AE REPLACE REHAB MEDICINE AHU

LOUIS STOKES CLEVELAND VA MEDICAL CENTER

100% BID SET

CLEVELAND, OHIO

PROJECT TEAM

OWNER:
CLEVELAND VA
10701 EAST BLVD,
CLEVELAND, OH 44106

MECHANICAL AND ELECTRICAL ENGINEERING:
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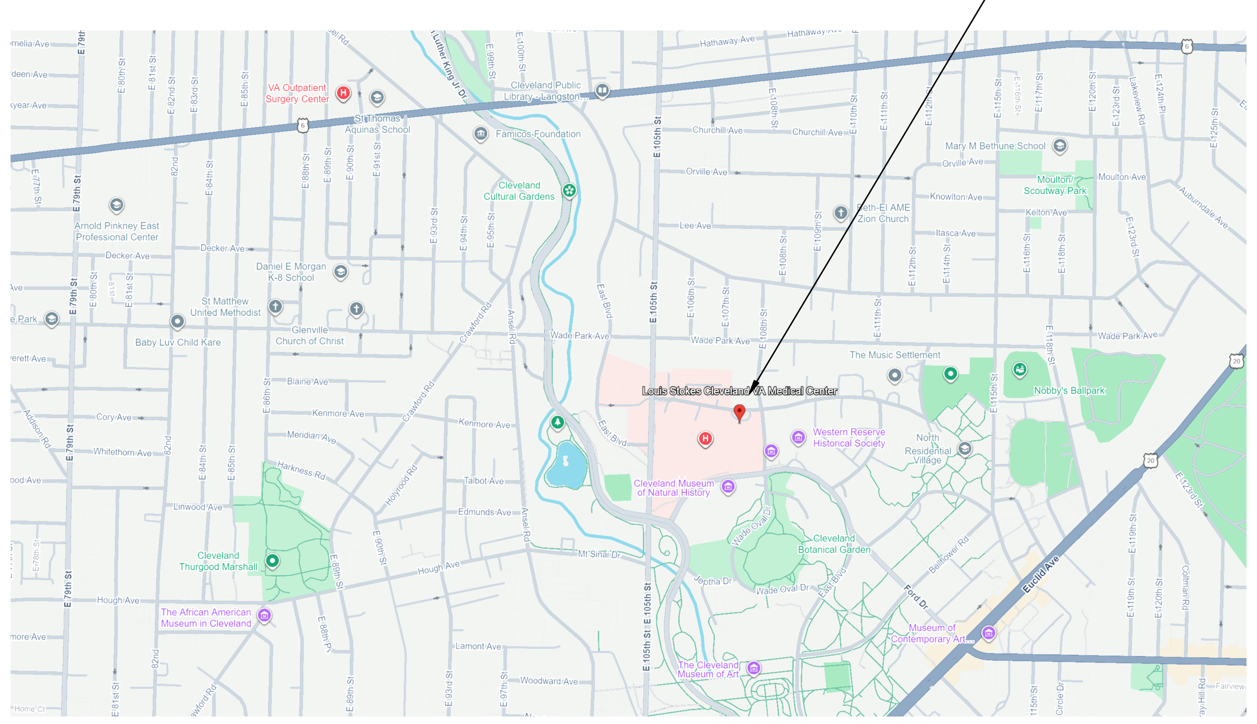
LOCATION MAP

PROJECT LOCATION



CLEVELAND , OHIO

NORTH

SHEET	DESCRIPTION
GENERAL	
GI001	COVER SHEET
ARCHITECTURAL	
AD140	ARCHITECTURAL ROOF DEMOLITION PLAN
A140	ROOF PLAN
MECHANICAL	
M-001	MECHANICAL COVER SHEET
MD-101	MECHANICAL ROOF DEMOLITION PLAN
MH-101	MECHANICAL BASEMENT NEW WORK PLAN
MH-102	MECHANICAL ROOF NEW WORK PLAN
M-401	MECHANICAL SCHEDULES
M-501	MECHANICAL DETAILS
M-601	POOL UNIT CONTROLS DIAGRAM
M-602	ROOFTOP EXHAUST FAN CONTROLS DIAGRAM
ELECTRICAL	
E-001	ELECTRICAL SYMBOLS, GENERAL NOTES AND ABBREVIATIONS
ED-101	ELECTRICAL BASEMENT POWER PLANS - DEMO
EP-101	ELECTRICAL POWER PLANS - DEMO
E-501	ELECTRICAL DETAILS
E-601	ELECTRICAL SINGLE LINE DIAGRAM
E-701	ELECTRICAL SCHEDULES

Revisions:	Date:
BID SET SUBMISSION	05/14/2026

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Drawing Title: COVER SHEET
Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU CLEVELAND VA MEDICAL CENTER
Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Issue Date	Checked	Drawn
05/14/2026	MH	PC

Project Number: 541-25-504
Building NO.: BLDG 1
FLOOR NO.: ROOF
Drawing Number: GI001

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

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SECURITY NOTES

1. NO TOOLS OR EQUIPMENT TO BE LEFT UNATTENDED.
2. CONTRACTOR TO PROVIDE TEMPORARY SECURITY WALLS IN HIGH SECURITY AREAS.
3. CONTRACTOR VA IDENTIFICATION TO BE DISPLAYED AT ALL TIMES ON PERSON.
4. TOOLS AND EQUIPMENT NOT NEEDED FOR TASKS AT HAND TO BE STORED OFF SITE.

FIRE AND SAFETY NOTES

1. MAINTAINING THE INTEGRITY OF THE FIRE AND SAFETY SYSTEMS IN PLACE IN THE MEDICAL CENTER AND ALL OF ITS OUT BUILDINGS DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
2. IN ADDITION TO ALL VA MEDICAL CENTER POLICIES, ALL NATIONAL, STATE, AND LOCAL CODES AND ORDINANCES SHALL APPLY TO ALL OF THEIR CONTRACTORS AND SUB-CONTRACTORS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL PERTINENT OSHA SAFETY REQUIREMENTS.
4. PROVIDE LOCKOUT-TAGOUT AND CONFINED SPACE ENTRY POLICIES AS APPLICABLE AND AS REQUIRED BY OSHA. THESE POLICIES SHALL BE SUBMITTED FOR PRIOR APPROVAL BY THE VA SAFETY OFFICER / COR.
5. SUBMIT APPROPRIATE INTERIM LIFE SAFETY MEASURES. REFER TO SPECIFICATION 01 01 10 FOR MORE INFORMATION.
6. CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS OF NON-COMBUSTIBLE MATERIALS WHICH PROVIDE A SMOKE TIGHT SEPARATION BETWEEN THE CONSTRUCTION AREAS AND ALL OTHER OCCUPIED AREAS. MAINTAIN INTEGRITY OF THE ENCLOSURE DURING THE CONSTRUCTION. REFER TO SPECIFICATION SECTION 00 01 10-1HR.
7. EXISTING FIRE PROTECTION SYSTEMS, INCLUDING FIRE ALARM SYSTEMS, SMOKE DETECTION SYSTEMS, AND SPRINKLER SYSTEMS SHALL NOT BE IMPAIRED DURING CONSTRUCTION. SMOKE DETECTOR DISABLE REQUESTS: OUTAGE REQUESTS TO BE SUBMITTED TO FM ENGINEER FOR APPROVAL FOR SPECIFIC DATE AND TIME. ALARMS WILL ONLY BE TURNED OFF FOR SPECIFIC SHIFTS REQUESTED AND WHEN CONTRACTORS ARE IN THE CONSTRUCTION AREA. ALARMS WILL BE RESTORED AT THE END OF THE WORK DAY BY CALLING THE SAME EXTENSION. AT NO TIME WILL ALARMS REMAIN OFF OVERNIGHT. SMOKE DETECTORS AND SPRINKLER HEADS: DO NOT COVER BY BAGS, TAPE, AND PLASTIC OR IN ANY OTHER MANNER THAT WILL DEFEAT THEIR ABILITY TO SENSE SMOKE OR HEAT AND OPERATE AS DESIGNED.
8. DAILY ACCUMULATIONS OF TRASH, COMBUSTIBLE MATERIALS, PACKAGING, AND DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION AREA ON A DAILY BASIS. FLAMMABLE MATERIALS MAY BE STORED ON SITE IN AN APPROVED AND APPROPRIATELY MARKED FLAMMABLE MATERIALS CABINET.
9. THE LOUIS STOKES VA MEDICAL CENTER IS A TOBACCO FREE ZONE. USE OF TOBACCO PRODUCTS IS PROHIBITED.

GENERAL CONSTRUCTION NOTES

1. PATCH AND REPAIR ALL AREAS AFFECTED BY DEMO AND / OR CONSTRUCTION TO MATCH EXISTING. PATCHED AREAS ARE TO RECEIVE FINISHES AND TRIM TO MATCH ADJACENT AREA, EXCEPT AS NOTED IN THE ROOM FINISH SCHEDULE. PATCH CEILINGS AND FLOORS TO ACHIEVE A CONTINUOUS FINISHED APPEARANCE.
2. ALL EQUIPMENT TO BE DISCONNECTED AND REMOVED BY CONTRACTOR. VA TO BE NOTIFIED WHEN EQUIPMENT IS AVAILABLE AND BE GIVEN THE OPTION TO TAKE POSSESSION OF ALL EQUIPMENT. CONTRACTOR TO DISPOSE OF ALL EQUIPMENT THE VA DOES NOT WANT AND REMOVE ALL ITEMS WITH EXTREME CARE.
3. REMOVE, RELOCATE, STORE AND REINSTALL PORTABLE EQUIPMENT WHICH WOULD INTERFERE WITH DEMOLITION WORK.
4. REFER TO SPECIFICATIONS FOR SHORING REQUIREMENTS WHERE DEMOLITION WORK AFFECTS THE STRUCTURAL INTEGRITY OF WALLS OR FLOORS. IF NOT SO INDICATED IN SPECIFICATIONS, CONTRACTOR SHALL SUBMIT SHORING PLAN AND SHOP DRAWINGS SIGNED BY AN ENGINEER FOR VA APPROVAL. ALL SHORING IS CONTRACTOR'S RESPONSIBILITY.
5. PROTECT ALL EXISTING SURFACES FROM DAMAGE. ANY DAMAGED SURFACES SHALL BE REPLACED TO MATCH ORIGINAL ITEM OR REPAIRED TO MATCH EXISTING OR ADJACENT MATERIAL AS APPROVED BY THE VA COR.
6. VERIFY EXISTING CONDITIONS AND LOCATIONS IN FIELD PRIOR TO SUBMITTING PROPOSAL. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR FROM PERFORMING THE WORK REQUIRED UNDER THIS CONTRACT.
7. ALL SUB-CONTRACTORS ARE ENCOURAGED TO VISIT AND ATTEND A PRE-BID WALK THRU TO INSPECT THE EXISTING AREA AND THOROUGHLY FAMILIARIZE THEMSELVES WITH ACTUAL JOB CONDITIONS BEFORE SUBMITTING BID.
8. WHILE THE SIZE AND LOCATION OF NEW WORK AND EQUIPMENT IN THE EXISTING AREA HAS BEEN INDICATED ON THE DRAWINGS AS ACCURATELY AS POSSIBLE, CONTRACTOR SHALL ADJUST THEIR WORK AS REQUIRED TO AVOID EXISTING UTILITIES, GAS LINES, SEWER, FIRE ALARM, ROOF DRAINS, ACCESS COVERS, AND OTHER STRUCTURES NOT PARTICULARLY SHOWN ON THE PLAN AT NO ADDITIONAL COST. BEFORE CONSTRUCTION, INSPECT PREMISES MAKE A DETAILED EXAMINATION OF ALL LOCATIONS WHERE NEW WORK IS TO BE INSTALLED. EXAMINE EXISTING PIPING, CONDUITS, STRUCTURAL SUPPORTING BEAMS, AND OTHER CONDITIONS.
9. DISCONNECT AT SOURCE AND REMOVE EXISTING MECHANICAL AND ELECTRICAL MATERIALS AND EQUIPMENT WHICH ARE RENDERED OBSOLETE BY THESE ALTERATIONS AND ADDITIONS. VA TO BE GIVEN THE OPTION TO TAKE POSSESSION OF REMOVED EQUIPMENT AND MATERIALS. ANY EQUIPMENT THAT THE VA DOES NOT WANT ARE THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. NO MECHANICAL, ELECTRICAL, PLUMBING EQUIPMENT, ETC. SHALL BE ABANDONED IN PLACE.
10. DISCONNECT, REMOVE AND RELOCATE EXISTING MECHANICAL AND ELECTRICAL MATERIALS AND EQUIPMENT WHICH INTERFERE OR ARE INTERFERED WITH, OBSTRUCT OR ARE OBSTRUCTED BY, THESE ALTERATIONS AND ADDITIONS. PERMANENTLY INSTALL SUCH ITEMS IN NEW LOCATIONS AS DIRECTED. RECONNECT SUCH ITEMS IN PROPER OPERATING CONDITION AT NEW LOCATIONS.
11. DO NOT INTERFERE WITH EXISTING BUILDING'S MECHANICAL, ELECTRICAL, AND SECURITY SYSTEMS OPERATIONS. IF IT IS ABSOLUTELY NECESSARY TO SHUT DOWN FACILITY SYSTEMS AT ANY TIME, CONSULT COR TO MAKE ARRANGEMENTS TO DO SO ON OFF WORKING HOUR PERIODS AT THE OWNER'S CONVENIENCE. PRIOR NOTICE SHALL BE GIVEN TO THE COR IN WRITING (21) DAYS IN ADVANCE OF THE DESIRED SHUT-DOWN TIME. ANY PREMIUM OR OVERTIME COSTS NECESSARY TO ACCOMPLISH THE ABOVE SHALL BE INCLUDED IN THIS BID. FAILURE TO PROCEED WITHOUT PROPER PRIOR NOTIFICATION MAY RESULT IN THE ASSESSMENT OF A CREDIT TO THE CONTRACT.
12. IN ALL CONSTRUCTION ZONES AND AREAS, CONTRACTOR RESPONSIBLE FOR MAINTAINING AN ACTIVE STROBE SPEAKER SYSTEM AT ALL TIMES. TYPICAL FOR ALL CONSTRUCTION ZONES FOR ALL BUILDINGS.

GENERAL DEMO NOTES

1. ALL DEMOLITION WORK REQUIRED IS NOT NECESSARILY LIMITED TO WHAT IS SHOWN ON THE DEMOLITION PLANS. THE INTENT IS TO REMOVE ALL MATERIALS AND ITEMS AS REQUIRED TO FACILITATE NEW CONSTRUCTION.
2. CONTRACTORS ARE TO VERIFY FIELD CONDITIONS. IF CONDITIONS DO NOT REFLECT WHAT IS NOTED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT.
3. THIS PLAN IS TO BE USED IN CONJUNCTION WITH THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. DO NOT REMOVE ANY ITEMS WITHOUT VERIFYING AND COORDINATING WITH ALL GENERAL TRADES AS TO HOW THEY RELATE TO THE OVERALL PROJECT.
4. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DUMPSTERS. LOCATION OF DUMPSTERS TO BE DETERMINED BY COR WITH CONTRACTORS INPUT.
5. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS. DO NOT ALLOW MATERIALS AND DEBRIS GENERATED BY DEMOLITION ACTIVITIES TO ACCUMULATE ON THE JOBSITE. REMOVE DAILY AND DISPOSE OF IN A LEGAL MANNER. NO ONSITE SALE OR BURNING OF REMOVED ITEMS IS PERMITTED.
6. CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE PUBLIC AND/OR WORKERS ON THE SITE TO PREVENT ACCIDENTS OR INJURY TO ANY PERSON ON, ABOUT OR ADJACENT TO THE PREMISES. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, CODES AND REGULATIONS PERTAINING TO SAFETY AND THE PREVENTION OF ACCIDENTS.
7. CONTRACTOR MUST MAINTAIN ADEQUATE SUPPORT, INSULATION, WATERPROOFING, EMERGENCY LIGHTING, SECURITY, ALARMS, ETC. FOR ALL OR PART OF ITEMS WHICH ARE TO REMAIN. PROVIDE TEMPORARY MEASURES TO KEEP THE ELEMENTS OUT OF THE EXISTING BUILDING
8. OWNER RESERVES THE RIGHT TO ANY REMOVED MATERIALS OR ITEMS. CONTRACTOR TO COORDINATE WITH OWNER.
9. DO NOT CUT AND/OR PATCH STRUCTURAL ELEMENTS IN A MANNER THAT COULD CHANGE THEIR LOAD-CARRYING CAPACITY OR LOAD-DEFLECTION RATIO.
10. PATCH/REPAIR OR REPLACE ALL AREAS DAMAGED BY DEMOLITION. PREPARE FOR NEW CONSTRUCTION AS REQUIRED.
11. CONSTRUCTION AREAS TO BE COMPLETELY SEPARATED FROM OCCUPIED AREAS WITH A ONE-HOUR FIRE RATED ASSEMBLY, AND WITH SUITABLE DUST BARRIER. TEMPORARILY SEAL OFF ALL RETURN & SUPPLY AIR DIFFUSERS IN CONSTRUCTION AREA. PROVIDE RECIRCULATING HEPA FILTER IN CONSTRUCTION AREA, ALL DEMOLISHED MATERIAL IS TO BE REMOVED FROM SITE IN A COVERED CONTAINER. MAINTAIN NEGATIVE AIR PRESSURE WITHIN CONSTRUCTION ZONE.
12. IF HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION, CONTRACTOR SHALL CONTACT OWNER FOR ABATEMENT.
13. REMOVE, REPLACE, PATCH, AND REPAIR MATERIALS AND SURFACES CUT OR DAMAGED DURING DEMOLITION, BY METHODS AND WITH MATERIALS SO AS NOT TO VOID EXISTING WARRANTIES.
14. CLEAN AREAS AND SPACES WHERE CUTTING AND PATCHING ARE PERFORMED.
15. CONTRACTOR SHALL PATCH, REPAIR, AND INFILL ALL APPLIED FIREPROOFING MATERIAL IN AREAS LEFT UNPROTECTED DUE TO REMOVAL OF EXISTING ELEMENTS OR AREAS DAMAGED DURING NEW WORK AND DEMOLITION. MATCH EXISTING FIREPROOFING MATERIAL TYPE AND THICKNESS TO MAINTAIN EXISTING LEVEL OF PROTECTION.

