DEPARTMENT OF VETERANS AFFAIRS
MANN-GRANDSTAFF VA MEDICAL CENTER

UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

APPROVED FOR CONSTRUCTION

Approved: Director

Approved: Associate Director

Approved: Chief Facilities Management

Approved: Manager / Engineer

Approved: Safety Officer

Approved: Union representative

ABBREVIATIONS

A	
AFF	ABOVE FINISHED FLOOR
ACST	ACOUSTIC (AL)
ACT	ACOUSTICAL CEILING TILE
APC	ACOUSTICAL PANEL CEILING
AWP	ACOUSTICAL WALL PANEL
AWT	ACOUSTICAL WALL
ADJ	ADJUSTABLE
A/C	AIR CONDITIONING
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AB	ANCHOR BOLT
AL	ANGLE
APPROX	APPROXIMATE
ARCH	ARCHITECT (URAL)
ASPH	ASPHALT
ASSY	ASSEMBLY
AUTO	AUTOMATIC
AWN	AWNING
B	
BALC	BALCONY
BSMT	BASEMENT
BM	BEAM, BENCHMARK
BR	BEDROOM
BLKG	BLOCKING
BD	BOARD
BOT	BOTTOM
BRKT	BRACKET
BRK	BRICK
B CL	BROOM CLOSET
BLDG	BUILDING
BLT IN	BUILT-IN
BUR	BUILT-UP ROOFING
C	
CAB	CABINET
CPT	CARPET
CSMT	CASEMENT
CI	CAST IRON
CB	CATCH BASIN
CLG	CEILING
CEM	CEMENT
CL	CENTER LINE
CER	CERAMIC
CT	CERAMIC TILE
CO	CLEANOUT, CASED OPENING
CLR	CLEAR, COLOR
CLO	CLOSET
COL	COLUMN
CMPST	COMPOSITE
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COTR	CONTRACTING OFFICER
CJ	CONTROL JOINT
COP	COPING
CU	COPPER
CG	CORNER GUARD
CORR	CORRIDOR
CNTR	COUNTER
CSK	COUNTER SUNK
D	
DMPF	DAMPPROOFING
DL	DEAD LOAD
DEMO	DEMOLITION
DET	DETAIL
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DR	DOOR, DRAIN
DH	DOUBLE HUNG
DN	DOWN
DS	DOWNSPOUT
DWR	DRAWER
DWG	DRAWING
DF	DRINKING FOUNTAIN
DUPL	DUPLICATE

E	
EA	EACH
E	EAST
EWC	ELECTRIC WATER COOLER
ELEC	ELECTRIC (AL)
EL	ELEVATION
ELEV	ELEVATOR
EMER	EMERGENCY
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
ETR	EXISTING TO REMAIN
EXP	EXPANSION
EXP BT	EXPANSION BOLT
EJ	EXPANSION JOINT
EXP	EXPOSED
EXT	EXTERIOR
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
F	
FWC	FABRIC WALL COVERING
FT	FEET, FOOT
FGL	FIBERGLASS
FIN	FINISH
FIN GR	FINISH GRADE
FDV	FIRE DEPARTMENT VALVE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FP	FIREPROOF
FIXT	FIXTURE
FLASH	FLASHING
FLEX	FLEXIBLE
FLR	FLOOR
FD	FLOOR DRAIN
FLUOR	FLUORESCENT
FTG	FOOTING
FDTN	FOUNDATION
FRMG	FRAMING
FURN	FURNACE, FURNITURE
G	
GA	GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GL	GLASS
GL BLK	GLASS BLOCK
GB	GRAB BAR
GR	GRADE
GRAN	GRANITE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GUT	GUTTER
GYP BD	GYPSUM BOARD
H	
HNDRL	HANDRAIL
HDW	HARDWARE
HDWD	HARDWOOD
HD	HEAD
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HT	HEIGHT
HPT	HIGH POINT
HC	HOLLOW CORE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HB	HOSE BIBB
HOSP	HOSPITAL
HR	HOUR
I	
IN	INCH
INFO	INFORMATION
ID	INSIDE DIAMETER
INSUL	INSULATED,INSULATION
INT	INTERIOR
J	
JAN	JANITOR
JT	JOINT

K	
KPL	KICKPLATE
KIT	KITCHEN
KB	KNEE BRACE
L	
LAB	LABORATORY
LAM	LAMINATE
LC	LAUNDRY CHUTE
LV	LAVATORY
LT	LIGHT
LD	LINEAR DIFFUSER
L CL	LINEN CLOSET
LL	LIVE LOAD
LLV	LONG LEG VERTICAL
LPT	LOW POINT
M	
MACH	MACHINE
MH	MANHOLE
MFD	MANUFACTURED
MFR	MANUFACTURER
MRB	MARBLE BASE
MRF	MARBLE FLOOR
MKR BD	MARKER BOARD
MO	MASONRY OPENING
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDICAL
MC	MEDICINE CABINET
MEMB	MEMBRANE
MTL	METAL
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MOD	MODIFIED
MLDG	MOLDING
N	
NAT FIN	NATURAL FINISH
NOM	NOMINAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
O	
OFF	OFFICE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OPH	OPPOSITE HAND
ORCH	ORCHESTRA
ORN	ORNAMENTAL
OD	OUTSIDE DIAMETER
OH	OVERHANG, OVERHEAD
OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
O	OXYGEN
P	
P	PAINT
PR	PAIR
PNL	PANEL
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PERF	PERFORATED
PC	PIECE
PLAM	PLASTIC LAMINATE
PLAS	PLASTIC, PLASTER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PCC	PRECAST CONCRETE
PREFAB	PREFABRICATE
PREFIN	PREFINISH
PROD	PRODUCTION
Q	
QTY	QUANTITY
QT	QUARRY TILE

R	
R	RADIUS, RISER
RWD	REDWOOD
REF	REFERENCE, REFRIGERATOR
REINF	REINFORCE
REQD	REQUIRED
RB	RESILIENT BASE
RF	RESILIENT FLOORING
RA	RETURN AIR
REV	REVISION
RD	ROOF DRAIN
RM	ROOM
RO	ROUGH OPENING
RS	ROUGH SAWN
S	
SCHED	SCHEDULE
SECT	SECTION
SHTHG	SHEATHING
SHT	SHEET
SHV	SHELVING
SIM	SIMILAR
S	SOUTH
SP FIN	SPECIAL FINISH
SPEC	SPECIFICATION
SQ	SQUARE
SF	SQUARE FEET
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STL JST	STEEL JOIST
STOR	STORAGE
STRUCT	STRUCTURAL
S4S	SURFACED FOUR SIDES
SUSP	SUSPEND
SW	SWITCH
SYMM	SYMMETRICAL
T	
TK BD	TACKBOARD
TEL	TELEPHONE
TV	TELEVISION
TMPD	TEMPERED
TEMP	TEMPORARY
TER	TERRAZZO
THK	THICKNESS
TPD	TOILET PAPER DISPENSER
T&G	TONGUE AND GROOVE
TOS	TOP OF SLAB, STEEL
T	TREAD
TYP	TYPICAL
U	
UC	UNDERCUT
UNFIN	UNFINISH
UNO	UNLESS NOTED OTHERWISE
V	
VAC	VACUUM
VR	VAPOR RETARDER
VNR	VENEER
VP	VENEER PLASTER
VIF	VERIFY IN FIELD
VERT	VERTICAL
VEST	VESTIBULE
VCT	VINYL COMPOSITION TILE
VWC	VINYL WALL COVERING
W	
W CAB	WALL CABINETS
WC	WALL COVERING, WATER CLOSET
WP	WATERPROOFING, WEATHER
WT	WEIGHT
WWF	WELDED WIRE FABRIC
W	WEST
WF	WIDE FLANGE
WDW	WINDOW
W/	WITH
W/O	WITHOUT
WD	WOOD
WDP	WOOD PANELING

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	DEMOLITION
	EXISTING WALL
	NEW WALL
	CONTRACT LIMIT LINE
	COLUMN CENTER LINE

EXISTING COLUMN CENTER LINE

ELEVATION NUMBER
SHEET WHERE APPEARS

PLAN OR DETAIL NUMBER

BUILDING SECTION CUT

OTHER SECTION CUT
SHEET WHERE APPEARS (TYPICAL)

DETAIL FLAG NUMBER

WINDOW TAG

WALL TYPE

KEYED NOTE

INTERIOR FINISH TYPE

FURNITURE, FIXTURE, EQUIPMENT

WINDOW TREATMENT TYPE

EQUIPMENT

DASHED LINE AROUND AREA DETAILED

ELEVATION NUMBER

SHEET WHERE APPEARS

DOOR NUMBER

PROJECT DESCRIPTION

THE SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO UPGRADING AIR HANDLER UNITS 18, 20, AND 22 LOCATED ON THE ROOF AND IN THE PENTHOUSE OF BUILDING ONE.

THIS WORK SHALL INCLUDE BUT NOT BE LIMITED TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, & ELECTRICAL.

CODE REFERENCES

BUILDING CODE:
2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL FIRE CODE

ACCESSIBILITY CODE & GUIDELINES:
ABAAS & BFDG

MECHANICAL CODE:
2021 INTERNATIONAL MECHANICAL CODE

PLUMBING CODE:
2021 INTERNATIONAL PLUMBING CODE

ELECTRICAL CODE:
2020 NATIONAL ELECTRICAL CODE

NFPA 101 LIFE SAFETY CODE
NFPA NATIONAL FIRE CODES
NFPA 900 (OSHA)
NFPA 70

BUILDING INFORMATION

THIS IS AN EXISTING EIGHT-STORY BUILDING.

BUILDING OCCUPANCY:
GROUP I-2; HEALTHCARE

CONSTRUCTION TYPE:
EXISTING = TYPE 1A.
FIRE RESISTANCE IN ACCORDANCE WITH IBC TABLES 601 & 602
EXISTING = FULLY AUTOMATIC SPRINKLERED

FLOORS =2 HOUR FIRE RATED
STORAGE /MACHINE RM = 1 HR FIRE RATED
SHAFTS = 2 HR FIRE RATED

BUILDING AREA:
EXISTING TO REMAIN
(ALLOWABLE UNLIMITED)

BUILDING HEIGHT:
EXISTING TO REMAIN
(ALLOWABLE UNLIMITED, ACTUAL 113.5 FT)

OCCUPANCY LOAD:
EXISTING UNCHANGED

MINIMUM NUMBER OF EXITS (TABLE 1006.3.2)

OCCUPANT LOAD PER STORY	MIN EXITS PER STORY
1-500	2

EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2)
I-2 OCCUPANCY WITH SPRINKLERS = 200 FEET

DEAD END CORRIDORS (IBC 1020.4)
I-2 OCCUPANCY WITH SPRINKLERS = 20 FEET

BUILDING INFORMATION

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

TYPE I A

BUILDING ELEMENT	MIN HRS
STRUCTURAL FRAME INCLUDING COLUMNS, GRIDERS, AND BEAMS HAVING DIRECT CONNECTION TO THE COLUMNS	3[a,b]
BEARING WALLS	
EXTERIOR	3
INTERIOR	3[a]
NONBEARING WALLS AND PARTITIONS	
INTERIOR	0
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	2
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	1.5[b]

a. ROOF SUPPORTS: FIRE-RESISTANCE RATINGS OF PRIMARY STRUCTURAL FRAME AND BEARING WALLS ARE PERMITTED TO BE REDUCED BY 1 HR WHERE SUPPORTING A ROOF ONLY.
b. EXCEPT IN GROUP F-1, H, M AND S-1 OCCUPANCIES, FIRE PROTECTION OF STRUCTURAL MEMBERS IN ROOF CONSTRUCTION SHALL NOT BE REQUIRED, INCLUDING PROTECTION OF PRIMARY STRUCTURAL FRAME MEMBERS, ROOF FRAMING AND DECKING WHERE EVERY PART OF THE ROOF CONSTRUCTION IS 20 FEET OR MORE ABOVE ANY FLOOR IMMEDIATELY BELOW. FIRE-RETARDANT-TREATED WOOD MEMBERS SHALL BE ALLOWED TO BE USED FOR SUCH UNPROTECTED MEMBERS.

