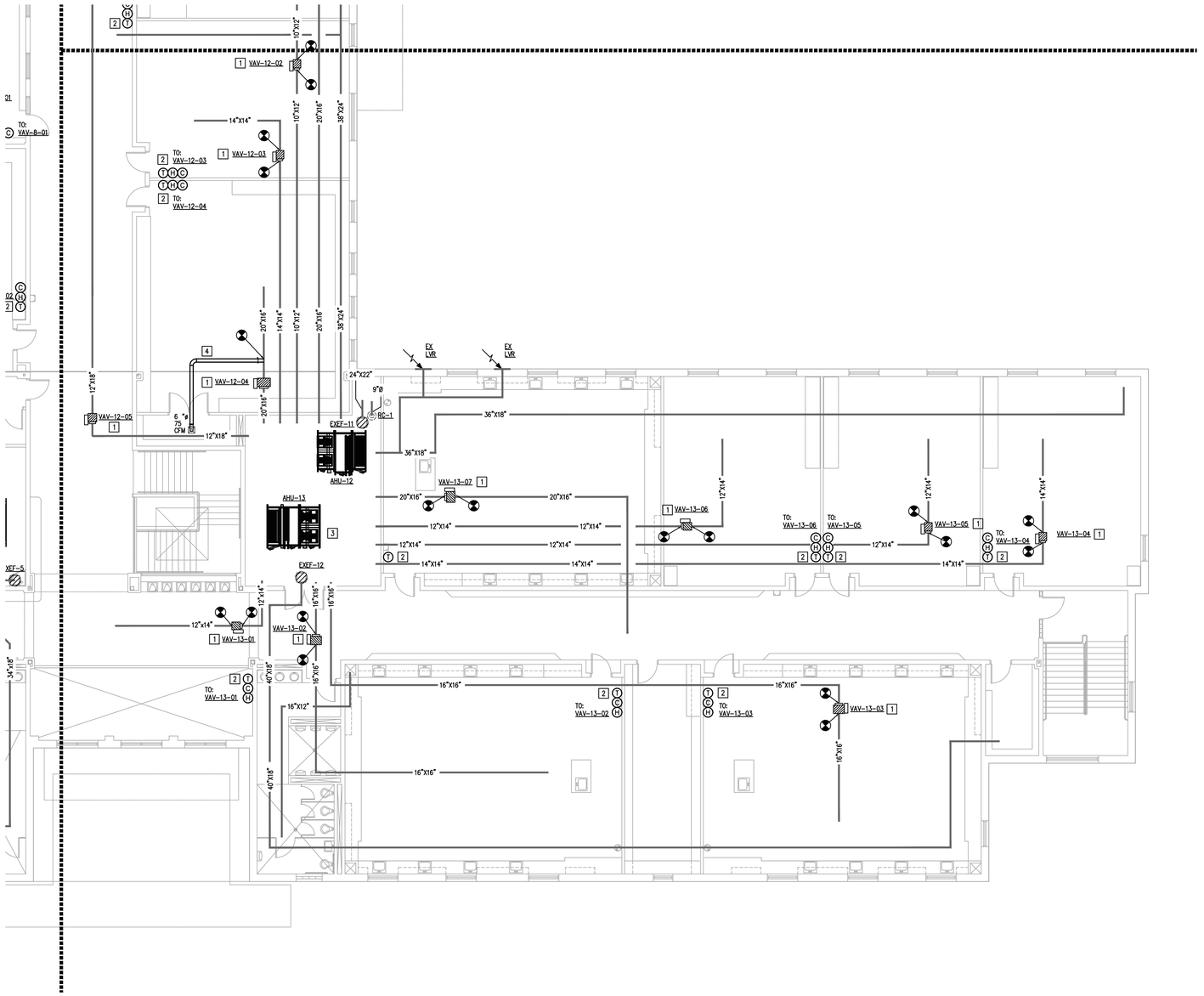


MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. APPROXIMATE LOCATION OF NEW SINGLE DUCT BOX. CONTRACTOR SHALL INSTALL NEW SINGLE DUCT BOX IN EXISTING DUCTWORK. CONTRACTOR SHALL REMOVE AND PATCH EXISTING DUCTWORK AS NECESSARY. TYP.
2. NEW DDC TEMPERATURE, RELATIVE HUMIDITY, AND CO2 SENSORS.
3. REFER TO ENLARGED MECHANICAL ROOM PLANS FOR MECHANICAL ROOM VIEW CONTINUATION.
4. NEW DUCT BRANCH TO EXISTING AIR DEVICE. RE-BALANCE AS SHOWN.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

1 M2.21D LEVEL 2 MECHANICAL PLAN - D

1/8" = 1'-0"

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

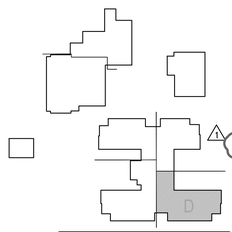
SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 2 MECHANICAL PLAN - D.

SHEET NUMBER: M2.21D

Plotted: Mar 23, 2022, 7:58 PM by user: rtijerina Saved: 3/23/2022 by user: rtijerina
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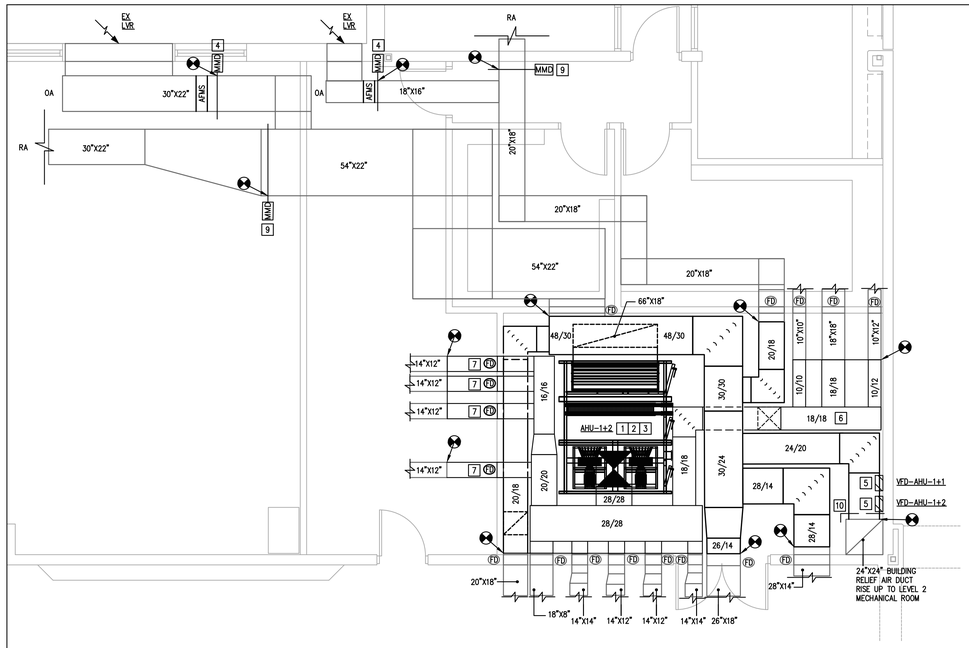
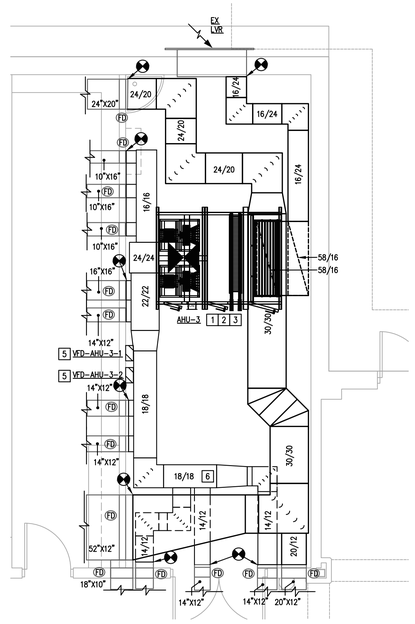
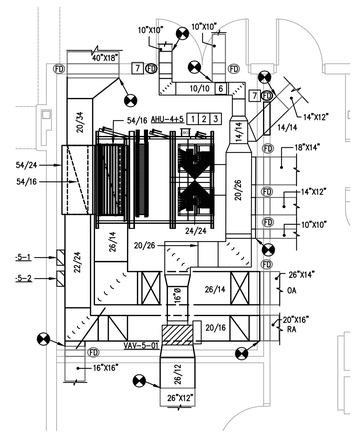


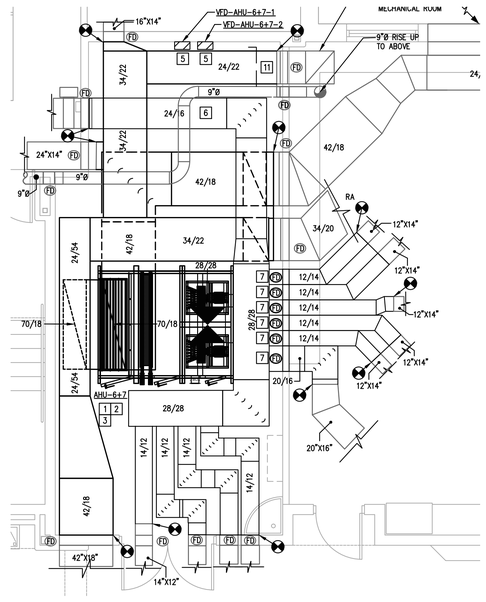
1 M3.10 LEVEL 1A MECHANICAL AHU-1+2
1/4" = 1'-0"



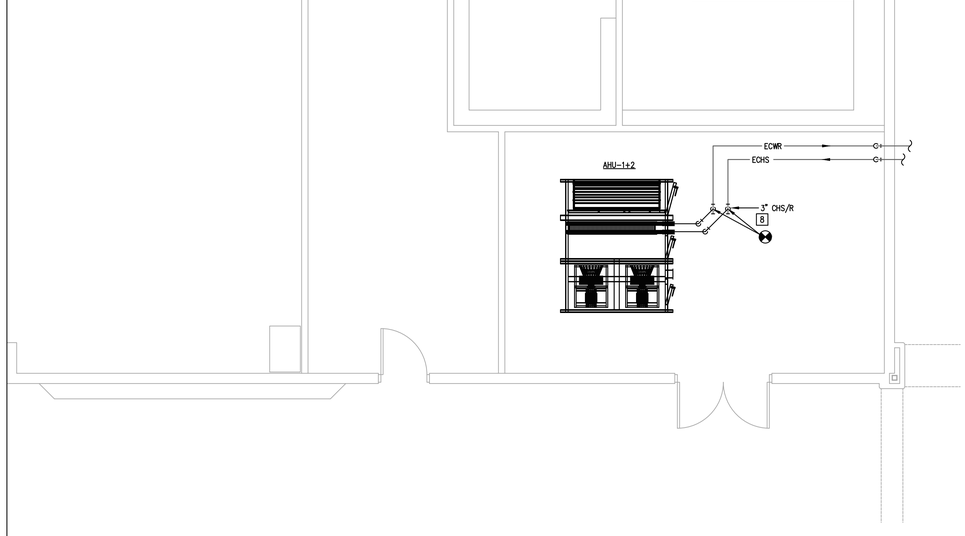
3 M3.10 LEVEL 1B MECHANICAL AHU-3
1/4" = 1'-0"



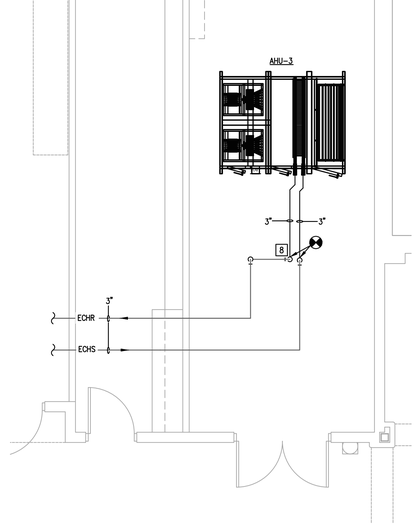
5 M3.10 LEVEL 1C MECHANICAL AHU-4+5
1/4" = 1'-0"



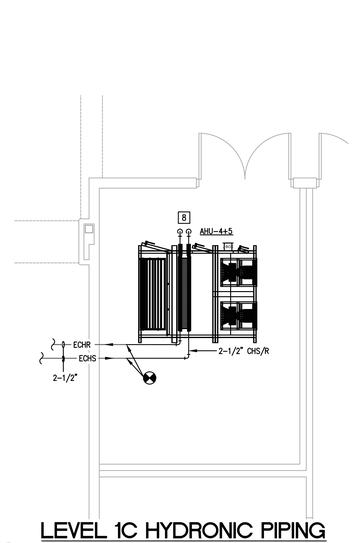
7 M3.10 LEVEL 1D MECHANICAL AHU-6+7
1/4" = 1'-0"



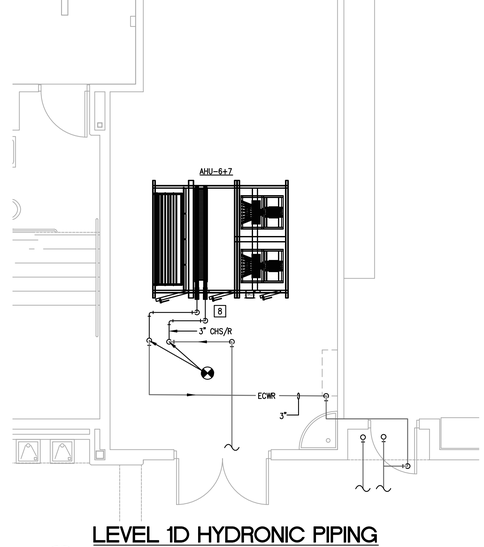
2 M3.10 LEVEL 1A HYDRONIC PIPING AHU-1+2
1/4" = 1'-0"



4 M3.10 LEVEL 1B HYDRONIC PIPING AHU-3
1/4" = 1'-0"



6 M3.10 LEVEL 1C HYDRONIC PIPING AHU-4+5
1/4" = 1'-0"



8 M3.10 LEVEL 1D HYDRONIC PIPING AHU-6+7
1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. MODIFY EXISTING HOUSE KEEPING PAD TO ACCOMMODATE THE NEW AIR HANDLING UNIT.
2. INSTALL SUPPLY AND RETURN AIR DUCTWORK AS INDICATED AND AS REQUIRED. FIELD VERIFY REQUIREMENT OF CONNECTION.
3. CONTRACTOR SHALL PROVIDE A NEW FULL SIZE INSULATED COPPER CONDENSATE DRAIN LINE. PROVIDE PIPE SUPPORT MAXIMUM 5'-0" O.C. SPACING. SLOPE PIPING 1/8" PER FOOT. ROUTE AND DRAIN CONDENSATE LINE INDIRECTLY INTO NEAREST FLOOR SINK. REFER TO DETAIL 26/M6.01 FOR REQUIREMENTS.
4. PROVIDE AND INSTALL MODULATING CONTROL DAMPER WITH AFMS IN OUTSIDE AIR DUCT. DAMPER SHALL BE EQUAL TO RUSKIN MODEL "IAQ50X", HIGH PERFORMANCE, AIRFOIL, OPPOSED BLADE.
5. VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
6. DUCT MOUNTED STATIC PRESSURE SENSOR.
7. PROVIDE NEW FIRE DAMPER.
8. CONTRACTOR SHALL ROUTE AND CONNECT EXISTING CHILLED WATER SUPPLY AND RETURN LINES TO THE NEW AIR HANDLING UNIT.
9. PROVIDE AND INSTALL MODULATING CONTROL DAMPER IN OUTSIDE AIR DUCT. DAMPER SHALL BE EQUAL TO RUSKIN MODEL "CD60", HIGH PERFORMANCE, AIRFOIL, OPPOSED BLADE.
10. CONNECT BUILDING RELIEF AIR DUCT TO RETURN AIR DUCT. PROVIDE NEW MANUAL BALANCING DAMPER. BALANCE RELIEF AIR DUCT TO 3,600 CFM.
11. CONNECT BUILDING RELIEF AIR DUCT TO RETURN AIR DUCT. PROVIDE NEW MANUAL BALANCING DAMPER. BALANCE RELIEF AIR DUCT TO 3,160 CFM.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
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TBPE Firm Registration NO. 2234

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No.	DATE	DESCRIPTION
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ROBERTO H. TIJERINA
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3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: ENLARGED MECHANICAL ROOM PLANS

SHEET NUMBER: M3.10

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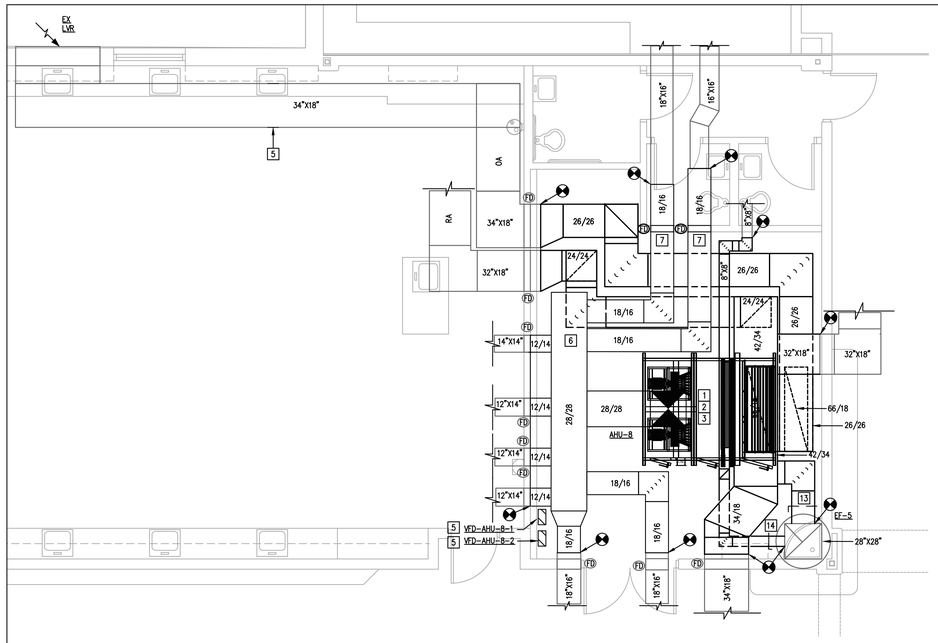
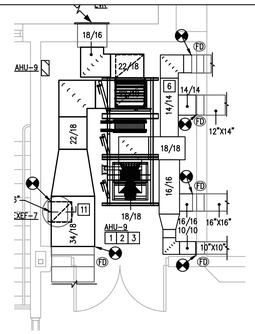
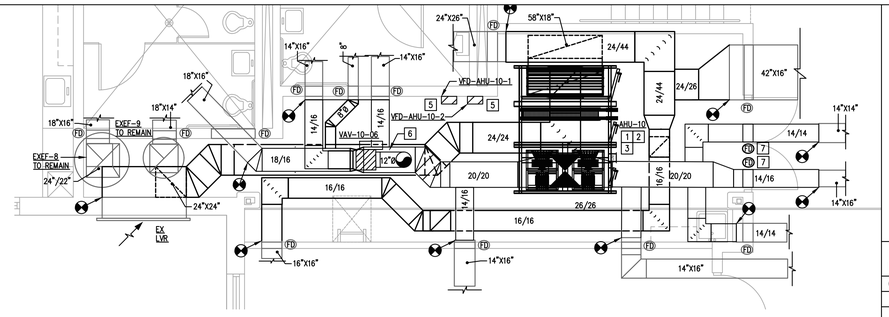


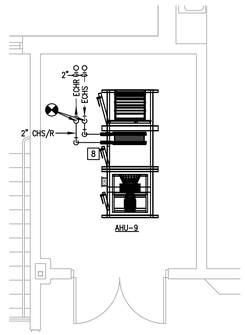
1 M3.11 **LEVEL 2A MECHANICAL AHU-8**
1/4" = 1'-0"



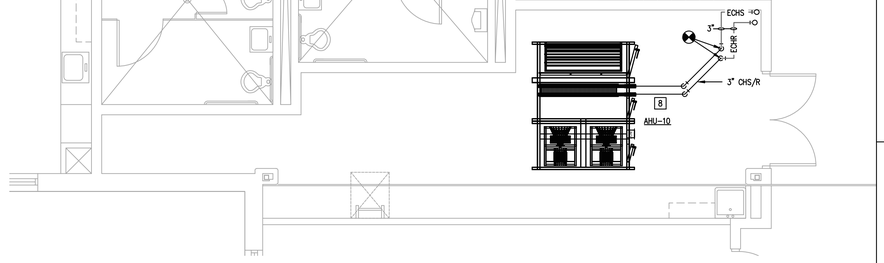
2 M3.11 **LEVEL 2B MECHANICAL AHU-9**
1/4" = 1'-0"



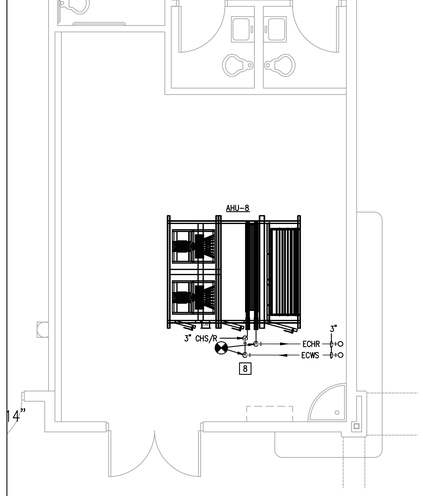
3 M3.11 **LEVEL 2B MECHANICAL AHU-10**
1/4" = 1'-0"



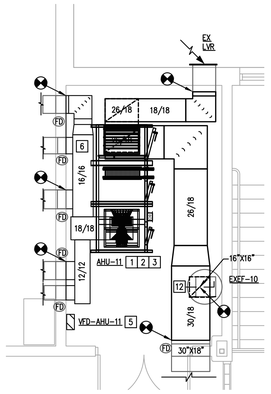
2 M3.11 **LEVEL 2B HYDRONIC PIPING AHU-9**
1/4" = 1'-0"



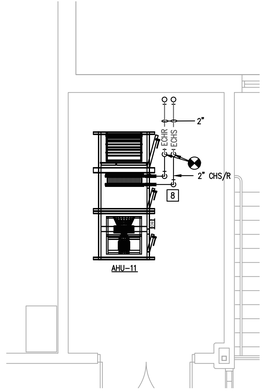
3 M3.11 **LEVEL 2B HYDRONIC PIPING AHU-10**
1/4" = 1'-0"



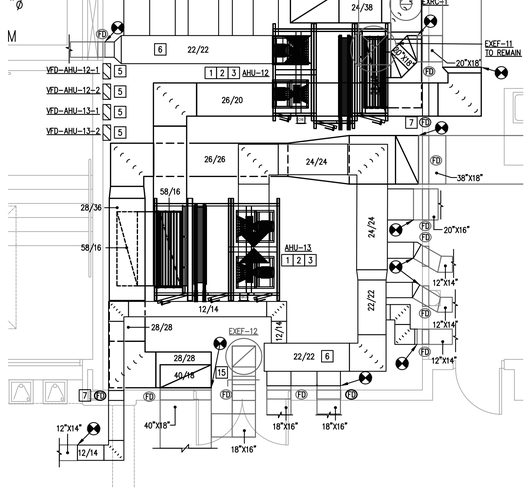
1 M3.11 **LEVEL 2A HYDRONIC PIPING AHU-8**
1/4" = 1'-0"



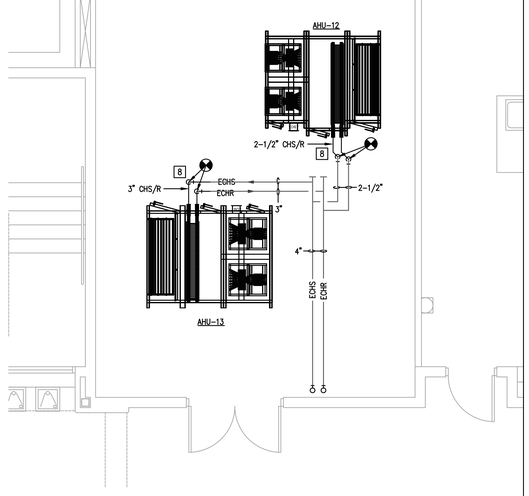
4 M3.11 **LEVEL 2C MECHANICAL AHU-11**
1/4" = 1'-0"



4 M3.11 **LEVEL 2C HYDRONIC PIPING AHU-11**
1/4" = 1'-0"



5 M3.11 **LEVEL 2D MECHANICAL AHU-13**
1/4" = 1'-0"



5 M3.11 **LEVEL 2D HYDRONIC PIPING AHU-13**
1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. MODIFY EXISTING HOUSE KEEPING PAD TO ACCOMMODATE THE NEW AIR HANDLING UNIT.
2. INSTALL SUPPLY AND RETURN AIR DUCTWORK AS INDICATED AND AS REQUIRED. FIELD VERIFY REQUIREMENT OF CONNECTION.
3. CONTRACTOR SHALL PROVIDE A NEW FULL SIZE INSULATED COPPER CONDENSATE DRAIN LINE. PROVIDE PIPE SUPPORT MAXIMUM 5'-0" O.C. SPACING. SLOPE PIPING 1/8" PER FOOT. ROUTE AND DRAIN CONDENSATE LINE INDIRECTLY INTO NEAREST FLOOR SINK. REFER TO DETAIL 26/M6.01 FOR REQUIREMENTS.
4. PROVIDE AND INSTALL MODULATING CONTROL DAMPER WITH AFMS IN OUTSIDE AIR DUCT. DAMPER SHALL BE EQUAL TO RUSKIN MODEL "IAQ50X", HIGH PERFORMANCE, AIRFOIL, OPPOSED BLADE.
5. VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
6. DUCT MOUNTED STATIC PRESSURE SENSOR.
7. PROVIDE NEW FIRE DAMPER.
8. CONTRACTOR SHALL ROUTE AND CONNECT EXISTING CHILLED WATER SUPPLY AND RETURN LINES TO THE NEW AIR HANDLING UNIT.
9. PROVIDE AND INSTALL MODULATING CONTROL DAMPER IN OUTSIDE AIR DUCT. DAMPER SHALL BE EQUAL TO RUSKIN MODEL "CD60", HIGH PERFORMANCE, AIRFOIL, OPPOSED BLADE.
10. PATCH, SEAL, AND RE-INSULATE DUCT.
11. CONNECT EXHAUST FAN TO RETURN AIR DUCT. PROVIDE NEW MANUAL BALANCING DAMPER IN RISER. BALANCE RELIEF AIR DUCT TO 1,200 CFM.
12. CONNECT EXHAUST FAN TO RETURN AIR DUCT. PROVIDE NEW MANUAL BALANCING DAMPER IN RISER. BALANCE RELIEF AIR DUCT TO 1,255 CFM.
13. CONNECT BUILDING RELIEF AIR DUCT TO EXHAUST FAN. PROVIDE NEW MANUAL BALANCING DAMPER. BALANCE RELIEF AIR DUCT TO 2,400 CFM.
14. CONNECT EXHAUST AIR DUCT TO EXHAUST FAN. PROVIDE NEW MANUAL BALANCING DAMPER. BALANCE EXHAUST AIR DUCT TO 175 CFM.
15. BALANCE BUILDING RELIEF AIR TO 1,800 CFM.
16. BALANCE BUILDING RELIEF AIR TO 1,1480 CFM.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
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EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

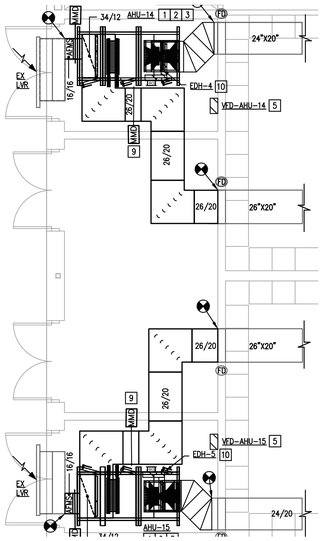
SHEET TITLE:

1

ENLARGED MECHANICAL ROOM PLANS

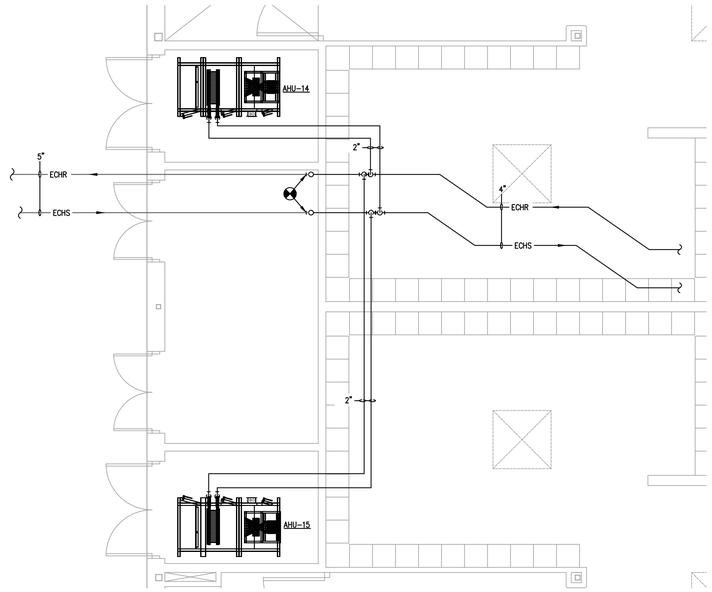
SHEET NUMBER:

M3.11



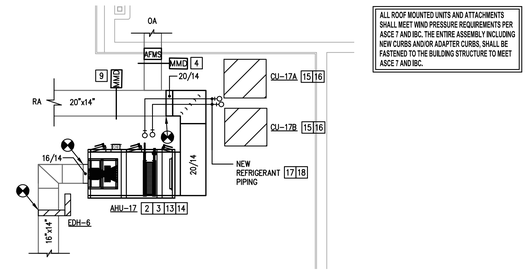
1 M3.12 LEVEL 1F MECHANICAL AHU-14 AND AHU-15

1/4" = 1'-0"



2 M3.12 LEVEL 1F HYDRONIC PIPING AHU-14 AND AHU-15

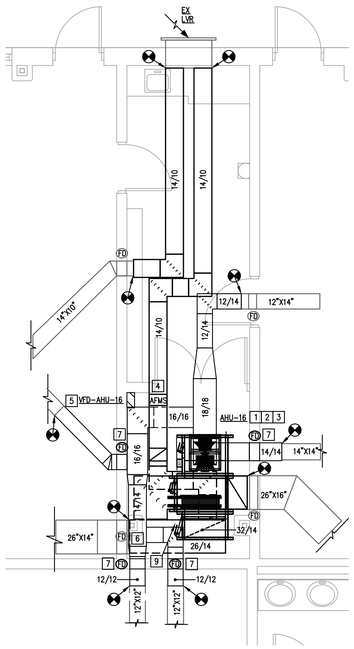
1/4" = 1'-0"



ALL ROOF MOUNTED UNITS AND ATTACHMENTS SHALL MEET WIND PRESSURE REQUIREMENTS PER ASCE 7 AND IBC. THE ENTIRE ASSEMBLY INCLUDING NEW CURBS AND/OR ADAPTER CURBS, SHALL BE FASTENED TO THE BUILDING STRUCTURE TO MEET ASCE 7 AND IBC.