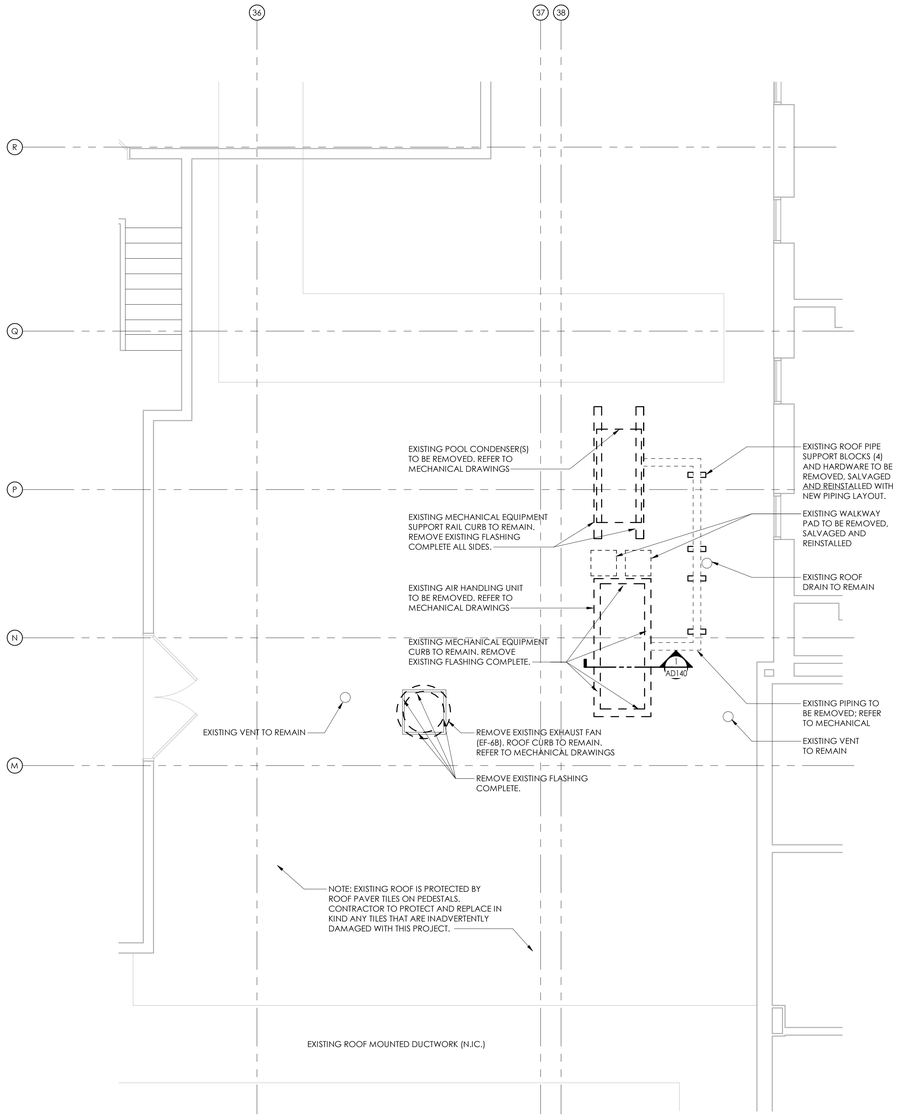
INFECTION CONTROL RISK ASSESSMENT NOTES - CLASS II

DURING CONSTRUCTION PROJECT

1. REMOVE OR ISOLATE HVAC SYSTEM IN AREA WHERE WORK IS BEING DONE TO PREVENT CONTAMINATION OF DUCT SYSTEM.
2. COMPLETE ALL CRITICAL BARRIERS I.E. SHEETROCK, PLYWOOD, PLASTIC, TO SEAL AREA FROM NON-WORK AREA OR IMPLEMENT CONTROL CUBE METHOD (CART WITH PLASTIC COVERING AND SEALED CONNECTION TO WORK SITE WITH HEPA VACUUM FOR VACUUMING PRIOR TO EXIT) BEFORE CONSTRUCTION BEGINS.
3. MAINTAIN NEGATIVE AIR PRESSURE WITHIN WORK SITE UTILIZING HEPA EQUIPPED AIR FILTRATION UNITS.
4. NEGATIVE PRESSURE MONITORING DEVICES SHOULD BE VISIBLE FROM OUTSIDE THE WORKSITE AND READINGS SHOULD BE DOCUMENTED AS LEAST DAILY.
5. CONTAIN CONSTRUCTION WASTE BEFORE TRANSPORT IN TIGHTLY COVERED CONTAINERS.
6. MAINTAIN CLEAN STICKY MAT AT ENTRANCE AND EXIT OF WORK AREA.
7. COVER CONSTRUCTION WASTE BEFORE TRANSPORT IN COVERED CONTAINERS

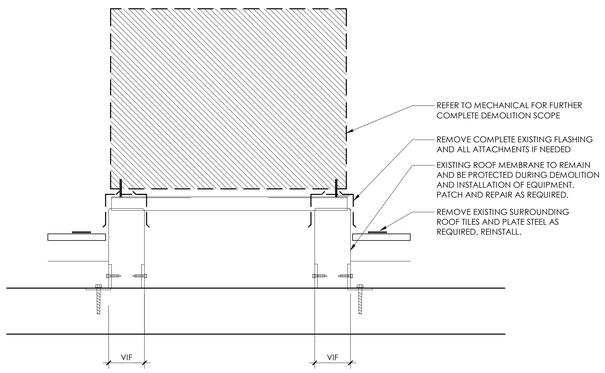
UPON COMPLETION OF PROJECT

1. DO NOT REMOVE BARRIERS FROM WORK AREA UNTIL COMPLETED PROJECT IS INSPECTED BY THE SAFETY DEPARTMENT AND INFECTION PREVENTION & CONTROL AND THOROUGHLY CLEANED BY THE ENVIRONMENTAL MANAGEMENT SERVICE.
2. REMOVE BARRIER MATERIALS CAREFULLY TO MINIMIZE SPREADING OF DIRT AND DEBRIS ASSOCIATED WITH CONSTRUCTION.
3. VACUUM WORK AREA WITH HEPA FILTERED VACUUMS.
4. WET MOP AREA WITH CLEANER/DISINFECTANT.
5. UPON COMPLETION, RESTORE HVAC SYSTEM WHERE WORK WAS PERFORMED.



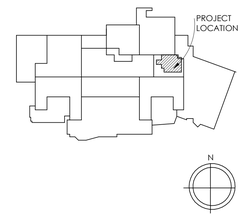
NORTH

DEMOLITION ROOF PLAN
SCALE: 1/4" = 1'-0"



1 TYPICAL DEMO SECTION
SCALE: 3/4" = 1'-0"

KEY PLAN



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Revisions:	Date:

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Drawing Title: ARCHITECTURAL ROOF DEMOLITION PLAN	Project Title: AE REPLACE REHAB MEDICINE AHU CLEVELAND VA MEDICAL CENTER	Project Number: 541-25-504	Office of Construction and Facilities Management
Approved: Approver	Location: CLEVELAND VAMC 10701 EAST BLVD, CLEVELAND, OH 44106	Building NO.: BLDG 1 / FLOOR NO.: ROOF	
	Issue Date: 05/14/2026 / Checked: MH / Drawn: PC	Drawing Number: AD140	U.S. Department of Veterans Affairs

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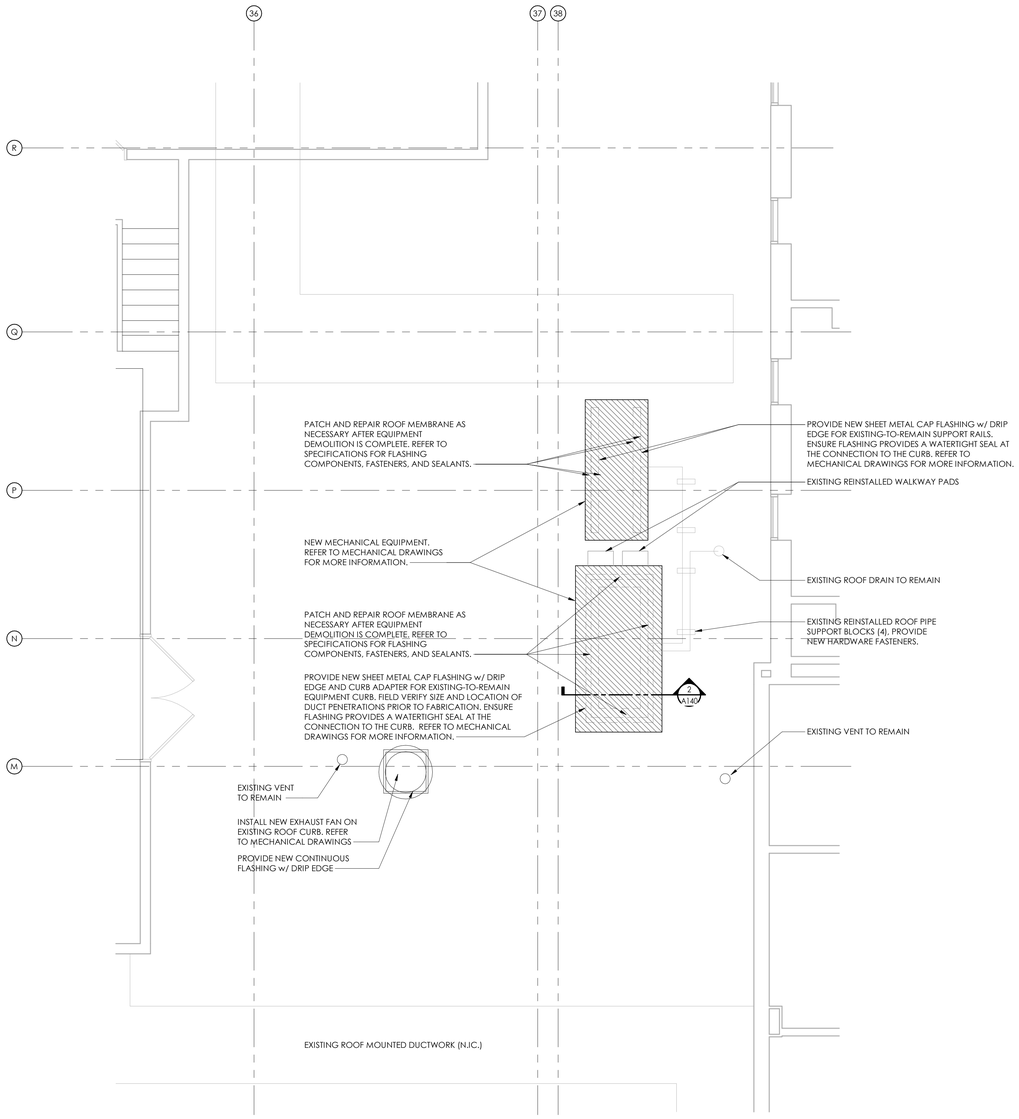
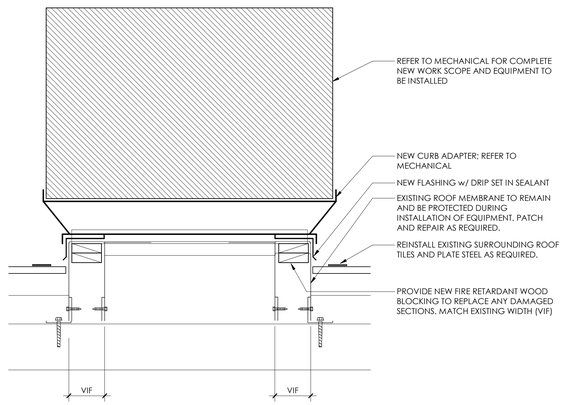


NORTH

ROOF PLAN

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



NORTH

TYPICAL NEW WORK SECTION

SCALE: 3/4" = 1'-0"

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Drawing Title: ROOF PLAN	Project Title: AE REPLACE REHAB MEDICINE AHU CLEVELAND VA MEDICAL CENTER	Project Number: 541-25-504	Office of Construction and Facilities Management
Approved: Approver	Location: CLEVELAND VAMC, 10701 EAST BLVD, CLEVELAND, OH 44106	Building NO.: BLDG 1 / FLOOR NO.: ROOF	
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CONTROL SYMBOLS

AT	BLIND TRANSMITTER
AT $_{CO2}$	CARBON DIOXIDE TRANSMITTER
AT $_{CO}$	CARBON MONOXIDE TRANSMITTER
AT $_{OC}$	OCCUPANCY SENSOR
CT	CONDUCTIVITY TRANSMITTER
EPT	ELECTRONIC TO PNEUMATIC TRANSDUCER
FC	FLOW CONTROLLER
FE	FLOW ELEMENT
FS	FLOW SWITCH
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
FT	FLOW TRANSMITTER
H	HUMIDISTAT
HS	HAND SWITCH
IT	CURRENT TRANSMITTER
KC	TIME CLOCK CONTROLLING EQUIP ON SCHEDULE
KR	LOCAL RECORDING TIME CLOCK (RUNTIME)
LC	LEVEL CONTROLLER
LT	LEVEL TRANSMITTER
HSI	HIGH LIMIT HUMIDITY SENSOR
MT	MOISTURE (HUMIDITY) TRANSMITTER
PC	PRESSURE CONTROLLER
PDS	PRESSURE DIFFERENTIAL SWITCH
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PI	PRESSURE GAUGE
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PT	PRESSURE TRANSMITTER
SC	SPEED CONTROLLER
SD	SMOKE DETECTOR
SPS	STATIC PRESSURE SENSOR
T	THERMOSTAT
TC	TEMPERATURE CONTROLLER
TI	THERMOMETER
TS	TEMPERATURE SWITCH
TSH	TEMPERATURE SWITCH HIGH (FREEZESTAT)
TSL	TEMPERATURE SWITCH LOW (FREEZESTAT)
TT	TEMPERATURE TRANSMITTER
ZC	VALVE OR DAMPER POSITION CONTROLLER
ZS	POSITION SWITCH
ECC	INTEGRATE CONTROL POINT ON REMOTE GRAPHICS WORKSTATION AT ENERGY CONTROL CENTER
LTCP	LOCAL TEMPERATURE CONTROL PANEL
HVAC	HVAC CONTROL PANEL
VSMC	VARIABLE SPEED MOTOR CONTROLLER
	MOTOR STARTER
M	MOTOR OPERATOR FOR VALVE OR DAMPER
	PNEUMATIC OPERATOR FOR VALVE OR DAMPER
SOL	SOLENOID VALVE
VFD	VARIABLE FREQUENCY DRIVE CONTROLLER
AI	ANALOG SIGNAL IN
AO	ANALOG SIGNAL OUT
ASC	APPLICATION SPECIFIC CONTROLLER
CAC	CUSTOM APPLICATION CONTROLLER
BAS	BUILDING AUTOMATION SYSTEM
BCP	BUILDING CONTROLLER PANEL
BMS	BUILDING MANAGEMENT SYSTEM
DI	DIGITAL SIGNAL IN
DO	DIGITAL SIGNAL OUT
FC	FAIL CLOSED
FL	FAIL LAST
FO	FAIL OPEN
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OWS	OPERATOR WORKSTATION

EQUIP. ABBREVIATIONS

AAHX	AIR TO AIR HEAT EXCHANGER
ACC	AIR COOLED CONDENSER
ACCH	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AF	AFTER FILTER
AHU	AIR-HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER
BDR	BASE BOARD RADIATOR
BHW	HOT WATER HEATING BOILER
BHX	BOILER BLOWDOWN HEAT EXCHANGER
BT	BLOWOFF TANK
CC	COOLING COIL
CCD	COOLING COIL CONDENSATE DRAIN
CFP	CHEMICAL FEED PUMP
CH	CHILLER
CHP	CHILLED WATER PUMP
COMP	COMPRESSOR UNIT
CP	CONDENSATE PUMP
CS	CONDENSATE STORAGE TANK
CSG	CLEAN STEAM GENERATOR
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CWCC	CHILLED WATER COOLING COIL
CWP	CONDENSER WATER PUMP
DXCC	DIRECT EXPANSION COOLING COIL
EC	EVAPORATIVE COOLER
ECU	EVAPORATIVE CONDENSER UNIT
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EH	EXHAUST HOOD
ERC	ELECTRIC REHEAT COIL
ERP	ELECTRIC RADIANT PANEL
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWC	EVAPORATIVE WATER COOLER
FCU	FAN COIL UNIT (4 PIPE)
FCUC	FAN COIL UNIT COOLING ONLY
FCUH	FAN COIL UNIT HEATING ONLY
FHX	FLUE GAS/FEEDWATER HEAT EXCHANGER
FPTU	FAN POWERED TERMINAL UNIT
FTR	FIN TUBE RADIATION
H	HUMIDIFER
HC	HEATING COIL
HD	HOOD
HP	HEAT PUMP
HPDT	HIGH PRESSURE DRIP TRAP
HRC	HEAT RECOVERY COIL
HRD	HEAT RECOVERY DEVICE
HRP	HYDRONIC RADIANT (CEILING) PANEL
HRW	HEAT RECOVERY WHEEL
HUM	HUMIDIFIER UNIT MOUNTED
HVU	HEATING AND VENTILATING UNIT
HWC	HOT WATER COIL
HWHC	HOT WATER HEATING COIL
HWP	HEATING HOT WATER PUMP
HWUH	HOT WATER UNIT HEATER
HX	HEAT EXCHANGER
ICF	IN-LINE CENTRIFUGAL FAN
IU	INDUCTION UNIT
LLHX	LIQUID TO LIQUID HEAT EXCHANGER
MAU	MAKE-UP AIR UNIT
P	PUMP
PF	PRE-FILTER
PHC	PREHEAT COIL
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RAHX	ROTARY AIR HEAT EXCHANGER
RCCH	REMOTE CONDENSER CHILLER
RCU	RECIPROCATING CHILLER UNIT
RF	RETURN FAN
RHC	REHEAT COIL
SAD	SOUND ATTENUATING DEVICE
SF	SUPPLY FAN
SH	STEAM HUMIDIFIER
SHC	STEAM HEATING COIL
SSHX	STEAM TO STEAM HEAT EXCHANGER
ST	STEAM TRAP
SUH	STEAM UNIT HEATER
SWHX	STEAM TO WATER HEAT EXCHANGER
TU	TERMINAL UNIT
UC	UNIT COOLER
UH	UNIT HEATER
VUH	VERTICAL UNIT HEATER
WCCH	WATER COOLED CHILLER
WCCU	WATER COOLED CONDENSING UNIT
WCHP	WATER COOLED HEAT PUMPS
WCPU	WATER COOLED PACKAGED UNIT
WEF	WALL EXHAUST FAN
WF	WATER FILTER

ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AMP	AMPERE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATION AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
BD	BUTTERFLY DAMPER
BDD	BACKDRAFT DAMPER
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CENTIGRADE (CELSIUS)
CAV	CONSTANT AIR VOLUME
CD	CEILING DIFFUSER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHW	CHILLER WATER
CHS/CHR	CHILLED WATER SUPPLY/RETURN
CO	CLEAN OUT
CO2	CARBON DIOXODE
COP	COEFFICIENT OF PERFORMANCE
CV	CONSTANT VOLUME
CW	COLD WATER (POTABLE)
CWS/CWR	CONDENSER WATER SUPPLY/RETURN (FROM/TO COOLING TOWER)
Db	DRY-BULB TEMPERATURE
DB	DECIBELS
DCW	DOMESTIC COLD WATER
DD-1	DESIGN DEVELOPMENT (SUBMISSION 1)
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DIA	DIAMETER
DIW	DEIONIZED WATER
DP	DEW POINT TEMPERATURE
DX	DIRECT EXPANSION
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
F	FAHRENHEIT
FSD	COMBINATION FIRE SMOKE DAMPER
FC	FLEXIBLE CONNECTION
FD	FLOOR DRAIN
FD	FIRE DAMPER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FT WC	FEET OF WATER COLUMN
FT-LB	FOOT-POUND
GAL	GALLONS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSEPOWER
HW	HOT WATER
HWS/HWR	HEATING HOT WATER SUPPLY/RETURN
HZ	HERTZ
IAQ	INDOOR AIR QUALITY
ID	INSIDE DIAMETER
IN	INCHES
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IN-LB	INCH-POUND
KG	KILOGRAM
KG/HR	KILOGRAM PER HOUR
kPa	KILOPASCAL
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)
LPS	LOW PRESSURE STEAM
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MIN	MINIMUM
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
NIC	NOT IN CONTRACT
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
Pa	PASCAL
PD	PRESSURE DROP
PPM	PARTS PER MILLION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID LINE
RLA	RUN LOAD AMPERE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION LINE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SD	SMOKE DETECTOR
SD-1	SCHEMATIC DESIGN (SUBMISSION1)
SDPR	SMOKE DAMPER
SP	STATIC PRESSURE
SQ FT/SF	SQUARE FOOT (FEET)
TAB	TESTING, ADJUSTING, BALANCE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
UC	UNDER CUT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
Wb	WET-BULB (TEMPERATURE)
YR	YEAR

MECHANICAL LAYERS

- BACKGROUND
- COLUMN LINE
- DEMOLITION
- EQUIPMENT
- EXISTING
- EXHAUST
- PIPING
- SPECIALITY PIPING
- SPECIALITY PIPING RETURN
- RELOCATE
- RETURN
- REVISION
- SCOPE
- SUPPLY
- TEXT

PLUMBING LAYERS

- COLD WATER
- HOT WATER
- HOT WATER RETURN
- SANITARY SEWER (WASTE)
- VENT
- EXISTING COLD WATER
- EXISTING HOT WATER
- EXISTING HOT WATER RETURN
- EXISTING SANITARY SEWER
- EXISTING VENT

PIPING SYMBOLS

- PIPE UP
- PIPE DOWN
- TEE
- FLOW DIRECTION
- FLOOR DRAIN
- FLOOR SINK
- PUMP
- REDUCER
- UNION
- TEMPERATURE GAGE
- PRESSURE GAGE
- TEST PLUG
- AUTOMATIC AIR VENT
- MANUAL AIR VENT
- ANGLED GLOBE
- AUTOMATIC BALANCING CONTROL
- BALANCING
- BALL
- BUTTERFLY
- CHECK
- CIRCUIT SETTER
- CONTROL - FLOAT OPERATED
- FLOW METER
- GATE
- GLOBE
- MODULATING CONTROL
- MODULATING CONTROL BUTTERFLY
- PLUG
- PNEUMATIC CONTROL
- PRESSURE REDUCING (PRV)
- PRESSURE REGULATING
- PRESSURE SAFETY
- SHUTOFF
- THREE-WAY MODULATING CONTROL
- THREE-WAY TWO POSITION CONTROL
- TWO POSITION CONTROL
- WATER BALANCE DEVICE
- WYE STRAINER

DRAWING SYMBOLS

- X / M-XXX — DETAIL NUMBER / DRAWING NUMBER
- X / M-XXX — SECTION LETTER / DRAWING NUMBER

MECHANICAL SYMBOLS

- S-# / NECK SIZE / CFM / (TYP. #) — SUPPLY CEILING DIFFUSER
- S-# / SLOTS-SLOT WIDTH-LENGTH / CFM / (TYP. #) — SUPPLY LINEAR DIFFUSER
- S-# / LxW / CFM / (TYP. #) — SUPPLY SIDEWALL DIFFUSER
- B#-FC-# — EQUIPMENT TAG (BUILDING NO - EQUIP NAME - EQUIP NUMBER)
- REVISION DELTAS
- VAV-1 — T STATS
- ROOM PRESSURE MONITOR
- CO2 SENSOR
- SHEET NOTES
- FIRE SMOKE DAMPER (FSD)
- SMOKE DETECTOR (SD)
- RELOCATE
- VOLUME DAMPER
- CAP
- POINT OF CONNECTION
- VAV BOX
- VAV BOX WITH REHEAT COIL
- CEILING DIFFUSER (SUPPLY, RETURN, EXHAUST)
- DEMOLITION CEILING DIFFUSER
- EXISTING CEILING DIFFUSER
- SUPPLY AIR SIDEWALL DIFFUSER
- RETURN/EXHAUST AIR SIDEWALL DIFFUSER
- HEPA DIFFUSERS
- LINEAR DIFFUSER (1-, 2-, 3-SLOT)
- RADIANT CEILING PANEL
- RISER
- STANDARD 45° TAP
- CONICAL TAP
- ELBOW (1R UNLESS OTHERWISE NOTED)
- MITERED ELBOW WITH TURNING VANES
- POINT OF DISCONNECTION

TABLE OF CONTENTS

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M-001	MECHANICAL COVER SHEET
MD-101	MECHANICAL ROOF DEMOLITION PLAN
MH-101	MECHANICAL BASEMENT NEW WORK PLAN
MH-102	MECHANICAL ROOF NEW WORK PLAN
M-401	MECHANICAL SCHEDULES
M-501	MECHANICAL DETAILS
M-601	POOL UNIT CONTROLS DIAGRAM
M-602	ROOFTOP EXHAUST FAN CONTROLS DIAGRAM

SCOPE OF WORK

REPLACE POOLPAK AHU AND EXHAUST FAN.

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ALL INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS OF TEMPORARY PARTITIONS AND/OR TARPS TO KEEP DUST AND DIRT WITHIN THE CONSTRUCTION AREA.
2. NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE COR AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, SUFFICIENT ADVANCE NOTICE SHALL BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
3. ALL ITEMS INDICATED AS BEING DEMOLISHED OR REMOVED SHALL BE DISPOSED OF OFF-SITE.
4. THE MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ALL WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE COR AND/OR ENGINEER FOR RESOLUTION.
5. ALL SHUT DOWNS OF EXISTING SYSTEMS SHALL BE SCHEDULED AND APPROVED BY THE COR PRIOR TO COMMENCEMENT OF SAID WORK.
6. CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ALL DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT.
7. USE OF THE OWNER'S ELEVATORS AND BUILDING CORRIDORS FOR THE HANDLING OF NEW AND/OR REMOVED EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE COR AND SHALL BE COORDINATED WITH HIS OPERATIONS.
8. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT AND ENVIRONMENTAL CONDITIONS.
9. EXCEPT WHERE INDICATED AS BEING RELOCATED, EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS.
10. PROVIDE ALL NECESSARY TEMPORARY OR PERMANENT CAPS OR PLUGS FOR PIPING/DUCTWORK. DO NOT LEAVE PIPING/DUCTWORK OPEN ENDED.
11. WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
12. THE MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION, PURCHASE AND/OR INSTALLATION OF ANY WORK.
13. THE BALANCING CONTRACTOR SHALL TAKE AIRFLOW (CFM) AND PRESSURE READINGS PRIOR TO THE START OF WORK ON ALL DUCTWORK THAT SERVES AREAS NOT PART OF THIS PROJECT BUT WHERE AIRFLOW TO THOSE AREAS IS AFFECTED BY THIS PROJECT'S WORK. AFTER MODIFICATIONS TO AIR SYSTEMS COVERED UNDER THIS PROJECT ARE COMPLETED, THE BALANCING CONTRACTOR SHALL BALANCE THE NON-AFFECTED AREAS TO THEIR ORIGINAL AIRFLOW AND PRESSURE OR NEW AIRFLOW AND PRESSURE IF NOTED.
14. IF MECHANICAL CONTRACTOR ENCOUNTERS WHAT APPEARS TO BE A HAZARDOUS OR QUESTIONABLE MATERIAL, HE SHALL DISCONTINUE WORK IMMEDIATELY AND CONTACT THE OWNER'S REPRESENTATIVE.
15. USE OF OWNER'S UTILITIES (I.E. ELECTRICITY, WATER, HVAC, ETC.) FOR WORK INDICATED ON THESE DOCUMENTS SHALL BE APPROVED BY THE COR PRIOR TO COMMENCEMENT OF SAID WORK.
16. THE MECHANICAL CONTRACTOR SHALL CONFORM TO OWNER'S SAFETY AND SECURITY GUIDELINES IN THE PERFORMANCE OF ALL WORK INCLUDED IN THIS CONTRACT.
17. ALL BRANCH PIPING SHALL BE FURNISHED WITH SHUT OFF VALVES AND SHALL BE LOCATED IN ACCESSIBLE LOCATION BY OFFSETTING BRANCH PIPING WITH VALVES DOWN NEAR CEILING. PROVIDE ACCESS PANEL FOR ALL VALVES AND EQUIPMENT IN NON ACCESSIBLE CEILING AREAS.
18. ALL SUSPENDED PIPING, DUCTWORK, CONDUIT AND CABLE TRAYS SHALL BE PROVIDED WITH, SEISMIC SWAY BRACES IN ACCORDANCE WITH THE MASON INDUSTRIES SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED PIPING, DUCTWORK AND ELECTRICAL SYSTEMS AND THE APPLICABLE CODES. INSTALLED SYSTEM SHALL MATCH EXISTING, RIGID OR CABLE TYPE.
19. ALL INDIVIDUAL INLET DUCTS TO CONSTANT AIR VOLUME BOXES (CAV) OR VARIABLE AIR VOLUME BOXES (VAV) SHALL BE SAME SIZE AS INLET CONNECTION OF CAV BOX, UNLESS NOTED OTHERWISE.
20. ALL INDIVIDUAL BRANCH PIPING TO CONSTANT AIR VOLUME BOXES (CAV) OR VARIABLE AIR VOLUME BOXES (VAV) SHALL BE 3/4" IN SIZE, UNLESS NOTED OTHERWISE
21. PRIOR TO ANY MODIFICATIONS OF EXISTING DUCT SYSTEMS, TEST EXISTING AIRFLOWS AT TRAVERSE POINTS NOTED IN DRAWINGS AND SUBMIT TO ENGINEER FOR REVIEW. TEST REPORT SHALL INDICATE EXISTING CONDITION AIRFLOW VALUES. UPON COMPLETION OF NEW SYSTEMS, WITHIN THE SCOPE OF THE PROJECT, ALL PREVIOUSLY TESTED SYSTEM AIRFLOWS SHALL BE SET TO ORIGINAL CONDITIONS.
22. GENERAL LOCATION OF DIFFUSERS, REGISTERS AND GRILLES ARE INDICATED ON AIR CONDITIONING PLANS. REFERENCE ARCHITECTURAL REFLECTED CEILING PLANS AND INTERIOR ELEVATIONS FOR SPECIFIC LOCATIONS.
23. RESTORE EXISTING FIRE PROOFING TO BEAMS, DECKS AND ALL OTHER BUILDING ELEMENTS WHICH ARE DISTURBED OR MODIFIED AS A RESULT OF NEW WORK BEING INSTALLED. RESTORED CONDITIONS SHALL MATCH EXISTING PRIOR TO NEW WORK BEING PERFORMED.
24. ALL EXISTING DUCT INSULATION REMOVED, AS REQUIRED TO PERFORM SCOPE OF WORK, SHALL BE REPAIRED USING LIKE MATERIAL TO THAT WHICH IS EXISTING.
25. DUCT ROUTINGS ARE DIAGRAMMATIC IN NATURE. PROVIDE OFFSETS, DROPS AND RISERS AS NECESSARY TO AVOID EXISTING ELECTRICAL, HVAC, PLUMBING, FIRE PROTECTION, ETC. SYSTEMS WHICH MAY INTERFERE WITH GENERAL ROUTING SHOWN ON DRAWINGS. RESIZING OF DUCTS WILL BE ALLOWED PROVIDED REVISED DUCT SIZE DOES NOT EXCEED AIR VELOCITIES OF SYSTEM DESIGN AND DRAWING IS SUBMITTED FOR REVIEW, NOTING CHANGES PROPOSED, PRIOR TO DUCT SYSTEM FABRICATION AND INSTALLATION.
26. VERIFY EXISTING DUCT SYSTEM SIZES PRIOR TO FABRICATION OF NEW DUCT SYSTEMS. ANY EXISTING DUCT SYSTEMS DIFFERING IN SIZE FROM THAT NOTED ON DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE COR AND MECHANICAL ENGINEER.
27. PROVIDE INSULATION OVER EXISTING DUCT SECTIONS WHICH HAVE BEEN PATCHED. INSULATION TYPE, THICKNESS AND DENSITY SHALL MATCH EXISTING. SEE SPECIFICATIONS FOR REQUIREMENTS OF NEW DUCT SYSTEM INSULATION.
28. NOT ALL SYMBOLS, ABBREVIATIONS AND EQUIPMENT ABBREVIATIONS INDICATED APPEAR ON THESE CONTRACT DRAWINGS
29. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE HARD SUSPENDED CEILING, OR ACOUSTICAL CEILING.
30. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
31. ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS. COORDINATE LOCATION WITH MECHANICAL INSTALLATION AND DEMONSTRATE ACCESS TO EQUIPMENT SERVED.
32. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC. LOSS FOR FILTERS SHALL BE FOR FILTERS AT 50% LOADING.
33. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
34. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
35. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
36. WALL TYPE EXHAUST REGISTERS NOTED AS "BR" ON DRAWINGS ARE TO BE INSTALLED WITH BOTTOM ELEVATION OF REGISTER AT 7" ABOVE FINISHED FLOOR.
37. ALL PRESSURES LISTED ARE GAGE PRESSURE, UNLESS OTHERWISE NOTED.
38. TERMINAL AIR UNIT INLET SIZES SHALL BE THOSE SHOWN ON THE SCHEDULES, UNLESS OTHERWISE NOTED.

GENERAL DEMOLITION NOTES

1. SCHEDULE ALL SHUTDOWNS THAT AFFECT UTILITIES AND PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION WITH THE COR .
2. DEMOLITION WORK AT ALL TIMES SHALL BE SUBJECT TO THE DIRECTION AND APPROVAL OF THE COR AND CARRIED OUT IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE NORMAL OPERATION OF THE BUILDING.
3. DISPOSE OF ALL REMOVED MATERIALS IN AN APPROVED MANNER.
4. ISOLATE, DRAIN, AND REFILL EXISTING SYSTEMS AS REQUIRED TO ACCOMMODATE INSTALLATION OF EXISTING AND NEW SYSTEMS.
5. PROVIDE ALL NECESSARY TEMPORARY/PERMANENT CAPS OR PLUGS FOR PIPING. DO NOT LEAVE PIPING OPEN ENDED.
6. ALL EXISTING PIPING SHALL BE FIELD VERIFIED FOR PROPER DEMOLITION. CONTRACTOR SHALL NOTIFY THE COR AND ENGINEER IMMEDIATELY IF ANY DISCREPANCIES FROM CONTRACT DOCUMENTS OCCUR THAT MAY EFFECT EXISTING OPERATIONS.
7. DEMOLITION OF PIPING INCLUDES ALL ASSOCIATED VALVES, ACCESSORIES, INSULATION, HANGERS, AND SUPPORTS.
8. COORDINATE WITH COR ON REMOVAL AND PLACEMENT OF EQUIPMENT NOTED TO BE TURNED OVER TO COR. FOR EQUIPMENT NOT DESIRED BY COR, CONTRACTOR SHALL REMOVE OFF SITE IN AN APPROVED MANNER.