NOTE: STRUCTURAL STEEL MEMBERS THAT SUPPORT THE ROOF SHALL BE 2 HOUR FIRE RATED. THE PREFERRED FIRE RATING TO BE ACHIEVED USING A SPRAY APPLIED FIRE PROOFING.

ROOF CONSTRUCTION AND ASSOCIATED SECONDARY STRUCTURAL MEMBERS SHALL BE 1.5 HOUR FIRE RATED. THE PREFERRED FIRE RATING TO BE ACHIEVED USING A SPRAY APPLIED FIRE PROOFING.

GENERAL NOTES

A. ANY CHANGES MUST BE APPROVED BY THE CONTRACTING OFFICE (CO) BEFORE DOING ANY ADDITIONAL WORK. REFER TO SPECIFICATION SECTION 01 00 00 AND PHASING PLANS (SHEET GI 002) FOR REGULAR WORK SCHEDULE. ANY WORK OUTSIDE OF REGULAR SCHEDULE REQUIRES APPROVAL FROM THE CONTRACTING OFFICER (CO).

B. REFER TO PROJECTS LAYDOWN, STAGING, AND IMPACT AREAS FOR LAYDOWN AND STAGING AREAS - COORDINATE WITH CO.

C. PERFORM WORK IN ACCORDANCE WITH VHA DIRECTIVE 2004-012 SAFETY AND HEALTH DURING CONSTRUCTION ACTIVITIES AND VHA DIRECTIVE 7701 OCCUPATIONAL SAFETY AND HEALTH (OSH) .

D. WORK PERFORMED FOR THIS PROJECT MAY INTERRUPT SERVICE TO ADJACENT AREAS AT TIMES BUT WILL NOT INTERRUPT OVERALL FACILITY OPERATION. SEE ELECTRICAL FOR POWER INTERRUPTION AND OUTAGE REQUIREMENTS. SEE MECHANICAL FOR REQUIREMENTS OF INTERUPTIONS TO THE FOLLOWING BUILDING SYSTEMS: STEAM, CHILLED WATER, CONDENSATE, & POTABLE WATER. SEE FIRE PROTECTION FOR REQUIREMENTS FOR FIRE ALARM / SPRINKLER SYSTEMS.

E. CONTRACTOR TO VERIFY ALL DETAILS AGAINST EXISTING CONDITIONS PRIOR TO PURCHASE OF EQUIPMENT AND PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR BRINGING ANY DISCREPANCIES IN PLANS AND EXISTING SITE CONDITIONS TO IMMEDIATE ATTENTION OF CONTRACTING OFFICER.

F. CONTRACTOR SHALL PERFORM ALL WORK AND PROVIDE ALL MATERIALS IN ACCORDANCE WITH THIS PROJECT'S CONSTRUCTION SPECIFICATIONS

G. NOT ALL KEYNOTES ARE ON ALL SHEETS.

INFECTION CONTROL MEASURES

NOTE: IN ADDITION TO THE INFECTION CONTROL MEASURES OF ICRA CLASS & PERMIT LEVEL IV, THE CONTRACTOR SHALL REVIEW THE VA SAFETY-QUALITY CONTROL-INFECTION CONTROL DOCUMENTS IN THE SPECIFICATIONS.

ALTERNATES

ALTERNATE NO.1: EXISTING AHU-22 SHALL REMAIN IN PLACE ON THE ROOF AND SHALL CONTINUE TO SERVE LEVEL 3. OMIT ALL WORK ASSOCIATED WITH NEW AHU-22 AND ASSOCIATED NEW HUMIDIFIER. OMIT ALL WORK ASSOCIATED WITH THE LEVEL 3 HVAC RENOVATION SCOPE, INCLUDING BUT NOT LIMITED TO: VAV BOX REPLACEMENTS, ASSOCIATED DDC CONTROLS, HYDRONIC PIPING MODIFICATIONS, AND LEVEL 3 DUCTWORK CHANGES. WORK ON LEVEL 3 ASSOCIATED WITH AHU-20 SHALL REMAIN IN THE BASE BID, INCLUDING COLD-WATER EXTENSION AND CONTROLS EXTENSION.

ALTERNATE NO.2: IN LIEU OF REMOVING THE EXISTING AHU-22 STEEL FRAME, SUPPORTS, FLASHING, AND EXISTING ROOFING. THE AHU-22 STEEL FRAME, SUPPORTS, FLASHING, AND EXISTING ROOFING WILL REMAIN IN PLACE. THE EXISTING ROOFING WILL NEED TO BE PATCHED AND REPAIR DUE TO CONSTRUCTION ACTIVITY AND THE REMOVAL OF AHU-22, ASSOCIATED DUCT, AND DUCT PENETRATIONS.

ALTERNATE NO.3: DEMOLISH WALL AND INFILL FLOOR AND CEILING OPENINGS IF ALL SERVICE HAVE BEEN REMOVED FROM THE CHASE AREA AT ROOM B262. SEE KEYNOTE 73 ON SHEET AD-101.

OWNER

Department of Veterans Affairs

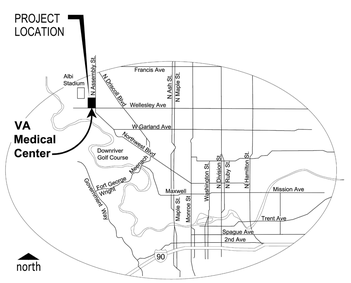
MANN-GRANDSTAFF
SPOKANE VA MEDICAL CENTER
4815 ASSEMBLY ST.
SPOKANE, WA 99205-6197

Project No: 668-22-104

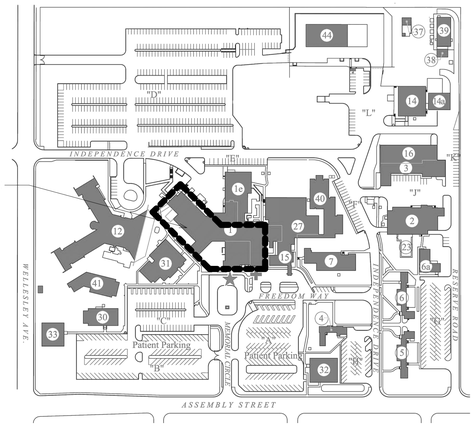
ISSUED SHEETS

Sheet Number	Sheet Name
GENERAL	
GI-001	PROJECT INFORMATION
GI-002	PHASING PLANS
GI-003	GENERAL NOTES
GI-004	GENERAL NOTES
GI-005	ICRA DETAILS
ARCHITECTURE	
AS-101	1ST FLOOR SCOPE OF WORK
AS-103	3RD & 4TH FLOOR SCOPE OF WORK
AD-101	DEMO ENLARGED PLANS
AD-102	DEMO ENLARGED PLANS
AD-201	LEVEL 01 - REFLECTED CEILING PLAN DEMO
AD-203	LEVEL 03 - REFLECTED CEILING PLAN DEMO
AE-101	ENLARGED PLANS
AE-102	ENLARGED PLANS
AE-201	LEVEL 01 - REFLECTED CEILING PLAN
AE-203	LEVEL 03 - REFLECTED CEILING PLAN
AE-401	ELEVATIONS AND SECTIONS
AE-402	DETAILS
AE-952	FIRE RATED ASSEMBLIES - W-L-1222, W-L-5073, W-L-8081, C-AJ-3214, C-AJ-3260, C-AJ-3285
STRUCTURAL	
S1.1	GSN
S1.2	TYPICAL DETAILS 01-30
S2.1	PLANS
S3.1	FLOOR FRAMING DETAILS 101-119
S3.2	ROOF FRAMING DETAILS 120-121
S4.1	FLOOR FRAMING DETAILS 201-230
MECHANICAL	
M-001	MECHANICAL LEGEND, ABBREVIATIONS, & SCHEDULES
M-201	MECHANICAL LEVEL 1 PLAN - AREA 1
M-202	MECHANICAL LEVEL 1 PLAN - AREA 2 - DEMOLITION
M-203	MECHANICAL LEVEL 1 PLAN - AREA 2 - NEW WORK
M-204	MECHANICAL LEVEL 2 PLAN - AREA 1
M-205	MECHANICAL LEVEL 3 PLAN - AREA 3 - DEMOLITION
M-206	MECHANICAL LEVEL 3 PLAN - AREA 3 - NEW WORK
MP-201	MECHANICAL PIPING LEVEL 1 PLAN - AREA 1
MP-203	MECHANICAL PIPING LEVEL 1 PLAN - AREA 2
MP-206	MECHANICAL PIPING LEVEL 3 PLAN - AREA 3
M-401	MECHANICAL ENLARGED PLANS
M-402	MECHANICAL ENLARGED PLANS
M-403	MECHANICAL ENLARGED PLANS
M-501	MECHANICAL DETAILS
M-502	MECHANICAL DETAILS
M-503	MECHANICAL DETAILS
M-601	MECHANICAL SCHEDULES
M-801	MECHANICAL CONTROLS
M-802	MECHANICAL CONTROLS
M-803	MECHANICAL CONTROLS
ELECTRICAL	
EP 000	SYMBOLS AND ABBREVIATIONS
ED 101	ELECTRICAL POWER PLAN DEMO - 1ST FLOOR
ED 102	ELECTRICAL POWER PLAN DEMO - 3RD FLOOR
ED 103	ENLARGED ELECTRICAL DEMOLITION POWER PLANS
EP 101	ELECTRICAL POWER PLAN - 1ST FLOOR
EP 102	ELECTRICAL POWER PLAN - 3RD FLOOR
EP 103	ENLARGED ELECTRICAL POWER PLANS
EP 201	LIGHTING PLANS
EP 601	ELECTRICAL ONE-LINE DIAGRAM
EP 701	PANEL SCHEDULES & ELECTRICAL DETAILS