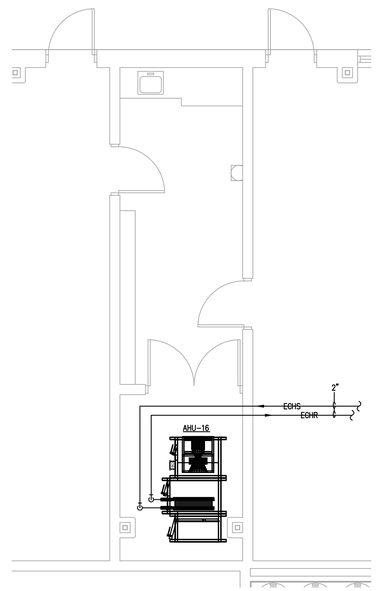
3 M3.12 LEVEL 1E MECHANICAL AHU-17

1/4" = 1'-0"



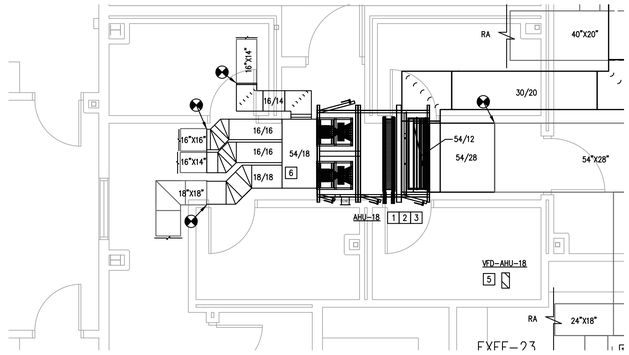
4 M3.12 LEVEL 1E MECHANICAL AHU-16

1/4" = 1'-0"



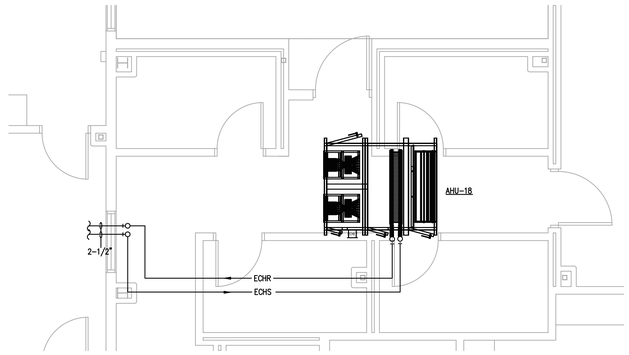
5 M3.12 LEVEL 1E HYDRONIC PIPING AHU-16

1/4" = 1'-0"



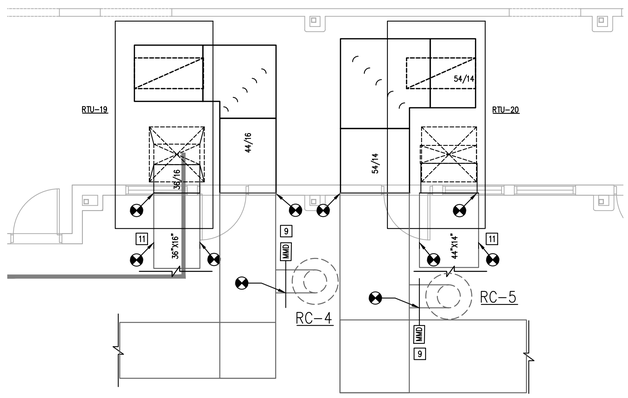
6 M3.12 LEVEL 1E MECHANICAL AHU-18

1/4" = 1'-0"



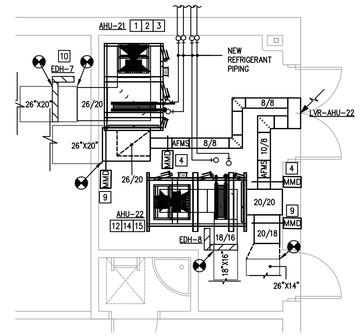
7 M3.12 LEVEL 1E HYDRONIC PIPING AHU-18

1/4" = 1'-0"



8 M3.12 LEVEL 1G MECHANICAL RTU-19 AND RTU-20

1/4" = 1'-0"



9 M3.12 LEVEL 1 G MECHANICAL AHU-21 AND AHU-22

1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

A. REFER TO SHEET M0.01 FOR MECHANICAL GENERAL NOTES.

B. EXACT LOCATIONS OF HOT WATER DUCT COILS AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

D. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

E. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

F. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

G. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

H. EXISTING DUCTWORK SHOWN AS A SINGLE LINE.

MECHANICAL KEY NOTES:

1. MODIFY EXISTING HOUSE KEEPING PAD TO ACCOMMODATE THE NEW AIR HANDLING UNIT.
2. INSTALL SUPPLY AND RETURN AIR DUCTWORK AS INDICATED AND AS REQUIRED. FIELD VERIFY REQUIREMENT OF CONNECTION.
3. CONTRACTOR SHALL PROVIDE A NEW FULL SIZE INSULATED COPPER CONDENSATE DRAIN LINE. PROVIDE PIPE SUPPORT MAXIMUM 5'-0" O.C. SPACING. SLOPE PIPING 1/8" PER FOOT. ROUTE AND DRAIN CONDENSATE LINE INDIRECTLY INTO NEAREST FLOOR SINK. REFER TO DETAIL 26/M6.01 FOR REQUIREMENTS.
4. PROVIDE AND INSTALL MODULATING CONTROL DAMPER WITH AFMS IN OUTSIDE AIR DUCT. DAMPER SHALL BE EQUAL TO RUSKIN MODEL "IAQ50X", HIGH PERFORMANCE, AIRFOIL, OPPOSED BLADE.
5. VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
6. DUCT MOUNTED STATIC PRESSURE SENSOR.
7. PROVIDE NEW FIRE DAMPER.
8. CONTRACTOR SHALL ROUTE AND CONNECT EXISTING CHILLED WATER SUPPLY AND RETURN LINES TO THE NEW AIR HANDLING UNIT.
9. PROVIDE AND INSTALL MODULATING CONTROL DAMPER IN OUTSIDE AIR DUCT. DAMPER SHALL BE EQUAL TO RUSKIN MODEL "CD60", HIGH PERFORMANCE, AIRFOIL, OPPOSED BLADE.
10. PROVIDE NEW ELECTRIC DUCT HEATER AS SCHEDULED. PATCH, SEAL, AND RE-INSULATE DUCT.
11. PATCH, SEAL, AND RE-INSULATE DUCT.
12. BALANCE BUILDING RELIEF AIR TO 1600 CFM.
13. PROVIDE AUXILIARY DRAIN PAN AND DRAIN LINE PER CODE.
14. EQUIPMENT SHALL BE SUSPENDED FROM STRUCTURE WITH UNI-STRUT AT HEIGHT THAT ALLOWS FOR EQUIPMENT TO BE SERVICED.
15. REFRIGERATION EQUIPMENT SHALL BE SUPPORTED USING EQUIPMENT SUPPORTS EQUAL TO PHP#RTU-20 CORNER AND CENTER MODELS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS. PROVIDE ISOLATION PADS AND 12" CLEARANCE FROM BOTTOM OF UNIT TO SURFACE ROOF.
16. ROUTE NEW REFRIGERANT LINES FROM AIR HANDLING UNIT BACK TO ASSOCIATED CONDENSING UNIT. SIZE AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
17. REFRIGERATION PIPING ON ROOF SHALL BE SUPPORTED USING PIPE SUPPORTS EQUAL TO PHP#PP10. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS FOR WIND SPEEDS/CONDITIONS AS NOTED. PROVIDE ISOLATION PADS AND MINIMUM 12" CLEARANCE FROM BOTTOM OF PIPE TO SURFACE ROOF.

TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

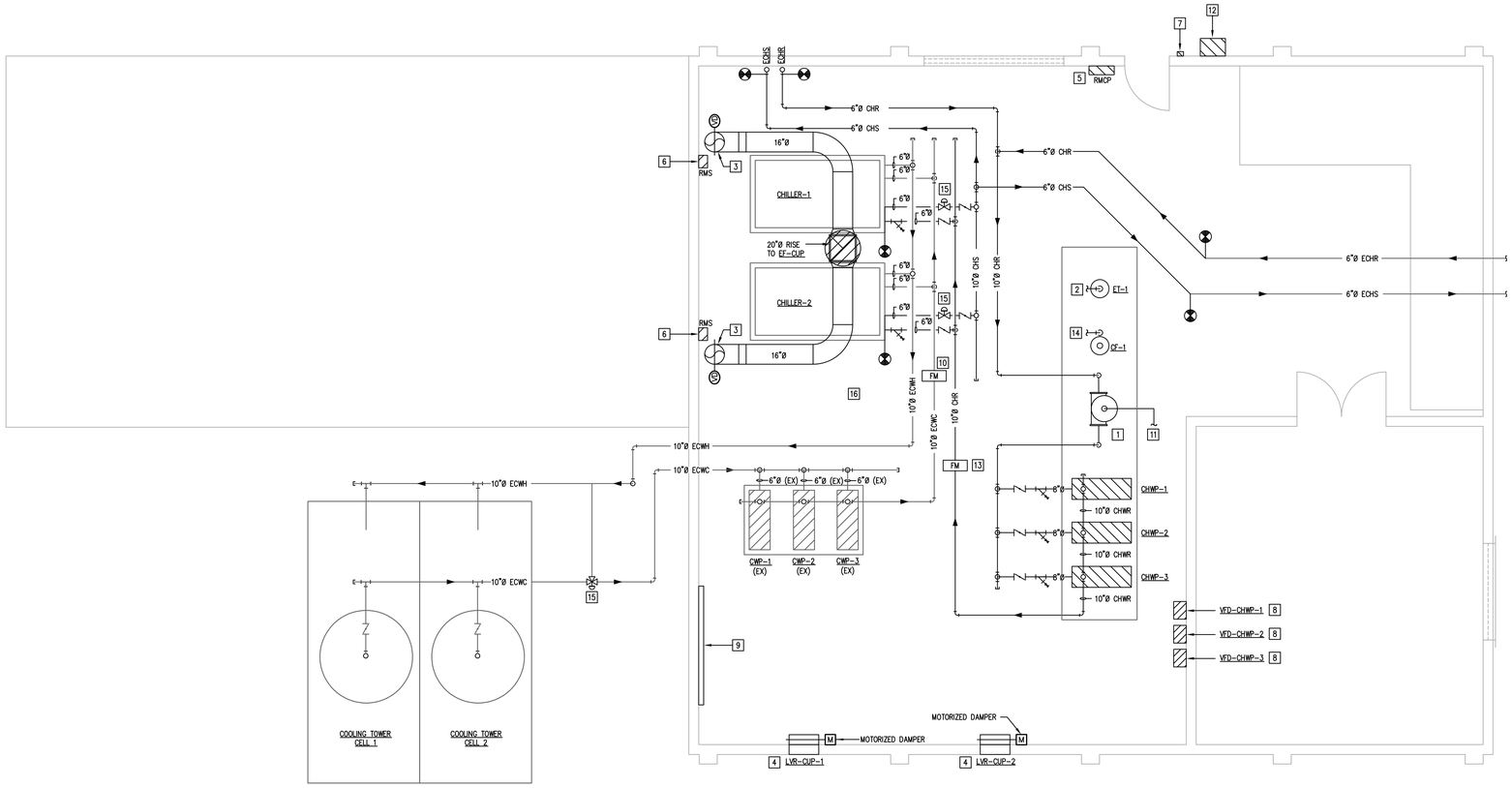
PROJECT NUMBER: 218007.002

SHEET TITLE:

ENLARGED MECHANICAL ROOM PLANS

SHEET NUMBER:

M3.12



1 M3.13 LEVEL 1H MECHANICAL CHILLED WATER PLANT

1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY HAVE OBTAINED THE SCOPE OF THE MECHANICAL DEMOLITION WORK INVOLVED AS A RESULT OF MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MAY BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE REROUTED OR REMOVED EITHER ACCOMPLISHED, NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS, CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.

B. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL EQUIPMENT BEING REMOVED. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT, DUCTWORK, AND AIR DEVICES REMOVED DURING DEMOLITION.

C. CONTRACTOR TO REPORT ANY DAMAGED EQUIPMENT THAT IS SHOWN AS EXISTING TO REMAIN TO THE OWNER PRIOR TO STARTING ALL WORK. ALL EQUIPMENT FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION, THAT HAD NOT BEEN REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR TO REPAIR AT THEIR OWN COST.

D. WHERE EQUIPMENT IS SCHEDULED TO BE DEMOLISHED/REMOVED AND REPLACED, THE CONTRACTOR SHALL PREP ALL OPENINGS, CONNECTIONS, FLASHING, PENETRATIONS, DUCT OR PIPING FITTINGS, ETC. TO ACCOMMODATE THE NEW EQUIPMENT. IT IS UNLIKELY THAT NEW EQUIPMENT SPECIFIED IN NEW WORK PHASE WILL DIRECTLY ALIGN WITH EXISTING CONDITIONS.

E. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

F. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION OF TEMPERATURE AND HUMIDITY SENSORS.

G. ALL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES FOUND TO BE ABANDONED SHALL BE REMOVED.

H. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH BUILDING FACILITY AS TO NOT DISTURB OPERATING HOURS.

I. CONTRACTOR SHALL COORDINATE CLEARANCES WITH ALL APPLICABLE TRADES TO ENSURE THAT ALL NECESSARY CODES ARE IN COMPLIANCE.

MECHANICAL KEY NOTES:

1. AIR SEPARATOR, AS-1, SHALL BE FLOOR SUPPORTED ON EXISTING HIGH HOUSE KEEPING PAD. OFFSET AIR VENT TO MINIMIZE WATER SPILLAGE ONTO UNIT. RE: TO 18/M6.01
2. EXPANSION TANK, ET-1, SHALL BE FLOOR MOUNTED ON EXISTING HIGH HOUSEKEEPING PAD. RE: TO 16/M6.01.
3. 16"Ø EXHAUST DUCT. DROP DOWN TO 18" ABOVE FINISHED FLOOR. TERMINATE IN BIRD SCREEN. RACK TO PERIMETER WALL BALANCE INLET AT 1300 CFM.
4. PROVIDE LVR-CUP-1 & LVR-CUP-2 WITH CONTROL DAMPER. DAMPER SHALL REMAIN CLOSED UNLESS COMMANDED OPEN THRU REFRIGERANT MONITORING SYSTEM. MOUNT BOTTOM OF LOUVER AT 16" ABOVE FINISHED FLOOR (TOP OF SECOND CMU COURSE).
5. MOUNT REFRIGERANT MONITORING CONTROL PANEL (RMCP) 54" ABOVE FINISHED FLOOR TO TOP. UNIT SHALL COME COMPLETE WITH HORNS/STROBE ASSEMBLY. PROVIDE COMMUNICATIONS MODULE AS REQUIRED FOR DDC SYSTEM. INITIATION OF REFRIGERANT PURGE/ALARM CYCLE SHALL SEND AN ALARM THRU DDC. PROVIDE MANUAL RESET IN PANEL.
6. REFRIGERANT MONITORING SENSOR (RMS). MOUNT AT 18" ABOVE FINISHED FLOOR.
7. REFRIGERANT MONITORING SYSTEM HORN/STROBE. COORDINATE FINAL LOCATION WITH ARCHITECTURAL DOORS. UNIT SHALL BE WEATHER PROOF (EXTERIOR UNITS ONLY) AND MOUNTED 80" ABOVE FINISHED FLOOR. PROVIDE SIGN AT EACH LOCATION THAT READS "MACHINERY ROOM AUTHORIZED PERSONNEL ONLY". SIGN MUST ALSO INCLUDE WORDING TO PROHIBIT ENTERING MACHINERY ROOM WITHOUT PROPER PROTECTIVE EQUIPMENT DURING A REFRIGERANT ALARM CONDITION.
8. VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
9. NEW CONDENSER WATER TREATMENT PUMPS/CONTROLLER IN THIS AREA. REFER TO DETAIL 24/M6.01 FOR PIPING/EQUIPMENT REQUIREMENTS. INSTALL 4X8X3/4" TREATED PLYWOOD AT 2'-0" ABOVE FINISHED FLOOR. PAINT IN ACCORDANCE WITH ARCHITECTURAL SPECS.
10. APPROXIMATE LOCATION OF CONDENSER WATER FLOW METER. SPECIFIC LOCATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
11. NEW 1-1/2" MAKEUP WATER LINE AND RPZ BACKFLOW PREVENTER.
12. SELF CONTAINED BREATHING APPARATUS IN WEATHER PROOF ENCLOSURE.
13. APPROXIMATE LOCATION OF CHILLED WATER FLOW METER. SPECIFIC LOCATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
14. THREE SOCK CHEMICAL FEEDER MOUNTED ON EXISTING HOUSE KEEPING PAD. REFER TO DETAIL 17/M6.01.
15. NEW MOTORIZED CONTROL VALVE EQUAL TO BRAY SERIES 70.

LEGEND:

NEW PIPING AND EQUIPMENT

EXISTING PIPING AND EQUIPMENT

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DISCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

CITY OF McALLEN
LIBRARY
MECHANICAL UPGRADES

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218017.000

1

SHEET TITLE: ENLARGED MECHANICAL ROOM PLANS

SHEET NUMBER: M3.13

TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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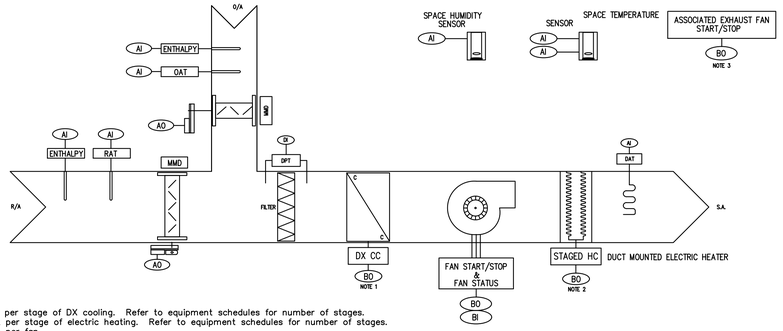


NOTES:
1. Provide one control point per stage of DX cooling. Refer to equipment schedules for number of stages.
2. Provide one control point per stage of electric heating. Refer to equipment schedules for number of stages.
3. Provide one control point per fan.

(Typical of AHU-21 and AHU-22

System Off - When the system is off:
The outside air damper shall be closed.
The return air damper shall be open.
The supply air fan shall be off.
The DX cooling coil shall be disabled.
The electric heating coil shall be disabled.
The control loops shall be disabled.

PRE-START MODE:
The system shall be enabled by an operator entered manual command at the EMCS or automatically by the EMCS based on the Optimal Start/Stop algorithm. Once enabled, the system shall operate per the **System Operation** section, as detailed below.

NIGHT-SETBACK MODE:
The system shall be enabled automatically by the EMCS when space temperature has exceeded Unoccupied Cooling or Heating Setpoint. Once enabled, the system shall operate per the **System Operation** section, as detailed below.

System Operation - When system start-up has been initiated:
The outside air damper shall open and the supply air fan shall start. Following a confirmation of fan start status, the unit shall be controlled by one of the following four modes:
COOLING MODE: When the space temperature is above the Cooling Setpoint, the supply fan shall be energized and the DX cooling coil shall be staged to maintain the space temperature within +/- 0.5 °F of the Cooling Setpoint.

HEATING MODE: When the space temperature is below the Heating Setpoint, the supply fan shall be energized and the electric heating coil shall be staged to maintain the space temperature within +/- 0.5 °F of the Heating Setpoint.

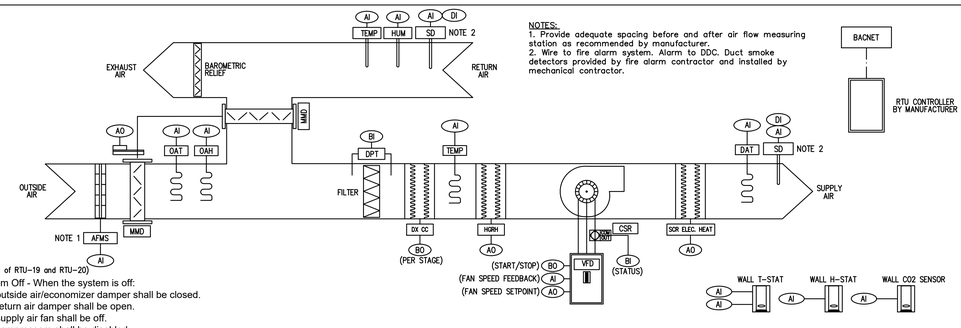
DE-HUMIDIFICATION MODE: When the space humidity is above the space humidity high-limit setpoint, the supply fan shall be energized and the DX cooling coil shall be staged to maximum cooling. During this time, the electric heating coil shall be staged to maintain the discharge air temperature within +/- 0.5 °F of the reheat setpoint.

System Setpoints - The setpoints for the system shall be determined as follows:
The Occupied Heating Setpoint shall be set initially at 70 °F (adjustable).
The Occupied Cooling Setpoint shall be set initially at 74 °F (adjustable).
The Unoccupied Heating Setpoint shall be set initially at 55 °F (adjustable).
The Unoccupied Cooling Setpoint shall be set initially at 85 °F (adjustable).
The space humidity high-limit setpoint shall be set initially at 60% RH (adjustable).
The reheat setpoint shall be set initially at 72 °F (adjustable).
The outside air flowrate setpoint shall be set at the scheduled flowrate.

System Shutdown - System shutdown shall be initiated:
By operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.

System Alarms - The EMCS shall generate an alarm if:
If the supply air temperature is outside the established low and high limits, which shall be set at +/- 5 °F around the current setpoint.
If the filter differential pressure exceeds the trip point initially set at 1.0 inch w.c. (adj)
All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

4 Single Zone FCU with Space Humidity Control and Airside Economizer - Control Schematic and Sequence of Operations
NOT TO SCALE



(Typical of RTU-19 and RTU-20)

System Off - When the system is off:
The outside air/economizer damper shall be closed.
The return air damper shall be open.
The supply air fan shall be off.
The compressors shall be disabled.
The hot gas reheat valve shall be closed.
The electric heater shall be disabled.
The control loops shall be disabled.

System Startup - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Pre-Start Mode or Night-Setback Mode.

Pre-Start Mode:
The system shall be enabled automatically by the EMCS based on the Optimal Start/Stop algorithm. Once enabled, the system shall operate per the system Operation section, as detailed below. Operation of the system during Pre-Start Mode shall not include ventilation air. Economizer mode shall be permitted to operate per the System Operation section as detailed below.

Night Setback Mode:
The system shall be enabled automatically by the EMCS when the space temperature drifts outside the active Unoccupied Cooling or Heating Setpoint. Once enabled, the system shall operate per the System Operation section as detailed below. Operation of the system during Night-Setback Mode shall not include ventilation air. Economizer mode shall be permitted to operate per the System Operation section as detailed below.

System Operation - When system start-up has been initiated:
The variable speed supply air fan shall start. Following a conformation of fan start status, the supply fan speed shall be modulated to the minimum speed reference value. The speed of the fan shall not be adjusted by more than 20 Hz in any one-minute period. The unit shall be controlled by one of the following modes:
COOLING MODE: When the space temperature is above the Cooling Setpoint, the refrigerant compression shall be staged to maintain the active DX coil discharge air temperature setpoint. The supply fan VFD shall modulate from its minimum setting to its maximum setting as required to maintain the active space Cooling Setpoint.

ECONOMIZER MODE: When the outside air enthalpy is less than 28.0 btu/lb, the outside air dry bulb temperature is less than 75°F, and there is a call for cooling, the outside air/economizer and return air dampers shall be modulated such that the unit provides 100% outside air for space cooling, and the refrigerant compression shall be staged to maintain the active DX coil discharge air temperature setpoint, and the supply fan VFD shall modulate from its minimum setting to its maximum setting as required to maintain the active space Cooling Setpoint. The barometric relief damper integral to the unit shall prevent building over-pressurization. If the outside air enthalpy exceeds 28.0 btu/lb or the outside air temperature exceeds 75°F, or if there is no longer a call for cooling, Economizer Mode shall be disabled.

HEATING MODE: When the space temperature is below the Heating Setpoint, the electric heater shall modulate to maintain the active electric heating discharge air temperature setpoint. The supply fan VFD shall modulate from its minimum setting to its maximum setting as required to maintain the active space Heating Setpoint.

DE-HUMIDIFICATION MODE: When the space humidity is above the space humidity high-limit setpoint, the refrigerant compression shall be staged to maintain the active de-humidification DX coil discharge air temperature setpoint, the supply fan VFD shall modulate to its minimum setting, and the hot gas reheat valve shall modulate to maintain the reheat setpoint as required. The unit shall exit de-humidification mode when the space humidity setpoint has been satisfied for at least 10 minutes (adj).

DEMAND CONTROL VENTILATION - During occupied hours, the outside air flow rate shall modulate from its scheduled maximum flow rate to its scheduled minimum flow rate. If the space CO2 level is at least 100 ppm (adj) less than its active high limit setpoint for a time period of 10 minutes (adj), the outside air/economizer damper and return air damper shall be modulated to maintain the minimum scheduled outside air flow rate. If the space CO2 level rises to within 50 ppm (adj) of its active high limit, the outside air/economizer damper and return air damper shall be modulated to maintain the scheduled maximum outside air flow rate.

Outside Air/Economizer Damper / Return Air Damper Integration with Supply Fan VFD: Dynamic control of the outside air/economizer damper and return air damper positions shall be provided through the full range of the supply fan VFD modulation. The outside air/economizer and return air motorized dampers shall modulate to maintain the active outside air flow rate setpoint. Damper positions shall not be adjusted by more than 20% (adj) in any one-minute time period.

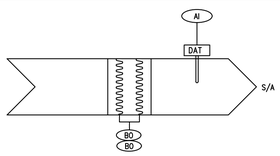
System Setpoints - The setpoints for the system shall be determined as follows:
The maximum speed reference value shall be the VFD speed required to obtain the design supply airflow value from the unit schedule on the Mechanical Drawings.
The minimum speed reference value shall be VFD speed required to obtain 50% of the design supply airflow value from the unit schedule on the mechanical drawings but not less than the active outside air flow rate setpoint.
The Occupied Heating Setpoint shall be set initially at 70 °F (adjustable).
The Occupied Cooling Setpoint shall be set initially at 74 °F (adjustable).
The Unoccupied Heating Setpoint shall be set initially at 55 °F (adjustable).
The Unoccupied Cooling Setpoint shall be set initially at 85 °F (adjustable).
The DX coil discharge air temperature setpoint shall be set initially at 53 °F (adjustable).
The de-humidification DX coil discharge air temperature setpoint shall be set initially at 50 °F (adjustable).
The electric heating discharge air temperature setpoint shall be set initially at 85 °F (adjustable).
The space humidity high-limit setpoint shall be set initially at 60% RH (adjustable).
The reheat setpoint shall be set initially at 75 °F (adjustable).
The minimum outside air flowrate setpoint shall be set at the scheduled minimum flowrate from the unit schedules on the mechanical drawings.
The maximum outside air flowrate setpoint shall be set at the scheduled maximum flowrate from the unit schedule on the mechanical drawings.
The space carbon dioxide high-limit setpoint be set to 1000 ppm (adj).
The air filter pressure differential high-limit shall be set at 1.0 in.wc. (adj).

System Shutdown - System shutdown shall be initiated:
By operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.
Automatically by supply fan current sensor status failure.

System Alarms - The EMCS shall generate an alarm if:
If the space temperature is outside the active low or high limits by more than 2°F for 5 minutes (adj).
If the supply air temperature drops below the DX coil discharge air temperature low-limit of 45 °F for 5 minutes (adj).
If the supply air temperature rises above the electric heating discharge air temperature high-limit of 100 °F for 5 minutes (adj).
If the space humidity level exceeds its high-limit for more than 20 minutes (adj).
If the space carbon dioxide level exceeds its high-limit for more than 20 minutes (adj) or the space carbon dioxide level exceeds the high-limit by 10% or more.
If the filter differential pressure exceeds the trip point.
If the current sensor relay indicates a supply fan failure status.
All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

Notes:
The equipment manufacturer's unit controller shall include controls to perform all equipment functions. The EMCS Contractor shall integrate with the unit controller via BACnet for detailed setpoint adjustments, unit monitoring, alarm inputs, and equipment scheduling.

1 Direct Expansion Single Zone VAV Rooftop Unit w/ Elec. Heat, Econ., De-humidification, DCV - Control Schematic and Sequence of Operations
NOT TO SCALE



HEATING MODE: When the space temperature is below the Heating Setpoint, the electric heating coil shall be staged to maintain the space temperature within +/- 0.5 °F of the Heating Setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime. The electric duct heater discharge temperature shall not be allowed to go above the heating coil high-limit setpoint.
The heating shall be enabled whenever:
- Outside air temperature is less than 65°F (adj.).
- AND the zone temperature is below heating setpoint.
- AND the associated air handling unit supply fan status is on.
- AND the cooling is not active.

System Setpoints - The setpoints for the system shall be set as follows:
The Heating Setpoint shall be set initially at 70 °F (adjustable).
The heating coil high-limit setpoint shall be set initially at 120 °F (adjustable).
The design airflow rates shall be set at the values given in the Mechanical Drawings.

System Alarms - The EMCS shall generate an alarm as follows:
If the space temperature is 2 °F (adj.) above or below the heating setpoint depending upon active mode.

3 Electric Duct Heater - Control Schematic and Sequence of Operations
NOT TO SCALE

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

2 CONTROL SCHEMATIC LEGEND
NOT TO SCALE

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE:
1
MECHANICAL CONTROLS
SHEET NUMBER:
M4.01

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

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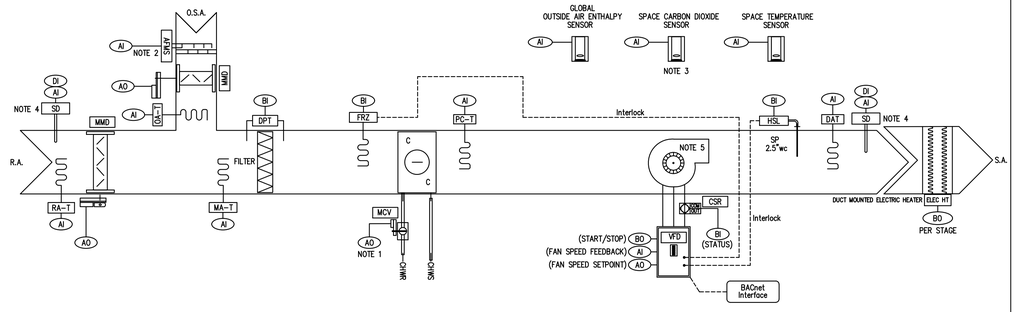


NOTES:
1. Provide PICCV coil control valve as indicated in mechanical schedules and control specifications.
2. Provide adequate length before and after air flow measuring station as recommended by manufacturer.
3. Refer to floor plans for location of all associated space carbon dioxide sensors.
4. Wire to fire alarm system. Alarm to DDC. Duct smoke detectors provided by fire alarm contractor and installed by mechanical contractor.
5. AHU is specified with two supply fans.

(Typical of AHU-14 and AHU-15)

System Off - When the system is off:
The outside air damper shall be closed.
The return air damper shall be open.
The supply air fan shall be off.
The chilled water coil valve shall be closed.
The control loops shall be disabled.

System Start-up - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Pre-Start Mode or Night-Setback Mode.

Pre-Start Mode:
The system shall be enabled by an operator entered manual command at the EMCS or automatically by the EMCS based on the Optimal Start/Stop algorithm. Once enabled, the system shall operate per the System Operation section as detailed below. Operation of the system during Pre-Start Mode shall not include ventilation air.

Night-Setback Mode:
The system shall be enabled automatically by the EMCS when the space temperature drifts outside the active Unoccupied Cooling or Heating Setpoint. Once enabled, the system shall operate per the System Operation section as detailed below. Operation of the system during Night-Setback Mode shall not include ventilation air. Economizer mode shall be permitted to operate per the System Operation section as detailed below.

System Operation - When system start-up has been initiated:
The variable speed supply air fan shall start. Following a confirmation of fan start status, the supply fan shall initially be indexed to its minimum speed reference value. The speed of the fan shall not be adjusted by more than 20 Hz in any one-minute period.
OUTSIDE AIR CFM AND DAMPER CONTROL: When the system is commanded to start, the EMCS shall index the outside air damper to the scheduled maximum outside airflow rate as measured by the outside airflow measuring station.
OUTSIDE AIR DAMPER / RETURN AIR DAMPER INTEGRATION WITH SUPPLY FAN VFD: The EMCS shall provide dynamic control of the outside air damper and return air damper positions through the full range of the supply fan VFD modulation. The outside air and return air motorized dampers shall modulate in sequence to maintain the active outside air flow rate setpoint. The outside air damper shall first modulate open. If the outside air damper has reached the 100% open position and still cannot achieve the active outside air flow rate setpoint, then the return air damper shall begin to modulate closed. The return air damper position shall have a low limit of 50% (adj) during normal system operation. Damper positions shall not be adjusted by more than 20% (adj) in any one-minute time period.
DEMAND CONTROL VENTILATION: During occupied building hours, the EMCS shall allow the outside air damper to modulate from its scheduled maximum flow rate to its scheduled minimum flow rate. If the space CO2 level is at least 100 ppm (adj) less than its active high limit setpoint for a time period of 10 minutes (adj), the EMCS shall index the outside air damper to maintain its minimum scheduled outside air flow rate. If the space CO2 level rises to within 50 ppm (adj) of its active high limit, the EMCS shall index the outside air damper to maintain its scheduled maximum outside air flow rate.
COOLING MODE: The EMCS shall modulate the chilled water control valve as required to maintain the active coil discharge air temperature setpoint. The EMCS shall modulate the supply fan VFD from its minimum setting to its maximum setting as required to maintain the active space temperature setpoint.
HEATING MODE: When the supply fan is operating at its minimum setting, the duct mounted electric heater shall to maintain the active space temperature setpoint. If the space temperature drops below its active setpoint and the unit discharge air temperature is at its active setpoint, then the EMCS shall modulate the supply fan VFD from its minimum setting to its maximum setting as required to maintain the active space temperature setpoint and the duct mounted electric heater shall stage to maintain the re-heat coil discharge air temperature setpoint.
DEHUMIDIFICATION MODE: - If space RH exceeds 60% (adj) under any mode of operation, AHU shall enter dehumidification mode. In this mode, airflow shall be 50% cooling flow (minimum airflow shall not be less than VFD minimum or minimum outside air scheduled. Cooling coil shall provide 50°F discharge air, and electric heater shall stage to maintain space temperature. System shall return to normal operation after RH levels drop to 55%.

System Setpoints - The setpoints for the system shall be determined as follows:
The maximum speed reference value shall be the VFD speed required to obtain the design supply airflow value from the unit schedule on the Mechanical Drawings.
The minimum speed reference value shall be VFD speed required to obtain 50% of the design supply airflow value from the unit schedule on the mechanical drawings but not less than the active outside air flow rate setpoint.
The occupied heating space temperature setpoint shall be set at 70°F (adj) with a low-limit alarm of 66°F (adj).
The occupied cooling space temperature setpoint shall be set at 74°F (adj) with a high-limit alarm of 79°F (adj).
The unoccupied heating space temperature setpoint shall be set at 55°F (adj) with a low-limit alarm of 51°F (adj).
The unoccupied cooling space temperature setpoint shall be set at 85°F (adj) with a high-limit alarm of 89°F (adj).
The chilled water coil discharge air temperature setpoint shall be set at 53°F (adj) with a low-limit alarm of 48°F (adj).
The re-heat coil discharge air temperature setpoint shall be set at 85°F (adj) with a high-limit alarm of 100°F (adj).
The minimum outside air flowrate setpoint shall be set at the scheduled minimum flowrate from the unit schedule on the mechanical drawings.
The maximum outside air flowrate setpoint shall be set at the scheduled maximum flowrate from the unit schedule on the mechanical drawings.
The space carbon dioxide high-limit setpoint shall be set at 1000 ppm (adj).
The supply duct static pressure high-limit setpoint shall be set at 2.0 in. wc. (adj).
The air filter pressure differential high-limit setpoint shall be set at 1.0 in. wc. (adj).
The freeze-stat low-limit trip setpoint shall be set at 37°F(adj).