Scale: NTS

BID SET SUBMISSION	05/14/2026
Revisions:	Date

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Drawing Title: MECHANICAL COVER SHEET

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: AB | Drawn: JM

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: BASEMENT

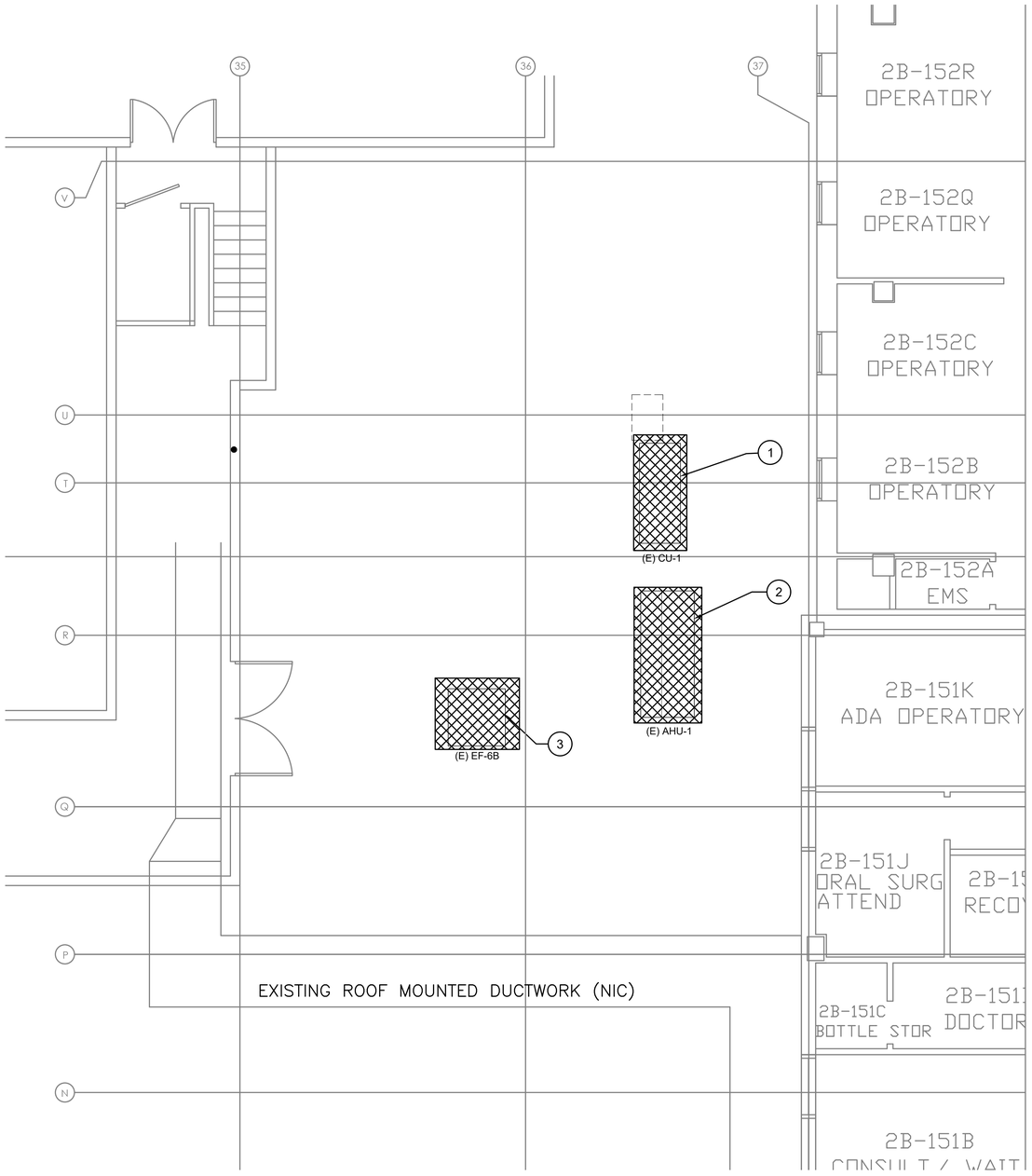
Drawing Number: M-001

Dwg. 01 of 08

Office of Construction and Facilities Management

Department of Veteran Affairs

VA FORM 08-6231



1 MECHANICAL BASEMENT PLAN - DEMOLITION
1/4" = 1'-0"

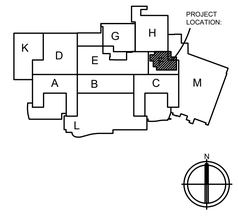
SHEET NOTES

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING, AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
2. NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED, OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE COR AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL, OR DISCONNECTION, SUFFICIENT ADVANCE NOTICE OF TEN (10) BUSINESS DAYS SHALL BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
3. CONTRACTOR SHALL VERIFY AND DOCUMENT THE ROUTING AND LOCATION OF ALL ELECTRICAL POWER CIRCUITS AND CONTROL WIRING PRIOR TO DEMOLITION. COORDINATE WITH OWNER AND ENSURE SAFE ISOLATION BEFORE REMOVAL.
4. COORDINATE WITH ELECTRICAL CONTRACTOR FOR DISCONNECTING EXISTING ELECTRICAL FEEDS, CONTROLS, AND DISCONNECT SWITCHES. ELECTRICAL SCOPE SHOWN UNDER SEPARATE DIVISION.
5. REMOVE ALL TEMPORARY FASTENERS, BLOCKING, AND LEGACY SUPPORTS ASSOCIATED WITH THE EXISTING UNITS, WHETHER SHOWN OR NOT.
6. ALL DEMOLITION WORK TO OCCUR DURING OFF-HOUR/WEEKEND SHUTDOWN AS COORDINATED WITH OWNER.
7. CONTRACTOR TO TAB AIR FLOWS PRIOR TO AND FOLLOWING INSTALLATION TO BEST RETAIN EXISTING CONDITIONS LIKE FOR LIKE.

(#) KEY NOTES

1. REMOVE EXISTING ROOFTOP POOLPAK CONDENSING UNIT AND LEAVE EXISTING RAILS IN PLACE.
2. REMOVE EXISTING ROOFTOP POOLPAK AIR HANDLING UNIT AND EXISTING CURB. REMOVE ANY OBSTRUCTIONS TO FUTURE DUCTWORK PATH.
3. REMOVE EXISTING ROOFTOP WET EXHAUST FAN AND REPLACE WITH SAME OR SIMILAR UNIT PER VA TIL STANDARDS. ENSURE PROPER DISCONNECTION, STRUCTURAL SUPPORT, CORROSION RESISTANCE, AND WEATHERPROOFING. FOLLOW VA HVAC, SEISMIC, AND FIRE PROTECTION GUIDELINES. SUBMIT DOCUMENTATION AND VERIFY PERFORMANCE THROUGH COMMISSIONING.

KEY PLAN



BID SET SUBMISSION	05/14/2026
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Drawing Title: MECHANICAL ROOF DEMOLITION PLAN

Approved Project Director:

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: AB | Drawn: JM

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: BASEMENT

Drawing Number: MD-101

Dwg. 02 of 08

Office of Construction and Facilities Management

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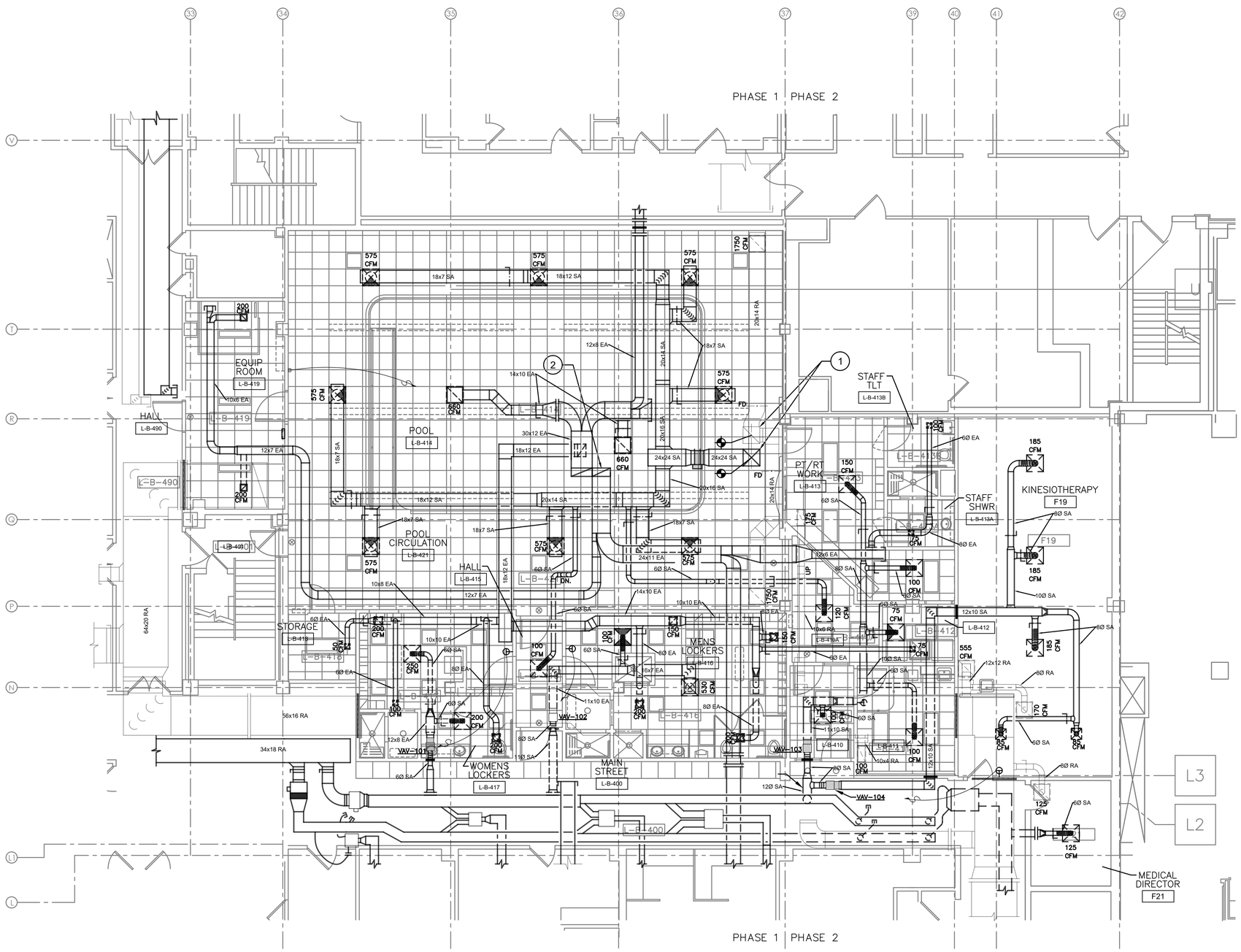
VA FORM 08-6231



1 MECHANICAL BASEMENT PLAN - NEW WORK
3/16" = 1'-0"

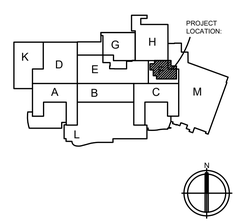
SHEET NOTES

1. SEE DRAWING M-001 FOR GENERAL NOTES, SYMBOLS, ABBREVIATIONS, AND GENERAL PHASING NOTES.
2. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
3. DUCTWORK AND PIPING SIZES SHOWN ARE BEST INTERPRETATION OF AVAILABLE DATA. CONTRACTOR TO VERIFY PIPE SIZES DURING COURSE OF WORK, AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS.
4. THE USE OF ASTM A307 BOLTS IS PROHIBITED ON THIS PROJECT. CONTRACTOR IS TO UTILIZE ALLOY-STEEL OR STAINLESS STEEL, ASTM A193 METHODS FOR ALL FLANGE BOLTING. IF THE CONTRACTOR IDENTIFIES OR OBSERVES POTENTIAL ASTM A307 BOLTS ON ANY EXISTING STEAM OR HYDRONIC PIPING WITHIN THE PROJECT AREA THEY ARE TO NOTIFY THE VA COR IMMEDIATELY AND DOCUMENT THE LOCATION AND QUANTITY IN WRITING.
5. DUCTWORK IS REPRESENTATIVE AND NO NEW WORK IS INTENDED OTHER THAN THE CONNECTION OF THE SUPPLY, RETURN, AND EXHAUST DUCT CONNECTIONS TO THE NEW ROOFTOP MOUNTED EQUIPMENT. NO MODIFICATIONS OF EXISTING DUCTWORK WITHIN THE SPACE IS INCLUDED IN THE SCOPE OF WORK.
6. CONTRACTOR TO TAB AIR FLOWS PRIOR TO AND FOLLOWING INSTALLATION TO BEST RETAIN EXISTING CONDITIONS LIKE FOR LIKE.

(#) KEY NOTES

1. CONNECT EXISTING SUPPLY & RETURN DUCTWORK TO NEW AHU-1 PER VA TIL STANDARDS. ENSURE PROPER ALIGNMENT, SEALING, AND SUPPORT. USE SMACNA-COMPLIANT FITTINGS AND MATERIALS. MAINTAIN AIRFLOW INTEGRITY, INSULATION, AND SYSTEM PERFORMANCE. VERIFY INSTALLATION THROUGH COMMISSIONING AND SUBMIT REQUIRED DOCUMENTATION. SEAL ALL DUCT CONNECTIONS AIRTIGHT TO SMACNA SEAL CLASS A OR HIGHER. BALANCE SYSTEM AIRFLOWS AND VERIFY PROPER OPERATION PER MANUFACTURER AND DESIGN REQUIREMENTS.
2. CONNECT EXISTING EXHAUST DUCTWORK TO NEW ROOFTOP EXHAUST FAN EF-6B PER VA TIL STANDARDS. USE SMACNA-COMPLIANT MATERIALS AND SEALING METHODS. ENSURE PROPER ALIGNMENT, SUPPORT, AND CORROSION RESISTANCE. MAINTAIN AIRFLOW INTEGRITY AND FIRE SAFETY. SUBMIT DOCUMENTATION AND VERIFY INSTALLATION THROUGH COMMISSIONING. SEAL ALL DUCT CONNECTIONS AIRTIGHT TO SMACNA SEAL CLASS A OR HIGHER. BALANCE SYSTEM AIRFLOWS AND VERIFY PROPER OPERATION PER MANUFACTURER AND DESIGN REQUIREMENTS.

KEY PLAN



BID SET SUBMISSION	05/14/2026
Revisions	Date

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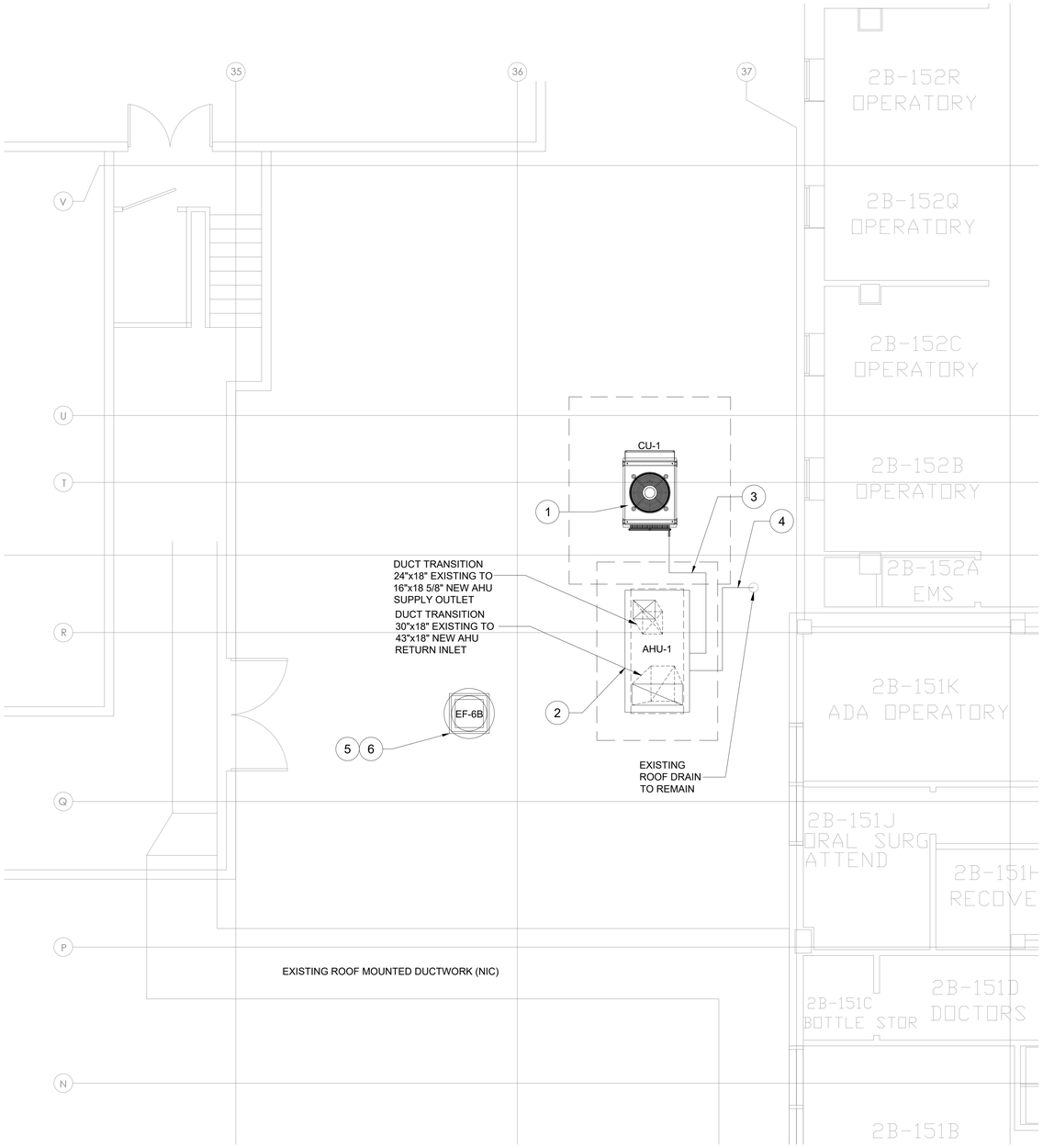
Drawing Title	MECHANICAL BASEMENT NEW WORK PLAN
Approved Project Director	
Project Title	AE REPLACE REHAB MEDICINE AHU CLEVELAND VA MEDICAL CENTER
Location	CLEVELAND VAMC 10701 EAST BLVD, CLEVELAND, OH 44106
Date	05/14/2026
Checked	AB
Drawn	JM
Project Number	541-25-504
Building No.	BLDG 1
Floor No.	BASEMENT
Drawing Number	MH-101
	Dwg. 03 of 08

Office of Construction and Facilities Management

Department of Veteran Affairs

VA FORM 08-6231



1 MECHANICAL ROOF PLAN - NEW WORK
1/4" = 1'-0"

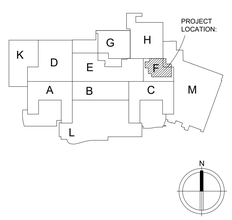
SHEET NOTES

1. SEE DRAWING M-001 FOR GENERAL NOTES, SYMBOLS, ABBREVIATIONS, AND GENERAL PHASING NOTES.
2. CONTRACTOR TO COORDINATE NEW DUCTWORK ROUTING AROUND EXISTING PIPING, AND SUPPORTS. MOVE EXISTING LIGHTING AS REQUIRED.
3. DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO VERIFY EXISTING DUCTWORK, PIPING AND EQUIPMENT LOCATIONS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS TO A/E. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
4. DUCTWORK AND PIPING SIZES SHOWN ARE BEST INTERPRETATION OF AVAILABLE DATA. CONTRACTOR TO VERIFY PIPE SIZES DURING COURSE OF WORK, AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND SITE CONDITIONS.
5. THE USE OF ASTM A307 BOLTS IS PROHIBITED ON THIS PROJECT. CONTRACTOR IS TO UTILIZE ALLOY-STEEL OR STAINLESS STEEL, ASTM A193 METHODS FOR ALL FLANGE BOLTING. IF THE CONTRACTOR IDENTIFIES OR OBSERVES POTENTIAL ASTM A307 BOLTS ON ANY EXISTING STEAM OR HYDRONIC PIPING WITHIN THE PROJECT AREA THEY ARE TO NOTIFY THE VA COR IMMEDIATELY AND DOCUMENT THE LOCATION AND QUANTITY IN WRITING.
6. CONTRACTOR TO TAB AIR FLOWS PRIOR TO AND FOLLOWING INSTALLATION TO BEST RETAIN EXISTING CONDITIONS LIKE FOR LIKE.