VICINITY MAP

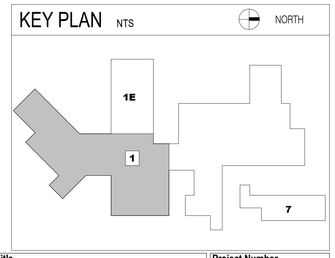


FACILITY MAP



KEY PLAN

NTS



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11/17/2025

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

Drawing Title	Phase	Project Title	Project Number
PROJECT INFORMATION	100% Submittal - Not for Construction	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number: 1
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	Drawing Number: GI-001

VA FORM 08 - 6231

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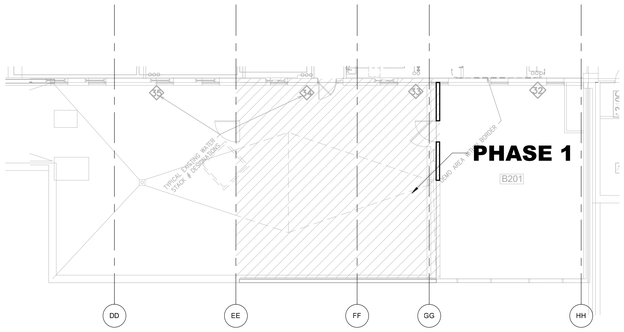
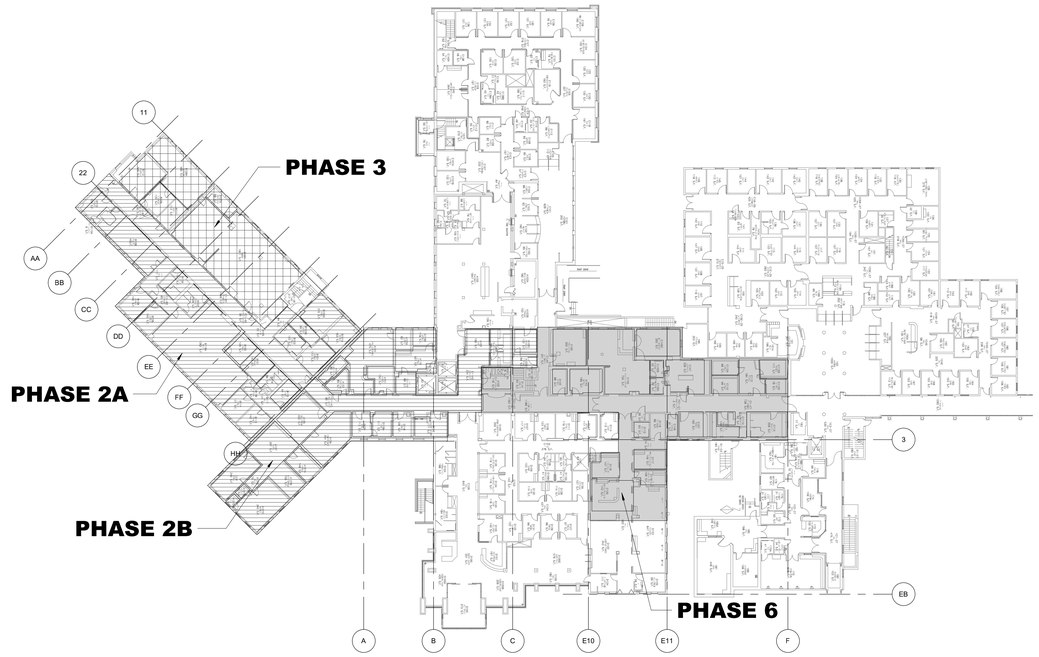
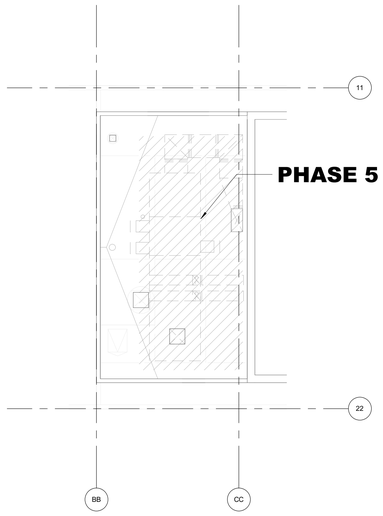


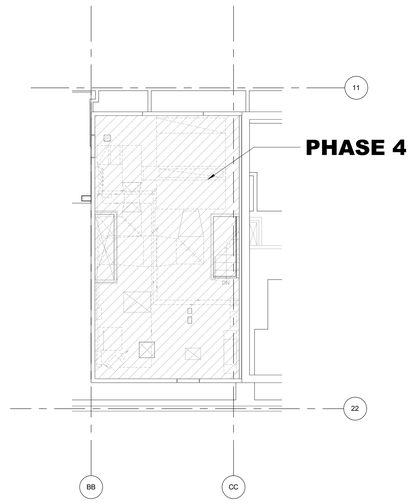
3 LEVEL 02 - ROOF PLAN PHASING
3/32" = 1'-0"



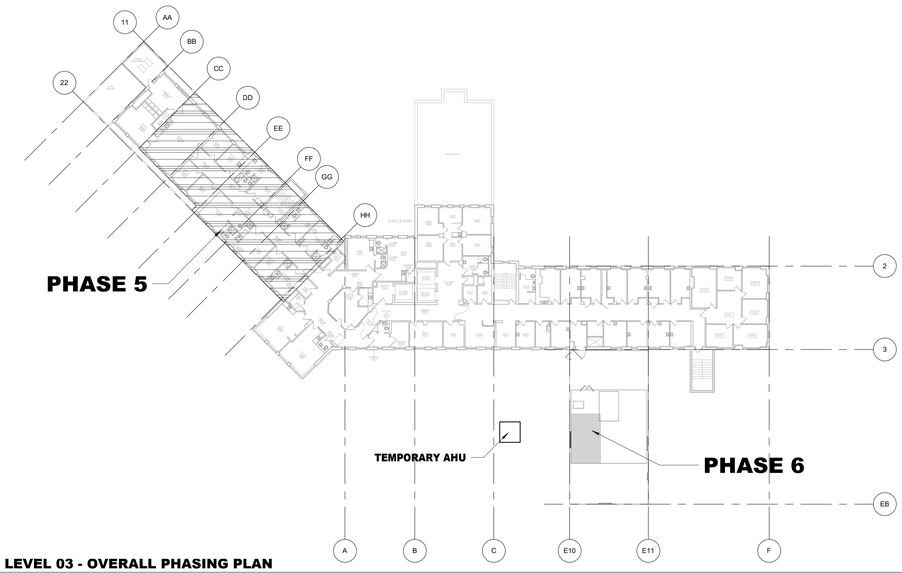
1 LEVEL 01 - OVERALL PHASING PLAN
1" = 30'-0"



5 LEVEL 05 PENTHOUSE ROOF PHASING
1/8" = 1'-0"



4 LEVEL 04 PENTHOUSE PHASING
1/8" = 1'-0"



2 LEVEL 03 - OVERALL PHASING PLAN
1" = 30'-0"

GENERAL PHASING NOTES

A. THE CONTRACTORS SHALL COORDINATE EQUIPMENT AND MATERIAL TRAFFIC AND STORAGE WITH COR.

B. ALL UTILITY WORK SHALL BE COORDINATED WITH MECHANICAL, PLUMBING ELECTRICAL, AND FIRE PROTECTION.

C. ALL ASPECTS OF CONTRACTOR STAGING AND CONSTRUCTION PHASING SHALL BE APPROVED BY COR.

D. ALL HOSPITAL ACCESS POINTS, AND ALL BUILDING EXITS, MUST REMAIN ACCESSIBLE, CLEAR AND UNOBSTRUCTED THROUGHOUT ALL PHASES OF DEMOLITION AND CONSTRUCTION. SHORT-TERM CLOSURE MAY BE ACCEPTABLE AS COORDINATED WITH COR.

E. THE CONTRACTOR SHALL COORDINATE ALL ROOF TOP WORK AND ROOF REPAIRS WITH THE COR.

F. PRIOR TO REMOVING THE EXISTING EQUIPMENT AND/OR ORDERING THE EQUIPMENT, THE CONTRACTOR SHALL TAKE THE FOLLOWING STEPS TO ENSURE SHUTDOWN TIMES ARE KEPT TO A MINIMUM.
   a. CONDUCT A PRE-CON MEETING TO ENSURE THE APPROPRIATE COORDINATION IS COMPLETE TO SUCCESSFULLY REMOVE AND REPLACE THE EXISTING.
   b. THE CONTRACTOR SHALL WALK THE SITE WITH VA CONTRACTING AND FACILITIES PERSONNEL AND ALL ASSOCIATED SUBCONTRACTORS TO REVIEW THE DESIGN INTENT.
   c. THE CONTRACTOR SHALL PROVIDE A WORK/PHASING PLAN TO IDENTIFY WHAT STEPS ARE NECESSARY TO MINIMIZE THE SHUT DOWN TIME.
   d. THE CONTRACTOR SHALL PRODUCE COORDINATION DRAWINGS TO IDENTIFY THE INSTALLATION AND PLACEMENT OF THE NEW EQUIPMENT AND ALL ASSOCIATED UTILITY ROUTES. THIS SHALL INCLUDE BUT NOT BE LIMITED TO MECHANICAL, PLUMBING, ELECTRICAL, CONTROLS, AND ASSOCIATED ARCHITECTURAL AND STRUCTURAL COMPONENTS.
   e. A "FINAL" PRE-CON MEETING SHALL BE CONDUCTED TO ENSURE ALL TRADES ARE COORDINATED AND THE PLANNED EQUIPMENT REMOVAL AND INSTALLATION FITS WITHIN THE PARAMETERS AS DESCRIBED ABOVE.

G. WORK REQUIRING RELOCATION OF STAFF, PATIENTS, SERVICES LIMITED TO ONE AHU ZONE AT A TIME UNLESS EXPRESSLY APPROVED.

H. IF AT ANY POINT THE GC'S MEANS AND METHODS REQUIRE TEMPORARY CLOSURES OF EGRESS DOORS. THE GC SHALL WORK WITH THE COR AND AE TO DEVELOP INTERIM LIFE SAFETY MEASURES (ILSM) TO ASSURE EXIT REQUIREMENTS ARE MET.

PHASING SEQUENCE

PHASE 1 - NEW PENTHOUSE

GENERAL:
- Work on new penthouse occurs above the Gift Shop and surrounding areas. Relocate occupants while structural work occurs.
- Interruption to chilled water and steam service will occur when connections are made. Interruption shall be limited to TBD.
- Interrupt to exhaust service will occur when new exhaust fan is relocated to new penthouse roof. Interruption shall be limited to TBD.
- All occupance to be evacuted during construction while the GC is using overhead cranes to fly steel or equipment, GC to keep interruption limited to a minmum time frame.

NEW WORK:
- Build the new penthouse at first floor roof.
- Install new AHU-20A & 20K, less ductwork below roof. Connect chilled water piping and electrical service.

PHASE 2A – EAST A-WING

GENERAL:
- The existing AHU-20 may continue to serve west perimeter areas, notably the Kitchen and Chapel.
- The corridor east of the Kitchen Dining entrance will be closed. Users must enter from the exterior west entrance to access the Kitchen and Chappel.
- Occupants at the Gift Shop area and the various Admin offices of A-wing must relocate while demolition and new work is performed.