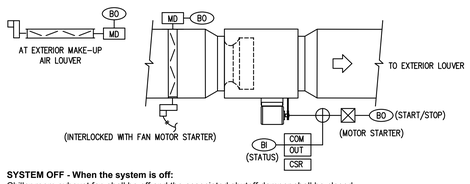
System Shutdown - System shutdown shall be initiated:
By operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.
Automatically by the high-static pressure shut down.
Automatically by the unit freeze-stat shut down.
Automatically by a supply fan current sensor status failure.

System Alarms - The EMCS shall generate an alarm condition for each of the following:
If the space temperature is outside the active low or high-limit for 5 minutes (adj).
If the supply air temperature drops below the chilled water coil discharge air temperature low-limit for 5 minutes (adj).
If the supply air temperature rises above the heating coil discharge air temperature high-limit for 5 minutes (adj).
If the space carbon dioxide level exceeds its high-limit for more than 20 minutes (adj) or the space carbon dioxide level exceeds the high-limit by 10% or more.
If the supply duct static pressure exceeds the high-limit setpoint.
If the filter differential pressure exceeds the trip point.
If the unit freeze-stat trips.
If the current sensor relay indicates a supply fan failure status.
All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

3 Single Zone VAV Air Handling Unit - Control Schematic and Sequence of Operations
NOT TO SCALE

- (AI) ANALOG INPUT
- (AO) ANALOG OUTPUT
- (DI/BI) DIGITAL/BINARY INPUT
- (DO/BO) DIGITAL/BINARY OUTPUT
- MD ON-OFF MOTORIZED DAMPER
- MMD MODULATING TYPE MOTORIZED DAMPER
- AFMS AIR FLOW MEASURING STATION
- MCV CONTROL VALVE MODULATING TYPE
- VFD VARIABLE FREQUENCY DRIVE
- CSR CURRENT SENSING RELAY
- FRZ FREEZESTAT
- HSL HIGH STATIC LIMIT
- SPT STATIC PRESSURE TRANSMITTER
- DPT DIFFERENTIAL PRESSURE TRANSDUCER
- FM FLOW METER
- FS FLOW SWITCH
- DAT DISCHARGE AIR TEMPERATURE SENSOR
- (S)(T) WALL SENSOR/THERMOSTAT
- CO2 CARBON DIOXIDE SENSOR
- SP SET POINT
- S/A SUPPLY AIR
- R/A RETURN AIR
- O/A OUTSIDE AIR
- HC HEATING COIL
- CC COOLING COIL
- DX DIRECT EXPANSION COOLING COIL
- PICCV PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE
- AFC AIRFLOW CROSS
- DPS DIFFERENTIAL PRESSURE SWITCH

2 CONTROL SCHEMATIC LEGEND
NOT TO SCALE



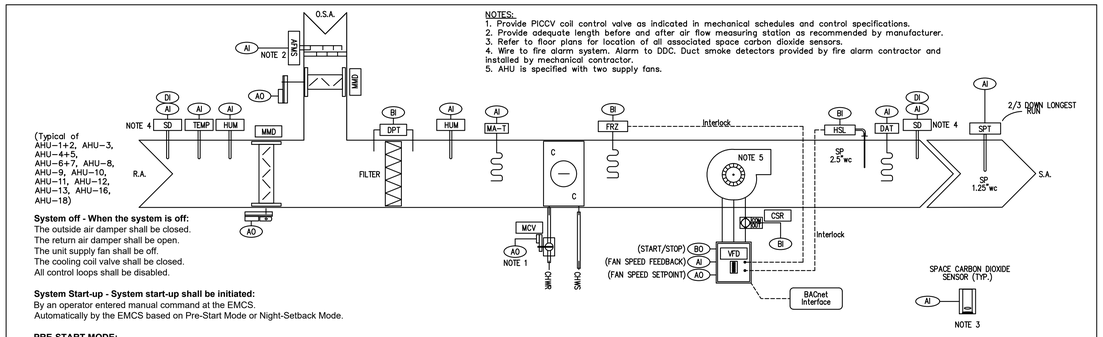
SYSTEM OFF - When the system is off:
Chiller room exhaust fan shall be off and the associated shutoff damper shall be closed.

SYSTEM START-UP - System start-up shall be initiated:
By an operator command at the chiller room emergency switch.
Automatically by an alarm event triggered from the refrigerant leak detection panel.

SYSTEM OPERATION - The following sequences shall be implemented:
The chiller room exhaust fan shall utilize a two-position motorized damper interlocked with the refrigerant leak detection control panel and chiller room emergency switch. The exhaust fan shall be integrated with the EMCS to monitor fan status only. The exhaust fan shall be interlocked with the refrigerant leak detection control panel and chiller room emergency switch such that the exhaust fan is energized when an alarm event is signaled from panel or an operator command is entered at the emergency switch. The exhaust fan shall be normally off. The exhaust fan is to provide emergency ventilation to the chiller room in the event of an emergency refrigerant leak. In any event where the chiller room exhaust fan in energized, the normally closed motorized dampers at the chiller room exterior wall louvers shall be opened, when the fan is de-energized the exterior wall louvers shall return to the closed position.

SYSTEM SETPOINTS - The setpoints for the system shall be set as follows:
The design airflow rates shall be set at the values given in the Mechanical Drawings.

4 Chiller Room Exhaust Fan - Control Schematic and Sequence of Operations
NOT TO SCALE



(Typical of AHU-1+2, AHU-3, AHU-4+5, AHU-6+7, AHU-8, AHU-9, AHU-10, AHU-11, AHU-12, AHU-13, AHU-16, AHU-18)

NOTES:
1. Provide PICCV coil control valve as indicated in mechanical schedules and control specifications.
2. Provide adequate length before and after air flow measuring station as recommended by manufacturer.
3. Refer to floor plans for location of all associated space carbon dioxide sensors.
4. Wire to fire alarm system. Alarm to DDC. Duct smoke detectors provided by fire alarm contractor and installed by mechanical contractor.
5. AHU is specified with two supply fans.

System off - When the system is off:
The outside air damper shall be closed.
The return air damper shall be open.
The unit supply fan shall be off.
The cooling coil valve shall be closed.
All control loops shall be disabled.

System Start-up - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Pre-Start Mode or Night-Setback Mode.

PRE-START MODE:
The system shall be enabled by an operator entered manual command at the EMCS or automatically by the EMCS based on the Optimal Start/Stop algorithm. Once enabled, the system shall operate per the **System Operation** section, as detailed below. Operation of the system during Pre-Start Mode shall not include ventilation air.

NIGHT-SETBACK MODE:
The system shall be enabled automatically by the EMCS based on the cooling demand of 5 (adjustable) or more associated terminal units whose space temperature has exceeded the terminal units Unoccupied Cooling Setpoint. Once enabled, the system shall operate per the **System Operation** section, as detailed below. Operation of the system during Night-Setback Mode shall not include ventilation air.

OCCUPIED MODE:
The system shall be enabled automatically by the EMCS based on the actual space occupancy. When the Time of Day schedule (TOD) is active, the system shall operate per the **System Operation** section, as detailed below, and the Demand Control Ventilation sequence shall be active.

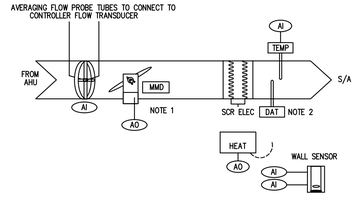
Demand Control Ventilation - The outside air intake damper shall be modulated to maintain the scheduled minimum outside air flowrate setpoint. If the space carbon dioxide concentration for any zone served by the associated AHU is above the defined high-limit, then the OSA damper shall be modulated to maintain the scheduled maximum outside air flowrate setpoint. If the OSA damper is above 95% open and the maximum outside air flowrate setpoint cannot be met, then modulate the return air damper closed until the flowrate is achieved. Do not modulate the return air damper to less than 60% open. Once the space carbon dioxide concentration for all associated zones has been below the defined high limit for 5 minutes (adj.), the OSA damper shall be modulated to maintain the scheduled minimum outside air flowrate setpoint.
System Operation - When system start-up has been initiated:
The variable speed supply fans shall start at its minimum speed. Following a confirmation of fan start status, the supply fans speed shall be modulated in parallel to maintain the supply air static pressure at setpoint. The speed of the fans shall not be adjusted by more than 20% in any one-minute period. The static pressure setpoint shall be reset via the control algorithm below to optimize the energy usage.
Supply Air Static Pressure Reset - The static pressure setpoint shall be reset up in defined increments at defined intervals until the primary air damper position to all of the associated terminal units have been below the defined value for more than the defined interval. The static pressure setpoint shall be reset down in defined increments at defined intervals until the primary air damper position to at least one (critical zone) of the associated terminal units has been above the defined value for more than the defined interval. The setpoints are detailed in the **System Setpoint** section below.
Temperature Control - The chilled water coil control valve shall be modulated to maintain the active supply air temperature setpoint. The supply air temperature setpoint shall be reset via the control algorithm below to optimize the energy usage.
Supply Air Temperature Reset - The supply air temperature setpoint shall be reset based on the actual return air temperature, according to the defined reset schedule detailed in the **System Setpoint** section below. If the Demand Control Ventilation sequence is in maximum flow mode, then the supply air temperature reset shall be disabled and the setpoint shall be set to the initial value.
Humidity Control - A return air, duct mounted, humidity sensor shall monitor and control the space relative humidity to 50% (ADJ.). When return air relative humidity is above setpoint by 5% (not to exceed 60%), the chilled water valve shall open to provide 50°F cooling coil discharge temperature and signal the terminal units to go into humidity control. When relative humidity attains set point, the system will return to normal operation.

System Setpoints - The setpoints for the system shall be determined as follows:
The maximum speed reference value shall be the VFD speed required to obtain the design supply airflow value from the unit schedule on the Mechanical Drawings.
The minimum speed reference value shall be VFD speed required to obtain 50% of the design supply airflow value from the unit schedule on the mechanical drawings but not less than the active outside air flow rate setpoint.
The supply air static pressure setpoint shall be set initially at 1.25 inches w.c. (adj) and shall have reset limits of 0.20 to 2.00 inches w.c. (adj)
The time interval for static pressure reset shall be set at 10 minutes (adj).
The static pressure reset increment shall be set at 0.05 inches w.c. (adj)
The terminal unit primary damper position setpoint shall be 90% open. (adj)
The time interval for terminal unit primary damper position shall be set at 15 minutes. (adj)
The supply air temperature setpoint shall be set initially at 54 °F. (adj)
The supply air temperature setpoint shall be reset to 54 °F (adj) when the return air temperature is at 78 °F. (adj)
The supply air temperature setpoint shall be reset to 58 °F (adj) when the return air temperature is at 72 °F. (adj)
The minimum outside air flowrate setpoint shall be set at the scheduled minimum flowrate from the unit schedule on the mechanical drawings.
The maximum outside air flowrate setpoint shall be set at the scheduled maximum flowrate from the unit schedule on the mechanical drawings.
The space carbon dioxide high-limit setpoint shall be set at 1000 ppm (adj).
The supply duct static pressure high-limit setpoint shall be set at 2.0 in. wc. (adj).
The air filter pressure differential high-limit setpoint shall be set at 1.0 in. wc. (adj).
The freeze-stat low-limit trip setpoint shall be set at 37°F(adj).

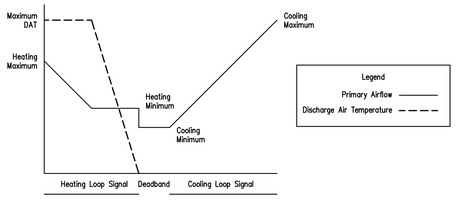
System Shutdown - System shutdown shall be initiated:
By operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.
Automatically by the high-static pressure shut down.
Automatically by the unit freeze-stat shut down.
Automatically by a supply fan current sensor status failure.

System Alarms - The EMCS shall generate an alarm if:
If the supply air temperature is outside the limits, which shall be set at +/- 5 °F around setpoint.
If any associated space carbon dioxide level exceeds its high-limit for more than 20 minutes (adj) or exceeds the high-limit by 10% or more.
If the supply duct static pressure exceeds the high-limit setpoint.
If the unit freeze-stat trips.
If the filter differential pressure exceeds the trip point.
If the current sensor relay indicates a supply fan failure status.
All alarms shall be inhibited when the supply fan is not operating.

1 MULTIZONE VAV Air Handling Unit - Control Schematic and Sequence of Operations
NOT TO SCALE



NOTES:
1. TERMINAL UNIT CONTROLLER AND DAMPER ACTUATOR SHALL BE SHIPPED TO THE TERMINAL UNIT MANUFACTURER FOR MOUNTING AND WIRING.
2. DAT SENSOR SUPPLIED BY UNIT VENDOR AND MOUNTED BY EMCS CONTRACTOR.
3. CONTROLS CONTRACTOR SHALL UTILIZE AUXILIARY RELAY ON OCCUPANCY SENSOR FOR STANDBY CONTROL. OCCUPANCY SENSOR SHALL BE PROVIDED BY DIVISION 26. IF AUXILIARY RELAY IS UNAVAILABLE FROM DIVISION 26 SENSOR, EMCS CONTRACTOR SHALL PROVIDE STANDALONE OCCUPANCY SENSOR AS REQUIRED PER SPECIFICATIONS.



System Off - When the system is off:
The primary air damper shall be closed.
The heating coil shall be disabled.
The control loops shall be disabled.

System Startup - Startup shall be initiated automatically by the EMCS:
In Unoccupied when the corresponding AHU is in UNOCCUPIED MODE.
In Occupied when the corresponding AHU is in PRE-START MODE.
In Unoccupied when the corresponding AHU is in NIGHT-SETBACK MODE.
In Occupied when the corresponding AHU is in OCCUPIED MODE.
In Standby when the corresponding AHU is in OCCUPIED MODE and the zone-mounted Occupancy Sensor times out.

System Operation - When system start-up has been initiated, the following sequences shall be implemented:
The primary air damper shall be modulated between the cooling minimum and maximum flow values to maintain the space temperature within +/- 0.5 °F of the active Cooling Setpoint.
When the space temperature falls below the deadband, the primary air damper shall modulate to maintain the heating minimum flow value and the SCR electric heat shall be modulated to maintain the space temperature within +/- 0.5 °F of the active Heating Setpoint.
If the space temperature drops below the active Heating Setpoint and the discharge air temperature is at its active setpoint, the primary air damper shall be modulated between the heating minimum and maximum heating flow values to maintain the space temperature within +/- 0.5°F of the active Heating Setpoint and the SCR electric heat shall be modulated to maintain the discharge air temperature setpoint. The SCR electric heat controller shall be set to maintain a maximum discharge air temperature of 85 °F (adjustable). When relative humidity, as determined by either space or AHU return air relative humidity sensor is above setpoint by 5% (not to exceed 60%) in any conditioning mode, terminal unit damper shall modulate to 50% of scheduled cooling CFM and electric heater shall modulate to maintain programmed or override temperature. Unit shall operate in this mode until return air relative humidity attains setpoint.

System Setpoints - The setpoints for the system shall be set as follows:
The Occupied Heating Setpoint shall be set initially at 70 °F (adjustable).
The Occupied Cooling Setpoint shall be set initially at 74 °F (adjustable).
The Unoccupied Heating Setpoint shall be set initially at 55 °F (adjustable).
The Unoccupied Cooling Setpoint shall be set initially at 85 °F (adjustable).
The Standby Heating Setpoint shall be set initially at 68 °F (adjustable).
The Standby Cooling Setpoint shall be set initially at 77 °F (adjustable).
The maximum heating mode discharge air temperature shall be set at 85 °F (adjustable).
The minimum and maximum primary air flowrates shall set at the values given in the Mechanical Drawings.

System Alarms - The EMCS shall generate an alarm as follows:
If the space temperature during the Occupied Mode is 5 °F above the cooling setpoint or 5 °F below the heating setpoint respectively.

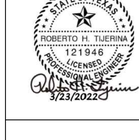
2 VAV Terminal Unit with Electric Reheat - Control Schematic and Sequence of Operations
NOT TO SCALE

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:



EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: MECHANICAL CONTROLS
SHEET NUMBER: M4.02

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

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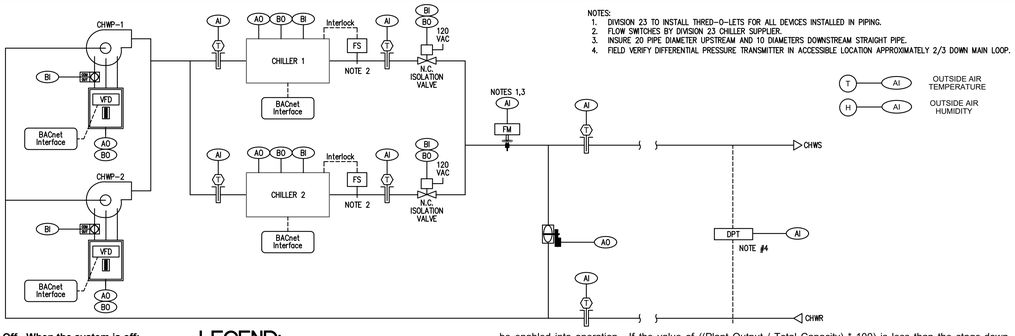


NOTES:
1. DIVISION 23 TO INSTALL THRED-O-LETS FOR ALL DEVICES INSTALLED IN PIPING.
2. FLOW SWITCHES BY DIVISION 23 CHILLER SUPPLIER.
3. INSURE 20 PIPE DIAMETER UPSTREAM AND 10 DIAMETERS DOWNSTREAM STRAIGHT PIPE.
4. FIELD VERIFY DIFFERENTIAL PRESSURE TRANSMITTER IN ACCESSIBLE LOCATION APPROXIMATELY 2/3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

System Off - When the system is off:
The chillers shall be off.
The pumps shall be off.
The bypass valve shall be closed.
The chiller isolation valves shall be closed.
The control loops shall be disabled.

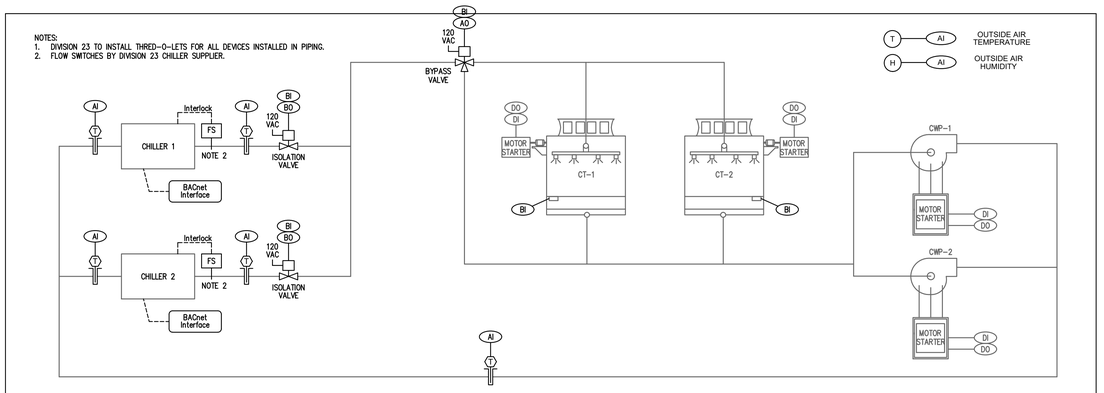
System Startup - System startup shall be initiated:
Manually by an Operator command on the chiller graphic at the EMCS.
Automatically by the EMCS, when a call for cooling has been received.

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 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 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. The lag pump shall become the lead pump.
When the lead 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 the "Chiller Output" point from each chiller. If the point is not available, the EMCS shall monitor the kW of the chiller and calculate the Chiller Output by the equation, ((instantaneous kW / full load kW) * (nominal capacity)). The combined total Chiller Output of all operating chillers shall be the Plant Output. The combined total Nominal Capacity of all operating chillers shall be the Total Capacity. 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.
If the value of ((Plant Output / 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 ((Plant Output / Total Capacity) * 100) is less than the stage-down setpoint for 10 minutes (adjustable), a lag chiller shall be disabled.
A differential pressure sensor monitoring the pressure between the building CHWS and CHWR piping shall be used to modulate the speed of the CHW 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.
While only one chiller is in operation, the corresponding flow meter shall be used to maintain the chiller minimum flow rate by modulating the bypass valve open. The chilled water flow rate shall not change by more than 10% per minute.
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, the lead chiller isolation valve shall be opened and the lead 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 chiller minimum flow setpoint shall be established by chiller manufacturer (adjustable).
The chilled water system differential pressure 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).
The outdoor air temperature freeze protection setpoint shall be 38 °F (adjustable).

LEGEND:
NEW PIPING AND EQUIPMENT
EXISTING PIPING AND EQUIPMENT

3 Chilled Water System - Variable Primary Flow - Control Schematic and Sequence of Operations
NOT TO SCALE



NOTES:
1. DIVISION 23 TO INSTALL THRED-O-LETS FOR ALL DEVICES INSTALLED IN PIPING.
2. FLOW SWITCHES BY DIVISION 23 CHILLER SUPPLIER.

System Off - When the system is off:
The chillers shall be off.
The pumps shall be off.
The fans shall be off.
The tower bypass valves shall be closed.
The chiller isolation valves shall be closed.
The control loops shall be disabled.

System Startup - System startup shall be initiated:
Automatically by the EMCS, when the chiller plant is enabled.

System Operation - When system start-up has been initiated:
When the condenser water system is activated, the EMCS shall open the condenser isolation valve on the lead chiller. When the valve end switches have been proven open, the EMCS shall send an enable signal to 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.
When the lead pump status is proven, the EMCS shall enable the lead chiller. A flow switch in the condenser water piping shall complete the circuit to the chiller factory installed controller proving that 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 condenser isolation valve on the lag chiller. When the valve end switch has been proven open, the EMCS shall close the condenser isolation valve on the failed chiller and it shall be removed from service. The lag chiller shall become the lead chiller. When more than one chiller is operating, the corresponding number of condenser pumps and cooling towers shall be enabled. The speed reference of the condenser water pumps shall be determined by TAB and set by the EMCS, refer to pump schedule for GPM values.
Two towers shall enable during plant operation except as follows:
1. A failure of either tower
2. A low load condition in which both towers provide a condenser water supply below 50 °F (see tower sequence below).

Both towers shall operate in parallel to maintain a condenser water supply temperature equal to the lesser of 85 °F or 5 °F above ambient wet bulb temperature. If both towers in operation provide a condenser water supply that reaches 50 °F (or recommended by chiller manufacturer), the lag tower shall be disabled. Single tower operation shall continue to maintain 50 °F. If the lead tower becomes disabled and CWC falls below 50 °F, condenser water bypass valve shall modulate open to maintain 50 °F. As condenser water temperature increases, sequence shall be reversed until both towers are again operational.

Condenser water pumps shall be operated to have speed controlled based upon Testing, Adjusting, and Balancing. When a single chiller and condenser water pump are operating, the lead pump shall provide 660 GPM. When both chillers and condenser water pumps are operating, two condenser water pumps shall operate together to provide 1320 GPM.

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 Alarms - The EMCS shall generate an alarm as follows:
Bypass Valve failure: Commanded open but the status is off.
Fan Failure: Commanded on but the status is off.
Vibration Cutout Switch: When tower vibration cutout switch signals a tower fan shutdown.
High Condenser Water Supply (Basin) Temp: If greater than 88 °F (adjustable).
Low Condenser Water Supply (Basin) Temp: If less than 37 °F (adjustable).
High Condenser Water Return Temp: If greater than 100 °F (adjustable).

LEGEND:
NEW PIPING AND EQUIPMENT
EXISTING PIPING AND EQUIPMENT

1 Condenser Water System - Chiller Plant - Control Schematic and Sequence of Operations
NOT TO SCALE

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

2 CONTROL SCHEMATIC LEGEND
NOT TO SCALE

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:
STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: MECHANICAL CONTROLS
SHEET NUMBER: M4.03

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

CHILLED WATER AIR HANDLING UNIT SCHEDULE

	MARK	AHU-1+2	AHU-3	AHU-4+5	AHU-6+7	AHU-8	AHU-9	AHU-10	AHU-11	AHU-12	AHU-13	AHU-14	AHU-15	AHU-16	AHU-18
FAN	SERVES	1ST FLOOR AREA A	1ST FLOOR AREA B	1ST FLOOR AREA C	1ST FLOOR AREA D	2ND FLOOR AREA A	2ND FLOOR AREA B	2ND FLOOR AREA B+C	2ND FLOOR AREA C	2ND FLOOR AREA D	2ND FLOOR AREA D	GYM LOCKER ROOMS	GYM LOCKER ROOMS	ART WING	BAND ROOMS
FAN	TYPE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	MULTIZONE	SINGLE ZONE	SINGLE ZONE	MULTIZONE	MULTIZONE
FAN	UNIT CONFIGURATION	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL	HORIZONTAL
FAN	DISCHARGE	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	HORIZONTAL
FAN	DESIGN SUPPLY AIR (CFM)	12,200	9,500	8,020	12,730	12,000	4,000	10,000	4,500	7,350	9,500	3,710	3,760	4,500	6,000
FAN	MINIMUM SUPPLY AIR (CFM)	5,540	4,025	3,210	5,020	5,180	1,600	4,000	1,800	2,940	3,800	2,100	2,100	1,800	3,685
FAN	DESIGN OUTDOOR AIR (CFM)	5,540	4,025	3,170	5,020	5,180	1,500	3,685	1,570	1,975	3,285	2,100	2,100	1,410	3,685
FAN	MINIMUM OUTSIDE AIR (CFM)	2,685	2,015	1,585	2,510	2,590	750	1,845	785	990	1,645	1,050	1,050	705	1,845
FAN	EXT. S.P. (IN. W.G.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FAN	FAN MOTOR HORSEPOWER (# OF FANS / HP)	2 / 5	2 / 7.5	2 / 5	2 / 5	2 / 5	1 / 3	2 / 7.5	1 / 3	2 / 5	2 / 5	1 / 3	1 / 5	1 / 5	2 / 5
FAN	MINIMUM REDUNDANCY (%)	70	78	61	68	71	N/A	75	N/A	66	72	N/A	N/A	N/A	79
FAN	VOLTS/PHASE/HERTZ	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60
FAN	MAX. FAN RPM	2,142	2,646	3,488	2,191	2,115	2,349	2,717	2,520	3,268	2,646	3,288	3,326	3,803	2,877
FAN	FULL LOAD AMPS (QTY) FLA EACH FAN	(2) 6.7	(2) 9	(2) 5.9	(2) 6.7	(2) 6.7	(1) 4.2	(2) 9	(1) 4.2	(2) 5.9	(2) 5.9	(1) 3.6	(1) 5.9	(1) 5.9	(2) 5.9
FAN	(QTY) MCA / MOP	(2) 8.4 / 15	(2) 11.3 / 20	(2) 7.4 / 15	(2) 8.4 / 15	(2) 8.4 / 15	(1) 5.3 / 15	(2) 11.3 / 20	(1) 5.3 / 15	(2) 7.4 / 15	(2) 7.4 / 15	(1) 4.5 / 15	(1) 7.4 / 15	(1) 7.4 / 15	(2) 7.4 / 15
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500	500	500	500	500	500	500	500	500	500	500	500	500
COOLING COIL	MINIMUM COIL ROWS	6	6	6	6	6	6	6	6	6	6	6	6	6	6
COOLING COIL	MAX. FINS PER INCH	10	10	10	10	10	10	10	10	10	10	10	10	10	10
COOLING COIL	COIL CFM	12,200	9,500	8,020	12,730	12,000	4,000	10,000	4,500	7,350	9,500	3,710	3,760	4,500	6,000
COOLING COIL	EAT DB/WB (°F)	87.2/69.5	86.4/68.9	85.8/68.6	85.8/68.6	86.7/69.1	85.3/68.4	85.9/68.7	84.7/68.0	82.8/67.0	84.6/68.0	88.8/75.7	89.7/70.7	87.2/69.4	91.0/71.4
COOLING COIL	LAT DB/WB (°F)	54.5/53.4	55.0/53.6	54.8/53.6	55.0/53.7	54.3/53.3	54.3/53.6	54.5/53.3	54.3/53.4	54.0/52.9	54.7/53.4	54.9/54.6	54.3/53.5	55.0/53.8	54.6/53.5
COOLING COIL	TOTAL COOLING CAPACITY (MBH)	616.3	454.2	375.8	590.8	593.1	184.2	478.9	202.9	315.6	428.8	270.0	206.1	221.3	345.9
COOLING COIL	SENSIBLE COOLING CAPACITY (MBH)	436.7	326.6	271.5	428.1	425.2	135.4	342.9	149.4	231.3	310.8	137.3	145.6	158.6	239.1
COOLING COIL	EWT/LWT (°F)	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52
COOLING COIL	COIL WATER FLOW (GPM)	123.3	90.8	75.2	118.2	118.6	36.8	95.8	40.6	63.1	85.8	54.0	41.2	44.3	69.2
COOLING COIL	QTY COILS / CHW BRANCH PIPING SIZE	1 / 3.0	1 / 2.5	1 / 2.5	1 / 3.0	1 / 3.0	1 / 2.0	1 / 2.5	1 / 2.0	1 / 2.5	1 / 2.5	1 / 2.0	1 / 2.0	1 / 2.0	1 / 2.5
COOLING COIL	MAX. WATER P.D. (FT. HD.)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
MANUFACTURER		DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN	DAIKIN
MODEL NUMBER		CAH027GDGM	CAH021GDGM	CAH018GDGM	CAH029GDGM	CAH027GDGM	CAH010GDGM	CAH024GDGM	CAH011GDGM	CAH015GDGM	CAH021GDGM	CAH009GDGM	CAH009GDGM	CAH010GDGM	CAH013GDGM
OPERATING WEIGHT (LBS.)		2882	2510	2293	3012	2882	1469	2633	1566	2288	2412	1389	1352	1570	1966
UNIT CABINET DIMENSIONS, W x L x H (IN.)		80 x 104 x 66	72 x 98 x 60	68 x 92 x 56	84 x 106 x 66	80 x 104 x 66	36 x 100 x 66	72 x 100 x 66	40 x 100 x 66	68 x 90 x 48	72 x 98 x 60	38 x 80 x 60	38 x 80 x 60	36 x 82 x 66	68 x 88 x 42
NOTES		1,2,3,4,6,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,5,7,9,10,13	1,2,3,4,6,7,9,10,13	1,2,3,4,6,7,9,10,13	1,2,3,4,6,7,9,11,13	1,2,3,4,6,7,12,13

NOTES:

1. PROVIDE 2" DOUBLE WALL R-13 CHILLED WATER AHU WITH 2" MERV 13 FILTERS AND 6" BASE RAIL.
2. PROVIDE CHILLED WATER COIL WITH STAINLESS STEEL COIL CASING AND STAINLESS STEEL DRAIN PAN. PROVIDE ACCESS DOOR BETWEEN COIL AND FAN SECTION, ACCESS DOOR TO BE MINIMUM 12" FOR SINGLE FAN UNITS AND 16" FOR UNITS WITH MORE THAN ONE FAN.
3. PROVIDE 2-WAY AUTOMATIC CONTROL VALVE.
4. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
5. PROVIDE MIXING BOX WITH LOW LEAK OUTSIDE AIR AND RETURN AIR DAMPERS
6. PROVIDE INTAKE PLENUM WITH TOP OPENING. OUTSIDE AIR AND RETURN AIR TO BE MIXED IN THE DUCT OR CONNECTED SEPARATELY AT THE OPENING. INSTALLING CONTRACTOR TO PROVIDE RETURN AND OUTSIDE AIR DAMPERS IN THE DUCT.
7. PROVIDE DIRECT DRIVE PLENUM FANS OF THE QUANTITY SCHEDULED ABOVE WITH PREMIUM EFFICIENT TEFC MOTORS. PROVIDE FACTORY INSTALLED MOTOR SHAFT GROUNDING RINGS ON EACH FAN. PROVIDE TOP OPENING IN FAN SECTION OR DISCHARGE PLENUM WITH TOP OPENING.
8. PROVIDE FACTORY MOUNTED J-BOX WITH TERMINAL CONNECTIONS FOR EACH FAN. PROVIDE ONE VFD FOR EACH FAN. VFDS TO BE FIELD INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
9. PROVIDE ACCESS DOORS FOR BOTH FANS ON DUAL FAN UNITS. FOR UNITS WITH ONE FAN UP AGAINST THE WALL, PROVIDE ACCESS DOOR ON END OF UNIT FOR SERVICING THE FAN MOTOR, OR PROVIDE A DISCHARGE PLENUM TO BE USED FOR ACCESS TO THE BACK FAN.
10. PROVIDE MODULAR UNIT WITH SECTIONS SIZED TO FIT THROUGH DOUBLE DOORS.
11. PROVIDE MODULAR UNIT WITH SECTIONS SIZED TO FIT THROUGH A 31"W x 78" H OPENING.
12. PROVIDE MODULAR UNIT WITH SECTIONS SIZED TO FIT THROUGH A 70"W x 58" H OPENING. PROVIDE WITH FRONT DISCHARGE AND DOORS ON BOTH SIDES OF UNIT.
13. PROVIDE MANUAL BLOCK OFF PLATE FOR DUAL FAN UNITS.