(#) KEY NOTES

1. INSTALL NEW ROOFTOP AHU-1 CONDENSING UNIT. PROVIDE NEW VIBRATION ISOLATORS AND SUPPORTS PER MANUFACTURER REQUIREMENTS.
2. INSTALL NEW ROOFTOP AHU-1 AIR HANDLING UNIT AND CURB. PROVIDE NEW VIBRATION ISOLATORS AND SUPPORTS PER MANUFACTURER REQUIREMENTS.
3. PROVIDE AND INSTALL NEW REFRIGERANT PIPING BETWEEN CONDENSER AND EVAPORATOR COIL. SIZE, ROUTE, AND SUPPPORT PER MANUFACTURER REQUIREMENTS. PRESSURE-TEST AND EVACUATE SYSTEM.
4. PROVIDE NEW ROOFTOP CONDENSATE DRAIN PIPING, SUPPORTS, AND ROOF DRAINAGE INTERFACE AS SHOWN. ENSURE POSITIVE SLOPE AND PROPER DISCHARGE.
5. INSTALL NEW ROOFTOP WET EXHAUST FAN TO SERVE POOL AREA PER VA TIL STANDARDS. ENSURE CORROSION-RESISTANT MATERIALS, WEATHERPROOFING, AND STRUCTURAL SUPPORT. FOLLOW VA HVAC, FIRE SAFETY, AND COMMISSIONING PROTOCOLS. SUBMIT SHOP DRAWINGS AND VERIFY PERFORMANCE.
6. PROVIDE GRAVITY/BACKDRAFT DAMPER FOR EXHAUST FAN.

KEY PLAN



BID SET SUBMISSION	05/14/2026
Revisions:	Date

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Drawing Title: MECHANICAL ROOF NEW WORK PLAN	Project Title: AE REPLACE REHAB MEDICINE AHU CLEVELAND VA MEDICAL CENTER	Project Number: 541-25-504	
		Building No.: BLDG 1	Floor No.: BASEMENT
Approved: Project Director	Location: CLEVELAND VAMC 1370 EAST BLVD, CLEVELAND, OH 44106	Drawing Number: MH-102	
	Date: 05/14/2026 / Checked: AB / Drawn: JM	Dwg. 04 of 08	

Office of Construction and Facilities Management

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VA FORM 08-6231

HVAC DESIGN DATA

DESIGN CONDITIONS	SUMMER			WINTER			LOWEST AVERAGE ANNUAL DEWPOINT
	DRY BULB TEMP	WET BULB TEMP	% RELATIVE HUMIDITY	DRY BULB TEMP	DEWPOINT TEMP	% RELATIVE HUMIDITY	
	°F	°F		°F	°F		°F
OUTDOOR DESIGN CONDITIONS	86.8	72.2	50.1	10	-2.1	53.4	10.9
INDOOR AREA DESIGN CONDITIONS							
HYDROTHERAPY/THERAPEUTIC POOL*	87	71.4	60	87	71.4	60	
POOL DRESSING/TOILET/SHOWER	75	65	59.2	70	37.2	30	
WAITING ROOMS	75	65	59.2	70	37.2	30	
CORRIDOR	75	65	59.2	70	37.2	30	
ELECTRICAL EQUIPMENT CLOSETS WITHOUT INTERNAL HEAT GAIN	NA	NA	NA	NA	NA	NA	
MER: ALL OTHER LOCATIONS	84	N/A	N/A	50	N/A	N/A	
PRCO3: APARTMENT LAUNDRY	75	65	59.2	70	37.2	30	

* NOTE: THE POOL TEMPERATURE SETPOINT IS 92 F.

SPLIT SYSTEM AIR CONDITIONER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	TOTAL SUPPLY AIR FLOW	MIN. OUTSIDE AIR FLOW	E.S.P.	COOLING CAPACITY					HEATING CAPACITY	FILTER MARK(S)	POOL AHU ELECTRICAL DATA						POOL COND. UNIT ELECTRICAL DATA			WEIGHTS		REMARKS
						TOTAL CAP.	SENS. CAP.	MOISTURE REMOVAL	OSA DESIGN TEMP	Tons	REHEAT COIL		POWER	SUPPLY AIR BLOWER		AMPS	CIRCUIT AMPS AND BREAKER SIZE		POWER	CIRCUIT AMPS AND BREAKER SIZE		AHU-1	CU-1	
			CFM	CFM	IN	MBH	MBH	LBS/HR	°F		MBH		VOLT./PH.	HP	DRIVE	FLA	MCA	MOP	VOLT./PH.	MCA	MOP	LBS.	LBS.	
AHU-1	ROOF	POOL (REHAB)	4800	1200	1	121.3	63.7	58.6	95.0	10.3	91.9	1-RAF1, 1-OAF1	460-480/3	3	DIRECT	23.6	40	40	460-480/3	15	15	1320	385	1,2,3,4,5,6,7,8,9,10

REMARKS

1. UNIT IS PROVIDED WITH A FACTORY-MOUNTED FUSED DISCONNECT. CONTRACTOR SHALL INSTALL ALL EXTERNAL POWER WIRING AND ASSOCIATED COMPONENTS IN ACCORDANCE WITH CODE REQUIREMENTS.
2. PROVIDE CONTROL SYSTEM WITH BACNET INTERFACE FOR BUILDING AUTOMATION INTEGRATION AND REMOTE MONITORING CAPABILITY.
3. R454B REFRIGERANT; SUCTION LINE 1-1/8", LIQUID LINE 7/8"; MAXIMUM ALLOWABLE LINE LENGTH IS 50 FEET.
4. MOTORIZED OUTDOOR AIR DAMPER WITH MERV 13 FILTER FOR VENTILATION AND COMPLIANCE WITH INDOOR AIR QUALITY STANDARDS.
5. AIR-COOLED SYSTEM REJECTS HEAT TO REMOTE OUTDOOR CONDENSER; DESIGNED FOR FULL HEAT REJECTION AT SUMMER DESIGN CONDITIONS.
6. APPROXIMATE CORNER WEIGHT DISTRIBUTION: A=22%, B=26%, C=28%, D=24%; CURB ADAPTER REQUIRED FOR PROPER ROOF INSTALLATION. UNIT SHALL NOT EXCEED 1500 LBS SUCH THAT STRUCTURAL ROOF WORK WOULD BE NECESSARY.
7. UNIT SHALL INTERLOCK WITH NEW GREENHECK EF-6B ROOFTOP EXHAUST FAN TO MAINTAIN SPACE PRESSURIZATION AND HUMIDITY CONTROL.
8. CONTRACTOR SHALL REUSE THE EXISTING DUCT HEATER CURRENTLY FED FROM PANEL HFBI SERVING SPACES 32, 34, AND 36. NEW UNIT SHALL BE CONFIGURED TO INTEGRATE WITH AND CONTROL THIS EXISTING POOLPAK-PROVIDED DUCT HEATER. PROVIDE ALL REQUIRED CONNECTIONS, WIRING, CONTROLS, AND INTERFACES TO ENSURE FULL FUNCTIONALITY. NO SUBSTITUTE HEATER IS ACCEPTABLE.
9. COOLING PERFORMANCE DATA AT 82°F AT 60% RH.
10. UNIT SELECTIONS WERE MADE BASED ON CLOSEST AVAILABLE LIKE FOR LIKE PERFORMANCE REPLACEMENT THAT CONFORMED TO WEIGHT AND FOOTPRINT CONSTRAINTS. DCA USED AS BASIS OF DESIGN.

AIR FILTER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	MERV RATING	AIR FLOW	APD		HOUSING TYPE	CARTRIDGES			REMARKS
						INITIAL	DIRTY		#	SIZE (W x H x T)	ARRANGEMENT	
					CFM	IN	IN			IN		
1-RAF1	ROOF	POOL (REHAB)	AHU-1	13	4820	0.41	1	SIDE	2	20 x 25 x 1	3 WIDE BY 2 HIGH	1,2,3
1-OAF1	ROOF	POOL (REHAB)	AHU-1	13	1200	0.31	1	SIDE	2	20 x 25 x 1	1 WIDE BY 2 HIGH	1,2,3

REMARKS

1.PROVIDE FILTER HOUSINGS WITH ACCESS DOORS AND GASKETED FRAMES TO ENSURE AIRTIGHT SEAL AND PREVENT BYPASS LEAKAGE.

2. VERIFY INITIAL AND FINAL PRESSURE DROP VALUES; REPLACE FILTERS WHEN PRESSURE DROP EXCEEDS SPECIFIED LIMITS PER VA REQUIREMENTS.

3.COORDINATE ISOLATOR TYPE AND DEFLECTION WITH EQUIPMENT WEIGHT, OPERATING SPEED, AND SEISMIC REQUIREMENTS PER VA SPECIFICATIONS.

FAN SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW	ESP	FAN SPEED	OUTLET VELOCITY	FAN			MOTOR ELECTRICAL								REMARKS
								TYPE	ARRANGEMENT, ROTATION, AND DISCHARGE	DRIVE	NOMINAL POWER		MOTOR ENCLOSURE	PHASE	VOLT	BREAKER SIZE		RPM	WEIGHT	
											BHP	HP				MCA	MOCP		LBS	
				CFM	IN	RPM	FT/MIN													
EF-6B	ROOF	POOL (REHAB)	AHU-1	3810	0.377	613	1213	CENTRIFUGAL	DOWNBLAST	BELT	0.49	0.5	TEFC	3	460	1.38	15	1725	143	1,2,3,4,5,6,7

REMARKS

1. EXHAUST FAN INTERLOCKS WITH AHU/CU TO MAINTAIN TEMPERATURE, HUMIDITY, AND POSITIVE PRESSURIZATION.
2. PROVIDE BAS FEEDBACK FOR STATUS AND ALARMS. INCLUDE MAINTENANCE OVERRIDE WITH SAFEGUARDS AGAINST NEGATIVE PRESSURE.
3. SELECTED FOR CLEVELAND ALTITUDE OF 653 FEET ABOVE SEA LEVEL.
4. UL 705 LISTED VENTILATOR WITH GALVANIZED BIRDSCREEN AND BEARING RATED FOR 100,000 HOUR LIFE.
5. EXISTING CURB TO BE REUSED.
6. PROVIDE WITH BACKDRAFT DAMPERS, BACKDRAFT DAMPER MUST BE COATED WITH A COATING THAT PASSES A 6,000 HR SALT SPRAY TEST.
7. UNIT SELECTIONS WERE MADE BASED ON CLOSEST AVAILABLE LIKE FOR LIKE PERFORMANCE REPLACEMENT THAT CONFORMED TO WEIGHT AND FOOTPRINT CONSTRAINTS.

VIBRATION ISOLATION SCHEDULE

MARK	LOCATION	EQUIPMENT AND/OR SERVICE	TYPE BASE	TYPE ISOLATOR	MIN STATIC DEFLECTION	REMARKS
					IN	
VI-1	ROOF	AHU-1	PLENUM CURB BY MANUFACTURER	SPRING W/ SEISMIC RESTRAINTS	2	1,2,3
VI-2	ROOF	EF-6B	STANDARD CURB	SPRING ISOLATORS	1	1,2,3

REMARKS

1.PROVIDE SPRING ISOLATORS WITH MINIMUM STATIC DEFLECTION AS REQUIRED; VERIFY LOAD AND DEFLECTION PER MANUFACTURER AND SPECIFICATIONS.
2. INSTALL ISOLATORS TO PREVENT STRUCTURE-BORNE NOISE AND VIBRATION; ENSURE PROPER LEVELING AND ALIGNMENT OF SUPPORTED EQUIPMENT.
3.COORDINATE ISOLATOR TYPE AND DEFLECTION WITH EQUIPMENT WEIGHT, OPERATING SPEED, AND SEISMIC REQUIREMENTS PER VA SPECIFICATIONS.

BID SET SUBMISSION	05/14/2026
Revisions:	Date

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Drawing Title: MECHANICAL SCHEDULES

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: AB | Drawn: JM

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: BASEMENT

Drawing Number: M-401
Dwg. 05 of 08

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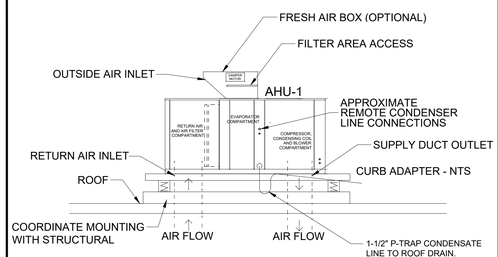
Department of Veteran Affairs

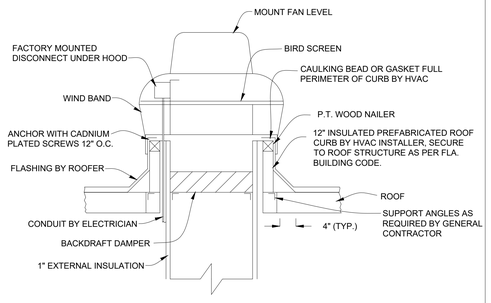
VA FORM 08-6231

three inches = one foot 6"
one and one half inches = one foot 1 6" 0
one inch = one foot 2 6" 0 1
three quarters inch = one foot 2 6" 0
one half inch = one foot 4 0
three eighths inch = one foot 4 0
one quarter inch = one foot 8 4 0
one eighth inch = one foot 16 8 4 0



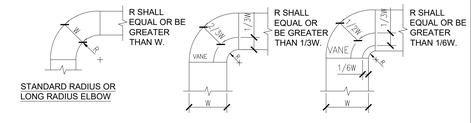
1 AIR HANDLING UNIT INSTALLATION DETAIL

NTS



2 ROOFTOP EXHAUST FAN INSTALLATION DETAIL

NTS

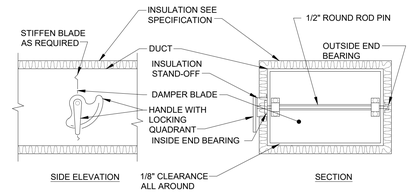


NOTE:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

3 DUCTWORK RADIUS ELBOWS

NTS

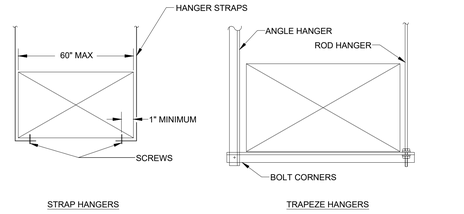


NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

4 VOLUME DAMPER DETAIL

NTS

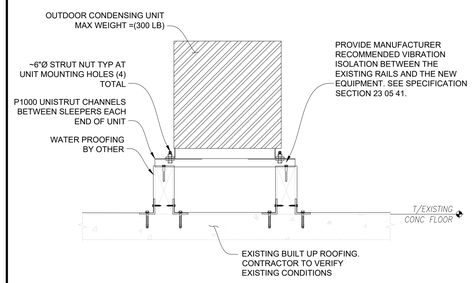


NOTE:
1. FOR HANGERS SIZE AND SPACING, SEE SMACNA HVAC DUCT CONSTRUCTION STANDARDS TABLE 4-1.

2. FOR UPPER ATTACHMENT TO BUILDING, SEE SMACNA HVAC DUCT CONSTRUCTION STANDARDS FIG 4.1 & 4.2, WITH SPECIFIC BUILDING STRUCTURAL ENGINEER APPROVAL.

5 TYPICAL HORIZONTAL RECTANGULAR DUCT SUPPORTS

NTS

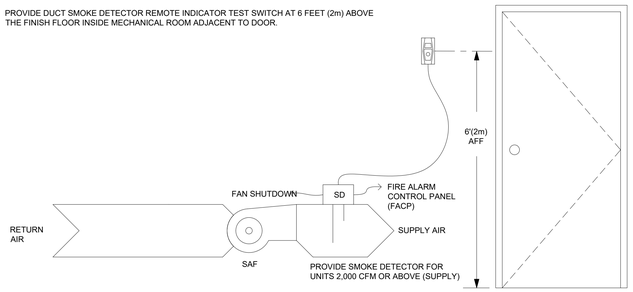


6 CONDENSING UNIT INSTALLATION DETAIL

NTS

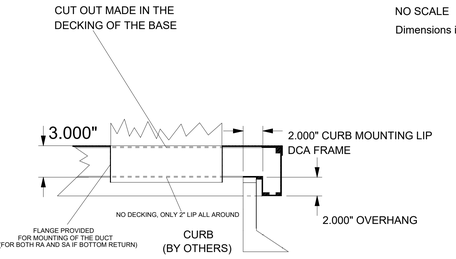
NOTE:

1. PROVIDE MINIMUM 3/4" (19mm) (MIN.) EMT CONDUIT FOR ALL FIRE ALARM WIRING. PROVIDE BUSHINGS FOR ALL WIRING ENTRIES INTO JUNCTION BOXES.
2. PROVIDE DUCT SMOKE DETECTOR REMOTE INDICATOR TEST SWITCH AT 6 FEET (2m) ABOVE THE FINISH FLOOR INSIDE MECHANICAL ROOM ADJACENT TO DOOR.



7 DUCT SMOKE DETECTOR

NTS



NO SCALE

Dimensions in inches

TOP OF THE CURB IS NOT FLUSH WITH THE PROVISIONS MADE FOR RA AND SA IN THE DECKING OF THE BASE. THE GAP IS 3" TALL. FLANGES FOR RA DUCT (IF BOTTOM RETURN_ AND SA DUCT (IF BOTTOM DISCHARGE) ARE SUPPLIED. BASE WAS MADE WITH THE ASSUMPTION OF THE FULL ROOF CUT OUT WITHIN THE CURB.

8 EQUIPMENT CURB

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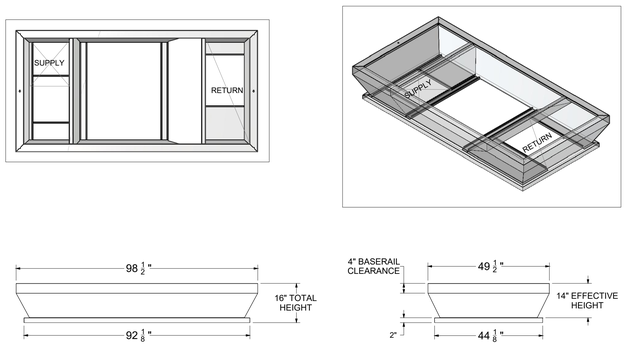
NOTE: THIS SHEET MUST SHIP W/ADAPTER, INSTALLING CONTRACTOR MUST VERIFY DIMENSIONS PRIOR TO SETTING ADAPTER AND UNIT



KCC CURB ADAPTERS ALLOW 1.5 INCH (3/4 INCH EACH SIDE) CLEARANCE AROUND EXISTING CURB AS SHOWN. ANY MODIFICATION TO KCC DESIGN WILL REQUIRE EXTENDED LEAD TIMES AND RESULT IN ADDITIONAL ENGINEERING COSTS. KCC WILL NOT BE RESPONSIBLE FOR FIELD CLEARANCE ISSUES.