DEMOLITION:
- Cap the existing AHU-20 ductwork and rebalance unit to only serve the Kitchen and Chapel area.
- Demolish ceilings and air terminals throughout. The existing lights, sprinklers, and low-voltage devices are to remain--only ceilings and air terminal units will be replaced.
- Demolish ductwork within the east construction area as indicated on plans.

NEW WORK:
- Install new ductwork and VAVs associated with AHU-20A & AHU-20K, less extension to A-south wing and extending into kitchen.
- Install new ceilings.
- Startup unit AHU-20A, open entrance from east corridor, and re-occupy.

PHASE 2B - A-WING SOUTH

GENERAL:
- Relocate users while upgrades occur.
- Both service and passenger elevators lobbies shall remain operational..

DEMOLITION:
- Demolish ceilings and air terminals throughout. The existing lights, sprinklers, and low-voltage devices are to remain--only ceilings and air terminal units will be replaced.
- Cap existing AHU-18 ductwork serving area and rebalance unit.
- Demolish ductwork as indicated on plans.

NEW WORK:
- Install new ductwork and VAVs associated with AHU-20A.
- Install new ceilings.

Rebalance unit AHU-20A and re-occupy.

PHASE 3 – WEST A-WING

GENERAL:
- Disable existing AHU-20.
- The corridor west of the kitchen dining entrance will be closed. The west entrance will only be used for contractor access.
- Occupants of the Chapel and Kitchen must either be relocated (or service temporarily stopped).

DEMOLITION:
- Demolish ceilings and air terminals throughout. The existing lights, sprinklers, and low-voltage devices are to remain--only ceilings and air terminal units will be replaced.
- Demolish ductwork within the west construction area as indicated on plans.

NEW WORK:
- Install new ductwork and VAVs associated with AHU-20A & AHU-20K.
- Install new ceilings.
- Startup unit AHU-20K and ramp-up AHU-20A and prepare for occupancy.

PHASE 4 - DEMO AHU-20 & NEW AHU-22

GENERAL:
- The existing AHU-22 shall stay operational while work is performed.
- Interruption to chilled water and steam service will occur when connections are made. Interruption shall be limited to TBD.
- All occupance to be evacuted during construction while the GC is using overhead cranes to fly steel or equipment, GC to keep interruption limited to a minmum time frame.

DEMOLITION:
- Demolish AHU-20 and associated piping and accessories.

NEW WORK:
- Install new AHU-22 in penthouse.

PHASE 5 - DEMO (E)AHU-22 & 3RD FLOOR MODIFICATIONS

GENERAL:
- Relocate 3rd floor users while upgrades occur to return air ductwork. Work may be divided into smaller areas to minimize overall impact.

DEMOLITION:
- Demolish (E)AHU-22 and existing terminal unit with existing hot water coil and duct as needed.

NEW WORK:
- Connect and start-up new AHU-22 and make final connections
- Replace existing terminal unit with existing heating water coil and return ductwork on 3rd floor. Work will be performed in 10' to 20' sections during off-hours.

PHASE 6 - REPLACE AHU-18 & 1ST FLOOR UPGRADES

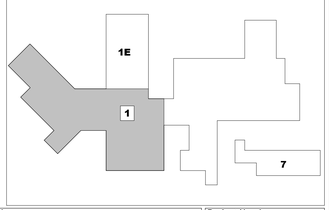
GENERAL:
- Work on first floor will be limited to isolated areas.
- A temporary unit is required for AHU-18 while the new unit is installed. The temporary unit is installed west of the outside air duct.

TEMPORARY:
- Install temporary AHU on roof adjacent to penthouse.
- Disconnect the west louver and disconnect the outside air ductwork to provide access to the penthouse.
- Install temporary ducting to supply and return of AHU-18.

DEMOLITION:
- Demolish AHU-18 and associated piping and accessories.

NEW WORK:
- Install new AHU-18.
- Replace VAVs and ductwork on first floor as indicated on plans.
- Remove temporary measures and start-up AHU-18.

KEY PLAN NTS



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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON 11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: PHASING PLANS	Phase: 100% Submittal - Not for Construction	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
Approved:			Building Number: 1
		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number: GI-002
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

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Autodesk Docs://AESUS Projects/22025_VA_Upgrade_AHU-18_20_22_ARCH.rvt 11/8/2025 5:41:01 PM

GENERAL

1. CONTRACTOR SHALL SUBMIT REQUEST FOR INFORMATION (RFI'S) REGARDING ANY KNOWN DISCREPANCIES WITH THE CONTRACT DOCUMENTS OR UNFORESEEN SITE CONDITIONS TO THE VA AND THE ARCHITECT FOR CLARIFICATION PRIOR TO NOTICE TO PROCEED.

2. DIMENSIONS SHALL NOT BE SCALED FROM THE PLANS, SECTIONS, ELEVATIONS OR DETAILS. ALL DRAWINGS ARE APPROXIMATE AND ARE GIVEN FOR ESTIMATING PURPOSES.

3. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK.

4. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE VA COR, OTHER VA PROJECT STAKE HOLDERS, THE ARCHITECT, AND THE CONTRACTOR WITH ALL OF HIS MAJOR SUBCONTRACTORS SHALL BE HELD IMMEDIATELY AFTER SIGNING OF THE OWNER-CONTRACTOR AGREEMENT AND PRIOR TO THE START OF ANY WORK.

5. UNLESS OTHERWISE NOTED, DIMENSIONS ARE TO COLUMN CENTERLINE, FACE OF FINISH PARTITION, FACE OF MASONRY WALLS AND FACE OF EXISTING WALLS.

6. ALL CUTTING AND PATCHING SHALL BE DONE BY THE GENERAL CONTRACTOR AS OUTLINED IN THE GENERAL CONDITIONS OF THE SPECIFICATIONS. PATCHES IN FINISH SURFACES SHALL MATCH THE ADJACENT SURFACES IN MATERIAL, FINISH AND QUALITY.

7. ALL SOUND RATED WALLS OR PARTITIONS SHALL EXTEND TO THE UNDERSIDE OF THE STRUCTURE OR DECK ABOVE UNLESS OTHERWISE NOTED. THESE PARTITIONS SHALL BE ENTIRELY SEALED OFF WITH CLOSURE GASKETS AND/OR ACOUSTICAL SEALANT AT BOTTOM, TOP, SIDES AND ANT OTHER ABUTMENT WHERE A SOUND LEAK WOULD OTHERWISE OCCUR. ALL PENETRATIONS SUCH AS PIPING, CONDUITS, DUCTS, ETC., IN SUCH PARTITIONS SHALL BE PACKED AND SEALED ALONG THE PERIMETER OF THE PENETRATION.

8. DUE TO MANUFACTURER'S VARIATION WITH SIZE OF EQUIPMENT, CASEWORK, PLUMBING FIXTURES, ETC., ALL DIMENSIONS REFERRING TO THE SPACE WHERE SUCH ITEMS ARE BUILT-IN SHALL BE VERIFIED WITH THE ITEM SUPPLIED.

9. GENERAL CONTRACTOR AND THE SUBCONTRACTORS THAT ARE A SERVICE PROVIDER TO THE VETERANS AND VETERAN AFFAIRS HEALTHCARE ARE TO WEAR APPROPRIATE ATTIRE, I.E. CLEAN CLOTHING IN THE COMMON AREA EXCLUDING THE WORK AREA.

10. CUTTING OF HOLES THROUGH CONCRETE SHALL BE BY DIAMOND CORE DRILL OR PNEUMATIC HAMMER. IMPACT ELECTRIC MANUAL HAMMER TYPE DRILLS WILL NOT BE ALLOWED.

11. JACKHAMMER NO HEAVIER THAN 70 LBS SHALL BE USED WHEN REMOVING LIGHT-WEIGHT LATEX MASTIC CONCRETE TOPPINGS.

12. CONTRACTOR TO PROVIDE COLOR COPIES OF MARKED-UP RECORD SET PLANS TO VA CONTRACTING OFFICER UPON PROJECT COMPLETION.

13. SPECIAL TOOLS: IF ANY PART OF EQUIPMENT FURNISHED UNDER THIS CONTRACT REQUIRES SPECIAL TOOLS FOR MAINTENANCE, ADJUSTMENT, SETTINGS OR DISASSEMBLY/REASSEMBLY, THESE TOOLS SHALL BE FURNISHED WITH EQUIPMENT AS A STANDARD ACCESSORY.

14. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS WITH THE CONTRACT DOCUMENTS BEFORE COMMENCING ACTIVITIES. THE CONTRACTOR SHALL VERIFY AND RELATIVE TO THE SURROUNDING CONSTRUCTION, PRIOR TO SUBMISSION OF BIDS, THE VA CONTRACTING OFFICER AND D.O.R. SHALL BE NOTIFIED IN WRITING OF ANY CONFLICTS, ERRORS OR OMISSIONS. NO ADDITIONAL CHARGES BY CONTRACTOR SHALL BE ALLOWED FOR DISCREPANCIES BETWEEN EXISTING CONDITIONS AND NEW CONSTRUCTION THAT COULD HAVE BEEN IDENTIFIED DURING EXAMINATION.

15. CONTRACTOR TO PATCH AND REPAIR ALL WALLS, FLOORS, CEILINGS AND OTHER ITEMS DAMAGED DURING CONSTRUCTION TO MATCH EXISTING/INTENDED FUNCTIONS AND CONDITIONS.

16. CONTRACTOR TO LOCATE ALL "V.A. RETAINED" MATERIAL TO THE LOCATION DIRECTED BY VA CONTRACTING OFFICER; VA CONTRACTING OFFICER WILL COORDINATE WITH CONTRACTOR.

17. ALL MATERIAL NOT IDENTIFIED AS "V.A. RETAINED" IS TO BE REMOVED FROM THE WORK AREA BY CONTRACTOR.

18. REMOVE AND RELOCATE OR REROUTE ANY UTILITIES WHICH PRESENT AN OBSTRUCTION TO GENERAL CONSTRUCTION FOR THIS PROJECT. PRIOR TO REMOVAL REPORT FINDINGS TO COR.

19. PROVIDE SEISMIC SUPPORT & BRACING TO ALL UTILITIES & GENERAL CONSTRUCTION IN PROJECT.

20. UTILITIES SHALL BE RUN CONCEALED EXCEPT IN UNFINISHED AREAS.

21. ALL PENETRATIONS THROUGH FLOORS AND SMOKE BARRIERS SHALL BE TIGHTLY SEALED AND FIRE-STOPPED. ANY EXISTING CORE CUTS ARE TO BE FILLED WITH SIMILAR MATERIAL USING 12- GAUGE BACKING PLATE.

22. CONTRACTOR TO MAINTAIN EXISTING CORRIDOR RATINGS DURING CONSTRUCTION.

23. CONTRACTOR TO PROVIDE 5/8" TYPE "X" GYP. BOARD INTERIOR TEMPORARY WALL SEPARATING OCCUPIED SPACES FROM PROJECT AREA(S). BARRIER TO BE AIR-TIGHT FLOOR TO CEILING WITH SECURED OPENING. FOR EXTERIOR, CONTRACTOR TO PROVIDE 5/8" FIRE-RATED DENSGLASS FOR TEMPORARY WALL SEPARATING OCCUPIED SPACES FROM PROJECT AREA(S). PROVIDE WALK- OFF\ MATS AT INTERIOR ENTRY TO PROJECT AREA.