ELECTRIC DUCT HEATER SCHEDULE

MARK	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	EDH-6	EDH-7	EDH-8
SERVES	RTU-1	RTU-2	RTU-3	AHU-14	AHU-15	AHU-17	AHU-21	AHU-22
HEATER TYPE	INLINE	INLINE	INLINE	INLINE	INLINE	INLINE	INLINE	INLINE
DESIGN AIRFLOW (CFM)	3,000	3,000	3,000	2,100	2,100	685	2,000	1,000
CAPACITY (KW)	38.0	38.0	38.0	36.0	36.0	12.0	15.0	12.0
EAT/LAT (°F)	54.0/92.1	54.0/92.1	54.0/92.1	36.0/90.0	36.0/90.0	36.0/90.0	66.2/90.0	56.7/90.0
DUCT DIMENSION WxH (INSIDE)	26"X26"	26"X26"	26"X26"	24"X20"	24"X20"	24"X14"	26"X20"	18"X16"
VOLTS/PHASE/HERTZ	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	208/3/60	208/3/60
CONTROL TYPE	2 STAGES	2 STAGES	2 STAGES	3 STAGES	3 STAGES	3 STAGES	3 STAGES	3 STAGES
MANUFACTURER	TUTCO	TUTCO	TUTCO	REDD-I	REDD-I	REDD-I	REDD-I	REDD-I
MODEL	E-SERIES DH	E-SERIES DH	E-SERIES DH	HF	HF	HF	HF	HF
NOTES	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5

NOTES:

1. PROVIDE WITH AIRFLOW PROVING SWITCH AND DIGITAL DUCT MOUNTED DISCHARGE AIR TEMPERATURE SENSOR.
2. PROVIDE GALVANIZED FLANGE MOUNTED DUCT HEATER.
3. INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS.
4. DUCT HEATER SHALL BE CONTROLLED BY DDC SYSTEM.
5. PROVIDE DISCONNECT SWITCH.
6. OUTDOOR RATED WITH OUTDOOR RATED NEMA4 CONTROL PANEL.

PACKAGED DX ROOF TOP UNIT SCHEDULE

MARK	RTU-19	RTU-20
SERVES	CAFETERIA	CAFETERIA
UNIT TYPE	SINGLE ZONE	SINGLE ZONE
DUCT CONFIGURATION	VERTICAL	VERTICAL
DESIGN SUPPLY AIR (CFM)	4,700	4,700
MINIMUM SUPPLY AIR (CFM)	2,025	2,025
DESIGN OUTDOOR AIR (CFM)	1,500	2,010
MINIMUM OUTDOOR AIR (CFM)	1,500	2,010
E.E.R. (AT AHRI CONDITIONS)	11.2	10.4
IPLV (AT AHRI CONDITIONS)	20.1	19.4
EXT. S.P. (IN. W.G.)	1.00	1.00
FAN MOTOR HORSEPOWER	3.0	3.0
FAN TYPE	DIRECT	DIRECT
FAN DRIVE	VFD	VFD
COOLING DATA		
AMBIENT AIR (°F)	105.0	105.0
TOTAL COOLING CAPACITY (MBH)	185.3	235.3
TOTAL SENSIBLE CAPACITY (MBH)	148.3	173.0
EAT DB/WB (°F)	84.0/67.7	86.6/69.0
LAT DB/WB (°F)	55.1/55.1	52.9/52.9
HEATING DATA		
HEATING CAPACITY (KW)	45.0	30.0
EAT DB/WB (°F)	60.0	60.0
LAT DB/WB (°F)	90.0	80.0
ELECTRICAL DATA		
VOLTS/PHASE/HERTZ	208/3/60	208/3/60
MCA	167.8	175.0
MOCP	175.0	175.0
MANUFACTURER	DAIKIN	DAIKIN
MODEL NO.	DPS020A	DPS020A
OPERATING WEIGHT (LBS)	3,622	3,622
NOTES	ALL	ALL

NOTES:

1. EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO COIL(S), FILTERS, HOUSING, NOR ACCESSORIES.
2. PROVIDE UNIT WITH OUTDOOR AIR INTAKE HOOD WITH MODULATING MOTORIZED DAMPER.
3. PROVIDE UNIT WITH SINGLE POINT ELECTRICAL CONNECTION.
4. PROVIDE FLOAT SWITCH IN PRIMARY DRAIN PAN TO DE-ENERGIZE THE UNIT WHEN PRIMARY DRAIN LINE BECOMES RESTRICTED.
5. PROVIDE UNITS WITH MINIMUM 2" MERV 8 + 4" MERV 13 FILTERS.
6. PROVIDE UNIT CONTROLLER BY MANUFACTURER. PROVIDE CONTROLLER WITH BACNET INTERFACE CARD FOR INTEGRATION WITH EMCS.
7. PROVIDE UNIT WITH MODULATING HOT GAS REHEAT FOR HUMIDITY CONTROL.
8. PROVIDE UNIT WITH CONDENSER HAIL GUARD AND 14" PREFABRICATED ROOF CURB.
9. PROVIDE UNIT WITH COMPARATIVE ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF.
10. PROVIDE UNIT WITH 2" DOUBLE WALL CONSTRUCTION AND INVERTER COMPRESSOR FOR PRECISE LAT CONTROL AND UNLOADING CAPABILITY TO 15% CAPACITY.
11. PROVIDE UNIT WITH INTEGRAL NON-FUSED DISCONNECT SWITCH AND POWERED CONVENIENCE OUTLET. PROVIDE PHASE FAILURE MONITOR.
12. PROVIDE UNIT WITH DUCT MOUNTED SMOKE DETECTORS IN SUPPLY DUCTWORK FOR ALL UNITS DISCHARGING IN EXCESS OF 2,200 CFM.
13. PROVIDE FACTORY E-COATED CONDENSER COIL COATINGS WITH MINIMUM 6000 HR ASTM B117 SALT SPRAY RATING.

FAN SCHEDULE

MARK	EF-CUP
SERVES	CENTRAL PLANT
TYPE/DRIVE	DIRECT
CFM	2600 (MAX.) / 1000 (MIN.)
EXT. S.P. (IN. W.G.)	0.500
HORSEPOWER	3/4
RPM (MAX.)	1,099
SONES (MAX.)	13.2
VOLTS/PHASE/HERTZ	120/1/60
MANUFACTURER	GREENHECK
MODEL NUMBER	CUE-160-VG
NOTES	1,2,3,4,5

NOTES:

1. PROVIDE WITH BACKDRAFT DAMPER.
2. FAN SHALL BE PROVIDED WITH VARI-GREEN MOTOR AND 2-SPEED CONTROLLER.
3. FAN SHALL BE CONTROLLED BY THE REFRIGERANT MONITORING SYSTEM.
4. FAN SHALL HAVE FACTORY INSTALLED, PRE-WIRED INTEGRAL DISCONNECT SWITCH FROM FACTORY.
5. FAN SHALL BE PROVIDED WITH ROOF CURB, TOB OF CURB SHALL ME MINIMUM OF 10" ABOVE FINISHED ROOF.

SPLIT AIR HANDLING UNIT SCHEDULE

MARK	AHU-17	AHU-21	AHU-22
SERVES	WEIGHT ROOM	KITCHEN	KITCHEN
UNIT CONFIGURATION	HORIZONTAL	HORIZONTAL	HORIZONTAL
DISCHARGE	HORIZONTAL	VERTICAL	HORIZONTAL
SUPPLY AIR (CFM)	1,350	4,000	2,000
OUTSIDE AIR (CFM)	685	225	390
EXT. S.P. (IN. W.G.)	1.0	1.0	1.0
FAN MOTOR HORSEPOWER	2.3	3.75	1.70
FAN MOTOR CONTROL (VFD, ECM 0-10VDC)	ECM 0-10VDC	ECM 0-10VDC	ECM 0-10VDC
FAN RPM	2051	1769	2,194
MAX COIL FAN VELOCITY (FPM)	500	500	500
MINIMUM COIL ROWS	6	6	4
MAX. FINS PER INCH	11	11	11
COOLING EAT DB/WB (°F)	88.4/70.0	81.0/67.0	81.0/67.0
COOLING LAT DB/WB (°F)	55.4/53.9	56.6/54.7	59.4/57.4
TOTAL COOLING CAPACITY (MBH)	69.2	151.9	60.9
SENSIBLE COOLING CAPACITY (MBH)	48.8	105.8	47.2
QTY REFRIGERANT CIRCUITS / TYPE	2 / INTERLACED	2 / INTERLACED	1 / NA
HEATING CAPACITY (KW)	-	-	-
NO. OF HEATING STAGES	-	-	-
VOLTS/PHASE/HERTZ	480/3/60	208/3/60	208/3/60
MANUFACTURER	DAIKIN	DAIKIN	DAIKIN
MODEL NO.	CAH003GDCM	CAH009GDCM	CAH005GDCM
OPERATING WEIGHT (LBS.)	503	1008	532
UNIT CABINET DIMENSIONS, W x L x H (IN.)	38 x 64 x 26	38 x 70 x 60	46 x 64 x 28
NOTES	1,2,3,4,5,6	1,2,3,4,5,7	1,2,3,4,5,6

NOTES:

1. PROVIDE 2" DOUBLE WALL R-13 CHILLED WATER AHU WITH 2" MERV 13 FILTERS.
2. PROVIDE DX COIL WITH STAINLESS STEEL COIL CASING AND STAINLESS STEEL DRAIN PAN FOR R-410A.
3. PROVIDE 12" ACCESS DOOR BETWEEN COIL AND FAN SECTION.
4. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
5. PROVIDE ECM FAN SECTION WITH LOOSE FAN CONTROLLER TO BE INSTALLED BY MECHANICAL CONTRACTOR BY ELECTRICAL CONTRACTOR TO THE FAN. FAN CONTROLLER TO RECEIVE 0-10 VDC SIGNAL FROM DDC
6. UNIT TO BE SUSPENDED FROM STRUCTURE.
7. PROVIDE 6" BASE RAIL.

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	ACCU-17A, 17B	ACCU-21A, 21B	ACCU-22
SERVES	AHU-17	AHU-21	AHU-22
TOTAL COOLING CAPACITY (MBH)	41.3	77.9	59.4
AMBIENT TEMP. (°F)	105	105	105
STEPS OF CAPACITY	2	2	2
EER (SEER)	(16)	11.2	(15)
VOLTS/PHASE/HERTZ	480/3/60	208/3/60	208/3/60
MCA	9.1	37.0	22.4
MOCP	15.0	60.0	35.0
MANUFACTURER	Lennox	Lennox	Lennox
MODEL NUMBER	SSB048	ELS090S	SSB060
OPERATING WEIGHT (LBS.)	268	345	332
NOTES	ALL	ALL	ALL

NOTES:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. REFRIGERANT LINES TO BE SIZED BY MANUFACTURER.
3. PROVIDE 5 YEAR COMPRESSOR PARTS WARRANTY.
4. PROVIDE WITH CONDENSER COIL HAIL GUARD.
5. PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL.
6. PROVIDE CONDENSER COIL COATING WITH MINIMUM 6000 HR ASTM B117 SALT SPRAY RATING.
7. PROVIDE SINGLE CIRCUIT, DUAL STAGE CONDENSING UNITS.

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE:

MECHANICAL SCHEDULES

SHEET NUMBER:

M5.01

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

LOUVER SCHEDULE

MARK	SERVES	CFM	WIDTH (IN)	HEIGHT (IN)	MINIMUM FREE AREA (FT2)	MAX. PRESSURE DROP AT 750 FPM INTAKE (" w.g.)	MANUF. MODEL	NOTES
LVR-CUP-1	RMS PURGE INTAKE	1300	24	30	1.73	0.08	EVH-501D	ALL
LVR-CUP-2	RMS PURGE INTAKE	1300	24	30	1.73	0.08	EVH-501D	ALL
LVR-AHU-22	AHU-21 & AHU-22	615	24	16	0.82	0.08	EVH-501D	ALL

NOTES:
1. FINISH SHALL BE KYNAR 500 FINISH. PAINT COLOR BY ARCHITECT. COORDINATE FINAL ELEVATION WITH ARCHITECT.
2. LOUVER SHALL MEET AMCA 550 AND AMCA 540.

VARIABLE FREQUENCY DRIVE SCHEDULE

MARK	SERVES	EQUIP	HP	INPUT VOLT	OUTPUT VOLT	MOUNTING	ENCLOSURE	MANUF.	MODEL	NOTES
VFD-AHU-1+2-1	AHU-1+2 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-1+2-2	AHU-1+2 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-3-1	AHU-3 SUPPLY FAN	AHU	7.5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-3-2	AHU-3 SUPPLY FAN	AHU	7.5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-4+5-1	AHU-4+5 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-4+5-2	AHU-4+5 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-6+7-1	AHU-6+7 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-6+7-2	AHU-6+7 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-8-1	AHU-8 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-8-2	AHU-8 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-9	AHU-9 SUPPLY FAN	AHU	3	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-10-1	AHU-10 SUPPLY FAN	AHU	7.5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-10-2	AHU-10 SUPPLY FAN	AHU	7.5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-11	AHU-11 SUPPLY FAN	AHU	3	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-12-1	AHU-12 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-12-2	AHU-12 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-13-1	AHU-13 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-13-2	AHU-13 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-14	AHU-14 SUPPLY FAN	AHU	3	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-15	AHU-15 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-16	AHU-16 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-18-1	AHU-18 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-AHU-18-2	AHU-18 SUPPLY FAN	AHU	5	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-CHWP-1	CHWP-1	PUMP	30	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-CHWP-2	CHWP-2	PUMP	30	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL
VFD-CHWP-3	CHWP-3	PUMP	30	460/3	460/3	WALL	NEMA 12	DANFOSS	VLT HVAC	ALL

NOTES:
1. VFD SHALL BE PROVIDED AND MOUNTED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
2. PROVIDE WITH BACNET INTERFACE.
3. PROVIDE VFD WITH NON-FUSED DISCONNECT

PUMP SCHEDULE

MARK	CHWP-1	CHWP-2	CHWP-3
SERVICE	CHILLED WATER	CHILLED WATER	CHILLED WATER
TYPE	END SUCTION	END SUCTION	END SUCTION
DESIGN FLOW RATE (GPM)	528	528	528
MINIMUM FLOW RATE (GPM)	125.0	125.0	125.0
DYNAMIC HEAD-FT	130	130	130
MOTOR RPM	1800	1800	1800
MIN. PUMP EFF. (%)	74.7	74.7	74.7
NPSH MAX. REQUIRED	7.980	7.980	7.980
HORSEPOWER	30	30	30
VOLTS/PHASE/HERTZ	460/3/60	460/3/60	460/3/60
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT	BELL & GOSSETT
MODEL	e-1510 3GB	e-1510 3GB	e-1510 3GB
NOTES	ALL	ALL	ALL

NOTES:
1. PUMP SHALL BE NON-OVERLOADING ACROSS ENTIRE GPM RANGE.
2. PROVIDE WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.
3. PROVIDE WITH PREMIUM EFFICIENCY ODP MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE WITH INDUCTIVE ABSORBERS

AIR SEPARATOR SCHEDULE

MARK	AS-1
SERVICE	CHILLED WATER SYSTEM
MAX FLOW (GPM)	1,056
INLET / OUTLET SIZE (INCHES)	10
SHIPPING WEIGHT (LBS)	311
FLOODED WEIGHT (LBS)	834
MANUFACTURER	Bell & Gossett
MODEL	CRSA-10F
NOTES	ALL

NOTES:
1. PROVIDE HIGH CAPACITY AIR VENT. AIR VENT SHALL BE PIPED OFFSET FROM SEPARATOR TO MINIMIZE CORROSION CAUSED BY WATER DRIPS.

EXPANSION TANK SCHEDULE

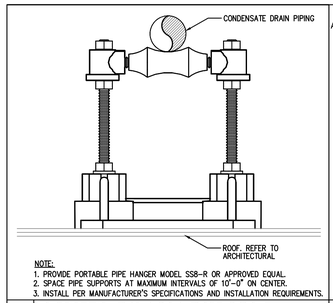
MARK	ET-1
SERVICE	CHILLED WATER
TANK VOLUME (GALLONS)	80
MAX. ACCEPTANCE	27
MIN. OPERATING PRESSURE (PSI)	60.0
MAX. OPERATING PRESSURE (PSI)	80
TYPE	BLADDER
MANUFACTURER	BELL AND GOSSETT
MODEL NO.	B-300LA
NOTES	1

NOTES:
1. PROVIDE AUTOMATIC AIR VENT.

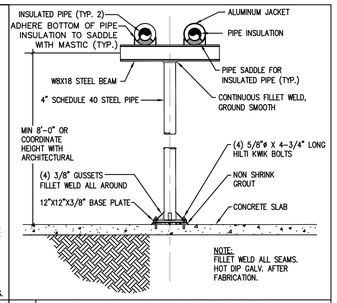
SINGLE INLET VAV BOX WITH REHEAT SCHEDULE

MARK	COOLING CFM MAX.	COOLING CFM MIN.	HEATING CFM MAX.	HEATING CFM MIN.	REHEAT KW	INLET SIZE	VOLTS/PHASE/HZ	MANUFACTURER	MODEL
VAV-1-01	840	255	420	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-1-02	840	255	420	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-1-03	840	255	420	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-1-04	960	290	480	290	6	10"Ø	480/3/60	PRICE	SDV
VAV-1-05	1,750	525	875	525	10	14"Ø	480/3/60	PRICE	SDV
VAV-1-06	980	295	490	295	6	10"Ø	480/3/60	PRICE	SDV
VAV-1-07	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-1-08	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-1-09	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-1-10	740	225	370	225	5	10"Ø	277/1/60	PRICE	SDV
VAV-2-01	470	145	235	145	3	8"Ø	277/1/60	PRICE	SDV
VAV-2-02	2,100	630	1050	630	12	16"Ø	480/3/60	PRICE	SDV
VAV-2-03	600	180	300	180	4	8"Ø	277/1/60	PRICE	SDV
VAV-3-01	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-3-02	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-3-03	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-3-04	1,550	465	775	465	9	12"Ø	480/3/60	PRICE	SDV
VAV-3-05	850	255	425	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-3-06	850	255	425	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-3-07	850	255	425	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-3-08	890	270	445	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-3-09	850	255	425	255	5	10"Ø	277/1/60	PRICE	SDV
VAV-3-10	860	260	430	260	5	10"Ø	277/1/60	PRICE	SDV
VAV-4-01	500	150	250	150	3	8"Ø	277/1/60	PRICE	SDV
VAV-4-02	500	150	250	150	3	8"Ø	277/1/60	PRICE	SDV
VAV-4-03	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-4-04	1,500	450	750	450	9	12"Ø	480/3/60	PRICE	SDV
VAV-4-05	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-4-06	500	150	250	150	3	8"Ø	277/1/60	PRICE	SDV
VAV-5-01	3,020	910	1510	910	17	16"Ø	480/3/60	PRICE	SDV
VAV-6-01	2,730	820	1365	820	16	16"Ø	480/3/60	PRICE	SDV
VAV-7-01	875	265	440	265	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-02	875	265	440	265	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-03	875	265	440	265	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-04	875	265	440	265	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-05	960	290	480	290	6	10"Ø	480/3/60	PRICE	SDV
VAV-7-06	1,880	565	940	565	11	14"Ø	480/3/60	PRICE	SDV
VAV-7-07	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-08	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-09	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-7-10	960	290	480	290	6	10"Ø	480/3/60	PRICE	SDV
VAV-8-01	1,940	585	970	585	11	14"Ø	480/3/60	PRICE	SDV
VAV-8-02	2,000	600	1000	600	12	14"Ø	480/3/60	PRICE	SDV
VAV-8-03	1,100	330	550	330	7	12"Ø	480/3/60	PRICE	SDV
VAV-8-04	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-8-05	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-8-06	960	290	480	290	6	10"Ø	480/3/60	PRICE	SDV
VAV-8-07	2,200	660	1100	660	13	16"Ø	480/3/60	PRICE	SDV
VAV-8-08	2,000	600	1000	600	12	14"Ø	480/3/60	PRICE	SDV
VAV-9-01	1,050	315	525	315	6	10"Ø	480/3/60	PRICE	SDV
VAV-9-02	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-9-03	1,450	435	725	435	9	12"Ø	480/3/60	PRICE	SDV
VAV-9-04	500	150	250	150	3	8"Ø	277/1/60	PRICE	SDV
VAV-10-01	1,135	345	570	345	7	12"Ø	480/3/60	PRICE	SDV
VAV-10-02	1,250	375	625	375	7	12"Ø	480/3/60	PRICE	SDV
VAV-10-03	1,100	330	550	330	7	12"Ø	480/3/60	PRICE	SDV
VAV-10-04	1,250	375	625	375	7	12"Ø	480/3/60	PRICE	SDV
VAV-10-05	1,330	400	665	400	8	12"Ø	480/3/60	PRICE	SDV
VAV-10-06	1,630	490	815	490	10	14"Ø	480/3/60	PRICE	SDV
VAV-10-07	1,250	375	625	375	7	12"Ø	480/3/60	PRICE	SDV
VAV-10-08	1,250	375	625	375	7	12"Ø	480/3/60	PRICE	SDV
VAV-11-01	1,100	330	550	330	7	12"Ø	480/3/60	PRICE	SDV
VAV-11-02	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-11-03	1,100	330	550	330	7	12"Ø	480/3/60	PRICE	SDV
VAV-11-04	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-11-05	500	150	250	150	3	8"Ø	277/1/60	PRICE	SDV
VAV-12-01	2,100	630	1050	630	12	16"Ø	480/3/60	PRICE	SDV
VAV-12-02	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-12-03	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-12-04	2,175	655	1090	655	13	16"Ø	480/3/60	PRICE	SDV
VAV-12-05	1,250	375	625	375	7	12"Ø	480/3/60	PRICE	SDV
VAV-13-01	950	285	475	285	6	10"Ø	480/3/60	PRICE	SDV
VAV-13-02	1,710	515	855	515	10	14"Ø	480/3/60	PRICE	SDV
VAV-13-03	1,750	525	875	525	10	14"Ø	480/3/60	PRICE	SDV
VAV-13-04	1,000	300	500	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-13-05	1,075	325	540	325	6	10"Ø	480/3/60	PRICE	SDV
VAV-13-06	925	280	465	280	6	10"Ø	480/3/60	PRICE	SDV
VAV-13-07	2,090	630	1045	630	12	14"Ø	480/3/60	PRICE	SDV
VAV-16-01	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-16-02	885	270	445	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-16-03	990	300	495	300	6	10"Ø	480/3/60	PRICE	SDV
VAV-16-04	900	270	450	270	5	10"Ø	277/1/60	PRICE	SDV
VAV-16-05	825	250	415	250	5	10"Ø	277/1/60	PRICE	SDV
VAV-18-01	1,200	360	600	360	7	12"Ø	480/3/60	PRICE	SDV
VAV-18-02	1,475	445	740	445	9	12"Ø	480/3/60	PRICE	SDV
VAV-18-03	1,310	395	655	395	8	12"Ø	480/3/60	PRICE	SDV
VAV-18-04	2,015	605	1010	605	12	14"Ø	480/3/60	PRICE	SDV

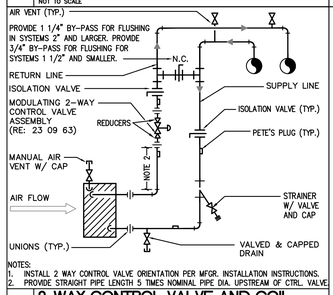
NOTES:
1. PROVIDE AEROCROSS MULTI-POINT CENTER AVERAGING VELOCITY SENSOR IN AIR INLET.
2. PROVIDE TERMINAL UNIT CASING WITH 1/2" INTERNALLY LINED FIBERGLASS FREE INSULATION.
3. PROVIDE TERMINAL UNIT WITH INTEGRAL DISCONNECT SWITCH.
4. PROVIDE ELECTRIC REHEAT COIL WITH 0-10V SCR MODULATING CAPACITY CONTROL.



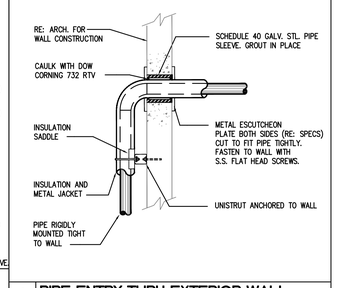
6 DRAIN LINE SUPPORT ON ROOF
NOT TO SCALE



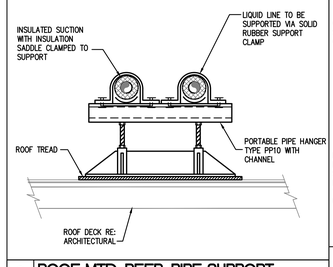
1 PIPE SUPPORT DETAIL AT SLAB
NOT TO SCALE MPHS200.DWG



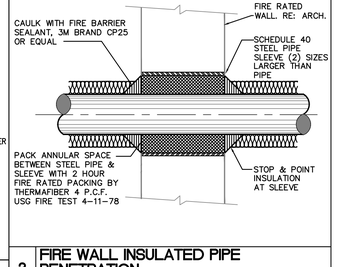
7 2-WAY CONTROL VALVE AND COIL PIPING
NOT TO SCALE MP-01



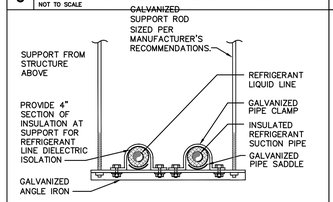
2 PIPE ENTRY THRU EXTERIOR WALL
NOT TO SCALE MPPE302.DWG



8 ROOF MTD. REFR. PIPE SUPPORT
NOT TO SCALE

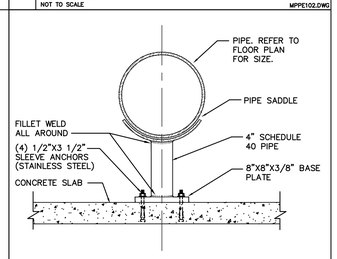


3 FIRE WALL INSULATED PIPE PENETRATION
NOT TO SCALE MPPE102.DWG



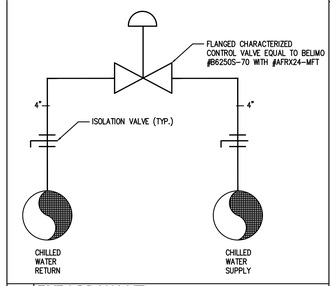
NOTE: PROVIDE SUPPORTS AT 3'-0" ON CENTER MAX. AND WITHIN 1'-0" OF ALL CHANGES IN PIPE DIRECTION.

9 REFRIGERANT PIPE HANGER
NOT TO SCALE MPPE201.DWG

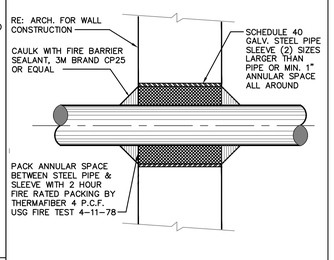


NOTE: FILLET WELD ALL SEAMS. HOT DIP GALVANIZE AFTER FABRICATION.

4 PIPE SUPPORT DETAIL
NOT TO SCALE MPHS203.DWG



10 BYPASS VALVE
NOT TO SCALE



5 FIRE WALL PIPE PENETRATION
NOT TO SCALE MPPE300.DWG

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

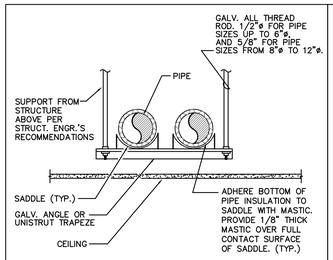
DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: MECHANICAL SCHEDULES
SHEET NUMBER: M5.02

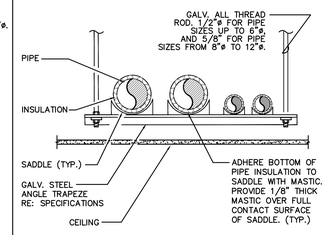
Plotted: Mar 23, 2022, 9:11 PM by user: rtijerina Saved: 3/23/2022 by user: rtijerina
C:\Users\rtijerina\ACCDocs\DBR Inc\218007.002 - ECISD - District Wide HVAC Improvements - MMS\Project Files\Drawings\0M-218007-002-DETAILS AND SCHEDULES.dwg



NOTE: CONTRACTOR SHALL SECURE STRUCT. ENGR. APPROVAL FOR ANY AND ALL PIPE MOUNTING DETAILS TO CONCRETE OR STEEL STRUCTURE.

25 PIPE HANGER DETAIL

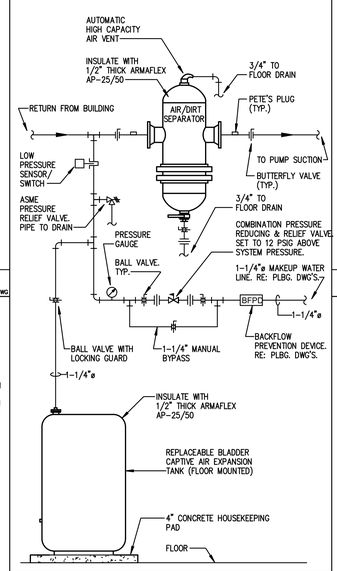
NOT TO SCALE — MPHS103.DWG



NOTE: CONTRACTOR SHALL SECURE STRUCT. ENG. APPROVAL FOR ANY AND ALL PIPE MOUNTING DETAILS AT CONCRETE OR STEEL STRUCTURE.

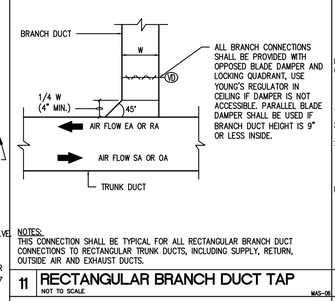
20 PIPE HANGER DETAIL (4-PIPE)

NOT TO SCALE — MPHS101.DWG



16 EXPANSION TANK/ MAKE-UP WATER PIPING DETAIL

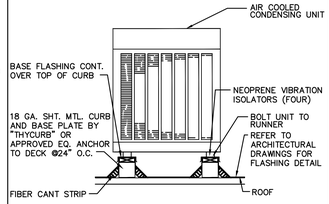
NOT TO SCALE — MEMA100.DWG



NOTES:
THIS CONNECTION SHALL BE TYPICAL FOR ALL RECTANGULAR BRANCH DUCT CONNECTIONS TO RECTANGULAR TRUNK DUCTS, INCLUDING SUPPLY, RETURN, OUTSIDE AIR AND EXHAUST DUCTS.

11 RECTANGULAR BRANCH DUCT TAP

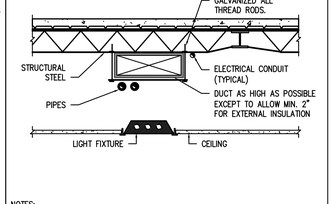
NOT TO SCALE — MAS-06



NOTE: 1. PROVIDE CLEARANCE AROUND UNIT FOR AIRFLOW AND SERVICE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

6 CONDENSING UNIT ROOF MOUNTED

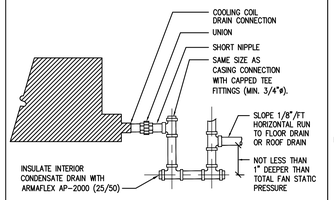
NOT TO SCALE — MECU101.DWG



NOTES:
1. PIPES (INCLUDING SPRINKLER PIPING) AND ELECTRICAL CONDUIT CAN BE ROUTED BETWEEN JOISTS OR THROUGH JOIST WEB SPACE AS REQUIRED. DUCT SHALL BE LOCATED AS HIGH AS POSSIBLE.
2. U.L. DESIGN ASSEMBLY NUMBERS ARE SHOWN ON ARCHITECTURAL PLANS WHEN REQUIRED.
3. INSTALLATION OF ALL SERVICES MUST BE COORDINATED BY THE CONTRACTOR.

1 TYP. MEP INSTALLATION DETAIL

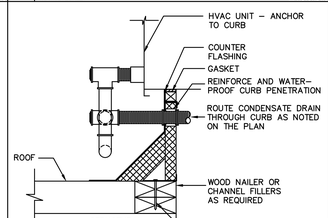
NOT TO SCALE — MAS-02



NOTE:
1. MAINTAIN MINIMUM 1" AIR GAP AT FLOOR DRAIN OR ROOF DRAIN.
2. ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH MALLEABLE IRON SCREWED FITTINGS.

26 COOLING COIL CONDENSATE DRAIN

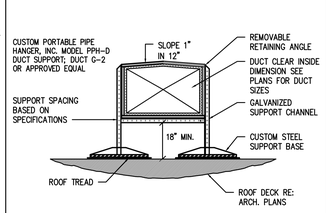
NOT TO SCALE — MPCE300.DWG



NOTE:
1. COORDINATE WITH APPROVED ROOFING CONTRACTOR. ROOF PENETRATION AND LOCATION SHALL BE COORDINATED AND APPROVED BY ROOFING CONTRACTOR.
2. ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH MALLEABLE IRON SCREWED FITTINGS.