9 AHU CURB ADAPTER

NTS

BID SET SUBMISSION	05/14/2026
Revisions	Date

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Drawing Title: MECHANICAL DETAILS

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
1970 EAST 6LVD, CLEVELAND, OH 44106

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: BASEMENT

Drawing Number: M-501

Dwg. 06 of 08

Date: 05/14/2026 | Checked: AB | Drawn: JM

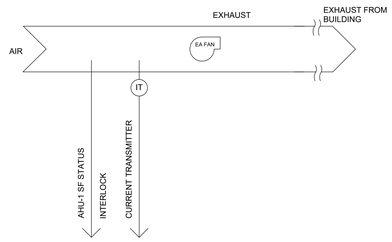
Office of Construction and Facilities Management

Department of Veteran Affairs

VA FORM 08-6231

AHU-1 CONTROL POINTS

| LOUIS STOKES VA MEDICAL CENTER
CLEVELAND, OH | POINT LEGEND | SYSTEM OUTPUTS | | | | | | | SYSTEM INPUTS | | | | | | | | | | | | | | | | | | | | | | SYSTEM SOFTWARE/CONTROL | | | | | | | | | | | | | | | | | | |



EF-6B SEQUENCE:

1. EF-6B SHALL START WHEN AHU-1 SUPPLY FAN STATUS IS PROVEN. PROVIDE A 5-SECOND ON-DELAY AFTER AHU-1 STARTS AND A 5-SECOND OFF-DELAY BEFORE AHU-1 STOPS (ADJUSTABLE).
2. EF-6B SHALL OPERATE AT CONSTANT SPEED (BELT-DRIVE). FAN AIRFLOW SHALL BE SET BY SHEAVE ADJUSTMENT DURING TAB; NO STATIC-PRESSURE MODULATION.
3. THE EXHAUST BACKDRAFT DAMPER WD-100 IS GRAVITY-OPERATED AND SHALL OPEN ON FLOW; THERE IS NO ISOLATION-DAMPER COMMAND OR END SWITCH.
4. EF-6B SHALL BE INTERLOCKED TO AHU-1/CU-1 OPERATION PER THE SCHEDULES TO MAINTAIN THE SPACE PRESSURIZATION STRATEGY ESTABLISHED FOR THE POOL AREA. (EF DOES NOT MODULATE; PRESSURIZATION IS MANAGED BY THE AHU/OA MIX AND SYSTEM BALANCING.)

MAINTENANCE / SHUTDOWN

1. WHEN AHU-1 IS IN MAINTENANCE MODE OR SAFETY SHUTDOWN, EF-6B SHALL STOP. UTILIZE THE ROOF-MOUNTED NEMA-4X TOGGLE DISCONNECT FOR LOTO AS REQUIRED.

SAFETIES / ALARMS

1. FAN FAILURE ALARM: COMMAND ON BUT NO RUN STATUS CONFIRMED WITHIN 10 SECONDS (ADJUSTABLE) → GENERATE ALARM. RUN STATUS SHALL BE VERIFIED BY A CURRENT SWITCH (PREFERRED) OR AUXILIARY CONTACT FROM THE STARTER/DISCONNECT.
2. FIRE ALARM / EMERGENCY SHUTDOWN: STOP EF-6B (CONSISTENT WITH SYSTEM SHUTDOWN LOGIC).
3. RUNTIME TOTALIZATION: BAS SHALL ACCUMULATE CURRENT PERIOD AND LIFETIME RUN HOURS FOR MAINTENANCE.

EF-6B CONTROL POINTS

LOUIS STOKES VA MEDICAL CENTER CLEVELAND, OH	POINT LEGEND	SYSTEM OUTPUTS							SYSTEM INPUTS														SYSTEM SOFTWARE/CONTROL																															
		BINARY				ANALOG			BINARY						ANALOG								ALARM PROCESSING						APPLICATION/FUNCTION																					
SYSTEM: EF-6B SYSTEM COMPONENT:	ABBRV	ELECTRIC DEVICE	START/STOP	OPEN/CLOSE	ENABLE/DISABLE	SPEED COMMAND	VALVE POSITION	DAMPER POSITION	STATUS	ALARM	PRESSURE	HIGH HUMIDITY	HIGH STATIC PRESSURE	LOW TEMPERATURE	--	TEMPERATURE (T)	PRESSURE	POSITION	FLOW	PERCENT	STATIC PRESSURE	CARBON DIOXIDE	HUMIDITY	VACUUM	LOCAL ALARM PANEL	AREA ALARM PANEL	MASTER ALARM PANEL	HIGH LIMIT	LOW LIMIT	--	--	SCHEDULE START/STOP	FUNCTION	DUTY CYCLE	TEMP. ECONOMIZER	ENTHALPY ECONOMIZER	TEMPERATURE RESET	DEMAND LIMITING	TEMPERATURE OVERRIDE	STATIC PRESSURE RESET	--	--	--	PRESSURE/VOL. CONTROL	FAILURE MODE	SPACE TEMP. CONTROL	FULL COMMUNICATION	TRENDING	REMARKS
EXHAUST FAN ENABLE (AHU-1 INTERLOCK)	EF-EN		●		●				●											●	●				●	●	●					●	●														●	●	
EXHAUST FAN START/STOP	EF-SS		●						●																●	●	●					●	●														●	●	
EXHAUST FAN RUN STATUS (CURRENT SWITCH)	EF-STS								●											●																												●	●	
EXHAUST FAN FAILTURE ALARM (CMD W/O STATUS)	EF-FAIL									●															●	●	●																				●	●	
OVERLOAD / DISCONNECT TRIP	EF-OL									●															●	●	●																				●	●	
RUN HOURS (CURRENT PERIOD)	EF-RUNTIME								●																							●															●	●	
RUN HOURS (LIFETIME)	EF-LIFEHRS								●																							●															●	●	
FIRE ALARM INPUT (SYSTEM SHUTDOWN)	FIRE-ALM									●															●	●	●	●																			●	●	
MAINTENANCE / OFFLINE MODE	MAINT-MODE											●																				●															●	●	

REMARKS

1. GRAVITY BACKDRAFT DAMPER; NO COMMAND/END-SWITCH

BID SET SUBMISSION	05/14/2026
Revisions:	Date

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Drawing Title: ROOFTOP EXHAUST FAN CONTROLS DIAGRAM

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC, 1370 EAST BLVD, CLEVELAND, OH 44105

Date: 05/14/2026 | Checked: AB | Drawn: JM

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: BASEMENT

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Dwg. 08 of 08

Office of Construction and Facilities Management

Department of Veteran Affairs

VA FORM 08-6231

ABBREVIATIONS

1PH	SINGLE-PHASE	FVNR	FULL VOLTAGE NON-REVERSING
1P	SINGLE POLE	FVR	FULL VOLTAGE REVERSING
2/C	TWO-CONDUCTOR	G	ELECTRICAL GROUND
3/C	THREE-CONDUCTOR	GEN	GENERATOR
3PH	THREE-PHASE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
4/C	FOUR-CONDUCTOR	GFP	GROUND FAULT PROTECTION
4W	FOUR-WIRE		
A/C UNIT	AIR CONDITIONING UNIT	GTB	GENERATOR TAP BOX
A/E	ARCHITECT/ENGINEER	HID	HIGH INTENSITY DISCHARGE
AAP	ALARM ANNUNCIATOR PANEL	HOA	HAND-OFF-AUTOMATIC
AC	ALTERNATING CURRENT OR ARMORED CABLE	HP	HORSEPOWER
ACC	ACCESSIBLE	HT	HEIGHT
ADDL	ADDITIONAL	HZ	HERTZ
ADJ	ADJACENT, ADJOINING	IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
AF	AMPERE FRAME OR AMP FUSE		
AFC	ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT	IMC	INTERMEDIATE METAL CONDUIT
		INCAND	INCANDESCENT
AFCI	ARC-FAULT CURRENT INTERRUPTER	IR	INFRARED
		IWH	INSTANTANEOUS WATER HEATER
AFF	ABOVE FINISHED FLOOR	J-BOX	JUNCTION BOX
AFG	ABOVE FINISHED GRADE	KV	KILOVOLT
Ah	AMPERE HOUR	kVA	KILOVOLT AMPERE
AHJ	AUTHORITY HAVING JURISDICTION	kVAh	KILOVOLT AMPERE PER HOUR
AIC	AMPERE INTERRUPTING CAPACITY	kVAR	KILOVOLT AMPERE REACTIVE
ALT	ALTERNATE	kW	KILOWATT
AMB	AMBIENT	kWh	KILOWATT HOUR
AMP	AMPERE	kWM	KILOWATT HOUR METER
ASC	AMPS SHORT CIRCUIT	LED	LIGHT EMITTING DIODE
AT	AMPERE TRIP	LF	LINEAR FEET (FOOT)
ATS	AUTOMATIC TRANSFER SWITCH	LP	LIGHT POLE
AUTO	AUTOMATIC	LPS	LOW PRESSURE SODIUM
AV	AUDIO VISUAL	LRA	LOCKED ROTOR AMPS
BAT	BATTERY	LT	LIGHT
BD	BOARD	LTG	LIGHTING
BFF	BELOW FINISH FLOOR	LTG PNL	LIGHTING PANEL
BLDG	BUILDING	LTNG	LIGHTNING
BRKR	BREAKER	LV	LOW VOLTAGE
BYP	BY PASS	MAX	MAXIMUM
C	CONDUIT	MC	METAL-CLAD
CAB	CABINET	MCA	MINIMUM CIRCUIT AMPS
CALC	CALCULATE	MCB	MAIN CIRCUIT BREAKER
CAP	CAPACITY	MCC	MOTOR CONTROL CENTER
CAT	CATALOG	MECH	MECHANICAL
CATV	COMMUNITY ANTENNA	MH	MANHOLE
CCR	CONTROL CONTACTOR	MIN	MINIMUM
CCTV	CLOSED CIRCUIT TELEVISION	MOCP	MAXIMUM OVERCURRENT PROTECTION
cd	CANDELA	MLO	MAIN LUGS ONLY
CD	CONSTRUCTION DOCUMENTS	MT	MOUNT
CF	CONTRACTOR FURNISHED	MTD	MOUNTED
CF/CI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	MTG	MOUNTING
		MTS	MANUAL TRANSFER SWITCH
CF/OI	CONTRACTOR FURNISHED OWNER INSTALLED	MV	MEDIUM VOLTAGE
		MVA	MEGAVOLT-AMPERE
PANEL	CONTRACTOR	MW	MEGAWATT
CFE	CONTRACTOR FURNISHED EQUIPMENT	NA	NOT APPLICABLE
		NC	NORMALLY CLOSED
		NEC	NATIONAL ELECTRICAL CODE
CHW	CHILLED WATER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CHWP	CHILLED WATER PUMP		
CKT	CIRCUIT		
CKT BRKR	CIRCUIT BREAKER OR C/B	NEUT	OR N NEUTRAL
CLF	CURRENT LIMITING FUSE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CLG	CEILING		
COAX	COAX CABLE	NIC	NOT IN CONTRACT
COMM	COMMUNICATION	NL	NIGHT LIGHT
COMPT	COMPARTMENT	NO	NORMALLY OPEN
CONC	CONCRETE	NTS	NOT TO SCALE
CONT	CONTINUE	OC	ON CENTER
CONTR	CONTRACTOR	OD	OUTSIDE DIAMETER
COORD	COORDINATE	OL	OVERLOAD
CPT	CONTROL POWER TRANSFORMER	P	POLE ˆNISHED/CONTRACTOR
		PB	PULL BOX
CRI	COLOR RENDERING INDEX	PEC	PHOTOELECTRIC CELL
CT	CURRENT TRANSFORMER	PED	PEDESTAL
CTV	CABLE TELEVISION	PEND	PENDANT
CU	COPPER	PF	POWER FACTOR
CUR	CURRENT	PH	PHASE
dB	DECIBEL	PNL	PANEL
DC	DIRECT CURRENT	PT	POTENTIAL TRANSFORMER
DCP	DIMMER CONTROL PANEL	PVC	POLYVINYL CHLORIDE (PLASTIC)
DEG C	DEGREES CELSIUS	PWR	POWER
DEG F	DEGREES FAHRENHEIT	RCP	REFLECTED CEILING PLAN
DEMO	DEMOLITION	REC	RECESSED
DIAG	DIAGRAM	RECPT	RECEPTACLE
DISC	DISCONNECT	RM	ROOM
DISTR PNL	DISTRIBUTION PANEL	RMS	ROOT MEAN SQUARE
DMR SW	DIMMER SWITCH	REQD	REQUIRED
DPDT	DOUBLE POLE, DOUBLE THROW	SCC	SHORT CIRCUIT CAPACITY
DPST	DOUBLE POLE, SINGLE THROW	SD	SMOKE DETECTOR
DRSW	DOOR SWITCH	SF	SQUARE FOOT (FEET)
DS	DISCONNECT SWITCH	SHT	SHEET
DWG	DRAWING	SI	INTERNATIONAL SYSTEM OF SPECIFICATION
EL	ELEVATION	SPEC	
ELEC	ELECTRIC OR ELECTRICAL	SPST	SINGLE POLE, SINGLE THROW
ELEV	ELEVATOR	SURF	SURFACE
EMER	EMERGENCY	SW	SWITCH
EMI	ELECTROMAGNETIC INTERFERENCE	SWBD	SWITCHBOARD
		SWGR	SWITCHGEAR
EMT	ELECTRICAL METALLIC TUBING	TEL	TELEPHONE
ENCL	ENCLOSURE	TV	TELEVISION
EPO	EMERGENCY POWER OFF	TYP	TYPICAL
EPRF	EXPLOSION PROOF	UFD	UNDERFLOOR DUCT
ESMT	EASEMENT	UGND	UNDERGROUND
EWC	ELECTRIC WATER COOLER	UL	UNDERWRITERS LABORATORY
EWH	ELECTRIC WATER HEATER	UON	UNLESS OTHERWISE NOTED
EXIST	OR EXISTING	UPS	UNINTERRUPTIBLE POWER
FA	FIRE ALARM	UTIL	UTILITY
FAAP	FIRE ALARM ANNUNCIATOR PANEL	V	VOLT
		VA	VOLT AMPERE
FACP	FIRE ALARM CONTROL PANEL	VAR	VOLT AMPERE REACTIVE
FC	FOOTCANDLE	VFD	VARIABLE FREQUENCY DRIVE
FIXT	FIXTURE	VOLT	VOLTAGE
FLA	FULL LOAD AMPS	W	WATT
FLUOR	FLUORESCENT	WH	WATER HEATER
FP	FIRE PROTECTION	WP	WEATHERPROOF
FT	FEET OR FOOT	XFER	TRANSFER
FU SW	FUSED SWITCH	XFMR	TRANSFORMER

ELECTRICAL SYMBOLS - DIAGRAM

- DELTA CONNECTION
- MOTOR, SINGLE-PHASE
- MOTOR, THREE-PHASE
- TRANSFORMER
- WYE CONNECTION
- EARTH GROUND
- JUNCTION BOX
- PB — PULL BOX
- SWITCH, MULTIPOSITION
- SWITCH, SINGLE BREAK
- NORMALLY CLOSED RELAY CONTACT
- NORMALLY OPEN RELAY CONTACT
- HV DRAWOUT FUSE
- LV FUSE WITH RATING
- LV FUSE DISCONNECT
- CIRCUIT BREAKER
- DRAWOUT AIR CIRCUIT BREAKER
- PM — POWER METER
- L, E, N — AUTOMATIC TRANSFER SWITCH
- TK — TURN KEY
- 50 — RELAY; NUMBER INDICATES RELAY TYPE
  50 = INSTANTANEOUS OVERCURRENT OR RATE-OF-RISE
  51 = AC-TIME OVERCURRENT
  67 = AC-DIRECTIONAL OVERCURRENT
  86 = LOCKING OUT
- PUSH BUTTON
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- STARTER, COMBINATION WITH DISCONNECT SWITCH
- STARTER OR MOTOR CONTROLLER
- BATTERY
- CAPACITOR
- METER BOXED
- METER LEFT
- METER RIGHT
- METER
- AMMETER
- VOLTMETER
- WATTMETER
- WATT-HOUR METER
- GENERATOR, POWER
- NOTE: OPEN TO ADD 2 LETTERS OF TEXT
- REVISION DELTAS
- KEY NOTES
- #-#-#-# — FEEDER TAG
- (E) OR BLANK #-#-#-# — SCHEDULE TAG
- CONDUIT CAP
- CONTINUATION
- DUCT SMOKE DETECTOR

ELECTRICAL SYMBOLS - POWER PLAN

- MOTOR, SINGLE-PHASE
- MOTOR, THREE-PHASE
- TRANSFORMER, PLAN
- WYE CONNECTION
- DUCT, CELL FLOOR HEADER
- DUCT, TROLLEY
- DUCT, UNDERFLOOR JUNCTION BOX
- EARTH GROUND
- JUNCTION BOX
- LADDER CABLE TRAY
- BRANCH CIRCUIT HOMERUN. LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN
- PULL BOX
- WIREWAY
- SUBSTATION
- HI VOLTAGE SWITCH ON CONCRETE PAD
- LOW VOLTAGE SWITCH ON CONCRETE PAD
- BUSWAY
- PUSH BUTTON
- DISTRIBUTION PANEL
- PANELBOARD, FLUSH MOUNTED
- PANELBOARD, SURFACE MOUNTED
- RECEPTACLE, CLOCK HANGER
- RECEPTACLE, DUPLEX
- RECEPTACLE, DUPLEX ON EMERGENCY POWER
- RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER
- RECEPTACLE, QUADRAPLEX
- RECEPTACLE, SINGLE
- RECEPTACLE, SINGLE WITH SWITCH
- RECEPTACLE, SPECIAL PURPOSE
  A = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 5-20R.
  B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R.
  C = 120V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 5-30R.
  D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R.
  E = 208V, 60A, 1 PHASE, 3-POLE, 4W, NEMA 14-60R.
  F = 208V, 30A, 3 PHASE, 3-POLE 4W, NEMA 15-30R.
  G = 208V, 50A, 3 PHASE, 3 POLE, 4W, NEMA 15-30R.
  H = 208V, 60A, 3 PHASE, 3 POLE, 4W, NEMA 15-60R.
- RECEPTACLE, SWITCHED DUPLEX
- DROP CORD, SINGLE CONVENIENCE OUTLET, 3-WIRE, GROUNDING TYPE, 20A, W/#12 CONDUCTORS IN FLEXIBLE CORD (CENTER LINE OF OUTLET: 6'-6" [1981mm] AFF. MINIMUM).
- ELECTRICAL STRIP MOLD (OUTLETS ON 2'-0" [610mm] CENTERS OR AS DESIGNATED ON DRAWINGS), MTD 3'-6" [1067mm] AFF OR AS INDICATED.
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- STARTER, COMBINATION WITH DISCONNECT SWITCH
- STARTER OR MOTOR CONTROLLER
- SWITCH
  F = FUSED SWITCH
  L = LOCK
  M = MANUAL MOTOR STARTING
  MP= MOTOR SNAP WITH PILOT LIGHT (THERMAL TYPE)
  PB= PUSH BUTTON STATION
  WP= WEATHER PROOF
  K = KEY OPERATED
  LM= LOW VOLTAGE MASTER
  MC= MOMENTARY CONTACT
  P = WITH PILOT LIGHT
  RC= REMOTE CONTROL
  X = EXPLOSION PROOF
- REVISION DELTAS
- KEY NOTES
- FAULT CURRENT TAG
- (E) OR BLANK #-#-#-# — SCHEDULE TAG
- #-#-#-# — CONDUIT AND WIRE TAG