24. PROVIDE 6" SOUND-ATTENUATING BLANKET OVER ALL ROOMS EXCEPT WAITING AREAS, CORRIDORS AND ROOMS WITH HARD GYPSUM BOARD LIDS. PROVIDE 6" SOUND-ATTENUATING BLANKET OVER CONFERENCE ROOMS. ALL WALLS SHALL HAVE SOUND BATTS ACHIEVING MINIMUM STC-44. THE ENCLOSURE IN THE INTERSTITIAL SPACE SHALL BE STC-45. CAULK AND SEAL ALL WALL PENETRATIONS, AND SEAL EDGES OF GYPSUM BOARD.

25. SPRAY FIREPROOFING ON ALL STRUCTURAL STEEL MEMBERS ACCORDING TO FIREPROOFING IBC TABLE 601.

26. ALL PRODUCTS & MANUFACTURERS SHALL BE VERIFIED WITH VA COR THROUGH SUBMITTAL PROCESS.

27. THE GENERAL CONTRACTOR & ALL SUBCONTRACTORS SHALL CAREFULLY & THOROUGHLY EXAMINE THE PROJECT SITE, FIELD VERIFY ALL CONDITIONS, GRADES, ELEVATIONS & DIMENSIONS OF THE VARIOUS FEATURES OF THE EXISTING SITE CONDITIONS. ANY DISCREPANCIES &/OR CONDITIONS NEEDING CLARIFICATION SHALL BE REPORTED IMMEDIATELY TO THE VA COR BEFORE BEGINNING WORK.

28. THE GENERAL CONTRACTOR & ALL SUBCONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR THE ENFORCEMENT OF ALL REQUIREMENTS & REGULATIONS & SHALL PERFORM ALL WORK ON THIS PROJECT IN COMPLIANCE WITH O.S.H.A., ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. ALL CONSTRUCTION FABRICATION & INSTALLATIONS SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF FEDERAL, STATE AND LOCAL CODES, REGULATIONS & ORDINANCES OF THE GOVERNING AGENCY HAVING JURISDICTION OVER THE PROJECT.

29. DUE TO THE REPROGRAPHICS PROCESS, THESE PLANS MAY NOT BE ACCURATE TO SCALE. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER THE SCALE SHOWN & IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM THE PLANS, SECTIONS, ELEVATIONS OR DETAILS.

30. ALL PROPERTY LINES, EASEMENTS AND BUILDINGS, BOTH EXISTING AND PROPOSED, THAT HAVE BEEN DIVULGED TO THE ARCHITECT, ARE SHOWN ON THE SITE PLAN.

GENERAL CONTINUED

31. THE STRUCTURAL, MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. SHOULD THERE BE ANY DISCREPANCY BETWEEN THE VARIOUS DRAWINGS, IT SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR CLARIFICATION.

32. THE CONTRACTOR SHALL CONSULT THE ELECTRICAL, MECHANICAL, & PLUMBING DRAWINGS FOR LOCATION OF ALL ROUGH OPENINGS THROUGH WALLS & FLOOR SLABS & NOTIFY THE ARCHITECT OF ANY ITEMS THAT DO NOT CONFORM WITH THE INTENT INDICATED ON THESE DRAWINGS.

33. THE CONTRACTOR SHALL COORDINATE WITH THE VA'S REPRESENTATIVE FOR INSTALLATION OF ANY SPECIAL EQUIPMENT NOT SHOWN IN THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY EQUIPMENT LOCATIONS WITH THE VA'S REPRESENTATIVE AND/OR EQUIPMENT MANUFACTURER FOR PROPER SIZE AND LOCATION OF FOUNDATION OR SLAB DEPRESSIONS, DRAINS, AND WARPS..

34. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO LOCATE & PROTECT ANY UNDERGROUND OR CONCEALED CONDUIT, PLUMBING, OR OTHER UTILITIES WHERE NEW WORK IS BEING PERFORMED.

35. LARGER SCALE DETAILS GOVERN OVER SMALLER SCALE DETAILS.

36. THE CONTRACTOR SHALL COMPLY WITH SAFETY RESTRICTIONS AS REQUIRED FOR WORKERS AND PEDESTRIAN PROTECTION DURING THE ENTIRE CONSTRUCTION PROCESS.

37. RUBBISH AND DEBRIS RESULTING FROM THE WORK OF VARIOUS TRADES SHALL BE REGULATED, COLLECTED AND REMOVED FROM THE PROJECT SITE AND LEGALLY DISPOSED OF PRIOR TO DELIVERY OF MATERIALS TO THE CONSTRUCTION ZONE AND AT THE END OF THE WORK SHIFT. THE CONTRACTOR SHALL COORDINATE WITH THE VA'S REPRESENTATIVE FOR AN ACCEPTABLE ACCESS ROUTE AND TIME. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR, HIS SUBCONTRACTORS, OR ANY OF THEIR EMPLOYEES USE ANY AREA OUTSIDE THE CONSTRUCTION ZONE WITHOUT PRIOR CLEARANCE FROM THE VA'S REPRESENTATIVE.

38. ANY REVISION OR ADDITIONAL WORK REQUIRED DUE TO FIELD CONDITIONS OR LOCAL GOVERNING AUTHORITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND CONTRACTING OFFICER BEFORE PROCEEDING REGARDLESS OF COST, TIME OR MATERIAL INCREASE.

39. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL FINISHES & MATERIALS, & FOR REPAIRING AND/OR REPLACING ALL ITEMS THAT ARE DAMAGED OR SOILED DURING CONSTRUCTION AS REQUIRED TO THE VA CONTRACTING OFFICER'S APPROVAL AT NO ADDITIONAL COST TO THE VA.

40. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CODES LISTED UNDER THE PROJECT DATA HEADING ON THIS SHEET. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH ALL CODES AND ORDINANCES, CITY OR STATE, AS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT. WHERE ANY CONFLICTS OCCUR BETWEEN FEDERAL, STATE AND LOCAL LAWS, CODES, ORDINANCES, AND REGULATIONS, THE MOST STRINGENT SHALL GOVERN.

41. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF BOTH THE VA AND FAR.

42. ALL ITEMS TO BE REMOVED AND RELOCATED SHALL BE HANDLEDWITH PROPER CARE AND STORED IN A SAFE LOCATION TO PREVENT DAMAGE. DAMAGED ITEMS WILL NEED TO BE REPLACED AT CONTRACTOR'S EXPENSE.

43. THE CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR UTILITY SHUTDOWNS TO THE VA'S REPRESENTATIVE **AT LEAST 14 DAYS PRIOR** TO THE EVENT. WORK REQUIRING SHUTDOWNS MAY BE REQUIRED TO BE PERFORMED OUTSIDE NORMAL WORK HOURS.

44. IF WORK ADJOINS AREAS THAT WILL BE OCCUPIED DURING CONSTRUCTION, THE CONTRACTOR AND SUBCONTRACTORS SHALL COOPERATE WITH THE VA TO MAINTAIN CONTINUOUS OPERATION. IF CONFLICTS OCCUR, THE INTERESTS OF THE VA SHALL GOVERN. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE THE IMPACT OF CONSTRUCTION IN AFFECTED AREAS.

45. DUST SCREENS OF EITHER PLASTIC CURTAINS OR PLYWOOD PARTITIONS SHALL BE MAINTAINED ADJACENT TO & SEPARATING AREAS OF CONSTRUCTION FROM ADJOINING OCCUPIED AREAS. SCREENS SHALL EXTEND A DISTANCE TO ALLOW WORK WITHOUT DISRUPTING THE ADEQUATE FUNCTIONING OF THE FACILITY CIRCULATION. SCREENS SHALL BE RELOCATED AS NECESSARY FOR EA. PHASE OF THE PROJECT. CONTRACTOR SHALL COORDINATE WITH COR FOR THE SCREEN LOCATIONS.

46. ALL REQUIRED EXITS FROM OCCUPIED PORTIONS OF THE BUILDING MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL ESTABLISH PROCEDURES TO MINIMIZE CIRCULATION OF CONSTRUCTION PERSONNEL AND MATERIALS THROUGH OCCUPIED PORTIONS OF THE BUILDING. THE CONTRACTOR SHALL IMMEDIATELY CLEAN DUST AND DIRT FROM CORRIDOR AREAS NOT PROTECTED BY DUST SCREENS.

47. STORAGE OF ALL MATERIALS, EQUIPMENT & SUPPLIES SHALL BE LIMITED TO SCHEDULED AREAS OF WORK IN PROGRESS, OR DESIGNATED EXTERIOR LOCATIONS APPROVED BY & ARRANGED W/ THE VA COR.

48. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORT FOR ALL FIXTURES, EQUIPMENT, CASEWORK, FURNISHINGS AND ALL OTHER ITEMS AS REQUIRED, INCLUDING BUT NOT LIMITED TO: TOWEL BARS, GRAB BARS, WINDOW TREATMENT, TELEPHONE BACKBOARDS, WATER HEATERS, AND CABINETRY.

49. THE GENERAL CONTRACTOR SHALL NOT MAKE ANY SUBSTITUTION OF MATERIALS OR EQUIPMENT WITHOUT THE WRITTEN CONSENT OF THE VA REPRESENTATIVE.

50. COMPLETED CONSTRUCTION SHALL BE CLEANED, LABELS REMOVED, & ALL OTHER TOUCH-UP COMPLETED TO THE SATISFACTION OF THE VA REPRESENTATIVE PRIOR TO FINAL ACCEPTANCE.

51. WHERE PAVING, WALKS AND/OR LANDSCAPED AREAS ARE DISTURBED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING CONDITIONS AT CONTRACTORS EXPENSE.

52. THE GENERAL CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER IMMEDIATELY OF ANY SPECIFIED MATERIALS OR EQUIPMENT WHICH ARE EITHER UNAVAILABLE OR WILL CAUSE A DELAY IN THE CONSTRUCTION COMPLETION SCHEDULE.

53. ALL GYPSUM BOARD SURFACES, WALLS AND CEILINGS SHALL BE TAPED AND FEATHERED SMOOTH TO RECEIVE WALL FINISH. ALL WALLS AND CEILINGS SHALL RECEIVE A MINIMUM OF ONE COAT SEALER AND PAINT TO COVER. WATER RESISTANT TYPE "GREEN" BOARD SHALL BE USED IN ALL RESTROOMS, SHOWERS, AND EXTERIOR AREAS.

54. ALL SUBCONTRACTORS SHALL MAINTAIN THE PREMISES CLEAN AND FREE FROM ALL TRASH AND DEBRIS. THE FIXTURES, EQUIPMENT, GLAZING, FLOORS, ETC. SHALL BE LEFT CLEAN AND READY FOR EITHER THE NEXT TRADE OR OCCUPANCY.