21 CONDENSATE DRAIN THRU CURB

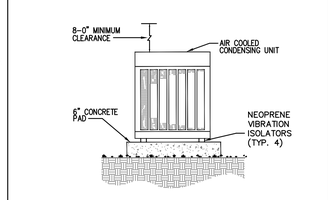
NOT TO SCALE



NOTES:
1. ANGLE STEEL FRAME TO BE WELDED AT ALL CORNERS AND BASE PLATE.
2. PROVIDE 12" WIDE 18 GAUGE GALVANIZED STEEL INSULATION SADDLE, FULL WIDTH AND HEIGHT OF DUCT

12 EXPOSED RECT. DUCT ON ROOF

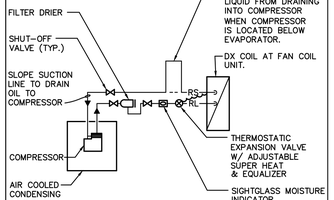
NOT TO SCALE — MAS-05



NOTE: PROVIDE CLEARANCE AROUND UNIT FOR AIR FLOW AND SERVICE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

7 CONDENSING UNIT MOUNTING ON GRADE

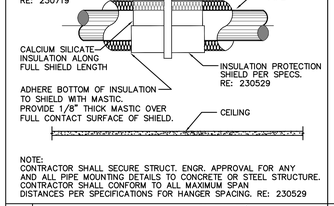
NOT TO SCALE — MECU100.DWG



NOTES:
1. COMPLY WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
2. TYPICAL FOR EACH SEPARATE REFRIGERANT CIRCUIT.
3. PROVIDE FILTER DRIER ON ALL SYSTEMS.
4. USE "ACR" HARD DRAWN COPPER REFRIGERANT PIPE.

2 REFRIGERANT PIPING SCHEMATIC

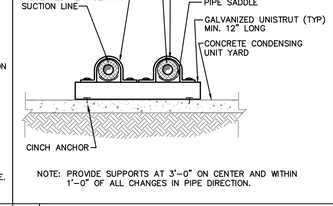
NOT TO SCALE — MPRE100.DWG



NOTE:
CONTRACTOR SHALL SECURE STRUCT. ENGR. APPROVAL FOR ANY AND ALL PIPE MOUNTING DETAILS TO CONCRETE OR STEEL STRUCTURE. CONTRACTOR SHALL CONFORM TO ALL MAXIMUM SPAN DISTANCES PER SPECIFICATIONS FOR HANGER SPACING. RE: 230529

27 PIPE HANGER DETAIL (1-PIPE)

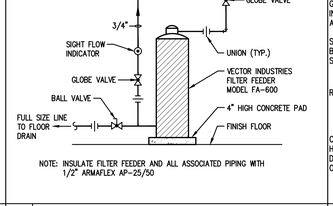
NOT TO SCALE — MPHS102.DWG



NOTE: PROVIDE SUPPORTS AT 3'-0" ON CENTER AND WITHIN 1'-0" OF ALL CHANGES IN PIPE DIRECTION.

22 FLOOR MOUNTED REFR. PIPE

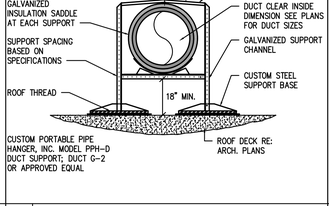
NOT TO SCALE — MPRE200.DWG



NOTE: INSULATE FILTER FEEDER AND ALL ASSOCIATED PIPING WITH 1/2" ARMAFLEX AP-25/50

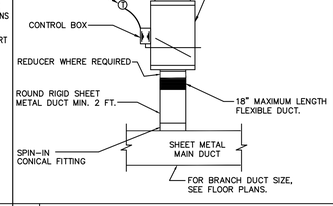
17 CHEMICAL FILTER FEEDER DETAIL

NOT TO SCALE — MEMA301.DWG



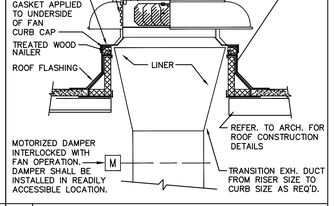
13 DUCT SUPPORT ON ROOF

NOT TO SCALE — MAS-04



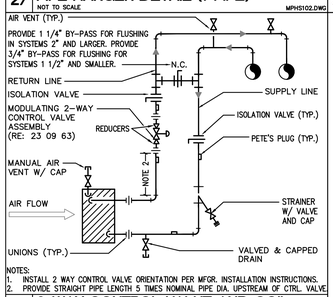
8 INTERIOR VAV TERMINAL UNIT

NOT TO SCALE — MEQ-92



3 CENTRIFUGAL ROOF EXHAUST FAN

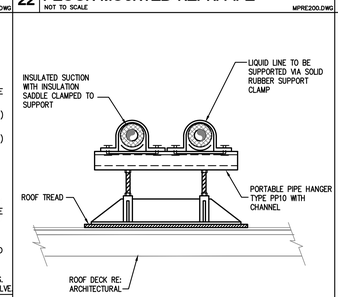
NOT TO SCALE — MEFA100.DWG



NOTES:
1. INSTALL 2 WAY CONTROL VALVE ORIENTATION PER MFGR. INSTALLATION INSTRUCTIONS.
2. PROVIDE STRAIGHT PIPE LENGTH 5 TIMES NOMINAL PIPE DIA. UPSTREAM OF CTRL. VALVE

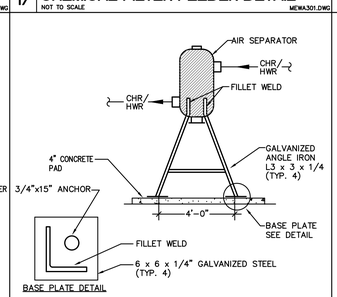
7 2-WAY CONTROL VALVE AND COIL PIPING

NOT TO SCALE — MP-01



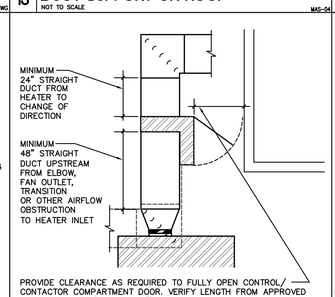
8 ROOF MTD. REFR. PIPE SUPPORT

NOT TO SCALE — MEMA400.DWG



18 AIR SEPARATOR MOUNTING

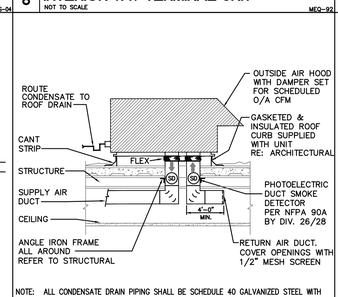
NOT TO SCALE — MEMA400.DWG



PROVIDE CLEARANCE AS REQUIRED TO FULLY OPEN CONTROL/ CONTACTOR COMPARTMENT DOOR. VERIFY LENGTH FROM APPROVED SHOP DRAWINGS (MINIMUM 24")

14 ELECTRIC DUCT HEATER

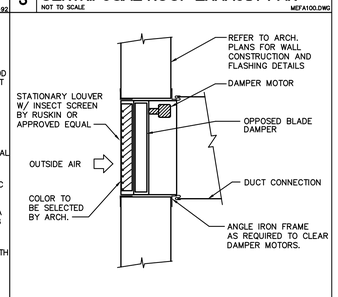
NOT TO SCALE — MEHE200.DWG



NOTE: ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH MALLEABLE IRON SCREWED FITTINGS.

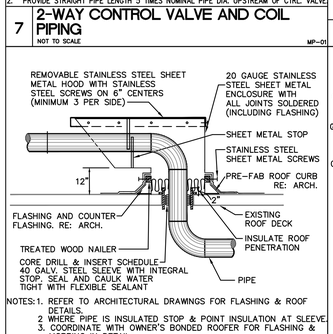
9 ROOF TOP UNIT MOUNTING DETAIL

NOT TO SCALE — MERT100.DWG



4 INTAKE LOUVER MOUNTING

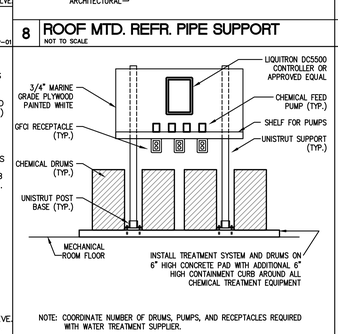
NOT TO SCALE



NOTES: 1. REFER TO ARCHITECTURAL DRAWINGS FOR FLASHING & ROOF DETAILS.
2 WHERE PIPE IS INSULATED STOP & POINT INSULATION AT SLEEVE.
3. COORDINATE WITH OWNER'S BONDED ROOFER FOR FLASHING & MOPPING IN DETAIL.

29 EXISTING ROOF PIPE PENETRATION

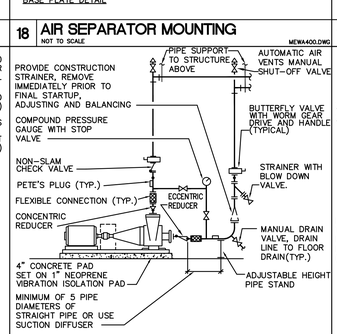
NOT TO SCALE — MPPE201.DWG



NOTE: COORDINATE NUMBER OF DRUMS, PUMPS, AND RECEPTACLES REQUIRED WITH WATER TREATMENT SUPPLIER.

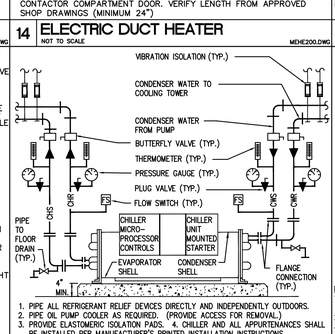
24 CONDENSER WATER TREATMENT

NOT TO SCALE — MEWA301.DWG



19 END SUCTION PUMP PIPING

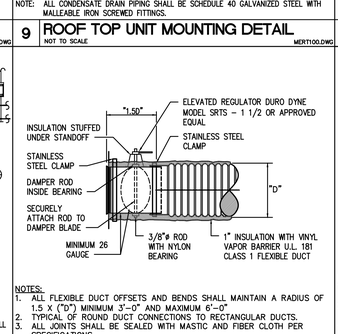
NOT TO SCALE — MEPU100.DWG



1. PIPE ALL REFRIGERANT RELIEF DEVICES DIRECTLY AND INDEPENDENTLY OUTDOORS.
2. PIPE OIL PUMP COOLER AS REQUIRED. (PROVIDE ACCESS FOR REMOVAL.)
3. PROVIDE ELASTOMERIC ISOLATION PADS. 4. CHILLER AND ALL APPURTENANCES SHALL BE INSTALLED PER MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

15 WATER COOLED CHILLER

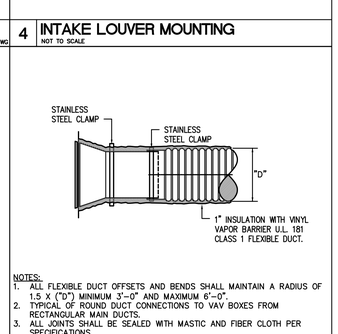
NOT TO SCALE — MECH101.DWG



NOTES:
1. ALL FLEXIBLE DUCT OFFSETS AND BENDS SHALL MAINTAIN A RADIUS OF 1.5 X ("D") MINIMUM 3'-0" AND MAXIMUM 6'-0"
2. TYPICAL OF ROUND DUCT CONNECTIONS TO RECTANGULAR DUCTS.
3. ALL JOINTS SHALL BE SEALED WITH MASTIC AND FIBER CLOTH PER SPECIFICATIONS.

10 SPIN-IN DETAIL

NOT TO SCALE — MAS-09



NOTES:
1. ALL FLEXIBLE DUCT OFFSETS AND BENDS SHALL MAINTAIN A RADIUS OF 1.5 X ("D") MINIMUM 3'-0" AND MAXIMUM 6'-0"
2. TYPICAL OF ROUND DUCT CONNECTIONS TO VAV BOXES FROM RECTANGULAR MAIN DUCTS.
3. ALL JOINTS SHALL BE SEALED WITH MASTIC AND FIBER CLOTH PER SPECIFICATIONS.

5 CONICAL SPIN-IN DETAIL

NOT TO SCALE — MAS-010

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS — ROBERTO H. TIJERINA — 121946 — LICENSED PROFESSIONAL ENGINEER — 3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE:

1 MECHANICAL DETAILS

SHEET NUMBER: M6.01

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

ABBREVIATIONS

A

A	AMPERES
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT, AIR COMPRESSOR, ABOVE COUNTER
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FUSE, AMPERE FRAME
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPT CAPACITY
AL	ALUMINUM
AM	AMMETER
AMP	AMPLIFIER
ANN	ANNUNICATOR
AP	ACCESS PANEL, ALARM PANEL
ARCH	ARCHITECT, ARCHITECTURAL
ASC	AMPERES SHORT CIRCUIT
AT	AMPERE TRIP RATING
ATS	AUTOMATIC TRANSFER SWITCH
AVG.	AVERAGE
AUX.	AUXILIARY
AWG.	AMERICAN WIRE GAUGE

B

BAS	BUILDING AUTOMATION SYSTEM
BC	BELOW COUNTER
BKR	BREAKER
BLDG.	BUILDING

C

C	CONDUIT, CELSIUS
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CMP	CONDENSER WATER PUMP
CH	CHILLER
CHP	CHILLED WATER PUMP
CIRC	CIRCULATING
CKT	CIRCUIT
CL	CENTERLINE
CLG.	CEILING
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT.	CONTINUOUS,CONTINUATION
CONTR.	CONTROLLER, CONTRACTOR
CP.	CIRCULATING PUMP
CPUC	CPU CHILLER
CR	CARD READER, CORD REEL
CRU	CONDENSATE RETURN UNIT
CT	CURRENT TRANSFORMER, COOLING TOWER
CTR	CENTER
CU	COPPER

D

dB	DECIBEL
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DR	DROPPED RECEPTACLE
DS	DAYLIGHT SENSOR
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DXFC	DX FAN COIL UNIT
DZ	DAYLIGHT ZONE

E

(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
E.C.	EMPTY CONDUIT
EDF	ELECTRIC DRINKING FOUNTAIN
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMCS	ENERGY MANAGEMENT AND CONTROLS SYSTEM
EMERG	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
ENCL.	ENCLOSURE
ENGR.	ENGINEER
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
(ER)	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST

F

F	FAHRENHEIT, FAN, FIRE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FF	FURNITURE FEED
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FP	FIRE PUMP, FAN POWERED
FPTB	FAN POWERED TERMINAL BOX
FRZR	FREEZER
FS	FUSED SWITCH, FLOW SWITCH
FSD	MOTORIZED FIRE SMOKE DAMPER
FT	FOOT, FEET
FTL	FEED-THRU LUGS
FUT	FUTURE
FVNR	FULL-VOLTAGE, NON-REVERSING

G

GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GTD	GENERATOR TRANSFER DEVICE
GUH	GAS UNIT HEATER

H

HACR	HEATING, AIR CONDITIONING RATED CIRCUIT BREAKER
HD	ELECTRIC HAND DRYER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HS	HAND SET
HSC	HAND SCANNER
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING/ VENTILATING UNIT
HWB	HOT WATER BOILER
HWC	HOT WATER CIRCULATOR
HWP	HEATING WATER PUMP
HZ	HERTZ

I

ID	INSIDE DIAMETER
IG	ISOLATED GROUND
IN	INCH
INCAND	INCANDESCENT
INT	INTERNAL, INTERIOR

J

JB	JUNCTION BOX
JP	JOCKEY PUMP

K

KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
kVA	KILOVOLT- AMPS
kW	KILOWATT
kWH	KILOWATT-HOUR

L

LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LV	LOW VOLTAGE TRANSFORMER
LVL	LEVEL

M

M	METER
MAP	MASTER ALARM PANEL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX.	MAXIMUM
MC	METAL CLAD CABLE
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MECH.	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIC	MICROPHONE
MIN.	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVER-CURRENT PROTECTION
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MV	MERCURY VAPOR

N

N3R	NEMA 3R ENCLOSURE
N4X	NEMA 4X ENCLOSURE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFS	NON-FUSED SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O

OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRICAL
OPG	OPENING

P

P	POLE, PUMP
PB	PUSHBUTTON
PC	PHOTOCELL
PH	PHASE
PL	PILOT LIGHT
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
POS	POINT OF SALE
PP	POWER POLE
PR	PAIR
PRI	PRIMARY
PS	PHOTOSENSOR
PVC	POLYVINYL CHLORIDE
PWR	POWER

Q

QTY	QUANTITY

R

R	EXISTING TO BE REMOVED
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RC	RECONNECT EXISTING DEVICE TO CIRCUIT INDICATED
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RE	REFERENCE, REFER
REC	RECEPTACLE
REFR	REFRIGERATOR
REINF	REINFORCING
REL	EXISTING TO BE RELOCATED
REL/EX	NEW LOCATION OF RELOCATED EQUIPMENT
REQD	REQUIRED
REV	REVISION, REVISE
RGS	RIGID GALVANIZED STEEL
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND REPLACE
RTU	ROOFTOP UNIT

S

SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SCHED	SCHEDULE
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SKVA	STARTING KILOVOLT-AMPS
SKW	STARTING KILOWATTS
SP	SUMP PUMP
SPEC	SPECIFICATION
SPF	STAIR PRESSURIZATION FAN
SPKR	SPEAKER
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
SQ.	SQUARE
SRF	SMOKE REMOVAL FAN
SS	START-STOP PUSH BUTTON
SSSC	SOLID STATE SPEED CONTROL
ST	SHUNT TRIP
STB	STEAM BOILER
STD	STANDARD
STL	STEEL
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD

T

TC	TEMPERATURE CONTROL
TEL	TELEPHONE
TF	TRANSFER FAN
TL	TWIST-LOCK
TOC	TOP OF CURB
TOS	TOP OF STEEL
TP	CHILD TAMPER PROOF DEVICE
TSTAT	THERMOSTAT
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TU	TERMINAL UNIT
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL

U

UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTABLE POWER SYSTEM

V

V	VOLT
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
VC	VOLUME CONTROL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VM	VOLT METER

W

W	WATT, WIRE, WIDTH
WG	WIREGUARD
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WS	WATER SOFTENER
WT	WATERTIGHT, WEIGHT
WWF	WELDED WIRE FABRIC
W/FT²	WATTS PER SQUARE FOOT

X

XFMR	TRANSFORMER

Z

Z	ZONE

ELECTRICAL SYMBOLS

MOTORS AND CONTROLS

- MOTOR RATED SWITCH WITH THERMAL OVERLOADS
- (5) SINGLE OR THREE PHASE MOTOR NUMBER INDICATES HORSE POWER
- ELECTRIC DUCT HEATER
- DISCONNECT (SAFETY) SWITCH "200/3/150" DENOTES AMPERES/POLE/FUSE, "NF" DENOTES NON-FUSED "N3R" DENOTES NEMA 3R
- [B] ENCLOSED CIRCUIT BREAKER- "200/3/150" DENOTES AMPERES/POLE/TRIP.
- MOTOR STARTER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
- COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER, "30/3/15/#0" DENOTES AMPERES/POLES/FUSE/ STARTER SIZE, "NF" DENOTES NON-FUSED. FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
- VFD VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
- EPO EMERGENCY POWER OFF BUTTON.

RECEPTACLES AND OUTLETS

ALL RECEPTACLES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

- SIMPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
- DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
  - "GFCI" DENOTES GROUND FAULT INTERRUPTER,
  - "WP" DENOTES WEATHERPROOF,
  - "IG" DENOTES ISOLATED GROUND,
  - "TP" DENOTES SAFETY TYPE, (TAMPER PROOF)
  - "DW" DENOTES DROPPED RECEPTACLE,
  - "USB" DENOTES RECEPTACLE WITH UNIVERSAL SERIAL BUS,
  - "AC" DENOTES ABOVE COUNTER MOUNTING, SEE
  - "UC" DENOTES UNDER COUNTER MOUNTING, SEE
  - "H" DENOTES HORIZONTALLY ORIENTED RECEPTACLE, SEE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHT.
- R DUPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- DUPLEX WALL RECEPTACLE ON A CIRCUIT DEDICATED TO DATA PROCESSING, GRAY COLOR. PROVIDE ISOLATED GROUND TYPE RECEPTACLES WHERE NOTED.
- SPLIT WIRED RECEPTACLE. TOP RECEPTACLE SHALL BE SWITCHED ACCORDING TO PLANS, AND BOTTOM SHALL REMAIN UNSWITCHED.
- SP CONTROLLED DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V. "SP" DENOTES SPLIT WIRED
- FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- R FOURPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- CONTROLLED FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED.
- TWO-GANG FLOOR OUTLET
- THREE-GANG FLOOR OUTLET
- MULTI-OUTLET SURFACE RACEWAY. SEE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHTS.
- J JUNCTION BOX
  - "MD" DENOTES MOTOR DAMPER,
  - "CR" DENOTES CORD REEL
  - "D" DENOTES DROP CORD RECEPTACLE,
- DUPLEX RECEPTACLE WITH HOMERUN
- DUPLEX RECEPTACLE (PEDESTAL MOUNTED)
- TWO-GANG CEILING OUTLET
- D R P FLUSH ELECTRICAL FLOOR OUTLET, "P" DENOTES POKE-THRU. "D" INDICATES DUPLEX RECEPTACLE, "R" INDICATES RED RECEPTACLE ON EMERGENCY POWER. REFER TO FLOOR BOX SCHEDULE, FIRE RATED POKE-THROUGH SCHEDULE AND KEYED NOTES.
- PP POWER POLE
- DIRECT CONNECTION TO EQUIPMENT
- P PULL BOX (OVER 4" SQUARE)
- C(2) CLOCK RECEPTACLE SHALL BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK.

LIGHTING

LETTER(S) DENOTE TYPE- SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

- 2' X 4' LIGHTING FIXTURE.
- 2' X 2' LIGHTING FIXTURE.
- 1' X 4' LIGHTING FIXTURE.
- 1' X 2' LIGHTING FIXTURE.
- 1' X 1' LIGHTING FIXTURE.
- STRIP LIGHTING FIXTURES.
- STAGGERED STRIP LIGHTING FIXTURE.
- ROUND DOWNLIGHT FIXTURE.
- SQUARE DOWNLIGHT FIXTURE.
- WALL MOUNTED LIGHTING FIXTURE.
- TRACK LIGHTING FIXTURE. MOUNTED AS SHOWN ON LIGHTING FIXTURE SCHEDULE.
- CEILING MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
- WALL MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
- EMERGENCY WALL MOUNTED LIGHTING FIXTURE. BATTERY OPERATED UNLESS NOTED OTHERWISE.
- SECURITY WALL PACK
- SITE LIGHTING FIXTURE.
- POST-TOP FIXTURE/ACORN FIXTURE BRACKET ARM INDICATES WALL MOUNT WITH ARM
- EMERGENCY LIGHT FIXTURE WITH BATTERY PACK. PROVIDE WITH UNSWITCHED HOT FOR LOSS OF VOLTAGE AND CHARGING (SAME CIRCUIT AS NORMAL POWER LIGHTING). FIXTURES SHALL BE WIRED IN A MANNER AS TO ALLOW SWITCHING OF FIXTURES WITHOUT DISCHARGING THE EMERGENCY BATTERY. BATTERY PACK IS TO ONLY OPERATE IN THE EVENT OF A POWER OUTAGE.
- EM CIRCUIT LIGHT FIXTURE ON EMERGENCY BRANCH CIRCUIT, CIRCUIT NUMBER ADJACENT TO FIXTURE INDICATES EMERGENCY CIRCUIT CONNECTED TO FIXTURE. PROVIDE UNSWITCHED HOT, NEUTRAL AND GROUND FOR ALL EMERGENCY LIGHTING ORIGINATING FROM THE EMERGENCY CIRCUIT SHOWN.
- NL EMERGENCY "NIGHT LIGHT" LIGHT FIXTURE. LIGHT FIXTURE IS UNSWITCHED AND INTENDED FOR 24 HOUR OPERATION. FEED VIA UNSWITCHED HOT.
- DAYLIGHT ZONE/PRIMARY DAYLIGHT ZONE
- SECONDARY DAYLIGHT ZONE

GENERAL NOTES:

A. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.

RACEWAYS AND WIRING

- CAP AND STAKE
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT UNDERSLAB OR UNDERGROUND
- EM EMERGENCY CONDUIT
- EXPOSED CONDUIT
- DB UNDERGROUND CONDUIT, "DB" DENOTES DUCTBANK ENCASED IN CONCRETE
- OHE OVERHEAD ELECTRIC PRIMARY UTILITY POWER LINE
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- HASH MARKS INDICATE NUMBER OF CONDUCTORS. LEFT TO RIGHT: PHASE/NEUTRAL/SWITCH LEG/GROUND/ISOLATED GROUND. NO HASH MARKS INDICATES 2# 12, PLUS GROUND, UNLESS NOTED OTHERWISE.
- 1LA-2,4 HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED.
- PARTIAL CIRCUIT HOMERUN TO PANEL.
- (ON)1LA-6
- T COMMUNICATIONS CONDUIT OR CABLE:
  - "C" DENOTES MASTER CLOCK,
  - "CA" DENOTES MASTER CLOCK,
  - "CR" DENOTES CASH REGISTER
  - "D" DENOTES DATA,
  - "FA" DENOTES FIRE ALARM,
  - "I" DENOTES INTERCOM,
  - "OHE" DENOTES OVERHEAD ELECTRICAL LINE.
  - "PA" DENOTES PAGING,
  - "S" DENOTES SECURITY,
  - "T" DENOTES TELEPHONE,
  - "V" DENOTES VIDEO.
- TELECOMMUNICATIONS CABLE TRAY TO BE CONCEALED ABOVE ACCESSABLE CEILING.

ELECTRICAL EQUIPMENT

- DISTRIBUTION PANEL
- MSB SWITCHBOARD, MAIN DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
- PANELBOARD (FLUSH/SURFACE MOUNT)
- FLOOR MOUNTED DRY-TYPE TRANSFORMER
- SUSPENDED OR WALL MOUNTED TRANSFORMER
- ATS AUTOMATIC TRANSFER SWITCH
- FIRE RATED PLYWOOD TERMINAL BOARD, TYPE AS NOTED, 4' X 8' X 3/4" UNLESS NOTED OTHERWISE
- TERMINAL CABINET (FLUSH/SURFACE MOUNT), TYPE AS NOTED, 24" X 48" X 3-1/2" UNLESS NOTED OTHERWISE.
- BAT BATTERY/INVERTER UNIT
- LV LOW VOLTAGE TRANSFORMER.

COMMUNICATIONS

ALL OUTLET BOXES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

THE FOLLOWING NOTATIONS REFER TO ALL COMMUNICATIONS OUTLETS:
"FAX" DENOTES OUTLET DEDICATED FOR A FAX,
"W" DENOTES WALL PHONE SHALL BE MOUNTED AT 42" A.F.F.
"PAY" DENOTES PAY PHONE SHALL BE MOUNTED 42" A.F.F.

- HS SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.
- HTV TV ROUGH-IN: 3-GANG RECESSED TV BOX, CONTAINING 1 DUPLEX RECEPTACLE, 1 GANG FOR A/V, 1 GANG FOR DATA
- INDICATES THE LOCATION OF A NEW TECHNOLOGY WALL OUTLET, PROVIDE DUAL GANG BACK BOX. REFERENCE TECHNOLOGY SHEET FOR CONTENT.
- M W MICROPHONE FLOOR OUTLET, "W" INDICATES WALL MOUNTED "F" INDICATES FLOOR MOUNTED "H" INDICATES HANGING MOUNTED
- S VC CEILING MOUNTED SPEAKER. "VC" INDICATES VOLUME CONTROL ON SPEAKER.
- S L WALL MOUNTED SPEAKER. "L" INDICATED LOCAL SOUND REINFORCEMENT
- HCB SCHOOL INTERCOMMUNICATION SYSTEM CALL-IN. PUSH BUTTON
- BELL, BUZZER OR CHIME AT 80+ A.F.F.
- HVC VOLUME CONTROL - WALL MOUNTED
- AUX W AUXILIARY INPUT JACK. "W" INDICATES WALL MOUNTED "F" INDICATES FLOOR MOUNTED "H" INDICATES HANGING MOUNTED
- AVO "HIGH" PORTION OF "HIGH/LOW" OUTLETS, REFER TO OUTLET DETAIL.
- AVI "LOW" PORTION OF "HIGH/LOW" OUTLETS, REFER TO OUTLET DETAIL.
- C(2) LV LOW VOLTAGE CLOCK SHALL BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK.

REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.

ONE LINE AND RISER DIAGRAMS

- TRANSFORMER, TYPE AND RATINGS AS NOTED
- 800A/3P SWITCH, RATING AS SHOWN
- 400A FUSE, RATING AS SHOWN
- CL CIRCUIT BREAKER, RATING AS SHOWN, 3 POLE UNLESS NOTED OTHERWISE. "CL" DENOTES CURRENT LIMITING
- DRAWOUT CIRCUIT BREAKER, RATINGS AS SHOWN, 3 POLE UNLESS NOTED OTHERWISE
- ST SHUNT TRIP
- XX GROUND FAULT RELAY
- K KIRK-KEY INTERLOCK
- M DIGITAL METER
- A 0-2000 AMMETER, RANGE AS SHOWN
- AS AMMETER SWITCH
- V 0-600 VOLTMETER, RANGE AS SHOWN
- VS VOLTMETER SWITCH
- WH 0-15 WATT-HOUR METER, "D" DENOTES DEMAND REGISTER "15" DENOTES MINUTES OF DEMAND INTERVAL
- 1200/5 CURRENT TRANSFORMER, RATED AS SHOWN
- 12.47KV/120V POTENTIAL TRANSFORMER, RATING AS SHOWN
- GROUND CONNECTION
- LIGHTING ARRESTOR
- G GENERATOR SET
- AUTOMATIC TRANSFER SWITCH
- BUS DUCT PLUG
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
- M ELECTRICAL METER
- SPD SURGE PROTECTION DEVICE

MISCELLANEOUS

- SHADED SYMBOLS INDICATE EXISTING DEVICES TO REMAIN, UNLESS OTHERWISE NOTED.
- INDICATES WALL-MOUNTED WHEN ATTACHED TO ANY SYMBOL
- (1) DRAWING NOTE REFERENCE
- (1) STARTER/DISCONNECT SCHEDULE REFERENCE
- (1) FEEDER SCHEDULE REFERENCE
- LC LIGHTING CONTACTOR
- TS TIME SWITCH
- PC PHOTOCELL
- PUSH BUTTON/DOOR BELL
- TC TIMECLOCK
- R RELAY
- SOS AREA OF RESCUE ASSISTANCE
- B BELL

FIRE ALARM

- W WATER FLOW SWITCH
- SP SUPERVISORY SWITCH
- S SMOKE DETECTOR - MULTI CRITERIA DETECTOR
- S/# SMOKE DETECTOR - "SB" INDICATES IN INTEGRAL SOUNDER BASE "D" INDICATES DUCT TYPE "R" INDICATES 120 VOLT RESIDENTIAL TYPE
- H HEAT DETECTOR
- S/BT BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- S/BR BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- S FIRE ALARM SPEAKER STROBE / CEILING MOUNTED
- S FIRE ALARM SPEAKER STROBE / WALL MOUNTED
- S FIRE ALARM SPEAKER / CEILING MOUNT.
- S FIRE ALARM SPEAKER / WALL MOUNTED
- DH MAGNETIC DOOR HOLDER
- R AUXILIARY CONTROL RELAY
- FH FIRE FIGHTER HANDSET
- F FIRE ALARM PULL STATION +42" AFF
- F FIREMAN'S TELEPHONE JACK +42" AFF
- VISUAL FIRE ALARM (STROBE) CEILING MOUNT - 15/75cd U.N.O.
- VISUAL FIRE ALARM (STROBE) WALL MOUNT +80" AFF- 15/75cd U.N.O.
- AUDIO VISUAL FIRE ALARM HORN STROBE +80" AFF- 15/75cd U.N.O.
- AUDIO FIRE ALARM HORN +80" AFF
- FACP FIRE ALARM CONTROL PANEL
- ANN REMOTE FIRE ALARM ANNUNCIATOR PANEL
- RPS REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.
- FSD FIRE SMOKE DAMPER
- REMOTE LED INDICATOR LIGHT

SECURITY

- KP KEYPAD
- GB GLASS BREAK SENSOR
- H HOLD UP BUTTON
- DS INTERCOM DOOR STATION
- MS INTERCOM MASTER STATION
- LONG RANGE MOTION DETECTOR
- WALL MOUNTED MOTION DETECTOR
- CEILING MOUNTED MOTION DETECTOR
- IDP INTRUSION DETECTION PANEL
- DC DOOR CONTACT
- PB ADA AUTO DOOR OPEN BUTTON
- DR DOOR RELEASE BUTTON
- CR CARD READER
- CR WALL MOUNTED CARD READER

REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.