ELECTRICAL SYMBOLS - LIGHTING PLAN

- CEILING MOUNTED OCCUPANCY SENSOR
- SWITCH (# SUBSCRIPT AS INDICATED BELOW):
  BLANK = SINGLE POLE
  3 = THREE-WAY
  D = DIMMER
  LV= LOW VOLTAGE
  LM= LOW VOLTAGE MASTER
  PB= PUSH BUTTON STATION
  T = TIMER OPERATED
  2 = DOUBLE POLE
  4 = FOUR-WAY
  K = KEY OPERATED
  P = WITH PILOT LIGHT
  RC= REMOTE CONTROL
  WP= WEATHER PROOF
  Mo= OCCUPANCY SENSOR
- RECESSED DOWNLIGHT FIXTURE, LETTER INDICATES TYPE.
- LIGHT FIXTURE, RECESSED, 610x1220mm (2'x4'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, RECESSED, 305x1220mm (1'x4'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, RECESSED, 305x2439mm (1'x8'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, SURFACE MOUNTED, 610x1220mm (2'x4'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, SURFACE MOUNTED, 305x1220mm (1'x4'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, SURFACE MOUNTED, 305x2439mm (1'x8'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, EMERGENCY; LETTER INDICATES TYPE.
- LIGHT FIXTURE, RECESSED, 610x610mm (2'x2'); LETTER INDICATES TYPE.
- LIGHT FIXTURE, SURFACE MOUNTED, 2'x2' [610x610mm]; LETTER INDICATES TYPE.
- LIGHT TRACK WITH HEADS AS SHOWN
- LIGHT FIXTURE, STRIP; LETTER INDICATES TYPE.
- LIGHT FIXTURE, WALL MOUNTED
- LIGHTING, ONE HEAD EMERGENCY BATTERY POWER
- LIGHTING, TWO HEAD EMERGENCY BATTERY POWER
- LIGHTING, THREE HEAD EMERGENCY BATTERY POWER
- STREET LIGHT WITH BRACKET
- LIGHT POLE, ONE LUMINAIRE
- LIGHT POLE, TWO LUMINAIRES
- LIGHT POLE, POST TOP MOUNT LUMINAIRE
- LIGHTING WALL PACK, EXTERIOR BUILDING
- EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN
- EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN
- LIGHT FIXTURE, BOLLARD
- REVISION DELTAS
- KEY NOTES
- (E) OR BLANK #-#-#-# — SCHEDULE TAG

ELECTRICAL LAYERS

- BACKGROUND
- COLUMN LINE
- DEMOLITION
- EXISTING
- NEW
- DIAGRAM ENCLOSURE
- RELOCATE
- SCOPE
- TEXT
- FENCE
- SITE EQUIPMENT
- SITE PARKING / CURB
- SITE SIDEWALK
- BUILDING OUTLINE
- PLAN DRAWINGS - ABOVE GROUND CONDUIT
- PLAN DRAWINGS - BELOW GROUND CONDUIT
- DIAGRAM DRAWINGS - INTERLOCK CONNECTIONS
- 1-HOUR FIRE-RATED WALL
- 2-HOUR FIRE-RATED WALL

GENERAL NOTES

1. THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS OF TEMPORARY PARTITIONS AND/OR TARPS TO KEEP DUST AND DIRT WITHIN THE CONSTRUCTION AREA.
2. ALL ITEMS INDICATED AS BEING DEMOLISHED OR REMOVED SHALL BE DISPOSED OF OFF-SITE.
3. ALL SHUT DOWNS OF EXISTING SYSTEMS SHALL BE SCHEDULED AND APPROVED BY THE COR PRIOR TO COMMENCEMENT OF SAID WORK.
4. CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ALL DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT.
5. USE OF THE OWNER'S ELEVATORS AND BUILDING CORRIDORS FOR THE HANDLING OF NEW AND/OR REMOVED EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE COR AND SHALL BE COORDINATED WITH HIS OPERATIONS.
6. EXCEPT WHERE INDICATED AS BEING RELOCATED, EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS.
7. WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
8. ON THESE DOCUMENTS SHALL BE APPROVED BY THE COR PRIOR TO COMMENCEMENT OF SAID WORK.
9. ALL SUSPENDED PIPING, DUCTWORK, CONDUIT AND CABLE TRAYS SHALL BE PROVIDED WITH, SEISMIC SWAY BRACES IN ACCORDANCE WITH THE MASON INDUSTRIES SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED PIPING, DUCTWORK AND ELECTRICAL SYSTEMS AND THE APPLICABLE CODES. INSTALLED SYSTEM SHALL MATCH EXISTING, RIGID OR CABLE TYPE.
10. NOT ALL SYMBOLS, ABBREVIATIONS AND EQUIPMENT ABBREVIATIONS INDICATED APPEAR ON THESE CONTRACT DRAWINGS

GENERAL DEMOLITON NOTES

1. SCHEDULE ALL SHUTDOWNS THAT AFFECT UTILITIES AND PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION WITH THE COR.
2. DEMOLITION WORK AT ALL TIMES SHALL BE SUBJECT TO THE DIRECTION AND APPROVAL OF THE COR AND CARRIED OUT IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE NORMAL OPERATION OF THE BUILDING.
3. DISPOSE OF ALL REMOVED MATERIALS IN AN APPROVED MANNER.
4. FOR EXISTING EQUIPMENT, SUCH AS LIGHTING FIXTURES, WIRING DEVICES, CONDUITS, ETC., SHOWN ON PLANS TO BE REMOVED, COMPLETELY CUT/CAP CONDUITS AT THE AREA OF WORK PERIMETER AND REMOVE CONDUIT WITHIN THE WORK AREA, DISCONNECT WIRING AT THE OVERCURRENT PROTECTIVE DEVICE AND REMOVE WIRING COMPLETELY FROM THE ABANDONED CONDUITS.
5. DISCONNECT ALL ABANDONED WIRING OF ALL TYPES AT THE OVERCURRENT PROTECTIVE DEVICE. COMPLETELY REMOVE ALL ABANDONED WIRING.
6. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND CONDUCTORS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.
7. COORDINATE WITH COR ON REMOVAL AND PLACEMENT OF EQUIPMENT NOTED TO BE TURNED OVER TO COR. FOR EQUIPMENT NOT DESIRED BY, CONTRACTOR SHALL COR REMOVE OFF SITE IN AN APPROVED MANNER.

SCOPE OF WORK

THE DESIGN DRAWINGS WILL PROVIDE COVERAGE FOR THE REPLACEMENT OF THE ROOFTOP AIR HANDLING UNIT (AHU). ITS ASSOCIATED CONDENSER UNIT, AND EXHAUST FAN EF-6B. THE SCOPE INCLUDES DOCUMENTATION THE REMOVAL OF EXISTING EQUIPMENT, PLACEMENT OF NEW UNITS, AND ALL NECESSARY ELECTRICAL EQUIPMENT.

ALL ITEMS SHOWN AS THIN LINEWORK ARE EXISTING. ALL ITEMS SHOWN AS BOLD LINEWORK ARE NEW.

ALL ITEMS SHOWN WITH DIAGONAL HATCHING ARE TO BE DEMOLISHED. RE-USE EXISTING CONDUIT WHERE POSSIBLE.

TABLE OF CONTENTS

DWG #	DWG TITLE
E-001	ELECTRICAL SYMBOLS, GENERAL NOTES AND ABBREVIATIONS
ED-101	ELECTRICAL POWER PLANS - DEMO
EP-101	ELECTRICAL POWER PLANS - NEW
E-501	ELECTRICAL DETAILS
E-601	SINGLE LINE DIAGRAMS
E-701	ELECTRICAL SCHEDULES

EQUIP. ABBREVIATIONS

AAHX	AIR TO AIR HEAT EXCHANGER	CUH	CABINET UNIT HEATER	HRC	HEAT RECOVERY COIL	RF	RETURN FAN
ACC	AIR COOLED CONDENSER	CWCC	CHILLED WATER COOLING COIL	HRD	HEAT RECOVERY DEVICE	RHC	REHEAT COIL
ACCH	AIR COOLED CHILLER	CWP	CONDENSER WATER PUMP	HRP	HYDRONIC RADIANT (CEILING)	SAD	SOUND ATTENUATING DEVICE
ACCU	AIR COOLED CONDENSING UNIT	DXCC	DIRECT EXPANSION COOLING COIL	HRW	HEAT RECOVERY WHEEL	SF	SUPPLY FAN
ACU	AIR CONDITIONING UNIT	EC	EVAPORATIVE COOLER	HUM	HUMIDIFIER UNIT MOUNTED	SH	STEAM HUMIDIFIER
AF	AFTER FILTER	ECU	EVAPORATIVE CONDENSER UNIT	HVU	HEATING AND VENTILATING UNIT	SHC	STEAM HEATING COIL
AHU	AIR-HANDLING UNIT	EDH	ELECTRIC DUCT HEATER	HWC	HOT WATER COIL	SSHX	STEAM TO STEAM HEAT EXCHANGER
AS	AIR SEPARATOR	EF	EXHAUST FAN	HWHC	HOT WATER HEATING COIL		
B	BOILER	EH	EXHAUST HOOD	HWP	HEATING HOT WATER PUMP	ST	STEAM TRAP
BDR	BASE BOARD RADIATOR	ERC	ELECTRIC REHEAT COIL	HWUH	HOT WATER UNIT HEATER	SUH	STEAM UNIT HEATER
BHW	HOT WATER HEATING BOILER	ERP	ELECTRIC RADIANT PANEL	HX	HEAT EXCHANGER	SWHX	STEAM TO WATER HEAT EXCHANGER
BHX	BOILER BLOWDOWN HEAT EXCHANGER	ET	EXPANSION TANK	ICF	IN-LINE CENTRIFUGAL FAN		
		EUH	ELECTRIC UNIT HEATER	IU	INDUCTION UNIT	TU	TERMINAL UNIT
BT	BLOWOFF TANK	EWC	EVAPORATIVE WATER COOLER	LLHX	LIQUID TO LIQUID HEAT EXCHANGER	UC	UNIT COOLER
CC	COOLING COIL	FCU	FAN COIL UNIT (4 PIPE)			UH	UNIT HEATER
CCD	COOLING COIL CONDENSATE DRAIN	FCUC	FAN COIL UNIT COOLING ONLY	MAU	MAKE-UP AIR UNIT	VUH	VERTICAL UNIT HEATER
		FCUH	FAN COIL UNIT HEATING ONLY	P	PUMP	WCCH	WATER COOLED CHILLER
CFP	CHEMICAL FEED PUMP	FHX	FLUE GAS/FEEDWATER HEAT EXCHANGER	PF	PRE-FILTER	WCCU	WATER COOLED CONDENSING UNIT
CH	CHILLER			PHC	PREHEAT COIL		
CHP	CHILLED WATER PUMP	FPTU	FAN POWERED TERMINAL UNIT	PTAC	PACKAGED TERMINAL AIR CONDITIONER	WCHP	WATER COOLED HEAT PUMPS
COMP	COMPRESSOR UNIT	FTR	FIN TUBE RADIATION			WCPU	WATER COOLED PACKAGED UNIT
CP	CONDENSATE PUMP	H	HUMIDIFIER	RAHX	ROTARY AIR HEAT EXCHANGER	WEF	WALL EXHAUST FAN
CS	CONDENSATE STORAGE TANK	HC	HEATING COIL	RCCH	REMOTE CONDENSER CHILLER	WF	WATER FILTER
CSG	CLEAN STEAM GENERATOR	HD	HOOD				
CT	COOLING TOWER	HP	HEAT PUMP	RCU	RECIPROCATING CHILLER UNIT		
CU	CONDENSING UNIT	HPDT	HIGH PRESSURE DRIP TRAP				

DRAWING SYMBOLS

- X — DETAIL NUMBER
- X / M-XXX — SECTION LETTER / DRAWING NUMBER
- SAN / P-1 — RISER SYSTEM / RISER NUMBER

BID SET SUBMISSION	05/14/2026
Revisions:	Date

CONSULTANTS:

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05/14/2026

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Drawing Title: ELECTRICAL SYMBOLS, GENERAL NOTES AND ABBREVIATIONS

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC, 1370 EAST BLVD, CLEVELAND, OH 44495

Date: 05/14/2026 | Checked: HF | Drawn: SE

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: BASEMENT

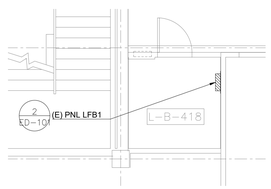
Drawing Number: E-001

Dwg. of

Office of Construction and Facilities Management

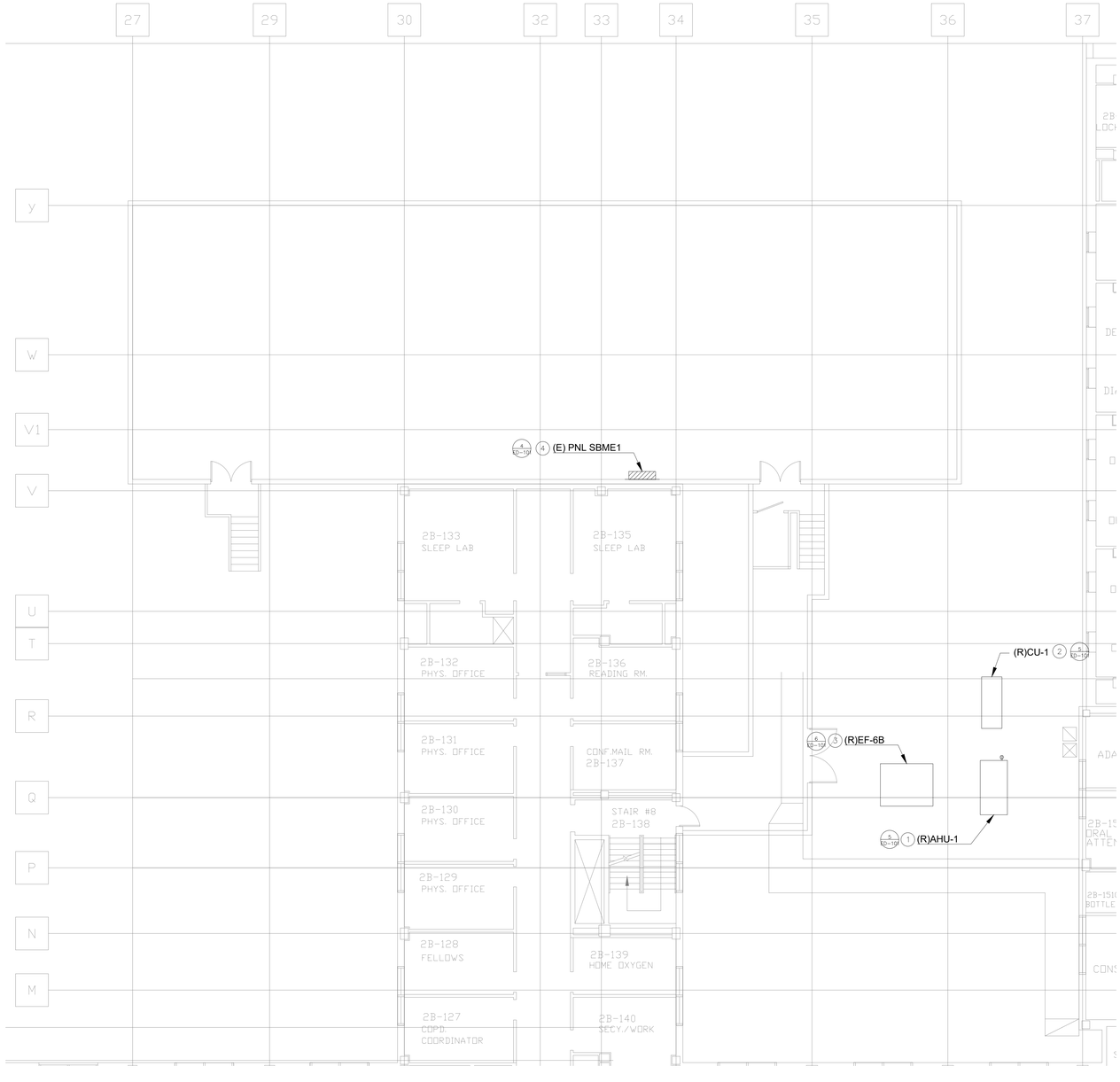
Department of Veteran Affairs

VA FORM 08-6231



1 ELECTRICAL BASEMENT POWER PLAN - DEMO
3/16" = 1'-0"

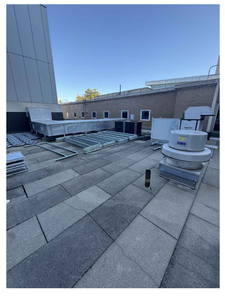
2 (E) PNL LFB1



3 ELECTRICAL ROOF POWER PLAN - DEMO
1/8" = 1'-0"

4 (E) PNL SBME1

5 AHU-1 (LEFT) AND CU-1 (RIGHT)



6 EF-6B

SHEET NOTES

A. FOR EXISTING EQUIPMENT, SUCH AS LIGHTING FIXTURES, WIRING DEVICES, CONDUITS, ETC., SHOWN ON PLANS TO BE REMOVED, COMPLETELY CUT/CAP CONDUITS AT THE AREA OF WORK PERIMETER AND REMOVE CONDUIT WITHIN THE WORK AREA. DISCONNECT WIRING AT THE OVERCURRENT PROTECTIVE DEVICE AND REMOVE WIRING COMPLETELY FROM THE ABANDONED CONDUITS.

B. DISCONNECT ALL ABANDONED WIRING OF ALL TYPES AT THE OVERCURRENT PROTECTIVE DEVICE. COMPLETELY REMOVE ALL ABANDONED WIRING.

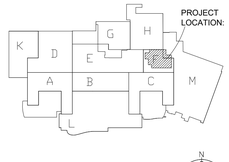
C. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND CONDUCTORS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.