55. NO HAZARDOUS MATERIALS SHALL BE USED OR STORED AT THE PROJECT SITE WHICH EXCEED THE QUANTITIES LISTED IN U.B.C. TABLE 3-D AND 3-E.

56. THE CONTRACTOR SHALL THOROUGHLY CAULK, FLASH &/OR SEAL AROUND
ALL WALL &/OR ROOF PENETRATIONS THAT ARE MADE AS PART OF THE CONTRACT WORK TO CREATE A WATERTIGHT CONDITION.

57. ALL EXIT DOORS ARE TO BE OPERABLE FROM THE INSIDE WITHOUT THE USE OFA KEY OR SPECIAL KNOWLEDGE. FLUSH BOLTS OR SURFACE BOLTS ARE PROHIBITED (ALSO APPLIES TO GATES).

58. THE MAXIMUM EFFORT REQUIRED TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. FOR EXTERIOR DOORS AND 5 LBS. FOR INTERIOR DOORS, SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS, AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO 15 LBS WHEN ALLOWED BY AUTHORITY HAVING JURISDICTION.

GENERAL CONTINUED

61. ALL DOOR HARDWARE TO BE LEVER-TYPE AND SHALL BE INSTALLED @ 3'-0" A.F.F., UNLESS OTHERWISE NOTED.

62. PROVIDE FLOOR MOUNTED STOPS, 4" MAX. FROM WALL FOR ALL DOORS UNLESS OTHERWISE NOTED.

63. ALL PRIMARY ENTRANCES TO THE BUILDING SHALL BE ACCESSIBLE PER NFPA 101. BUILDING ENTRANCES SHALL BE IDENTIFIED BY SIGN WITH THE INTERNATIONAL SYMBOL OF ACCESSIBILITY, A WHITE FIGURE ON A BLUE BACKGROUND, PER NFPA 101.

64. THE PATH OF EXIT TRAVEL SHALL BE IDENTIFIED BY EXIT SIGNS PER NFPA 101. EXIT SIGNS SHALL BE READILY VISIBLE FROM ANY DIRECTION OF APPROACH. EXIT SIGNS SHALL BE LOCATED AS NECESSARY TO CLEARLY INDICATE THE DIRECTION OF EXIT TRAVEL. ALL EXIT SIGNS SHALL BE INTERNALLY ILLUMINATED WITH MINIMUM 6" HIGH LETTERS PER NFPA 101, C.F.C. SECTION 12.19(a). THE CONTRACTOR SHALL COORDINATE LOCATION OF ALL EXIT SIGNS WITH VA COR AND ARCHITECT PRIOR TO INSTALLATION.

65. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES ABOVE THE FLOOD-LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY VENT.

66. NO HVAC DUCTS TO HAVE A CROSS SECTIONAL AREA OF 6 SQUARE FEET OR GREATER.

67. THE CONTRACTOR SHALL PROVIDE WITH CD / DVD ELECTRONIC COPY OF ASBUILT. PER SECTION: 010000 1.14.

GOVERNING CODES

GENERAL: THE VA HAS ADOPTED THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS AS A MINIMUM FOR ALL PROJECTS PERFORMED IN THE MODERNIZATION, ALTERATION, ADDITION, OR IMPROVEMENT OF ITS REAL PROPERTY AND THE CONSTRUCTION OF NEXT STRUCTURES. VA DESIGN MANUALS AND MASTER SPECIFICATIONS SPECIFY OTHER CODES AND STANDARDS THE VA FOLLOWS ON ITS PROJECTS:

1. VA DIRECTIVES, DESIGN MANUALS, MASTER SPECIFICATIONS, VA NATIONAL CAD STANDARD APPLICATION GUIDE AND OTHER GUIDANCE IN THE TECHNICAL INFORMATION LIBRARY (TIL) HTTP://.CFM.VA.GOV/TIL/

2. INTERNATIONAL BUILDING CODE (IBC) INCLUDING INTERNATIONAL MECHANICAL AND PLUMBING CODES

3. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101 LIFE SAFETY CODE (SEE NOTES BELOW)

4. NFPA NATIONAL FIRE CODES Y/WITH THE EXCEPTION OF NFPA 5000 AND NFPA 900 OCCUPATIONAL, SAFETY AND HEALTH ADMINISTRATION (OSHA STANDARDS.

5. VA SEISMIC DESIGN REQUIREMENTS, H-- 18--8.

6. NATIONAL STANDARD PLUMBING CODE (NSPC).

7. SAFETY CODE FOR ELEVATORS AND ESCALATORS A 17. 1, PUBLISHED BY AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

8. ASME BOILER AND PRESSURE VESSEL CODE.

9. ASME CODE FOR PRESSURE PIPING.

10. UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS), INCLUDING VA SUPPLEMENT BARRIER FREE DESIGN GUIDE.

11. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (API 318), PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE.

12. MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

13. ENERGY POLICY ACT OF 2005 (EPACT).

14. DOE INTERIM FINAL RULE: ENERGY CONSERVATION STANDARDS FOR NEY/ FEDERAL, COMMERCIAL AND MULTI-FAMILY HIGH-RISE RESIDENTIAL BUILDINGS AND NEW LOW RISE RESIDENTIAL BUILDINGS,10 CFR PARTS 433, 434 AND 455.

15. FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS: MEMORANDUM OF UNDERSTANDING (MOU).

16. EXECUTIVE ORDER 13423: STRENGTHENING FEDERAL ENVIRONMENTAL, ENERGY, TRANSPORTATION MANAGEMENT.

17. THE PROVISIONS FOR CONSTRUCTION AND SAFETY SIGNS, STATED IN GENERAL REQUIREMENTS SECTION 01 010 OF THE VA MASTER CONSTRUCTION SPECIFICATION.

18. VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY -- ASHRAE STANDARD 62.1 -- 2007, PUBLISHED BY THE AMERICAN SOCIETY OF HEX \TING, REFRIGERATING AND AIR- CONDITIONING ENGINEERS, INC. SAFETY STANDARD FOR REFRIGERATION SYSTEMS -- ASHRAE STANDARD 15-- 2007, PUBLISHED BY THE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR- CONDITIONING ENGINEERS, INC. GREENING THE GOVERNMENT THROUGH LEADERSHIP IN ENVIRONMENTAL MANAGEMENT-EXECUTIVE ORDER 13148.

19. DESIGN GUIDE FOR HUMIDITY CONTROL IN COMMERCIAL AND INSTITUTIONAL BUILDINGS; 2001, PUBLISHED BY THE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.

20. THE JOINT COMMISSION (TJC) ENVIRONMENT OF CARE EMERGENCY MANAGEMENT AND LIFE SAFETY STANDARDS.

21. VHA NATIONAL CENTER FOR PATIENT SAFETY, DEPARTMENT OF VETERANS AFFAIRS (MOST CURRENT ED.).
HTTPS://WWW.PATIENTSAFETY.VA.GOV/

NOTE

1. NFPA101 PRIMARILY ADDRESSES LIFE SAFETY AND FIRE PROTECTION FEATURES WHILE THE IBC ADDRESSES A WIDE RANGE OF CONSIDERATIONS, INCLUDING, BUT NOT LIMITED TOO STRUCTURAL STRENGTH, STABILITY, SANITATION, ADEQUATE LIGHT AND VENTILATION, AND ENERGY CONSERVATION. VA BUILDINGS MUST MEET THE REQUIREMENTS OF NFPA 101 AND DOCUMENTS REFERENCED BY NFPA101 IN ORDER TO COMPLY WITH THE ACCREDITATION REQUIREMENTS OF THE JOINT COMMISSION. THEREFORE, DESIGNS SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF NFPA 101 AND DOCUMENTS REFERENCED THEREIN. DESIGN FEATURES NOT ADDRESSED BY NFPA 101 OR DOCUMENTS REFERENCED THEREIN SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE IBD 0R AS OTHERWISE ADDRESSED ABOVE IN THIS PROGRAM GUIDE. FOR DESIGN FEATURES THAT ARE ADDRESSED BY BOTH THE IBC AS Y/ELL AS NFPA 101 OR A DOCUMENT REFERENCED BY NFPA101, THE REQUIREMENTS OF NFPA 101 0R THE DOCUMENT REFERENCED BY NFPA101 SHALL BE USED EXCLUSIVELY (THIS APPLIES EVEN IF THE IBC REQUIREMENTS ARE DIFFERENT).

2. CONFLICTS BETWEEN NATIONALLY RECOGNIZED CODES AND STANDARDS AND VA REQUIREMENTS - SHOULD A CONFLICT EXIST BETWEEN VA REQUIREMENTS AND VA ADOPTED NATIONALLY RECOGNIZED CODES AND STANDARDS, THE CONFLICT SHALL BE BROUGHT 70 THE ATTENTION OF THE VA. THE RESOLUTION OF CONFLICT SHALL BE MADE BY THE AUTHORITY HAVING JURISDICTION FOR VA TO ENSURE A CONSISTENCY SYSTEM WIDE.

SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION

1. THE DRAWINGS ARE ARRANGED BY DESIGN DESCIPLINE FOR CLARITY. THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE ALL OF THE WORK SHOWN ON ALL OF THE DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE. ARRANGEMENT IS NOT TO DIVIDE THE WORK AMONG THE TRADES. FOR EXAMPLE A CONDUIT MAY BE REQUIRED FOR MECHANICAL EQUIPMENT, BUT PROVIDED BY AN ELECTRICIAN.

2. THE CONTRACTING OFFICER'S INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS WILL BE FINAL, SUBJECT TO THE DISPUTES CLAUSE.

3. LARGE SCALE DRAWINGS SUPERSEDE SMALL SCALE DRAWINGS.

4. DIMENSIONS GOVERN IN ALL CASES. SCALING OF DRAWINGS MAY BE DONE ONLY FOR GENERAL LOCATION AND GENERAL SIZE OF ITEMS.

5. DIMENSIONS SHOWN OF EXISTING WORK AND ALL DIMENSIONS REQUIRED FOR WORK THAT IS TO CONNECT WITH EXISTING WORK SHALL BE VERIFIED BY THE CONTRACTOR BY ACTUAL MEASUREMENT OF THE EXISTING WORK. ANY WORK AT VARIANCE WITH THAT SPECIFIED OR SHOWN IN THE DRAWINGS SHALL NOT BE PERFORMED BY THE CONTRACTOR UNTIL APPROVED IN WRITING BY THE CONTRACTING OFFICER.

6. ALL WORK TO BE CONSIDERED NEW CONSTRUCTION UNLESS NOTED OTHERWISE

SPECIAL INSPECTIONS REQUIRED PER IBC 2018

1. SEE SPECIFICATION FOR SPECIAL TESTING AND INSPECTION EQUIREMENTS.

PROJECT SCHEDULE AND PHASING OF THE WORK

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY VA COR AN INTERIM PROJECT SCHEDULE OF HIS OPERATIONS WITH INTERIM PHASING PLANS PRIOR TO NOTICE TO PROCEED. REFER TO SPECIFICATIONS SECTION 01 32 16.15.