SWITCHES AND LIGHTING CONTROL DEVICES

ALL SWITCH TYPES AND SENSORS TYPES FOUND ON "LIGHTING CONTROL DEVICE SCHEDULE" LOCATED ON ELECTRICAL SCHEDULE SHEETS

SWITCH ANNOTATION AS FOLLOWS:

- TYPE, PER SCHEDULE
- NO TYPE INDICATES SINGLE POLE TOGGLE SWITCH
- SWITCH LEGS, PER PLAN, SHOWN HERE AS 3 (a,b,c)

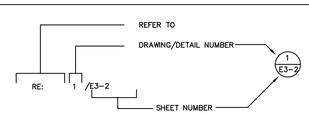
OCCUPANCY SENSOR ANNOTATION, AS FOLLOWS:

- OCx OCCUPANCY / VACANCE SENSOR 'x' INDICATES TYPE, PER SCHEDULE
- CEILING SENSOR
- WITH BRACKET INDICATES WALL / CORNER MOUNT

LIGHT SENSOR ANNOTATION, AS FOLLOWS:

- PC DIGITAL PHOTOSENSOR
- DS DAYLIGHT HARVESTING SENSOR

DRAWING/DETAIL REFERENCE KEY



GENERAL NOTES

A. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

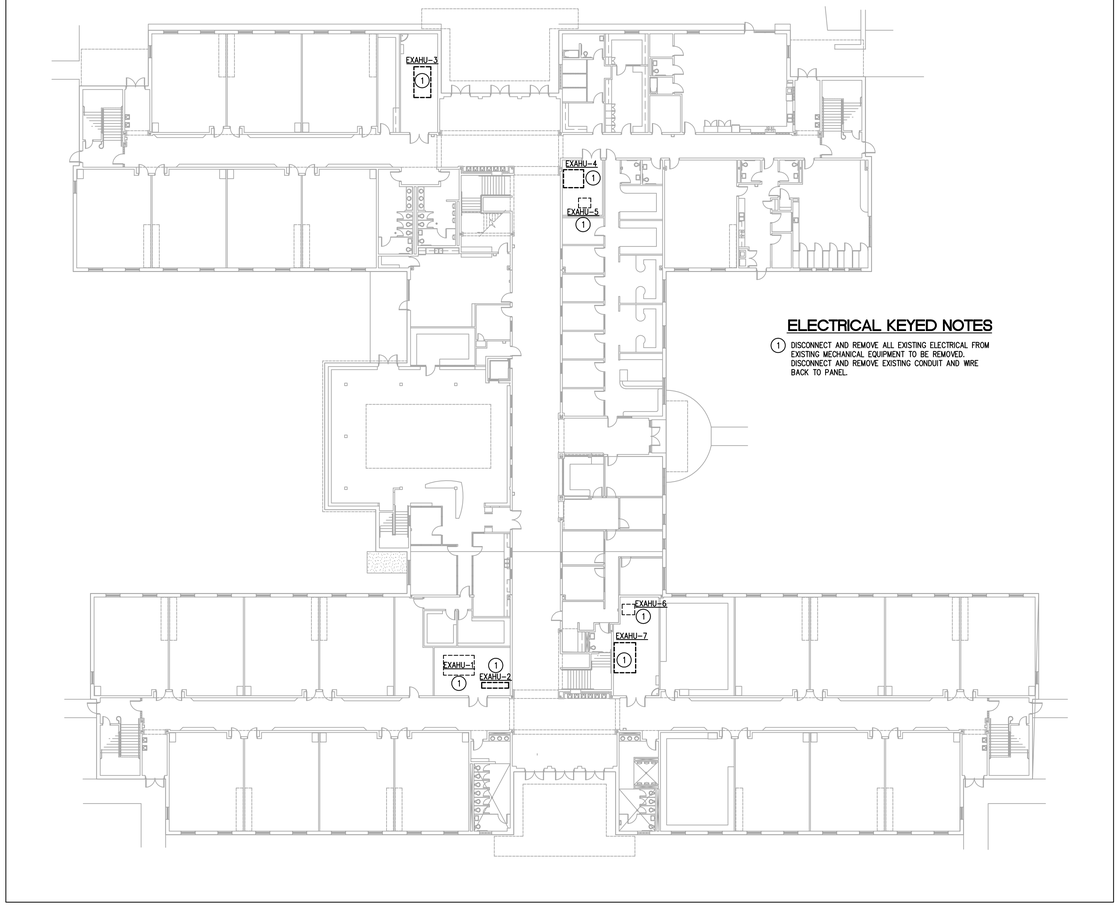
EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: ELECTRICAL SYMBOLS AND ABBREVIATIONS
SHEET NUMBER: E0.01

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---



ELECTRICAL KEYED NOTES

1. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL FROM EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRE BACK TO PANEL.

1 / EPD1.11 COMPOSITE LEVEL 1 ELECTRICAL POWER DEMOLITION PLAN

1"=20'-0"

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210.546.0200 v 210.546.0201 f
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EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

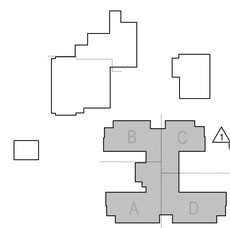
PROJECT NUMBER: 218007.002

SHEET TITLE:

COMPOSITE LEVEL 1 ELECTRICAL POWER DEMOLITION PLAN

SHEET NUMBER:

EPD1.11



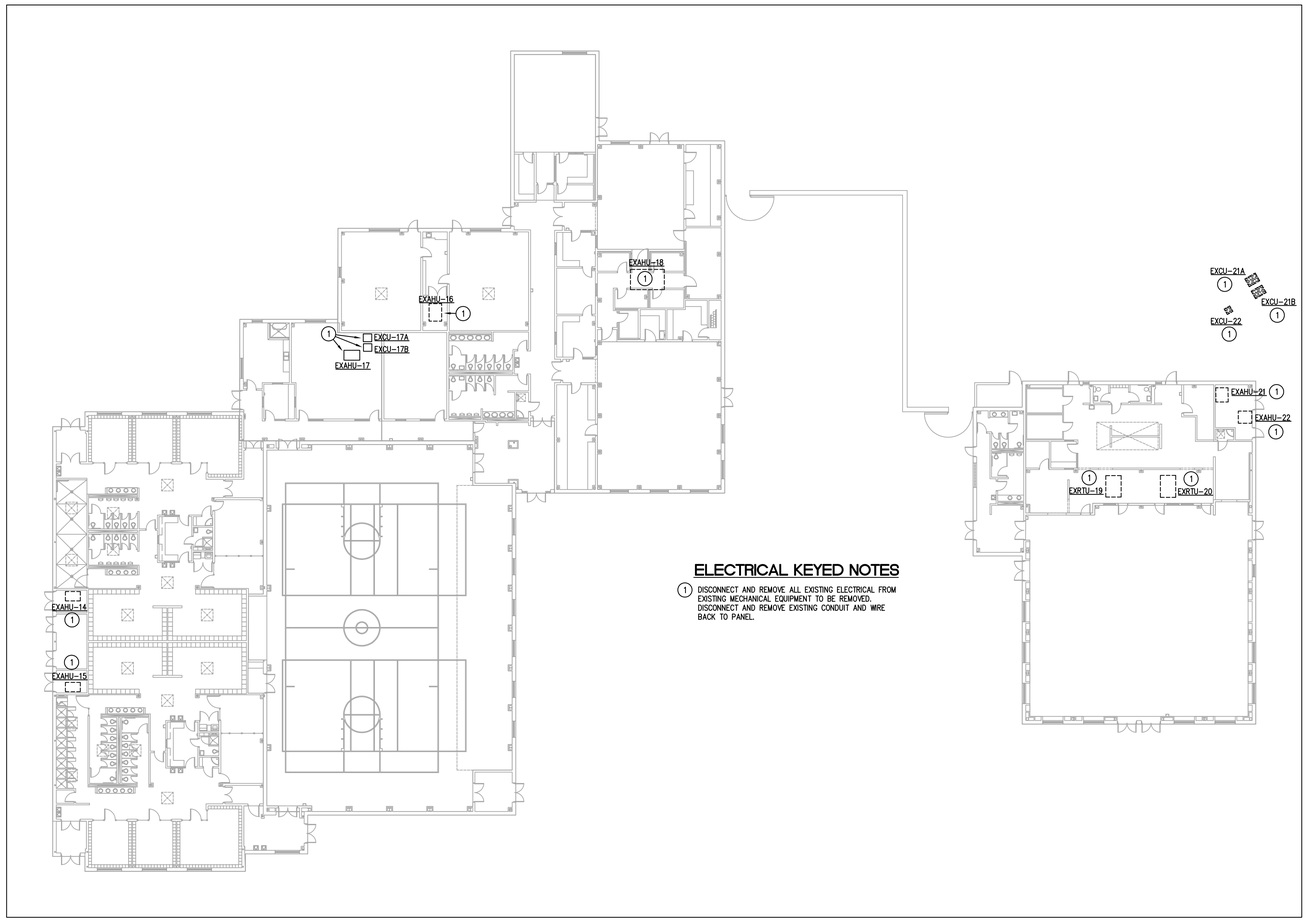
TRUE NORTH

PLAN NORTH

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---



ELECTRICAL KEYED NOTES

1. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL FROM EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRE BACK TO PANEL.

1 EPD1.12 COMPOSITE LEVEL 1 ELECTRICAL POWER DEMOLITION PLAN

1"=20'-0"

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

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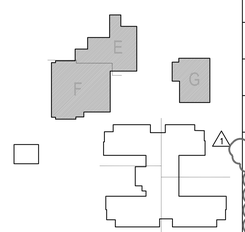
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542



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HA	JA	JB	---	---

DATE: 3/23/2022

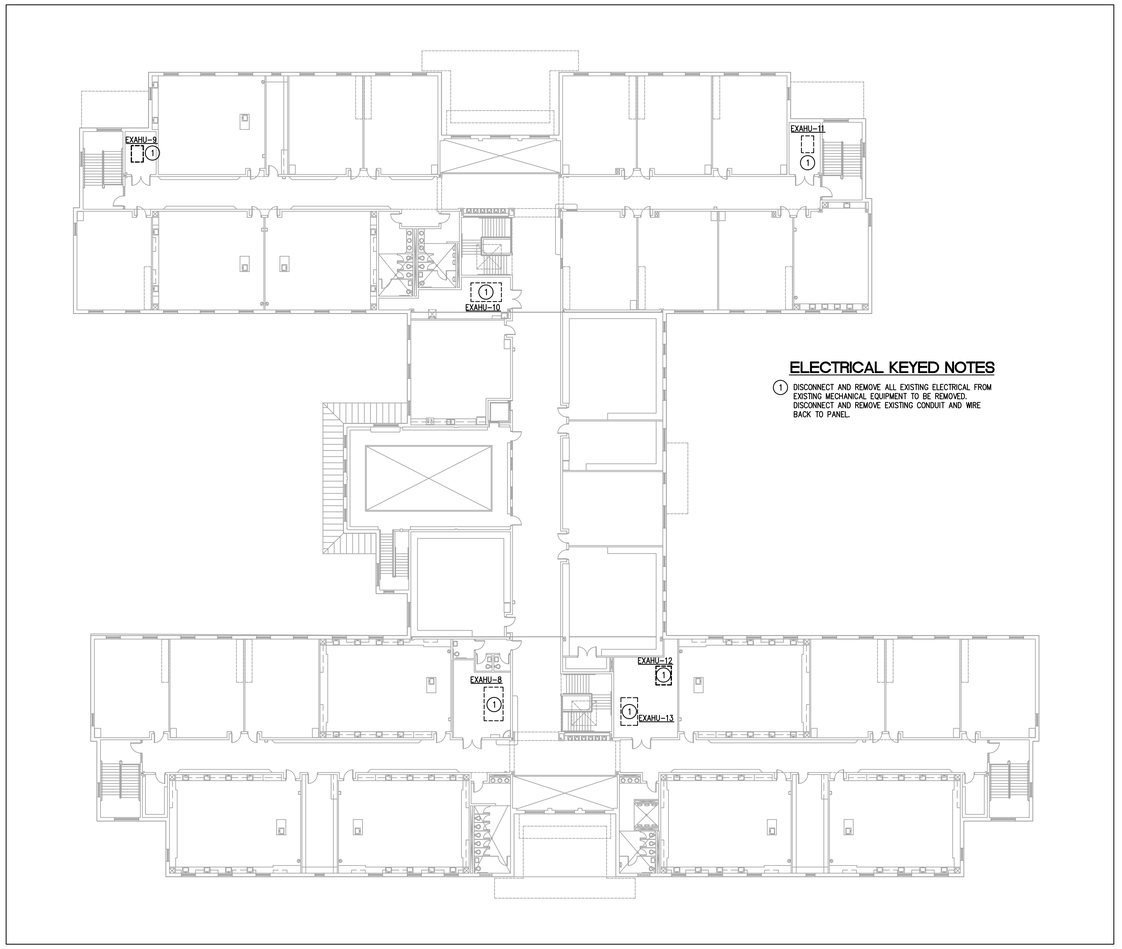
DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: COMPOSITE LEVEL 1 ELECTRICAL POWER DEMOLITION PLAN

SHEET NUMBER: EPD1.12



ELECTRICAL KEYED NOTES

1. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL FROM EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRE BACK TO PANEL.

1 EPD1.21 COMPOSITE LEVEL 2 ELECTRICAL POWER DEMOLITION PLAN

1"=20'-0"

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SEAL:

STATE OF TEXAS
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3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

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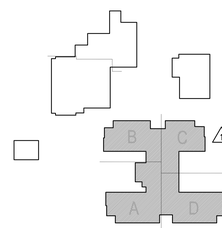
CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: COMPOSITE LEVEL 2 ELECTRICAL POWER DEMOLITION PLAN

SHEET NUMBER: EPD1.21



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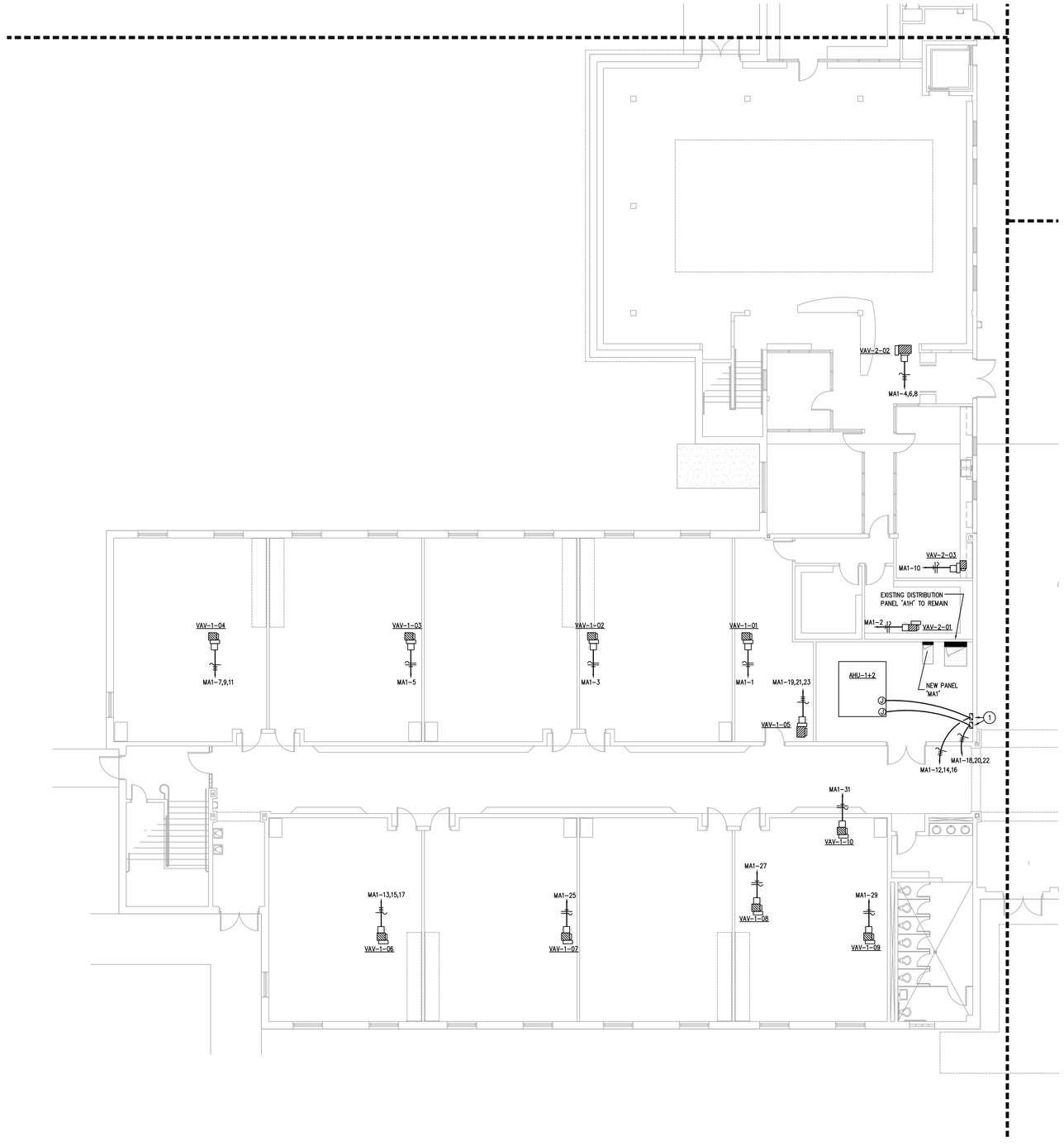

1 EP2.11A LEVEL 1 ELECTRICAL POWER PLAN - A

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

(1) VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.

(2) DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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SHEET TITLE:

LEVEL 1 ELECTRICAL POWER PLAN - A

SHEET NUMBER:

EP2.11A

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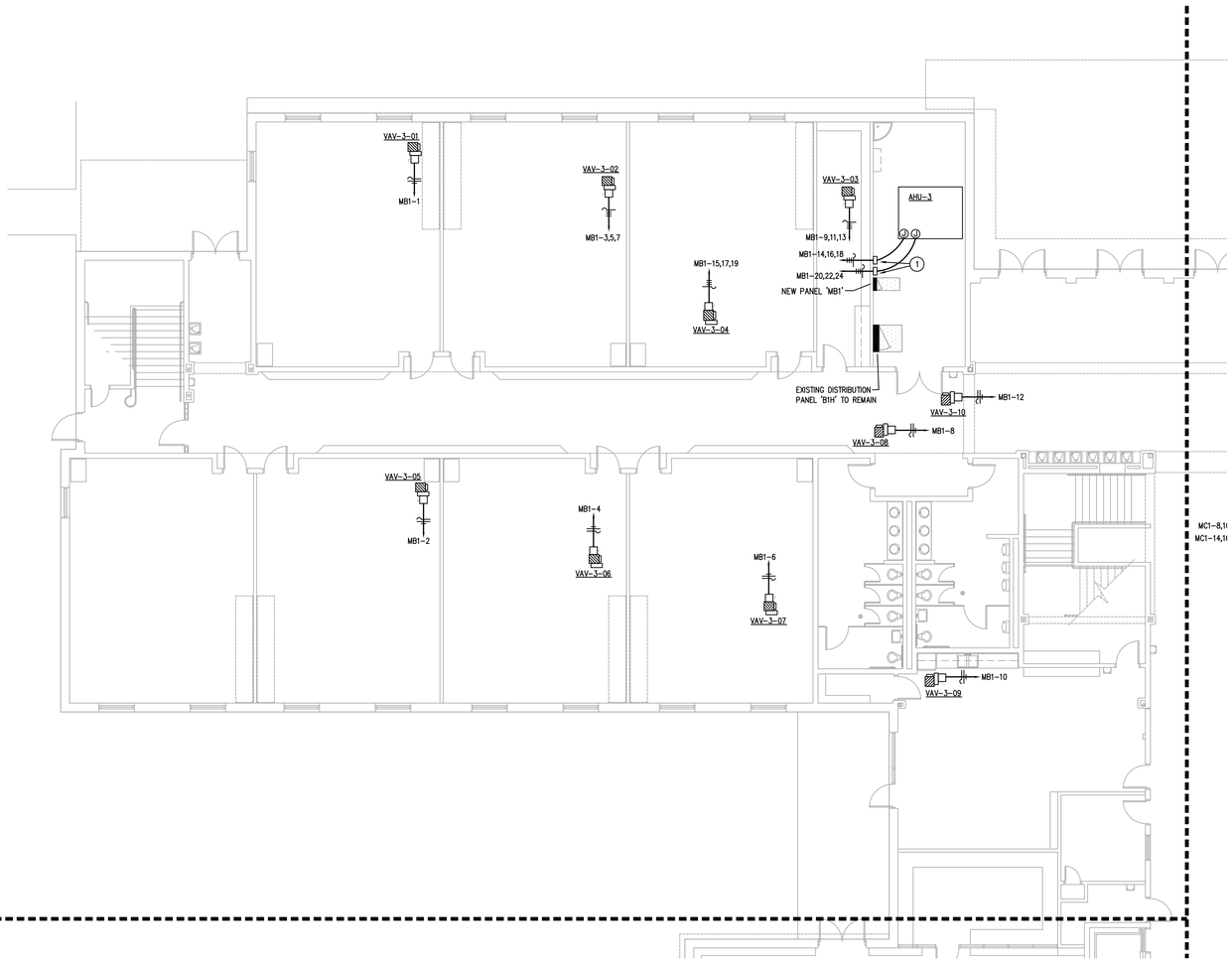

1 EP2.11B LEVEL 1 ELECTRICAL POWER PLAN - B
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

(1) VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.

(2) DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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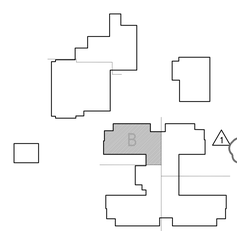
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 ELECTRICAL POWER PLAN - B
SHEET NUMBER: EP2.11B



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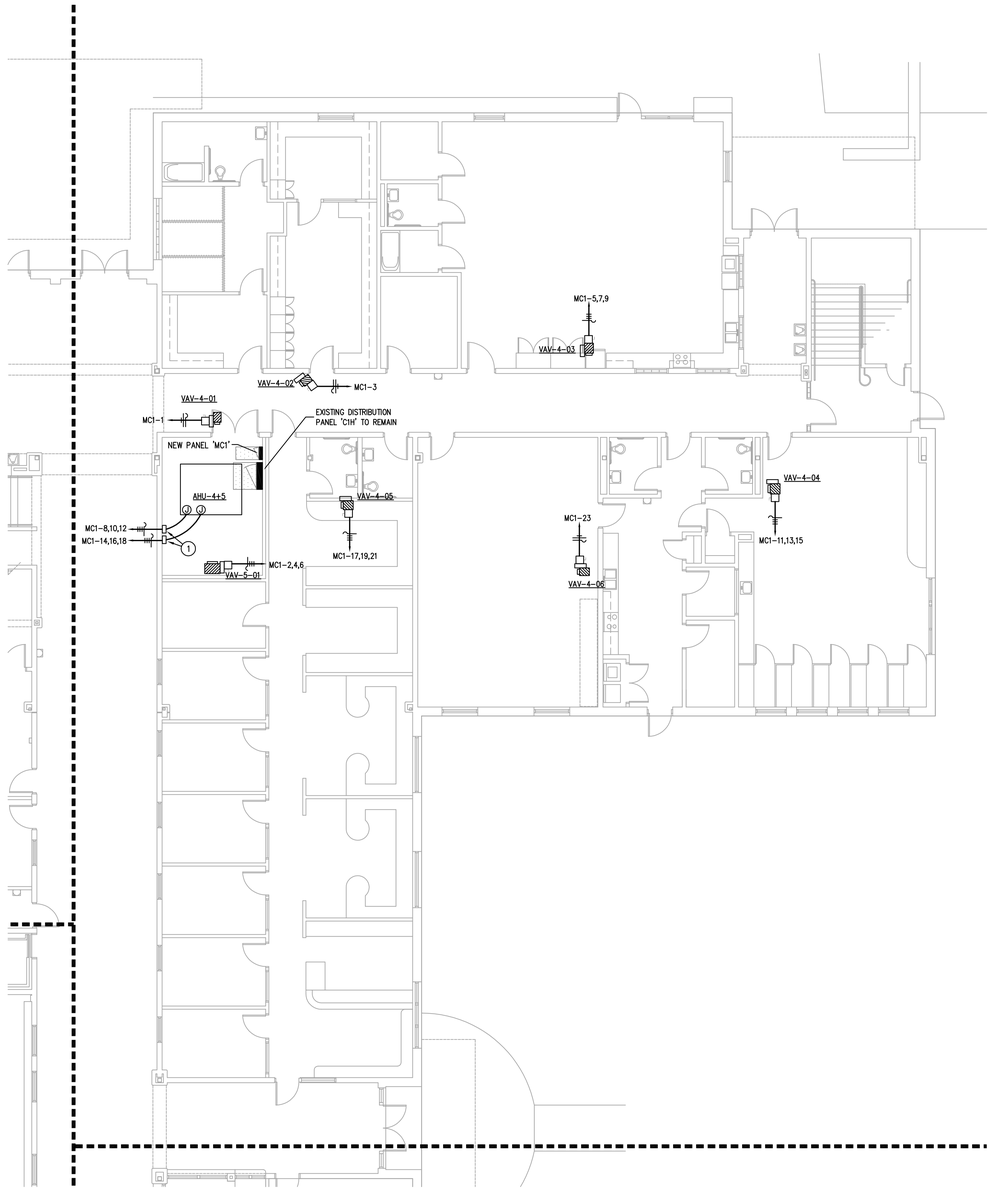

1 EP2.11C LEVEL 1 ELECTRICAL POWER PLAN - C
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

1. VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.
2. DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

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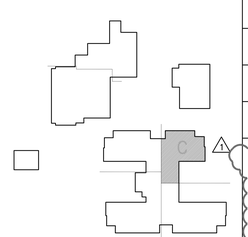
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 ELECTRICAL POWER PLAN - C
SHEET NUMBER: EP2.11C



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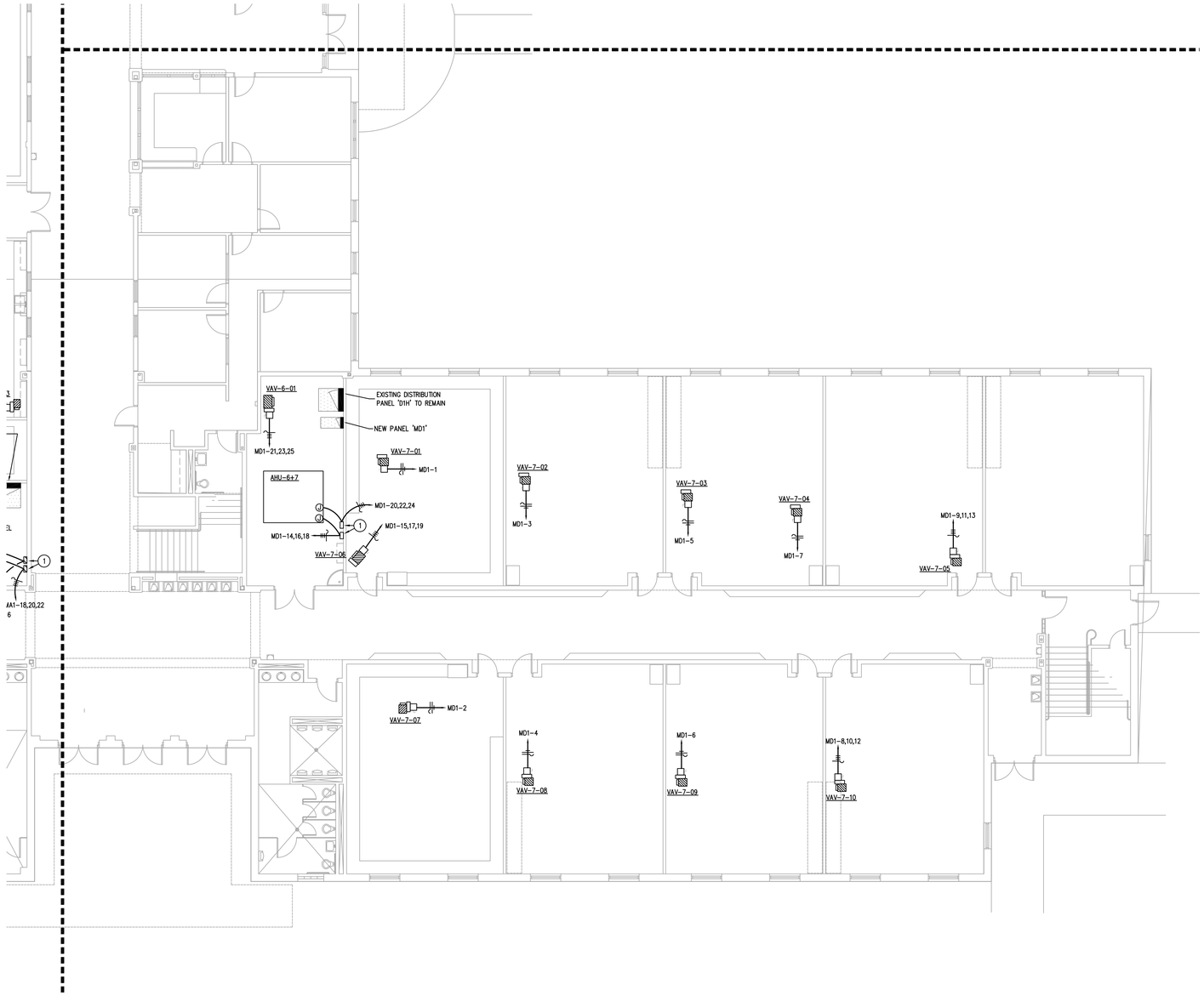

1 EP2.11D LEVEL 1 ELECTRICAL POWER PLAN - D
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

1. VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.
2. DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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SEAL:

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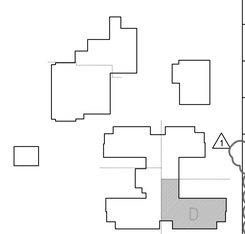
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 ELECTRICAL POWER PLAN - D
SHEET NUMBER: EP2.11D



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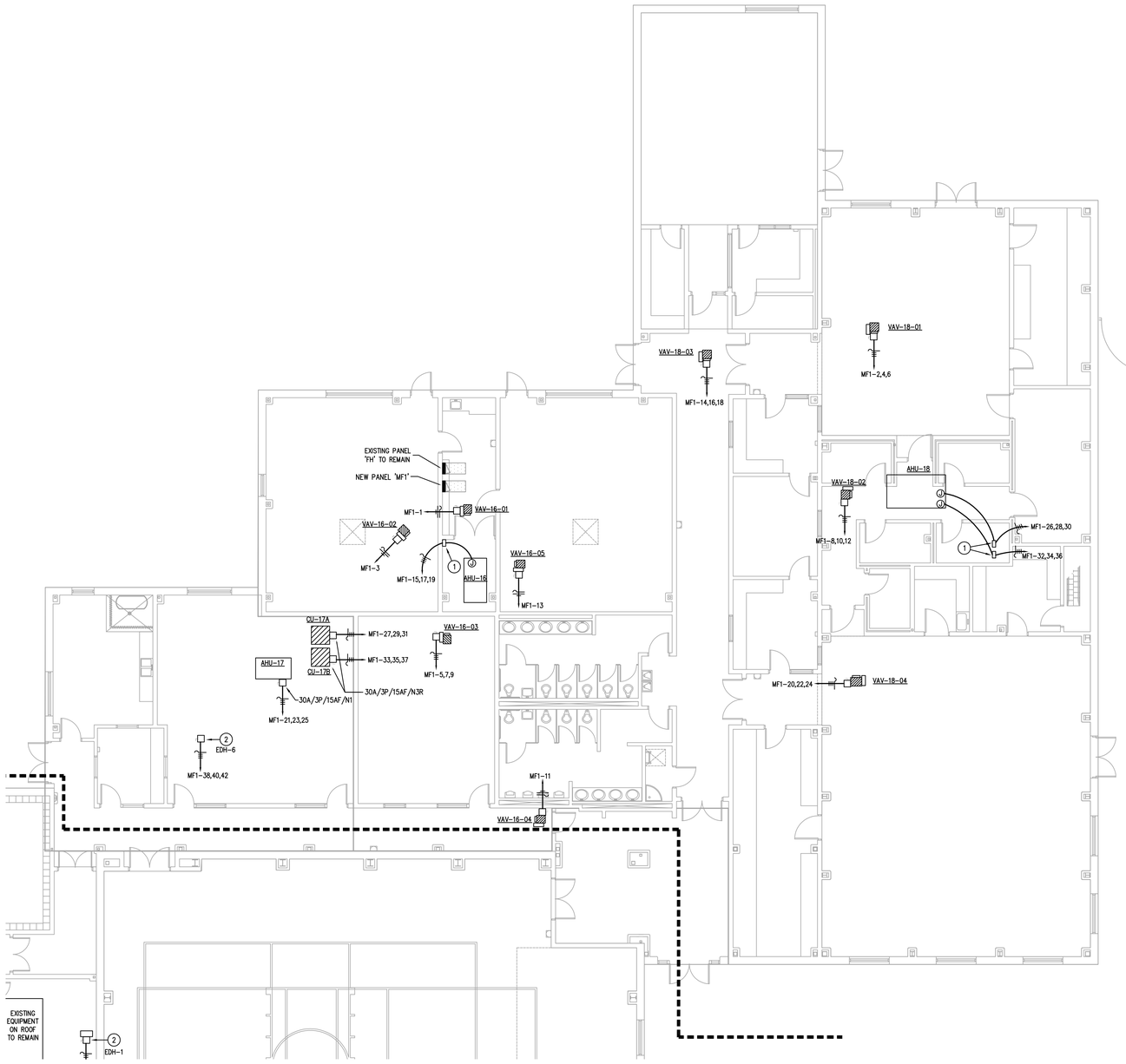