D. FIRE PROOF ALL CONDUIT THAT PENETRATES FIRE RATED WALLS AND FLOORS. REFER TO BUILDING CODES AND SPECIFICATIONS FOR APPROVED FIRE PROOFING MATERIALS AND METHOD.

KEY NOTES

1. REPLACE THE EXISTING ROOFTOP AIR HANDLING UNIT (AHU-1). DISCONNECT AND REMOVE EXISTING ELECTRICAL FEEDERS, CONDUITS, AND CONTROL WIRING ASSOCIATED WITH THE OLD AHU BACK TO THE NEAREST JUNCTION POINT OR PANEL AS REQUIRED.
2. REPLACE THE EXISTING ROOFTOP CONDENSER UNIT. DISCONNECT AND REMOVED ALL RELATED ELECTRICAL FEEDERS, CONDUITS, AND CONTROL WIRING FOR THE OLD UNIT BACK TO THEIR SOURCE OR NEAREST JUNCTION POINT AS REQUIRED.
3. REPLACE THE EXISTING EXHAUST FAN AND INSTALL THE NEW FAN IN THE SAME LOCATION. DISCONNECT AND REMOVE EXISTING ELECTRICAL CONNECTIONS FOR THE OLD FAN.
4. REPLACE EXISTING CIRCUIT BREAKERS SUPPLYING AHU-1, EF-6B, AND CU-1. SEE SINGLE LINE E-601 FOR FURTHER DETAIL.

KEY PLAN



BID SET SUBMISSION	05/14/2026
Revisions:	Date

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STATE OF CALIFORNIA
05/14/2026

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Drawing Title: ELECTRICAL POWER PLANS - DEMO

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: HF | Drawn: SE

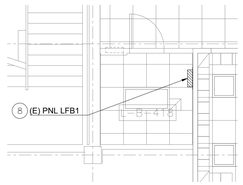
Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: MULTIPLE

Drawing Number: ED-101
Dwg. of

Office of Construction and Facilities Management
Department of Veteran Affairs

VA FORM 08-6231



8 1 ELECTRICAL BASEMENT POWER PLAN - NEW
3/16" = 1'-0"

8 2 ELECTRICAL ROOF POWER PLAN - NEW
1/8" = 1'-0"

SHEET NOTES

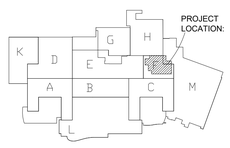
A. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

B. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

KEY NOTES

1. INSTALL 3R NEW 100/3P DISCONNECT FOR NEW AHU. SEE E-601 SINGLE DIAGRAM FOR NEW CONDUIT AND FEEDER SIZE. REUSE EXISTING UNISTRUT SUPPORT.
2. INSTALL 3R NEW 15/3P DISCONNECT FOR NEW EF. SEE E-601 SINGLE LINE DIAGRAM FOR NEW CONDUIT AND FEEDER SIZE.
3. INSTALL 3R NEW 15/3P DISCONNECT FOR NEW CU. SEE E-601 SINGLE LINE DIAGRAM FOR NEW CONDUIT AND FEEDER SIZE. REUSE EXISTING UNISTRUT SUPPORT.
4. INSTALL DUCT DETECTOR. COORDINATE WITH MECHANICAL CONTRACTOR FOR LOCATION. INTERCONNECT TO EXISTING FIRE ALARM SYSTEM.
5. INSTALL NEW 3/4" CONDUIT FROM NEW AHU TO NEW CONDENSOR UNIT FOR COMMUNICATION.
6. INSTALL NEW GFCI RECEPTICLE TO COMPLY WITH NEC 406.9 (B) FOR WET LOCATIONS.
7. INSTALL NEW DATA OUTLET. PROVIDE 3/4" CONDUIT TO IT ROOM. ROUTE ALL DATA CONDUITS TO EXISTING IT ROOM. TERMINATE CABLES ON EXISTING PATCH PANEL OR RACK. COORDINATE WITH VA IT STAFF.
8. REUSE EXISTING BREAKER TO SUPPLY NEW MAINTENANCE RECEPTACLE AND LIGHT AT NEW ROOFTOP AHU UNIT.

KEY PLAN



BID SET SUBMISSION	05/14/2026
Revisions:	Date

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Drawing Title: ELECTRICAL POWER PLANS - NEW

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: HF | Drawn: SE

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: MULTIPLE

Drawing Number: EP-101

Dwg. of

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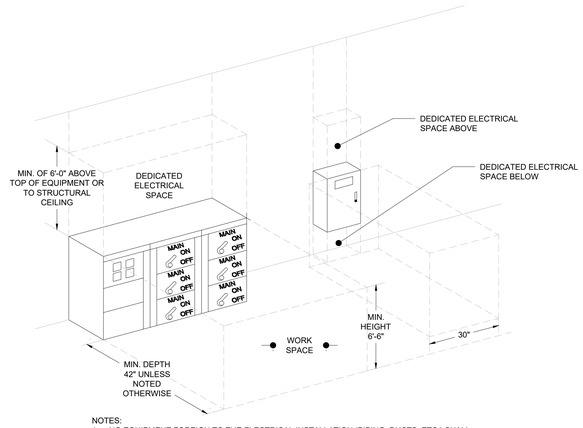
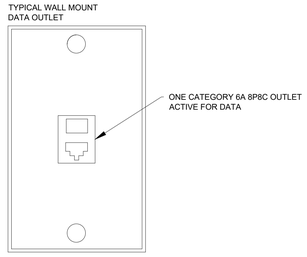
Department of Veteran Affairs

VA FORM 08-6231



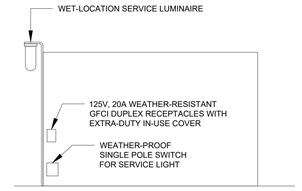
NOTES:
1. NO EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION (PIPING, DUCTS, ETC.) SHALL ENTER THE DEDICATED SPACE ABOVE OR BELOW ELECTRICAL POWER EQUIPMENT INCLUDING SWITCHGEAR, SWITCHBOARDS, PANELBOARDS, AND MOTOR CONTROL CENTERS.
2. PIPING SYSTEMS INSTALLED ABOVE THE DEDICATED ELECTRICAL SPACE SHALL BE ALLOWED WHERE DRIP PANS ARE INSTALLED TO CAPTURE LEAKS, RUPTURES, OR CONDENSATION DRIPS. THE PIPING AND DRIP PANS SHALL BOTH BE OUTSIDE THE DEDICATED SPACE ENVELOPE.
3. WORK SPACE SHALL BE PROVIDED AT ALL EQUIPMENT UNDER 600V REQUIRING ACCESS INCLUDING BUT NOT LIMITED TO PANELS, DISCONNECTS, STARTERS, CONTROL PANELS INTEGRATED INTO HVAC/PLUMBING/FP EQUIPMENT, ETC.
4. NO EQUIPMENT SHALL PROTRUDE INTO THE WORK SPACE.
5. WORK SPACE DEPTH BASED UPON NEC TABLE 110.26(A)(1) CONDITION 2 150V TO GROUND.

1 ELECTRICAL WORK AND DEDICATED SPACE
NTS



2 DATA OUTLET DETAIL
NTS

NOTES:
1. PROVIDE SERVICE LIGHTING AND A MAINTENANCE RECEPTACLE AT ROOFTOP MECHANICAL UNITS.
2. ALL DEVICES ARE TO BE INSTALLED ON A RIGID CONDUIT SUPPORT ATTACHED TO THE HVAC UNIT FRAME.



SIDE VIEW

3 AHU DETAIL WITH OUTDOOR LIGHT
NTS

BID SET SUBMISSION	05/14/2026
Revisions	Date

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Drawing Title: ELECTRICAL DETAILS

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: HF | Drawn: SE

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: ---

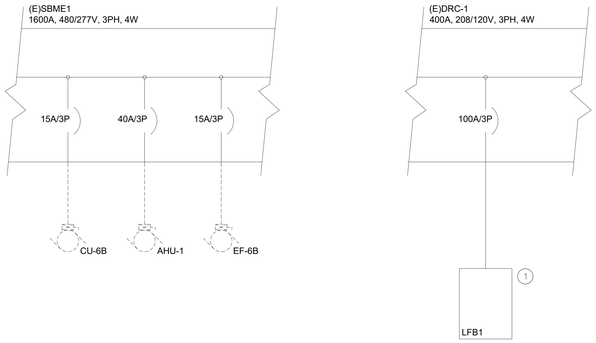
Drawing Number: E-501

Dwg. of

Office of Construction and Facilities Management

Department of Veteran Affairs

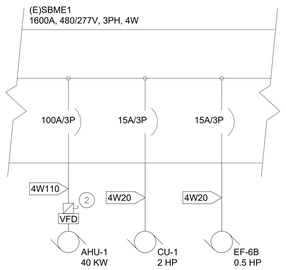
VA FORM 08-6231



1 SINGLE LINE DIAGRAM EXISTING

FEEDER SCHEDULE

FEEDER NUMBER	ALL FEEDER SIZES MAY NOT APPEAR ON THESE DWGS.		
#	NO. OF CONDUITS	SIZE OF CONDUITS	NO. AND SIZE OF CONDUCTORS IN EACH CONDUIT
1W20	1	3/4"	1#12 AWG & 1#12 GND
3W20	1	3/4"	3#12 AWG & 1#12 GND
4W20	1	3/4"	4#12 AWG & 1#12 GND
2W30	1	3/4"	2#10 AWG & 1#10 GND
3W30	1	3/4"	3#10 AWG & 1#10 GND
4W30	1	3/4"	4#10 AWG & 1#10 GND
2W40	1	1"	2#8 AWG & 1#10 GND
3W40	1	1"	3#8 AWG & 1#10 GND
4W40	1	1"	4#8 AWG & 1#10 GND
3W50	1	1"	3#6 AWG & 1#10 GND
4W50	1	1"	4#6 AWG & 1#10 GND
3W70	1	1 1/2"	3#4 AWG & 1#8 GND
4W70	1	1 1/2"	4#4 AWG & 1#8 GND
3W90	1	1 1/2"	3#2 AWG & 1#8 GND
4W90	1	1 1/2"	4#2 AWG & 1#8 GND
3W110	1	2"	3#1 AWG & 1#6 GND
4W110	1	2"	4#1 AWG & 1#6 GND
3W150	1	2"	3#1/0 AWG & 1#6 GND
4W150	1	2"	4#1/0 AWG & 1#6 GND
3W175	1	2"	3#2/0 AWG & 1#6 GND
4W175	1	2"	4#2/0 AWG & 1#6 GND
3W200	1	2"	3#3/0 AWG & 1#6 GND
4W200	1	2"	4#3/0 AWG & 1#6 GND
3W225	1	2 1/2"	3#4/0 AWG & 1#4 GND
4W225	1	2 1/2"	4#4/0 AWG & 1#4 GND
3W250	1	3"	3#250 KCMIL & 1#4 GND
4W250	1	3"	4#250 KCMIL & 1#4 GND
3W300	1	3"	3#350 KCMIL & 1#4 GND
4W300	1	3"	4#350 KCMIL & 1#4 GND
3W350	1	4"	3#500 KCMIL & 1#2 GND
4W350	1	4"	4#500 KCMIL & 1#2 GND
3W400	1	4"	3#600 KCMIL & 1#2 GND
4W400	1	4"	4#600 KCMIL & 1#2 GND
3W450	2	2 1/2"	3#4/0 AWG & 1#2 GND
4W450	2	2 1/2"	4#4/0 AWG & 1#2 GND
3W500	2	2 1/2"	3#250 KCMIL & 1#2 GND
4W500	2	2 1/2"	4#250 KCMIL & 1#2 GND
3W600	2	3"	3#350 KCMIL & 1#1 GND
4W600	2	3"	4#350 KCMIL & 1#1 GND
3W800	2	4"	3#600 KCMIL & 1#1/0 GND
4W800	2	4"	4#600 KCMIL & 1#1/0 GND
3W1000	3	4"	3#500 KCMIL & 1#2/0 GND
4W1000	3	4"	4#500 KCMIL & 1#2/0 GND
3W1200	3	4"	3#600 KCMIL & 1#3/0 GND
4W1200	3	4"	4#600 KCMIL & 1#3/0 GND
3W1600	4	4"	3#600 KCMIL & 1#4/0 GND
4W1600	4	4"	4#600 KCMIL & 1#4/0 GND
3W2000	5	4"	3#600KCMIL & 1#250KCMIL GND
4W2000	5	4"	4#600KCMIL & 1#250KCMIL GND
3W3000	8	4"	3#600KCMIL & 1#600KCMIL GND
4W3000	8	4"	4#600KCMIL & 1#600KCMIL GND
3W4000	10	4"	3#600KCMIL & 1#750KCMIL GND
4W4000	10	4"	4#600KCMIL & 1#750KCMIL GND



2 SINGLE LINE DIAGRAM NEW

KEY NOTES

1. REUSE EXISTING 20A CIRCUIT BREAKER AND CONDUCTORS FEEDING EXISTING MAINTENANCE RECEPTACLE AT AHU-1. SEE E-701 FOR FURTHER DETAIL.
2. FUSED NEMA 3R DISCONNECT PROVIDED BY AHU MANUFACTURER.

BID SET SUBMISSION	05/14/2026
Revisions	Date

CONSULTANTS:

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05/14/2026

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Drawing Title: ELECTRICAL SINGLE LINE DIAGRAM

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026 | Checked: HF | Drawn: SE

Project Number: 541-25-504

Building No.: BLDG 1 | Floor No.: --

Drawing Number: E-601

Dwg. of

Office of Construction and Facilities Management

Department of Veteran Affairs

VA FORM 08-6231

Branch Panel: (E)LFB1

Location: POOL EQUIPMENT ROOM
Supply From: DRC-1
Mounting: Surface
Enclosure: Type 1

Volts: 208/120 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10K
Mains Type: MCB
Mains Rating: 100A
MCB Rating: 100A

Notes:

	CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
	1	EQUIPMENT ROOM	20 A	1				1	20 A	PT/RT WORK	2
	3	STORAGE, LOCKER ROOM	20 A	1				1	20 A	STAFF TOILET, SHOWER	4
	5	WOMEN'S LOCKER ROOM	20 A	1				1	20 A	ADMIN WK. ST.	6
	7	MEN'S LOCKER ROOM	20 A	1				1	20 A	WORK RM. WASHER	8
	9	WAITING, WORK RM.	20 A	1				1	20 A	WORK ROOM - SPIN DRYER	10
	11	EXAM COMPUTER	20 A	1				1	20 A	POOL CHEMICAL CONTROL PANEL	12
	13	EXAM CONSULT	20 A	1				1	20 A	REHAB SPACE	14
	15	DOOR OPERATORS	20 A	1				1	20 A	REHAB SPACE	16
	17	DOOR OPERATORS	20 A	1				2	20 A	RELOCATED LOKOMAT SYSTEM	18
	19	DOOR OPERATORS	20 A	1				--	--	--	20
	21	FAPS	20 A	1				2	20 A	RELOCATED LOKOMAT SYSTEM	22
	23	PLUMBING SENSORS, VALVES	20 A	1				--	--	--	24
	25	EXISTING CIRCULATING PUMP	20 A	3				3	20 A	EXISTING VACUUM PUMP	26
	27	--	--	--				--	--	--	28
	29	--	--	--				--	--	--	30
(1)	31	ROOFTOP MAINT. RECEPT.	20 A	1				1	20 A	SPARE	32
	33	SPARE	20 A	1				1	20 A	SPARE	34
	35	SPARE	20 A	1				1	20 A	SPARE	36
	37	POOL LIGHTING	20 A	1				1	20 A	POOL LIGHTING	38
	39	POOL LIGHTING	20 A	1				1	20 A	POOL LIGHTING	40
	41	POOL LIGHTING	20 A	1				1	20 A	POOL LIGHTING	42

1. REUSE EXISTING CIRCUIT BREAKER TO FEED NEW MAIN LIGHT AND RECEPTACLES AT ROOFTOP AHU.

Switchboard: (E)SBME1

Location: --
Supply From: -
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65K
Mains Type: MCB
Mains Rating: 1600A
MCB Rating: 1600A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	1-EUH-7	3	20 A	20 A	--	
2	SPARE	3	20 A	20 A	--	
3	RF-2	3	40 A	40 A	--	
4	SPARE	3	35 A	35 A	--	
5	SF-2A	3	70 A	70 A	--	
6	1-EUH2	3	70 A	70 A	--	
7	SF-2B	3	70 A	70 A	--	
8	1-EUH4	3	70 A	70 A	--	
9	POOL COMPRESSOR	3	40 A	40 A	--	
10	POOL COND. UNIT	3	15 A	15 A	--	
11	EF2A/2B HOOD EXHAUST	3	15 A	15 A	--	
12	EF-1 HOOD EXHAUST	3	15 A	15 A	--	
13	SPARE	3	20 A	20 A	--	
14	SPACE	3	--	--	--	
15	SPARE	3	--	--	--	
16	SPARE	3	--	--	--	
17	SF-5A	3	--	--	--	
18	SF-5B	3	--	--	--	
19	NORMAL FEED TO ATS	3	--	--	--	
20	SF-4B	3	--	--	--	

MECHANICAL SCHEDULE

EQUIPMENT NAME	EQUIPMENT RATING						DISCONNECT SWITCH	PANEL	CONDUIT & WIRE	VFD PROVIDED BY:
	VOLTS	PHASE	HP	FLA	MCA	MOCP				
AHU-1 (POOL COMPRESSOR)	460	3	10	80.8	99	100		(E) SBME1 - 9		
AHU-1 (POOL CONDENSOR)	460	3	2	-	5	15		(E) SBME1 - 10		
EF-6B	460	3	0.5	-	-	-		(E) SBME1		

BID SET SUBMISSION	05/14/2026
Revisions	Date

CONSULTANTS:

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STAMP:

LICENSED PROFESSIONAL ENGINEER
HUNG FLORES RODRIGUEZ
E 24316
EXP. 12/31/26
ELECTRICAL
STATE OF CALIFORNIA
05/14/2026

ARCHITECT/ENGINEERS:

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Drawing Title: ELECTRICAL SCHEDULES

Approved: Project Director

Project Title: AE REPLACE REHAB MEDICINE AHU
CLEVELAND VA MEDICAL CENTER

Location: CLEVELAND VAMC
10701 EAST BLVD, CLEVELAND, OH 44106

Date: 05/14/2026
Checked: HF
Drawn: SE

Project Number: 541-25-504
Building No.: BLDG 1
Floor No.: --
Drawing Number: E-701
Dwg. of

Office of Construction and Facilities Management
Department of Veteran Affairs

VA FORM 08-6231