2. AREA OF WORK TO BE FULLY ABATED AND CLEAR OF HAZARDOUS MATERIALS BEFORE PROCEEDING WITH CONSTRUCTION.

3. THE INTENT OF THE PROJECT IS TO PERMIT THE CONTINUOUS OPERATION OF REQUIRED ACTIVITIES AT THE VA HEALTHCARE CENTER DURING CONSTRUCTION. AT NO TIME SHALL ANY WORK INTERFERE WITH THE VA'S NORMAL OPERATION WITHOUT ACCEPTANCE PRIOR TO START OF CONSTRUCTION.

4. ALL WORK TO BE COMPLETED ON A PER PHASE BASIS.

5. THE CONTRACTOR SHALL DEVELOP A SCHEDULE OF CONSTRUCTION WHICH INCLUDES THE NECESSARY ACTIONS TO MAINTAIN THE OPERATION OF THE ADJACENT FUNCTION (INCLUDING ON THE FLOOR ABOVE AND BELOW) DURING THE CONSTRUCTION PROCESS.

6. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A SCHEDULE DETAILING WORK PLANS, INCLUDING BUT NOT LIMITED TO, ACTIVATION PRIOR TO STARTING ANY PHASE. THIS TIME SHALL BE COORDINATED WITH THE VA COR AND BE INCLUDED IN THE OVERALL PROJECT CONSTRUCTION SCHEDULE.

7. THE VA RESIDENT ENGINEER WILL REVIEW THE CONTRACTOR'S SCHEDULE TO VERIFY MOST EFFICIENT TIMING OF THE CONTRACT WORK TO AVOID CONFLICTS WITH THE CURRENT VA OPERATIONS.

8. CONTRACTOR SHOULD BE AWARE THAT IT IS POSSIBLE SCHEDULE SIMULTANEOUS AND / OR STAGGERED SHUTDOWNS, HOWEVER EACH WILL REQUIRE A SEPARATE IMPACT PERMIT AND WILL UNDERGO ITS OWN DEDICATED PROCESS. AS SUCH, THERE ARE NO GUARANTEES WITH REGARDS TO DATE OR DURATION OF THE SHUTDOWN.

9. ANY UTILITY SHUTDOWNS REQUIRED SHALL BE REVIEWED WITH THE VA CONTRACTING OFFICER PRIOR TO PROPOSED SHUTDOWN..

10. NO DEMOLITION WILL BEGIN WITHOUT SHUTDOWN COORDINATION AND WRITTEN AUTHORIZATION TO MOVE FORWARD FROM THE HOSPITAL STAFF. THIS IS INTENDED TO MINIMIZE DISRUPTIONS IN AN ACTIVE HOSPITAL, AND OUTAGES MUST BE COORDINATED AS THEY AFFECT PATIENT CARE. FOR CLARITY: EMAIL TRAFFIC MAY BE CONSIRED "WRITTEN AUTHORIZATION," BUT ONLY IF IT ORIGINATES FROM A VA.GOV EMAIL ADDRESS.

11. AS THIS IS AN ACTIVE HEALTHCARE FACILITY SEEING PATIENT ON LIFE-SAFETYEQUIPMENT, THE CONTRACTOR UNDERSTANDS THAT IT MAY NOT BE POSSIBLE TO WORK DURING STANDARD DUTY HOURS, AND THAT THIRD-SHIFTLABOR IS EXPECTED IN ANY PATIENT CARE AREA SO AS TO MINIMIZE DISRUPTION TO PATIENTS AND THE CARE THAT THEY RECEIVE.

12. UPON RECEIPT OF APPROPRIATE CONTACT INFORMATION AND SHUTDOWN DATES, THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING ACCESS TO AFFECTED AREAS BY WORKING WITH THE COR AND THE VA POLICE.

SUBCONTRACTS & WORK COORDINATION

1. NOTHING CONTAINED IN THIS CONTRACT SHALL BE CONSTRUCTED AS CREATING ANY CONTRACTUAL RELATIONSHIP BETWEEN ANY SUB CONTRACTOR AND THE GOVERNMENT. DIVISIONS OR SECTIONS OF SPECIFICATION S ARE NOT INTENDED TO CONTROL THE CONTRACTOR IN DIVIDING WORK AMONG SUBCONTRACTORS, OR TO LIMIT WORK PERFORMED BY ANY TRADE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE GOVERNMENT FOR ACTS AND OMISSIONS OF HIS/HER OWN EMPLOYEES, AND SUBCONTRACTORS AND THEIR EMPLOYEES.THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR COORDINATION OF THE WORK OF THE TRADES, SUBCONTRACTORS, AND MATERIAL SUPPLIERS.

3. THE CONTRACTOR SHALL, IN ADVANCE OF THE WORK, PREPARE COORDINATION DRAWINGS SHOWING THE LOCATION OF OPENINGS THROUGH SLABS, THE PIPE SLEEVES AND HANGER INSERTS, AS WELL AS THE LOCATION AND ELEVATION OF UTILITY LINES, INCLUDING, BUT NOT LIMITED TO, CONVEYOR SYSTEMS, PNEUMATIC TUBES, DUCTS, AND CONDUITS AND PIPES 2 INCHES AND LARGER IN DIAMETER. THESE DRAWINGS, INCLUDING PLANS, ELEVATIONS, AND SECTIONS AS APPROPRIATE, SHALL CLEARLY SHOW THE MANNER IN WHICH THE UTILITIES FIT INTO THE AVAILABLE SPACE AND RELATE TO EACH OTHER AND TO EXISTING BUILDING ELEMENTS. DRAWINGS SHALL BE O

DEMOLITION

1. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND IDENTIFY ALL BEARING STRUCTURAL ELEMENTS, MECHANICAL, PLUMBING, ELECTRICAL, COMMUNICATIONS, AND ALL OTHER EXISTING SYSTEMS (AND MAKE NECESSARY PROVISIONS TO MAINTAIN THE INTEGRITY OF SAID SYSTEMS) PRIOR TO COMMENCEMENT OF DEMOLITION.
2. THE CONTRACTOR SHALL REFER TO DRAWINGS FOR EXTENT OF AND INFORMATION PARTICULAR TO THE REMOVAL OF EXISTING SYSTEMS.
3. ALL SALVAGEABLE ITEMS SHALL BE THE PROPERTY OF THE VA AND SHALL BE REUSED OR STORED AS DESIGNATED BY THE VA.
4. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS TO PROTECT FINISHED PARTS OF THE MATERIALS AND EQUIPMENT AGAINST DAMAGE FROM ANY CAUSE DURING THE PROGRESS OF THE WORK AND UNTIL ACCEPTANCE BY THE VA CONTRACTING OFFICER.
5. CONTRACTOR SHALL PROTECT ALL FURNITURE, BOOKS, PLANTS ETC. IN THE INTERIOR SPACES AND REPAIR /REPLACE AS A RESULT OF THE DEMOLITION AND NEW CONSTRUCTION TO MATCH EXISTING CONDITIONS.
6. REMOVE EXISTING INTERIOR WALLS OR CEILING WHERE INDICATED AND CUT GYPSUM BOARD BACK TO STRAIGHT LINES. RESTORE ALL DAMAGED GYPSUM BOARD WALLS.
7. IF JACK-HAMMERING CORE DRILLING OR CONCRETE SAWING IS TO BE UTILIZED, IT SHALL BE KEPT TO A MINIMUM AND SHALL BE DONE ONLY WITH THE WRITTEN APPROVAL OF THE VA RESIDENT ENGINEER AND AT SUCH TIMES AS DESIGNATED.
8. WHERE EXISTING CONSTRUCTION IS CUT OR OTHERWISE DISTURBED TO PERMIT INSTALLATION OF NEW WORK, REPAIR AND PATCH TO MATCH EXISTING CONSTRUCTION. USE METHODS AND MATERIALS WHICH ARE SIMILAR IN APPEADANCE AND EQUAL IN QUALITY TO THOSE AREAS BEING REPAIRED.
9. ALL ABANDONED PLUMBING LINES, ELECTRICAL CONDUIT OR BOXES, A/C DUCTS OR DIFFUSERS, TELEPHONE CABLES, ETC. WILL BE REMOVED BACK TO CLOSEST FEEDER POINT. DEMOLITION SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND AS SET FORTH BY THE DEPARTMENT OF VETERANS AFFAIRS.
10. DO NOT COMPROMISE ANY STRUCTURES OR STRUCTURAL ELEMENTS DURING DEMOLITION, ALL ITEMS ON DEMOLITION DRAWINGS INDICATED WITH DASHED LINES ARE EXISTING TO BE REMOVED AS INSTRUCTED IN THE DEMOLITION KEYNOTES. ALL OTHER ITEMS ARE EXISTING TO REMAIN U.N.O.
11. COORDINATE ALL DEMOLITION WORK INDICATED ON THESE DRAWING, INCLUDING THE REMOVAL OF ALL LOOSE, UNUSED OR ABANDONED WIRING, CONDUIT, PIPING, DUCTWORK, SUPPORT WIRES AND ANCHORS WITH THE MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION DRAWINGS.
12. USE EXTREME CARE TO AVOID DAMAGING ANY AREA ADJACENT TO THE DEMOLITION WHICH IS NOT PART OF THE WORK. ANY DAMAGE TO AREAS NOT PART OF THE WORK SHALL BE PATCHED, REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE VA CONTRACTING OFFICER & D.O.R. AT NO COST TO THE VA.
13. COORDINATE ALL WORK REQUIRED BY MECHANICAL, PLUMBING AND ELECTRICAL SUBCONTRACTORS. PATCH AND REPAIR WHERE ITEMS ARE REMOVED AND RESTORE TO MATCH ADJACENT SURFACES. PROVIDE DEMOLITION WORK AS REQUIRED WHERE NEW ITEMS ARE TO BE INSTALLED IN EXISTING CONDITIONS, AS REQUIRED TO COORDINATE THE WORK.
14. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND IDENTIFY ALL BEARING STRUCTURAL ELEMENTS, MECHANICAL, PLUMBING, ELECTRICAL AND ALL OTHER EXISTING SYSTEMS AND MAKE NECESSARY PROVISIONS TO MAINTAIN THE INTEGRITY OF SAID SYSTEMS PRIOR TO COMMENCEMENT OF DEMOLITION.
15. WHERE GYP BOARD IS REMOVED FROM STUDS FLOOR TO CEILING AT RATED WALL, NEW GYP BOARD MUST BE REPLACED WITHIN ONE EIGHT HOUR SHIFT, OR CONTRACTOR SHALL PROVIDE APPROVED FIRE WATCH APPROVED BY VA CONTRACTING OFFICER.
16. INFECTION CONTROL BARRIERS MUST BE COORDINATED BETWEEN CONTRACTOR AND VA CONTRACTING OFFICER AND ARE THE RESPONSIBILITY OF THE CONTRACTOR.
17. INFECTION CONTROL BARRIERS MUST MEET THE SAME REQUIREMENTS AS DESCRIBED FOR CONSTRUCTION BARRIERS. IF DESIRED LAYOUT OF INFECTION CONTROL BARRIERS DIFFERS FROM PROPOSED CONSTRUCTION BARRIERS, SUBMIT PLAN TO VA CONTRACTING OFFICER AND D.O.R. FOR APPROVAL PRIOR TO WORK.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, RELOCATION AND/OR REMOVING EXISTING UTILITIES AS NECESSARY FOR SCOPE OF WORK.
19. IN ALL AREAS TO RECEIVE NEW CEILING, PER REFLECTED CEILING PLANS, REMOVE EXISTING CEILING INCLUDING ALL SUPPORT CHANNELS, WIRES, ANCHORS AND CEILING MOUNTED ACCESSORIES. REROUTE, RE-CIRCUIT, TERMINATE OR ABANDON ALL EXISTING SERVICES.
20. CAREFULLY INSPECT EXISTING CONCRETE SUB-FLOOR FOR DAMAGE AND REPAIR AS REQUIRED TO ACHIEVE A SMOOTH, FLUSH SUBSTRATE PREPARED TO RECEIVE NEW FINISH PER SPECIFIED MANUFACTURERS RECOMMENDATIONS.
21. IN ALL AREAS OF NEW WORK, CAREFULLY REMOVE ANY EXISTING WALL MOUNTED EQUIPMENT AND ACCESSORIES SO AS NOT TO DAMAGE AND PRESENT TO THE VA CONTRACTING OFFICER.
22. ALL SALVAGEABLE DEMOLITION ITEMS SUCH AS DOORS, CASEWORK AND SHELVING, WALL OR FLOOR MOUNTED ACCESSORIES, AND PLUMBING FIXTURES, ETC. SHALL BE STORED ON SITE AND PRESENTED TO THE VA CONTRACTING OFFICER FOR FINAL DISPOSITION. DISCARD OFF SITE ALL ITEMS NOT WANTED BY THE VA CONTRACTING OFFICER.
23. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN DEMOLISHING ALL FLOORS, WALLS, CEILINGS ETC. HAND DEMOLITION OF THE SPACE MAY BE REQUIRED TO AVOID DAMAGE TO VITAL UTILITY FEATURES RUNNING THROUGH THE SCOPE OF WORK INTO ADJACENT SPACES. THERE MAY BE CONCEALED PIPING, ELECTRICAL, MEDICAL GAS, DUCTWORK ETC. IN THE WALLS, BELOW THE FLOORS AND ABOVE THE CEILINGS THROUGHOUT. ALL SUCH FEATURES SHALL REMAIN PROTECTED-IN-PLACE. PORTIONS OF EXISTING CONSTRUCTION TO BE REMOVED AS REQUIRED FOR NEW CONSTRUCTION. ENSURE SYSTEMS SERVING OTHER AREAS OUTSIDE THE RENOVATION SCOPE REMAIN UNAFFECTED AND OPERATIONAL THROUGHOUT DEMOLITION AND CONSTRUCTION.
24. ALL ITEMS ON DEMOLITION DRAWINGS INDICATED WITH DASHED LINES ARE EXISTING TO BE REMOVED AS INSTRUCTED IN THE DEMOLITION KEYNOTES. ALL OTHER ITEMS ARE EXISTING TO REMAIN U.N.O.
25. SOME OUTLETS, DATA, SWITCHES, AND OTHER IN WALL RECEPTACLES MAYBE EXISTING. CONTRACTOR IS TO VERIFY IN FIELD EXISTING LOCATIONS AND QUANTIFY, RELOCATE AND RE-PURPOSE TO THE FULLEST EXTENT POSSIBLE.