1 LEVEL 1 ELECTRICAL POWER PLAN - E
EP2.11E
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

1. VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.
2. DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 1 ELECTRICAL POWER PLAN - E
SHEET NUMBER: EP2.11E

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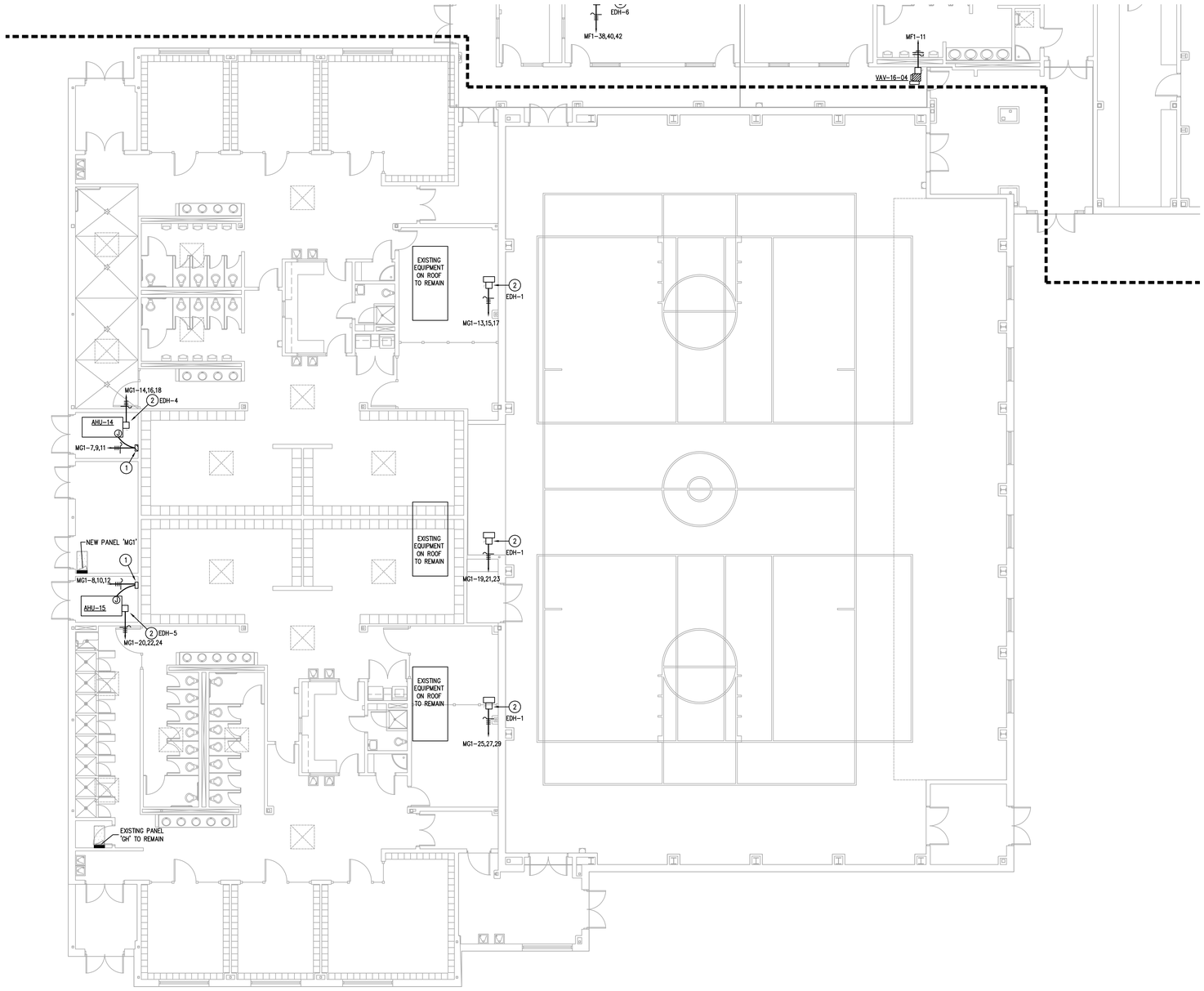

1 EP2.11F LEVEL 1 ELECTRICAL POWER PLAN - F

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

1. VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.
2. DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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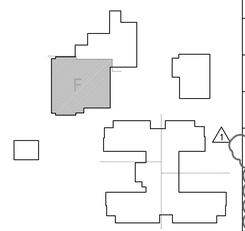

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DBR Project Number 218007.002

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DATE: 3/23/2022

DRAWN BY: DBR

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PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 ELECTRICAL POWER PLAN - F

SHEET NUMBER: EP2.11F

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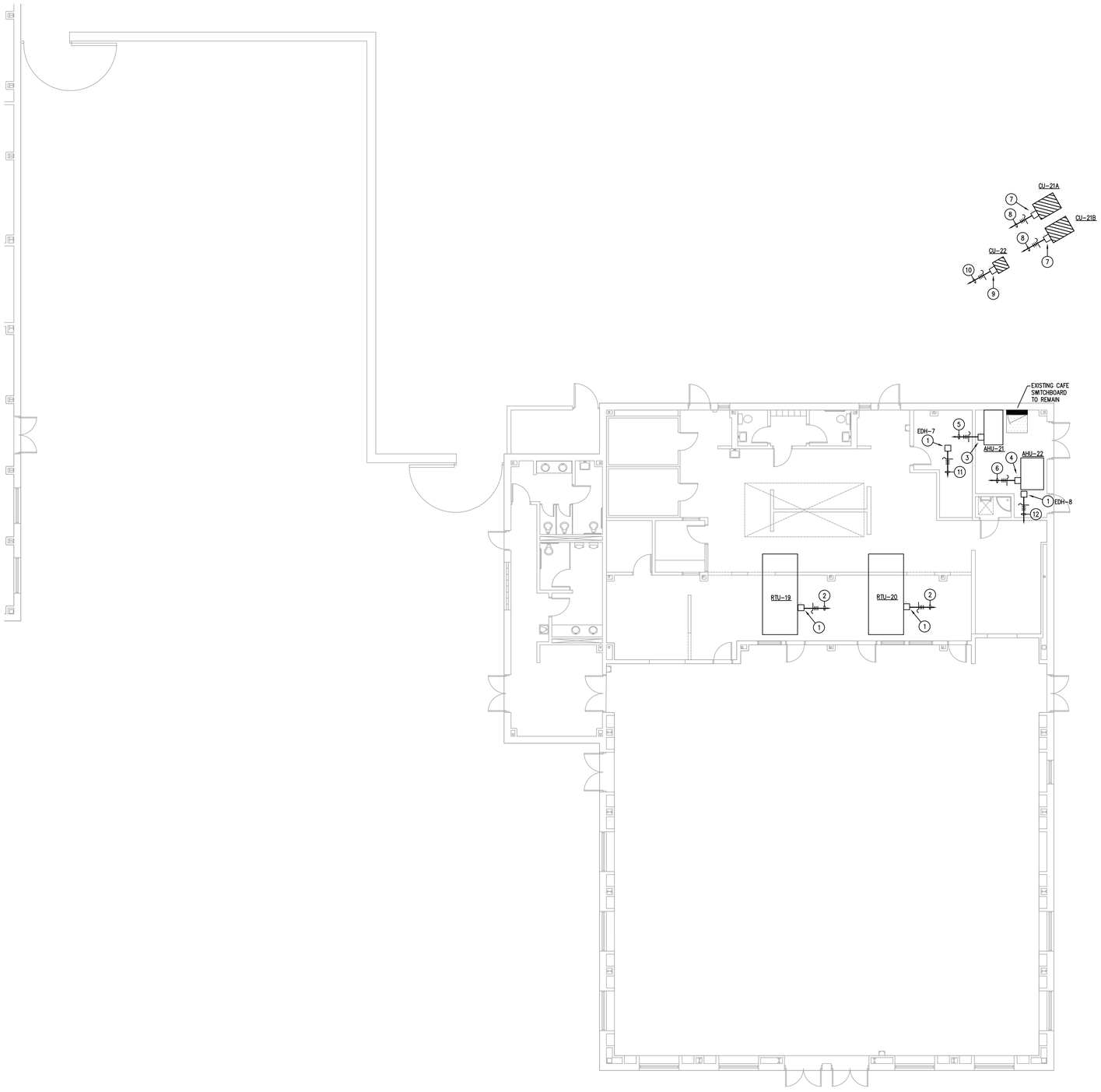


GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

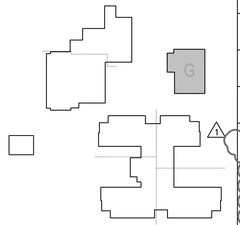
D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

1. INTERNALLY MOUNTED DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH FURNISHED EQUIPMENT.
2. 3#2/0, #6GND, 2"C TO EXISTING CAFETERIA SWITCHBOARD-'KP'. PROVIDE NEW 175A/3P BREAKER IN SWITCHBOARD-'KP'.
3. 30A/3P/25AF/N1 DISCONNECT SWITCH. PROVIDE CODE REQUIRED MOUNTING AND CLEARANCE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.
4. 30A/3P/15AF/N1 DISCONNECT SWITCH. PROVIDE CODE REQUIRED MOUNTING AND CLEARANCE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.
5. 3#10, #10GND, 3/4"C TO EXISTING CAFETERIA SWITCHBOARD-'KP'. PROVIDE NEW 25A/3P BREAKER IN SWITCHBOARD-'KP'.
6. 3#12, #12GND, 3/4"C TO EXISTING CAFETERIA SWITCHBOARD-'KP'. PROVIDE NEW 15A/3P BREAKER IN SWITCHBOARD-'KP'.
7. 60A/3P/60AF/N3R DISCONNECT SWITCH. PROVIDE CODE REQUIRED MOUNTING AND CLEARANCE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.
8. 3#6, #10GND, 1"C TO EXISTING PANEL-'CK'. PROVIDE NEW 60A/3P BREAKER IN EXISTING PANEL-'CK'.
9. 60A/3P/35AF/N3R DISCONNECT SWITCH. PROVIDE CODE REQUIRED MOUNTING AND CLEARANCE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.
10. 3#8, #10GND, 1"C TO EXISTING PANEL-'CK'. PROVIDE NEW 35A/3P BREAKER IN EXISTING PANEL-'CK'.
11. 3#6, #10GND, 1"C TO EXISTING SWITCHBOARD 'KP'. PROVIDE NEW 60A/3P BREAKER IN EXISTING SWITCHBOARD 'KP'.
12. 3#8, #10GND, 1"C TO EXISTING SWITCHBOARD 'KP'. PROVIDE NEW 50A/3P BREAKER IN EXISTING SWITCHBOARD 'KP'.

1 / EP2.12G — LEVEL 1 ELECTRICAL POWER PLAN - G

1/8" = 1'-0"



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Houston, Texas 77042
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TBPE Firm Registration NO. 2234

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SEAL:

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ROBERTO H. TIJERINA
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PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 1 ELECTRICAL POWER PLAN - G

SHEET NUMBER: EP2.12G

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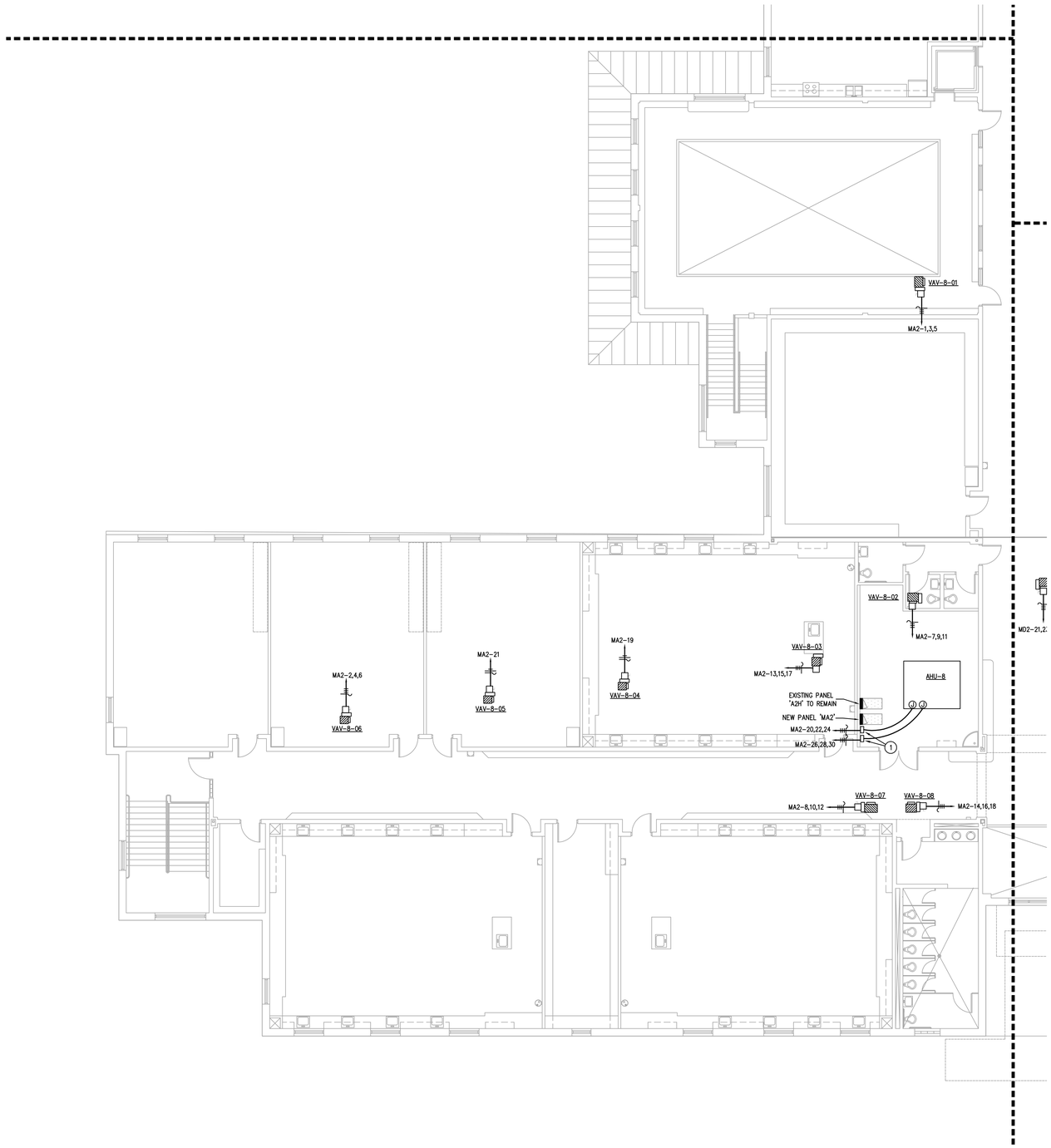

1 EP2.21A **LEVEL 2 ELECTRICAL POWER PLAN - A**
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

1. VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.
2. DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

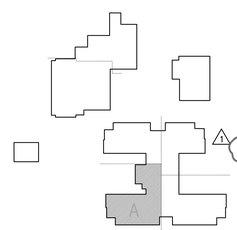
No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: LEVEL 2 ELECTRICAL POWER PLAN - A
SHEET NUMBER: EP2.21A



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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
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DBR Project Number 218007.002

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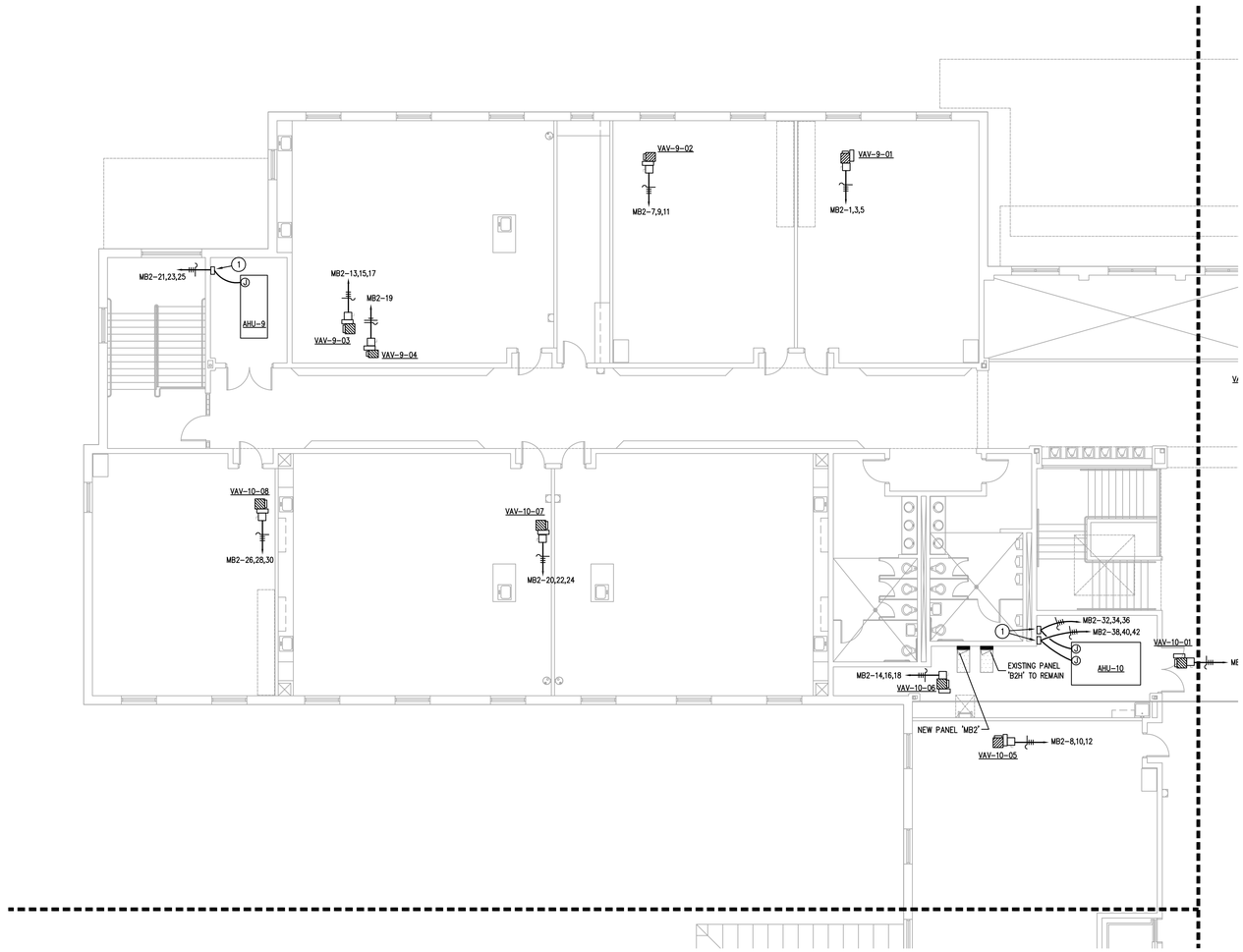

1 EP2.21B LEVEL 2 ELECTRICAL POWER PLAN - B

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

(1) VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.

(2) DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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San Antonio, Texas 78216
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3105 N DOOLITTLE RD, EDINBURG, TX 78542

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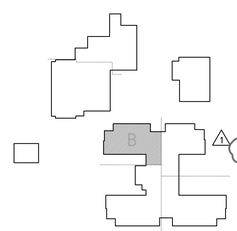
PROJECT NUMBER: 218007.002

SHEET TITLE: LEVEL 2 ELECTRICAL POWER PLAN - B

SHEET NUMBER: EP2.21B



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Houston, Texas 77042
713.914.0888 p 713.914.0886 f
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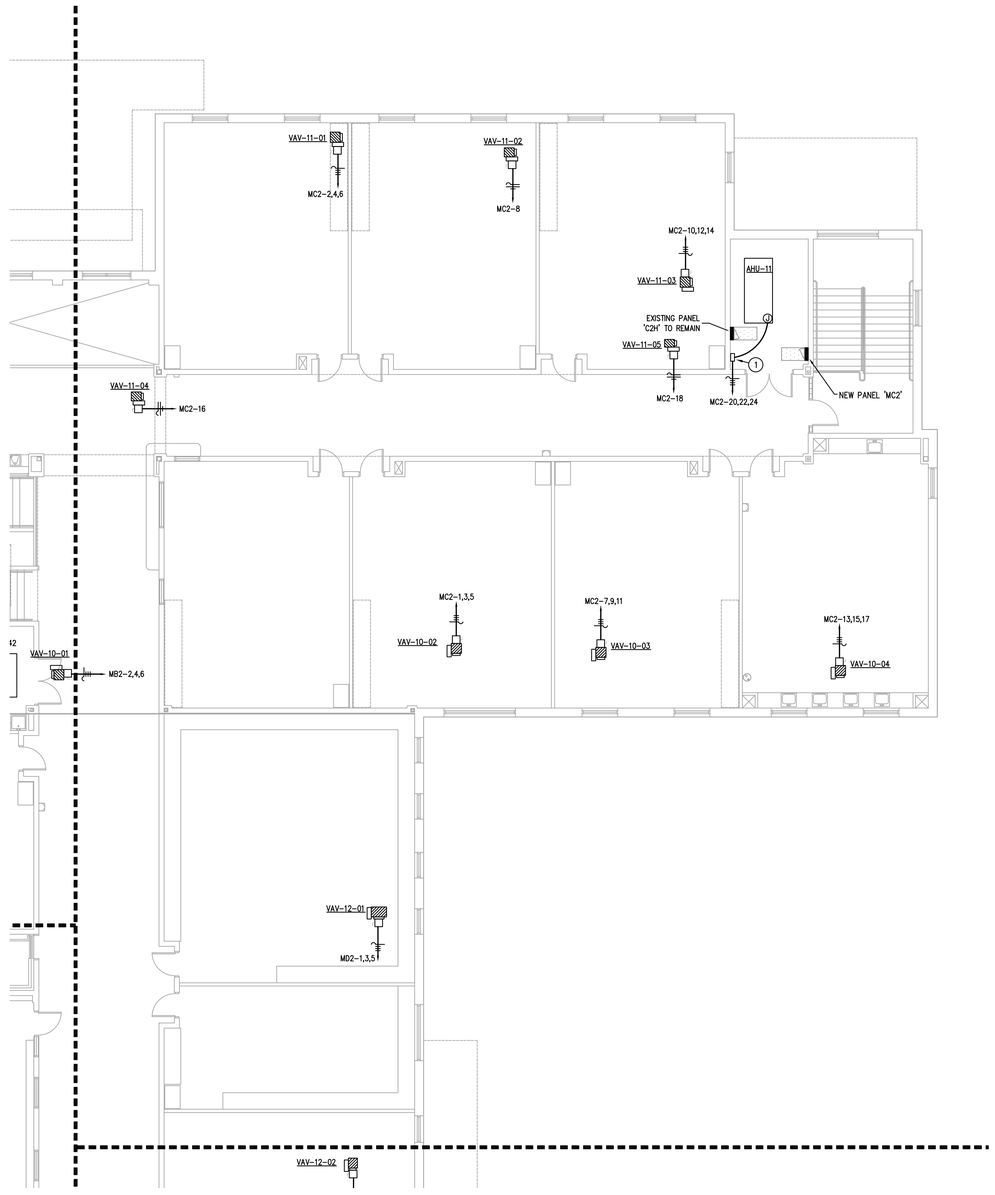

1 EP2.21C LEVEL 2 ELECTRICAL POWER PLAN - C

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

(1) VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.

(2) DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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San Antonio, Texas 78216
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MEMORIAL MS - HVAC IMPROVEMENTS

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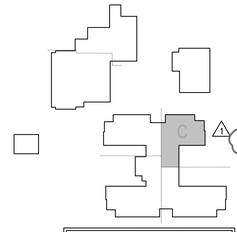

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CHECKED BY: DBR

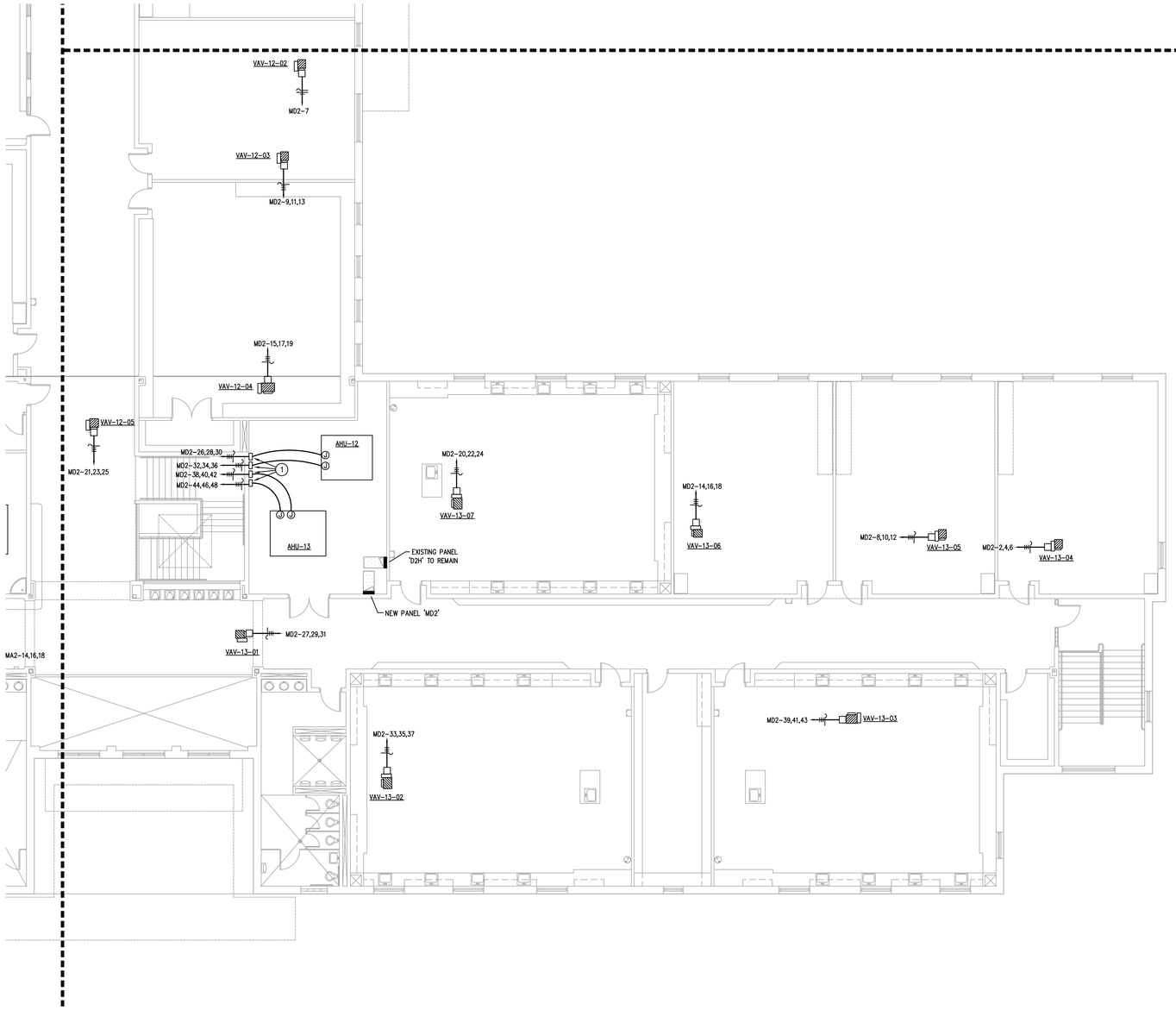
PROJECT NUMBER: 218007.002

SHEET TITLE:

LEVEL 2 ELECTRICAL POWER PLAN - C

SHEET NUMBER:

EP2.21C



1 EP2.21D LEVEL 2 ELECTRICAL POWER PLAN - D

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT CONNECTION LOCATION WITH FURNISHED EQUIPMENT.

B. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2014 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

C. ALL VAV BOXES ARE SUPPLIED WITH INTEGRAL DISCONNECT SWITCH. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

D. CONTRACTOR SHALL NOTE THAT ALL MATERIALS BEING USED WITHIN THE CEILING PLENUM MUST BE PLENUM RATED.

ELECTRICAL KEYED NOTES

(1) VFD. VERIFY EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL. VFD SHALL BE PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL. VFD SHALL SERVE AS DISCONNECTING MEANS.

(2) DISCONNECT SWITCH PROVIDED WITH EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL.

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San Antonio, Texas 78216
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EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

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PROJECT NUMBER: 218007.002

SHEET TITLE:

LEVEL 2 ELECTRICAL POWER PLAN - D

SHEET NUMBER:

EP2.21D

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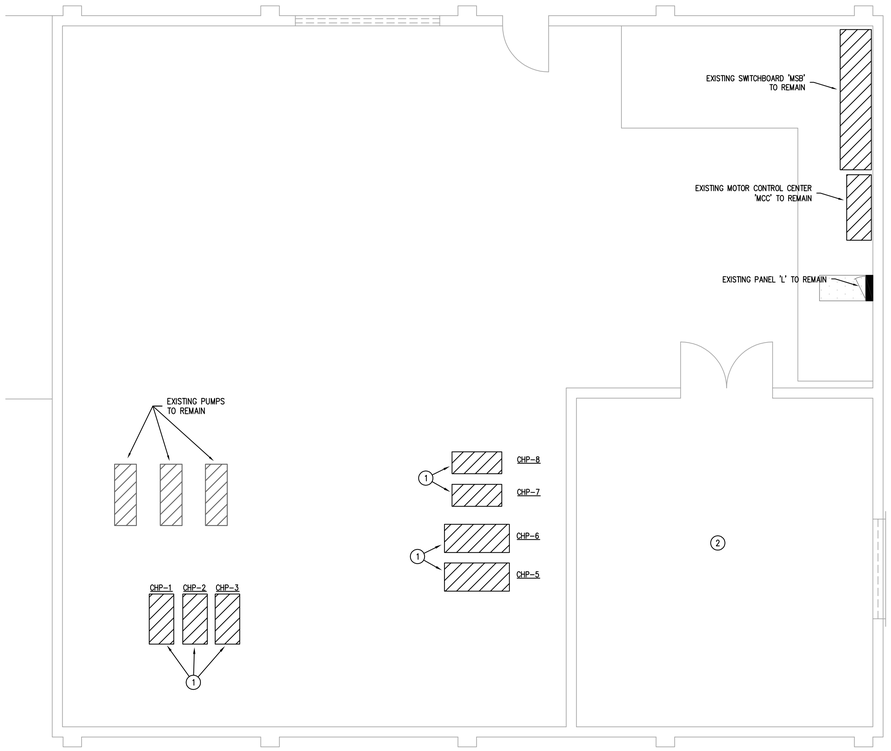
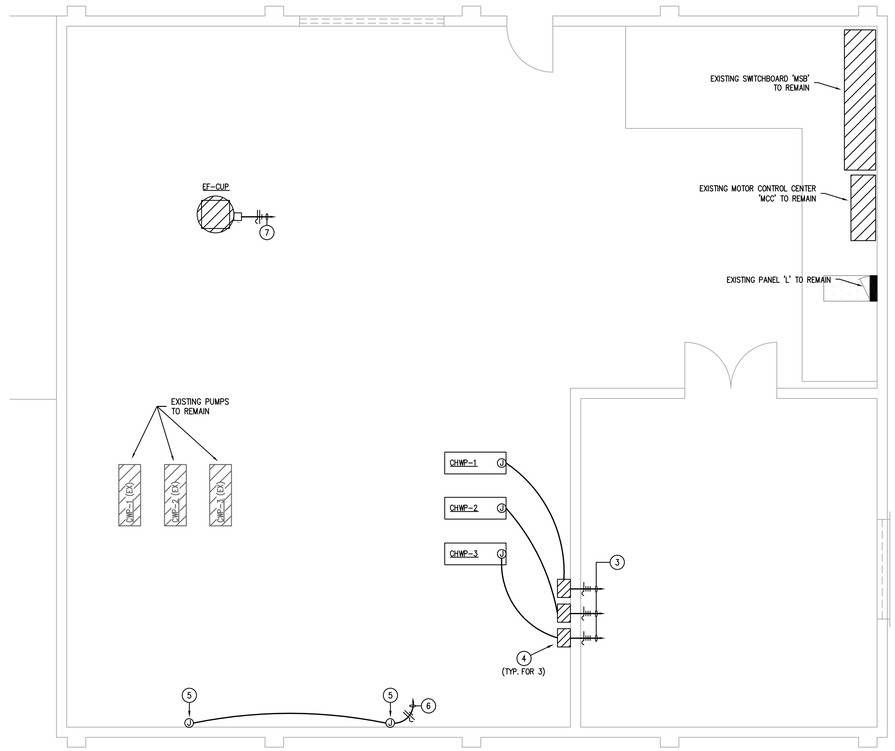
Plotted: Mar 23, 2022, 6:38 PM by user: jholtz - Saved: 3/23/2022 by user: jholtz
C:\Users\jholtz\ACCDocs\DBR Inc\218007.002 - ECISD - District Wide HVAC Improvements - MMS\Project Files\Drawings\0EP-218007-01.dwg

ELECTRICAL KEYED NOTES

1. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ELECTRICAL ASSOCIATED WITH EXISTING EQUIPMENT TO BE REMOVED. DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRE BACK TO SOURCE.
2. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ELECTRICAL ASSOCIATED WITH EXISTING BOILER EQUIPMENT TO BE REMOVED. DISCONNECT AND REMOVE ALL EXISTING CONDUIT AND WIRE.
3. HOMERUN TO MAIN SWITCHBOARD 'MSB'. SEE ONE-LINE DIAGRAM FOR CIRCUIT INFORMATION.
4. VFD PROVIDED AND INSTALLED BY MECHANICAL. WIRED BY ELECTRICAL. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR.
5. MOTORIZED DAMPER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR.
6. 2#12, #12G, 3/4"C TO PANEL 'L'. PROVIDE 20A/1P BREAKER.
7. 2#10, #10G, 3/4"C TO PANEL 'L'. PROVIDE 25A/1P BREAKER.



1 E3.01 CENTRAL PLANT ENLARGED DEMOLITION POWER PLAN
1/4" = 1'-0"



2 E3.01 CENTRAL PLANT ENLARGED POWER PLAN
1/4" = 1'-0"

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EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: ELECTRICAL ENLARGED POWER PLANS
SHEET NUMBER: E3.01

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Houston, Texas 77042
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DBR Project Number 218007.002

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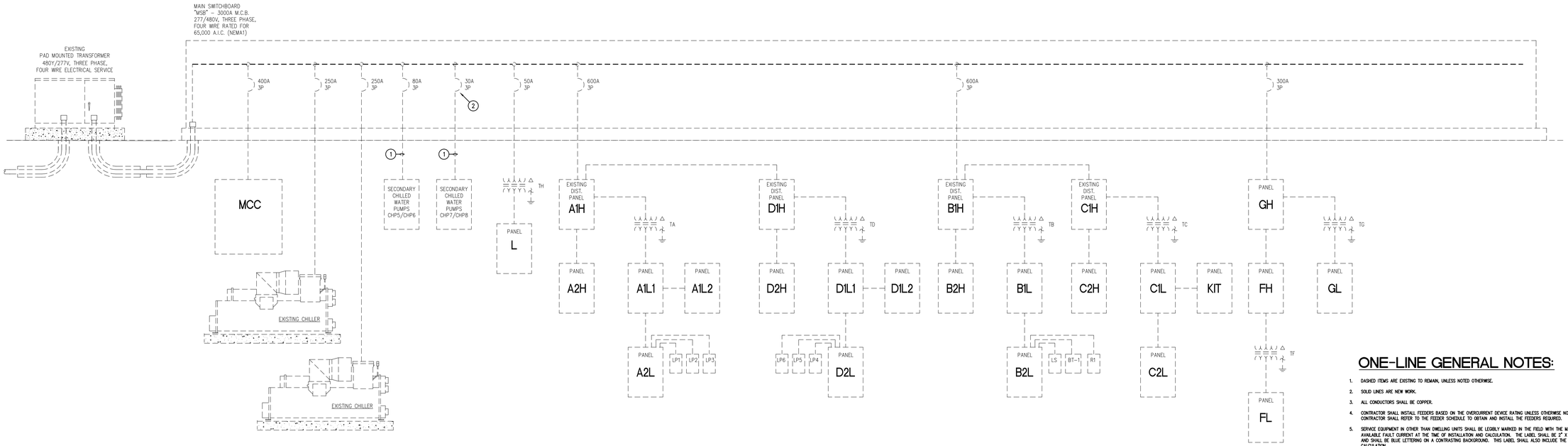
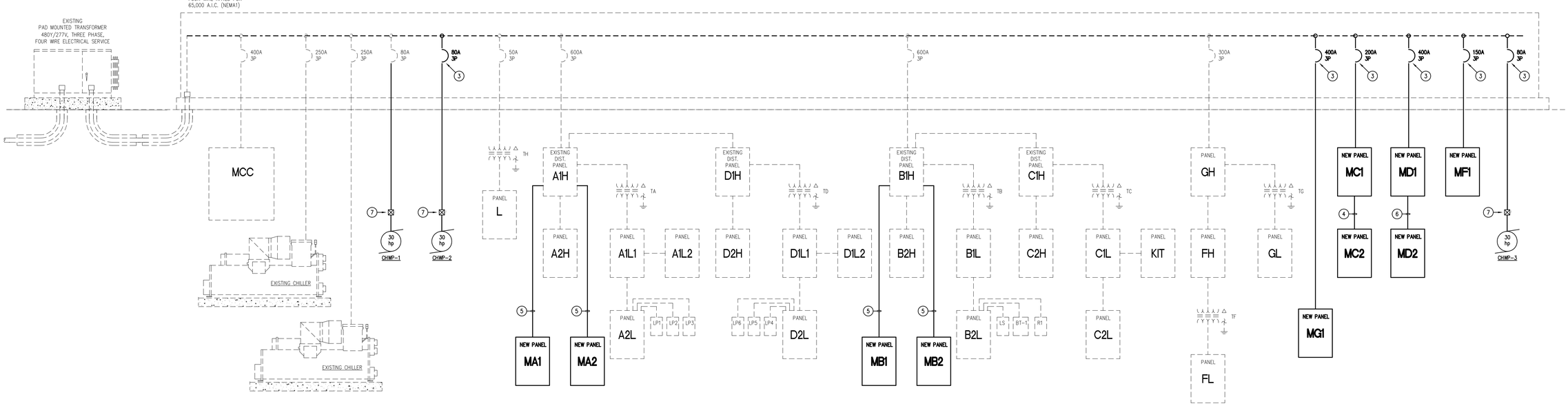


1 E4.01 **ONE-LINE DIAGRAM - SWITCHBOARD 'MSB' - EXISTING CONDITIONS**

N.T.S.

ONE-LINE GENERAL NOTES:

1. DASHED ITEMS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.
2. SOLID LINES ARE NEW WORK.
3. ALL CONDUCTORS SHALL BE COPPER.
4. CONTRACTOR SHALL INSTALL FEEDERS BASED ON THE OVERCURRENT DEVICE RATING UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE TO OBTAIN AND INSTALL THE FEEDERS REQUIRED.
5. SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2" X 3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.
6. A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2 X 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.
7. NEW BREAKERS SHALL BE OF THE SAME MANUFACTURER AS THE EXISTING SWITCHBOARD OR PANEL IN WHICH THEY ARE INSTALLED.
8. SEE SHEET E4.02 FOR FEEDER SCHEDULE.



2 E4.01 **ONE-LINE DIAGRAM - SWITCHBOARD 'MSB' - NEW CONDITIONS**

N.T.S.

ONE-LINE KEYED NOTES:

1. EXISTING CONDUIT AND WIRE TO BE DISCONNECTED AND REMOVED.
2. EXISTING BREAKER TO BE REPLACED.
3. PROVIDE NEW BREAKER, SIZE AS SHOWN.
4. NEW 100A FEEDER, PROVIDE NEW 100A/3P BREAKER IN EXISTING PANEL. SEE FEEDER SCHEDULE FOR FEEDER SIZE.
5. NEW 150A FEEDER, PROVIDE NEW 150A/3P BREAKER IN EXISTING PANEL. SEE FEEDER SCHEDULE FOR FEEDER SIZE
6. NEW 200A FEEDER, PROVIDE NEW 200A/3P BREAKER IN EXISTING PANEL. SEE FEEDER SCHEDULE FOR FEEDER SIZE
7. NEW VFD PROVIDED AND INSTALLED BY MECHANICAL, WIRED BY ELECTRICAL.

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
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210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
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EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

MEMORIAL MS - HVAC IMPROVEMENTS

3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022

DRAWN BY: DBR

CHECKED BY: DBR

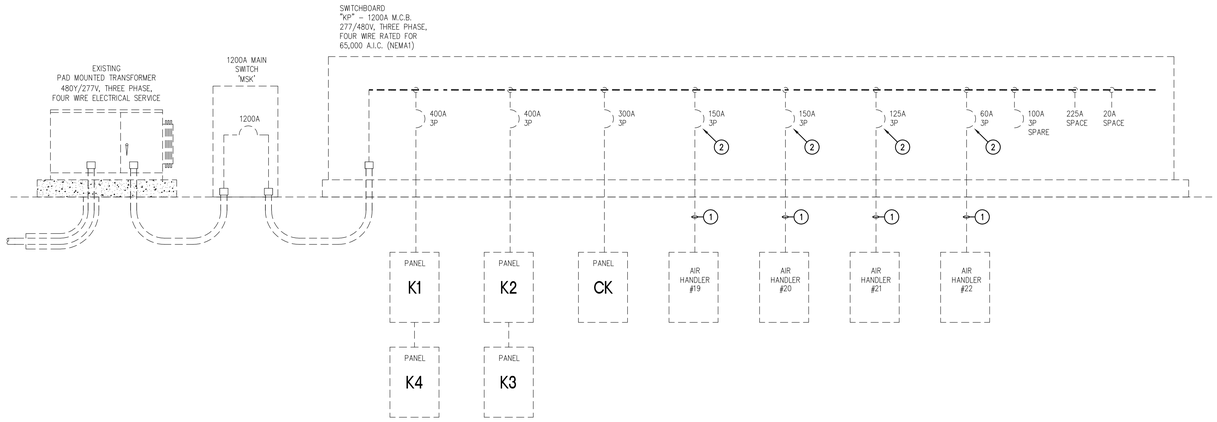
PROJECT NUMBER: 218007.002

SHEET TITLE: 1

ELECTRICAL ONE-LINE DIAGRAM

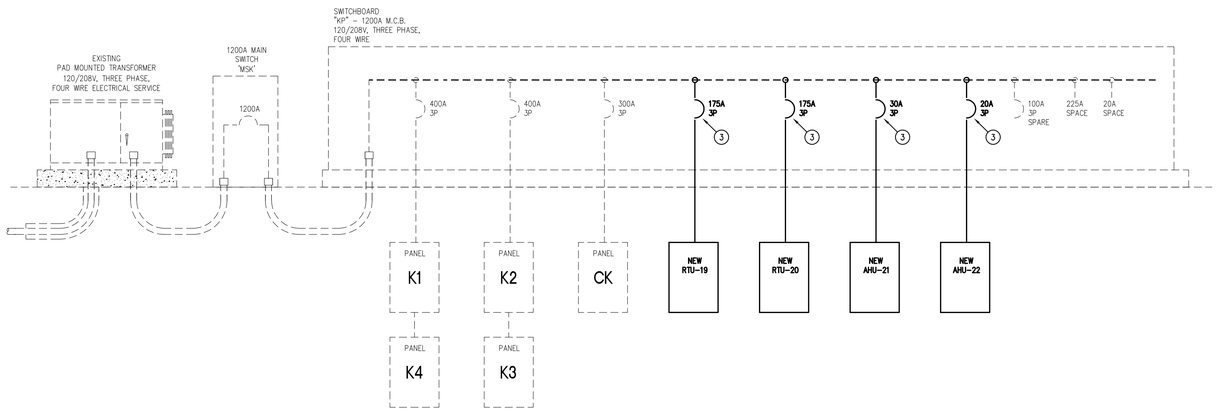
SHEET NUMBER:

E4.01



1 E4.02 **ONE-LINE DIAGRAM - SWITCHBOARD 'KP' - EXISTING CONDITIONS**

N.T.S.



2 E4.02 **ONE-LINE DIAGRAM - SWITCHBOARD 'KP' - NEW CONDITIONS**

N.T.S.

ONE-LINE GENERAL NOTES:

1. DASHED ITEMS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.
2. SOLID LINES ARE NEW WORK.
3. ALL CONDUCTORS SHALL BE COPPER.
4. CONTRACTOR SHALL INSTALL FEEDERS BASED ON THE OVERCURRENT DEVICE RATING UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE TO OBTAIN AND INSTALL THE FEEDERS REQUIRED.
5. SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2" X 3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.
6. A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2 X 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.
7. NEW BREAKERS SHALL BE OF THE SAME MANUFACTURER AS THE EXISTING SWITCHBOARD OR PANEL IN WHICH THEY ARE INSTALLED.

ONE-LINE KEYED NOTES:

1. EXISTING CONDUIT AND WIRE TO BE DISCONNECTED AND REMOVED.
2. EXISTING BREAKER TO BE REPLACED.
3. PROVIDE NEW BREAKER, SIZE AS SHOWN.

SERVICE LATERAL AND FEEDER SCHEDULE (COPPER ONLY)

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

1. ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
2. DO NOT GROUND CONDUCTOR IN SERVICE LATERAL FROM POWER COMPANY TRANSFORMER.
3. CONTRACTOR SHALL INCREASE FEEDERS IN SIZE TO COMPENSATE FOR VOLTAGE DROP. FEEDERS SHALL BE SIZED TO MAINTAIN A 2% OR LESS VOLTAGE DROP ON FEEDERS AND A 3% OR LESS VOLTAGE DROP ON BRANCH CIRCUITS.

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210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
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3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
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PROJECT NUMBER: 218007.002
SHEET TITLE: ELECTRICAL ONE-LINE DIAGRAM
SHEET NUMBER: E4.02

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9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
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DBR Project Number 218007.002

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Panelboard MA1

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 225 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
	5000	VAV-1-01	H	10	25/1	1	A	2	20/1	12	H	VAV-02-01	3000	
	5000	VAV-1-02	H	10	25/1	3	B	4			H		4000	
	5000	VAV-1-03	H	10	25/1	5	C	6	20/3	12	H	VAV-02-02	4000	
	2000		H			7	A	8			H		4000	
	2000	VAV-01-04	H	12	20/3	9	B	10	20/1	12	H	VAV-02-03	4000	
	2000		H			11	C	12			F		1856	
	3333		H			13	A	14	15/3	12	F	AHU-1+2 (CIRCUIT #1)	1856	
	3333	VAV-01-05	H	12	20/3	15	B	16			F		1856	
	3333		H			17	C	18			F		1856	
	2000		H			19	A	20	15/3	12	F	AHU-1+2 (CIRCUIT #2)	1856	
	2000	VAV-01-06	H	12	20/3	21	B	22			F		1856	
	2000		H			23	C	24				SPACE		
	5000	VAV-01-07	H	10	25/1	25	A	26				SPACE		
	5000	VAV-01-08	H	10	25/1	27	B	28				SPACE		
	5000	VAV-01-09	H	10	25/1	29	C	30				SPACE		
	5000	VAV-01-10	H	10	25/1	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		
	56,999	Subtotal										Subtotal	30,136	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	75,999	100%	75,999		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	11,136	100%	11,136	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 87,135 VA = 104.9 AMPS
Total Load (Diversified)= 87,135 VA = 104.9 AMPS

Location of Panel:

Panelboard MB1

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 225 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
	5000	VAV-3-01	H	10	25/1	1	A	2	25/1	10	H	VAV-3-05	5000	
	2000		H			3	B	4	25/1	10	H	VAV-3-06	5000	
	2000	VAV-3-02	H	12	20/3	5	C	6	25/1	10	H	VAV-3-07	5000	
	2000		H			7	A	8	25/1	10	H	VAV-3-08	5000	
	2000		H			9	B	10	25/1	10	H	VAV-3-09	5000	
	2000	VAV-3-03	H	12	20/3	11	C	12	25/1	10	H	VAV-3-10	5000	
	2000		H			13	A	14			F		2493	
	3000		H			15	B	16	20/3	12	F	AHU-3 (CIRCUIT #1)	2493	
	3000	VAV-3-04	H	12	20/3	17	C	18			F		2493	
	3000		H			19	A	20			F		2493	
						21	B	22	20/3	12	F	AHU-3 (CIRCUIT #2)	2493	
						23	C	24			F		2493	
						25	A	26						
						27	B	28						
						29	C	30						
						31	A	32						
						33	B	34						
						35	C	36						
						37	A	38						
						39	B	40						
						41	C	42						
	26,000	Subtotal										Subtotal	44,958	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	56,000	100%	56,000		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	14,958	100%	14,958	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 70,958 VA = 85.4 AMPS
Total Load (Diversified)= 70,958 VA = 85.4 AMPS

Location of Panel:

Panelboard MC1

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 225 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
	3000	VAV-4-01	H	12	20/1	1	A	2			H		5668	
	3000	VAV-4-02	H	12	20/1	3	B	4	30/3	10	H	VAV-5-01	5668	
	2000		H			5	C	6			H		5668	
	2000	VAV-4-03	H	12	20/3	7	A	8			F		1634	
	2000		H			9	B	10	15/3	12	F	AHU-4+5 (CIRCUIT #1)	1634	
	3000		H			11	C	12			F		1634	
	3000	VAV-4-04	H	12	20/3	13	A	14			F		1634	
	3000		H			15	B	16	15/3	12	F	AHU-4+5 (CIRCUIT #2)	1634	
	2000		H			17	C	18			F		1634	
	2000	VAV-4-05	H	12	20/3	19	A	20				SPACE		
	2000		H			21	B	22				SPACE		
	3000	VAV-4-06	H	12	20/1	23	C	24				SPACE		
		SPACE				25	A	26				SPACE		
		SPACE				27	B	28				SPACE		
		SPACE				29	C	30				SPACE		
		SPACE				31	A	32				SPACE		
		SPACE				33	B	34				SPACE		
		SPACE				35	C	36				SPACE		
		SPACE				37	A	38			SP		22828	
		SPACE				39	B	40	100/3	3	SP	PANEL 'MC2'	22828	
		SPACE				41	C	42			SP		20828	
	30,000	Subtotal										Subtotal	93,286	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	46,998	100%	46,998		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	9,804	100%	9,804	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	66,484	100%	66,484
	(M) Misc.	0	100%	0					

Total Connected Load = 123,286 VA = 148.4 AMPS
Total Load (Diversified)= 123,286 VA = 148.4 AMPS

Location of Panel:

Panelboard MD1

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB MLO | 0 400 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
	5000	VAV-7-01	H	10	25/1	1	A	2	25/2	10	H	VAV-7-07	5000	
	5000	VAV-7-02	H	10	25/1	3	B	4	25/2	10	H	VAV-7-08	5000	
	5000	VAV-7-03	H	10	25/1	5	C	6	25/2	10	H	VAV-7-09	5000	
	5000	VAV-7-04	H	10	25/1	7	A	8			H		2000	
	2000		H			9	B	10	20/3	12	H	VAV-7-10	2000	
	2000	VAV-7-05	H	12	20/3	11	C	12			H		2000	
	2000		H			13	A	14			F		1856	
	3666		H			15	B	16	15/3	12	F	AHU-6+7 (CIRCUIT #1)	1856	
	3666	VAV-7-06	H	12	20/3	17	C	18			F		1856	
	3666		H			19	A	20			F		1856	
	5333		H			21	B	22	15/3	12	F	AHU-6+7 (CIRCUIT #2)	1856	
	5333	VAV-6-01	H	10	25/3	23	C	24			F		1856	
	5333		H			25	A	26				SPACE		
		SPACE				27	B	28				SPACE		
		SPACE				29	C	30				SPACE		
		SPACE				31	A	32				SPACE		
		SPACE				33	B	34				SPACE		
		SPACE				35	C	36				SPACE		
		SPACE				37	A	38			SP		42535	
		SPACE				39	B	40	200/3	3/0	SP	PANEL 'MD2'	37535	
		SPACE				41	C	42			SP		37535	
	52,997	Subtotal										Subtotal	149,741	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	73,997	100%	73,997		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	11,136	100%	11,136	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	117,605	100%	117,605
	(M) Misc.	0	100%	0					

Total Connected Load = 202,738 VA = 244.0 AMPS
Total Load (Diversified)= 202,738 VA = 244.0 AMPS

Location of Panel:

Panelboard MA2

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 225 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
	3666		H			1	A	2			H		2000	
	3666	VAV-8-01	H	12	20/3	3	B	4	20/3	12	H	VAV-8-06	2000	
	3666		H			5	C	6			H		2000	
	4000		H			7	A	8			H		4333	
	4000	VAV-8-02	H	12	20/3	9	B	10	20/3	12	H	VAV-8-07	4333	
	4000		H			11	C	12			H		4333	
	2333		H			13	A	14			H		4000	
	2333	VAV-8-03	H	12	20/3	15	B	16	20/3	12	H	VAV-8-08	4000	
	2333		H			17	C	18			H		4000	
	5000	VAV-8-04	H	10	25/1	19	A	20			F		1856	
	5000	VAV-8-05	H	10	25/1	21	B	22	15/3	12	F	AHU-8 (CIRCUIT #1)	1856	
						23	C	24			F		1856	
						25	A	26			F		1856	
						27	B	28	15/3	12	F	AHU-8 (CIRCUIT #2)	1856	
						29	C	30			F		1856	
						31	A	32						
						33	B	34						
						35	C	36						
						37	A	38						
						39	B	40						
						41	C	42						
	39,997	Subtotal										Subtotal	42,135	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	70,996	100%	70,996		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	11,136	100%	11,136	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 82,132 VA = 98.8 AMPS
Total Load (Diversified)= 82,132 VA = 98.8 AMPS

Location of Panel:

Panelboard MB2

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 225 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
	2000		H			1	A	2			H		3333	
	2000	VAV-9-01	H	12	20/3	3	B	4	20/3	12	H	VAV-10-01	3333	
	2000		H			5	C	6			H		3333	
	2000		H			7	A	8			H		2666	
	2000	VAV-9-02	H	12	20/3	9	B	10	20/3	12	H	VAV-10-05	2666	
	2000		H			11	C	12			H		2666	
	3000		H			13	A	14			H		3333	
	3000	VAV-9-03	H	12	20/3	15	B	16	20/3	12	H	VAV-10-06	3333	
	3000		H			17	C	18			H		3333	
	3000	VAV-9-04	H	12	20/1	19	A	20			H		3333	
	1163		F			21	B	22	20/3	12	H	VAV-10-07	3333	
	1163	AHU-9	F	12	15/3	23	C	24			H		3333	
	1163		F			25	A	26			H		3333	
		SPACE				27	B	28	20/3	12	H	VAV-10-08	3333	
		SPACE				29	C	30			H		3333	
		SPACE				31	A	32			F		2493	
		SPACE				33	B	34	15/3	12	F	AHU-10 (CIRCUIT #1)	2493	
		SPACE				35	C	36			F		2493	
		SPACE				37	A	38			F		2493	
		SPACE				39	B	40	15/3	12	F	AHU-10 (CIRCUIT #2)	2493	
		SPACE				41	C	42			F		2493	
	27,489	Subtotal										Subtotal	62,952	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	71,994	100%	71,994		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	18,447	100%	18,447	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 90,441 VA = 108.8 AMPS
Total Load (Diversified)= 90,441 VA = 108.8 AMPS

Location of Panel:

Panelboard MC2

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 100 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
	3333		H			1	A	2			H		3333	
	3333	VAV-10-02	H	12	20/3	3	B	4	20/3	12	H	VAV-11-01	3333	
	3333		H			5	C	6			H		3333	
	3333		H			7	A	8	25/1	10	H	VAV-11-02	5000	
	3333	VAV-10-03	H	12	20/3	9	B	10			H		3333	
	3333		H			11	C	12	20/3	12	H	VAV-11-03	3333	
	3333		H			13	A	14			H		3333	
	3333	VAV-10-04	H	12	20/3	15	B	16	25/1	10	H	VAV-11-04	5000	
	3333		H			17	C	18	20/1	12	H	VAV-11-05	3000	
		SPACE				19	A	20			F		1163	
		SPACE				21	B	22	15/3	12	F	AHU-11	1163	
		SPACE				23	C	24			F		1163	
		SPACE				25	A	26				SPACE		
		SPACE				27	B	28				SPACE		
		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		
	29,997	Subtotal										Subtotal	36,487	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	62,995	100%	62,995		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	3,489	100%	3,489	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 66,484 VA = 80.0 AMPS
Total Load (Diversified)= 66,484 VA = 80.0 AMPS

Location of Panel:

Panelboard MD2

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB X MLO | 0 225 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
	4000		H			1	A	2			H		2000	
	4000	VAV-12-01	H	12	20/3	3	B	4	20/3	12	H	VAV-13-04	2000	
	4000		H			5	C	6			H		2000	
	5000	VAV-12-02	H	10	25/1	7	A	8			H		2000	
	2000		H			9	B	10	20/3	12	H	VAV-13-05	2000	
	2000	VAV-12-03	H	12	20/3	11	C	12			H		2000	
	2000		H			13	A	14			H		2000	
	4000		H			15	B	16	20/3	12	H	VAV-13-06	2000	
	4000	VAV-12-04	H	12	20/3	17	C	18			H		2000	
	4000		H			19	A	20			H		4000	
	2333		H			21	B	22	20/3	12	H	VAV-13-07	4000	
	2333	VAV-12-05	H	12	20/3	23	C	24			H		4000	
	2333		H			25	A	26			F		1634	
	2000		H			27	B	28	15/3	12	F	AHU-12 (CIRCUIT #1)	1634	
	2000	VAV-13-01	H	12	20/3	29	C	30			F		1634	
	2000		H			31	A	32			F		1634	
	3333		H			33	B	34	15/3	12	F	AHU-12 (CIRCUIT #2)	1634	
	3333	VAV-13-02	H	12	20/3	35	C	36			F		1634	
	3333		H			37	A	38			F		1634	
	3333		H			39	B	40	15/3	12	F	AHU-13 (CIRCUIT #1)	1634	
	3333	VAV-13-03	H	12	20/3	41	C	42			F		1634	
	3333		H			43	A	44			F		1634	
		SPACE				45	B	46	15/3	12	F	AHU-13 (CIRCUIT #2)	1634	
		SPACE				47	C	48			F		1634	
		SPACE				49	A	50				SPACE		
		SPACE				51	B	52				SPACE		
		SPACE				53	C	54				SPACE		
		SPACE				55	A	56				SPACE		
		SPACE				57	B	58				SPACE		
		SPACE				59	C	60				SPACE		
	67,997	Subtotal										Subtotal	49,608	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	97,997	100%	97,997		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	19,608	100%	19,608	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 117,605 VA = 141.5 AMPS
Total Load (Diversified)= 117,605 VA = 141.5 AMPS

Location of Panel:

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: ELECTRICAL SCHEDULES
SHEET NUMBER: E5.01

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---

Panelboard MG1

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB 0 AMP MCB
X MLO 400 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
						1	A	2						
		SPARE		12	20/3	3	B	4	30/3	10		SPARE		
						5	C	6						
	997		F			7	A	8			F		1634	
	997	AHU-14	F	12	15/3	9	B	10	15/3	12	F	AHU-15	1634	
	997		F			11	C	12			F		1634	
	12666		H			13	A	14			H		12000	
	12666	EDH-1	H	6	60/3	15	B	16	60/3	6	H	EDH-4	12000	
	12666		H			17	C	18			H		12000	
	12666		H			19	A	20			H		12000	
	12666	EDH-2	H	6	60/3	21	B	22	60/3	6	H	EDH-5	12000	
	12666		H			23	C	24			H		12000	
	12666		H			25	A	26				SPACE		
	12666	EDH-3	H	6	60/3	27	B	28				SPACE		
	12666		H			29	C	30				SPACE		
	116,985	Subtotal										Subtotal	76,902	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	185,994	100%	185,994		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	7,893	100%	7,893	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 193,887 VA = 233.3 AMPS
Total Load (Diversified)= 193,887 VA = 233.3 AMPS

Location of Panel:

Panelboard MF1

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB 0 AMP MCB
X MLO 225 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
	5000	VAV-16-01	H	10	25/1	1	A	2			H		2333	
	5000	VAV-16-02	H	10	25/1	3	B	4	20/3	12	H	VAV-18-01	2333	
	2000		H			5	C	6			H		2333	
	2000	VAV-16-03	H	12	20/3	7	A	8			H		3000	
	2000		H			9	B	10	20/3	12	H	VAV-18-02	3000	
	5000	VAV-16-04	H	10	25/1	11	C	12			H		3000	
	5000	VAV-16-05	H	10	25/1	13	A	14			H		2666	
	1634		F			15	B	16	20/3	12	H	VAV-18-03	2666	
	1634	AHU-16	F	12	15/3	17	C	18			H		2666	
	1634		F			19	A	20			H		4000	
	1108		F			21	B	22	20/3	12	H	VAV-18-04	4000	
	1108	AHU-17	F	12	15/3	23	C	24			H		4000	
	1108		F			25	A	26			F		1634	
	2521		C			27	B	28	15/3	12	F	AHU-18 (CIRCUIT #1)	1634	
	2521	ACCU-17A	C	12	15/3	29	C	30			F		1634	
	2521		C			31	A	32			F		1634	
	2521		C			33	B	34	15/3	12	F	AHU-18 (CIRCUIT #2)	1634	
	2521	ACCU-17B	C	12	15/3	35	C	36			F		1634	
	2521		C			37	A	38					4000	
		SPACE				39	B	40	20/3	12		EDH-6	4000	
		SPACE				41	C	42					4000	
	49,352	Subtotal										Subtotal	57,801	

N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2011)	Load Type	Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	220.12	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0	220.12	(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	15,126	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	61,997	100%	61,997		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	18,030	100%	18,030	220.5	(MT) Lrg. Mot.	0	125%	0
630.11	(W) Welders	0		0		(SP) Sub Panel	0	100%	0
	(M) Misc.	0	100%	0					

Total Connected Load = 95,153 VA = 114.5 AMPS
Total Load (Diversified)= 80,027 VA = 96.3 AMPS

Location of Panel:

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

STATE OF TEXAS
ROBERTO H. TIJERINA
121946
LICENSED
PROFESSIONAL ENGINEER
3/23/2022

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS – HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE:
3/23/2022

DRAWN BY:
DBR

CHECKED BY:
DBR

PROJECT NUMBER:
218007.002

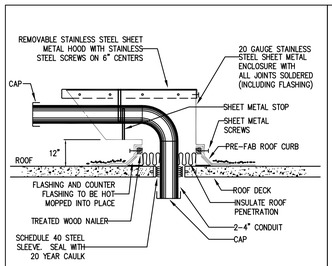
SHEET TITLE:
ELECTRICAL SCHEDULES

SHEET NUMBER:
E5.02

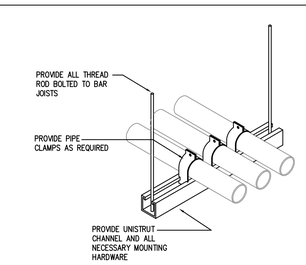
DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

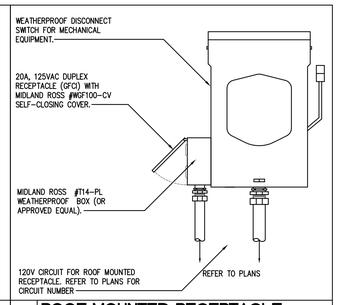
HA	JA	JB	---	---



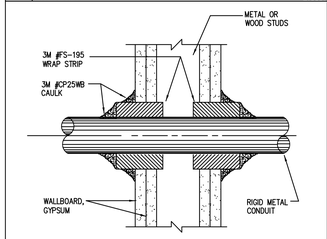
1 ROOF CONDUIT PENETRATION DETAIL
NOT TO SCALE E10001



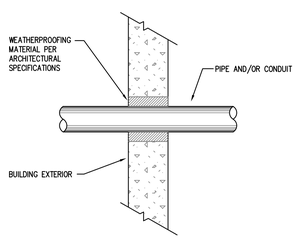
2 UNISTRUT CONDUIT DETAIL
NOT TO SCALE E10003



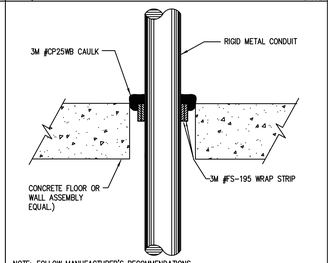
3 ROOF MOUNTED RECEPTACLE
NOT TO SCALE E13023



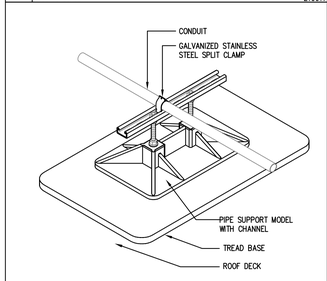
4 1 AND 2 HR. GYPSUM/WALLBOARD PIPE PENETRATION
NOT TO SCALE E10017



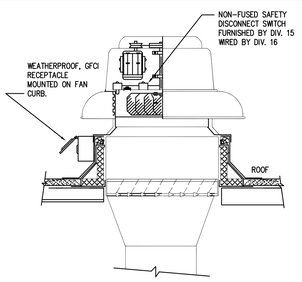
5 PIPE AND/OR CONDUIT PENETRATION
NOT TO SCALE E10018



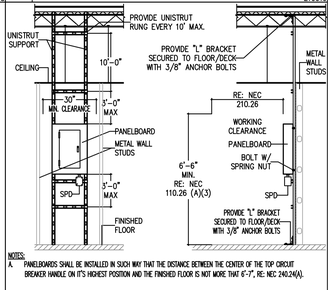
6 2, 3 AND 4 HR. PENETRATIONS FOR CONCRETE FLOOR AND WALL
NOT TO SCALE E10019



7 ROOF CONDUIT SUPPORT DETAIL
NOT TO SCALE E10020



8 ROOF EXH. FAN RECEPTACLE MTG.
NOT TO SCALE E13026



9 PANELBOARD MOUNTING DETAIL
NOT TO SCALE E22002

DBR
210.546.0200 v 210.546.0201 f
9601 McAllister Freeway, Suite 410
San Antonio, Texas 78216
TBPE Firm Registration NO. 2234

REVISION:

No.	DATE	DESCRIPTION
01	3/23/2022	ADDENDUM #1

SEAL:

EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
MEMORIAL MS - HVAC IMPROVEMENTS
3105 N DOOLITTLE RD, EDINBURG, TX 78542

DATE: 3/23/2022
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER: 218007.002
SHEET TITLE: ELECTRICAL DETAILS
SHEET NUMBER: E6.01

DBR
9990 Richmond Avenue South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 218007.002

HA	JA	JB	---	---