NEW CONSTRUCTION

1. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY AND CHARGE OF AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, AND FOR THE ACTS OR OMISSIONS OF THE CON TRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. AT ANY TIME SHOULD ANY CONDITIONS ARISE WHEREIN THE INTENT OF THE DRAWINGS IS IN DOUBT OR WHERE THERE IS A DISCREPANCY BETWEEN THE DRAWINGS AND FIELD CONDITIONS THE VA COR SHALL BE NOTIFIED IMMEDIATELY FOR WRITTEN CLARIFICATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION AND SIZE OF OPENINGS FOR ALL TRADES AND SHALL COORDINATE ALL CONSTRUCTION AS INDICATED BY THE CONTRACT DOCUMENTS, INCLUDING SHOP DRAWINGS REVISED BY THE ARCHITECT.
4. THE V.A. IS NOT RESPONSIBLE FOR ANY LOSS OR DAMAGE TO CONTRACTOR'S EQUIPMENT, TOOLS, ETC.
5. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS TO PROTECT FINISHED PARTS OF THE MATERIALS AND EQUIPMENT AGAINST DAMAGE FROM ANY CAUSE DURING THE PROGRESS OF THE WORK AND UNTIL ACCEPTANCE BY THE VA CONTRACTING OFFICER.

NEW CONSTRUCTION CONTINUED

6. SPECIAL TOOLS, IF ANY PART OF EQUIPMENT FURNISHED UNDER THIS CONTRACT REQUIRES A SPECIAL TOOL FOR ASSEMBLY, ADJUSTMENT, SETTING OF MAINTENANCE THEREOF, SHALL BE FURNISHED WITH EQUIPMENT AS A STANDARD ACCESSORY.
7. CONTRACTOR TO PATCH AND REPAIR ALL WALLS, FLOORS, AND CEILINGS DAMAGED DURING CONSTRUCTION TO MATCH EXISTING.
8. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATION OF THEIR WORK WITH THE WORK OF OTHERS. SUBCONTRACTORS SHALL VERIFY THAT ANY WORK RELATED TO THEM, WHICH MUST BE PROVIDED BY OTHERS, HAS BEEN COMPLETED AND IS ADEQUATE PRIOR TO COMMENCING THEIR WORK.
9. CONTRACTOR SHALL ARRANGE FOR, IN ADVANCE WITH THE VA CONTRACTING OFFICER, CONSTRUCTION STORAGE AND STAGING AREAS NECESSARY TO COMPLETE THE WORK. ALL STORAGE AND STAGING AREAS SHALL BE RETURNED TO THE VA CONTRACTING OFFICER IN LIKE ORIGINAL CONDITION.
10. CONTRACTOR SHALL MAINTAIN A CLEAN WORK PLACE. DUST POLLUTION AND PREVENTION OF DUST CONTAMINATION OF WORK SPACES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR ON AN ONGOING, DAILY BASIS. THE CONTRACTOR SHALL DEVELOP FOR THE VA CONTRACTING OFFICER A SCHEDULE OF CONSTRUCTION WHICH INCLUDES THE NECESSARY ACTIONS TO MAINTAIN THE OPERATION OF THE ADJACENT FUNCTIONS (INCLUDING THOSE ONE FLOOR ABOVE AND BELOW) DURING THE CONSTRUCTION PROCESS.
11. THE D.O.R. AND D.O.R.'S CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, PRESENCE, HANDLING, REMOVAL OR DISPOSAL OF OR EXPOSURE OF PERSONS TO HAZARDOUS MATERIALS IN ANY FORM AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES. SEE ALSO HAZARDOUS MATERIAL REPORT ON SHEET AG001, PROJECT SPECIFICATIONS, AND HAZARDOUS MATERIAL NOTES ON THIS SHEET.
12. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY OF ALL PARTIES PRESENT ON THE JOB SITE IS SOLELY THE CONTRACTORS RESPONSIBILITY, THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE VA CONTRACTING OFFICER AND THE D.O.R. HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE VA CONTRACTING OFFICER OR THE D.O.R.
13. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CODES, ORDINANCES, AND LAWS REFERENCED HEREIN. ANY DEVIATION FROM, OR DISCREPANCY WITH, THESE CODES SHALL BE CALLED TO THE ATTENTIONS OF THE VA CONTRACTING OFFICER AND D.O.R. BEFORE PROCEEDING WITH THE WORK, ORDERING MATERIALS OR ESTABLISHING THE CONSTRUCTION SCHEDULE.
14. CONTRACTOR SHALL HAVE A DESIGNATED PROJECT REPRESENTATIVE ON SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
15. CONTRACTOR SHALL MAINTAIN AN APPROVED SET OF PLANS ON THE JOB SITE DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE NUMBER OF PORTABLE FIRE EXTINGUISHERS FOR PROTECTION DURING CONSTRUCTION IN ACCORDANCE WITH NFPA 10 AND 241.
17. THE CONTRACTOR SHALL COMPLY WITH HOSPITAL POLICIES PERTAINING TO CONSTRUCTION/ RENOVATION.
18. CONTRACTOR SHALL COORDINATE ALL WORK INSIDE AND OUTSIDE LIMITS OF WORK AREA. LIMITS OF WORK AREA DEFINES ONLY GENERAL WORK AREA.
19. CONTRACTOR ROUTE OF TRAVEL THROUGHOUT HOSPITAL SITE TO BE APPROVED BY VA CONTRACTING OFFICER.MV.
20. D.O.R. AND IF ROUTE OF TRAVEL OR PERFORMANCE OF WORK AFFECTS ANY REQUIRED EXITWAYS, SHALL BE APPROVED BY VA COR PRIOR TO CONSTRUCTION.
21. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH THE VA CONTRACTING OFFICER, SO THE DISRUPTION OF THE HOSPITAL OPERATIONS WILL BE MINIMIZED. WHERE APPLICABLE AND APPROVED BY VA CONTRACTING OFFICER, WORK WILL BE PREFORMED AFTER HOURS TO PROVIDE FOR UNINTERRUPTED USE OF HOSPITAL OPERATIONS.
22. CONTRACTOR SHALL WORK AROUND VA'S AREAS WHICH NEED TO BE MAINTAINED IN FULL OPERATING CONDITION AT ALL TIMES.
23. AS APPLICABLE, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS SHALL REVIEW ARCHITECTURAL AND OTHER TRADES DRAWINGS FOR COORDINATION.
24. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SUBSTRUCTURES BEFORE COMMENCING WORK, WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE EXPENSE OF REPAIR OR REPLACEMENT OF SAID SUBSTRUCTURES SHALL BE BORNE BY THE CONTRACTOR.
25. ALL UTILITIES SHOWN ON THESE DOCUMENTS ARE A RESULT OF A SITE REVIEW AND A REVIEW OF THE AVAILABLE RECORDS SUPPLIED BY THE VA CONTRACTING OFFICER. CONTRACTOR TO OBTAIN TRUE VERTICAL AND HORIZONTAL DIMENSIONS OF UTILITIES BEFORE BEGINNING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR ANY DAMAGE THERETO, OR FEES RESULTING FROM DAMAGE THERETO.
26. FIRESTOPPING REQUIREMENT: PENETRATIONS THROUGH RATED WALLS, FLOORS AND ROOFS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC OF FIRESTOPS: ASTME-814.
27. PENETRATIONS INTO SOUND RATED PARTITIONS OR CEILING ASSEMBLIES SHALL BE SEALED WITH AN APPROVED PERMANENT RESILIENT SEALANT. ELECTRICAL DEVICES, RECESSED CABINETS, ETC. SHALL BE SEALED, LINED, INSULATED OR OTHERWISE TREATED TO MAINTAIN INTEGRITY OF THE ACOUSTICAL ASSEMBLY.
28. NEW PIPES, DUCTS AND CONDUITS SHALL BE SUPPORTED AND BRACED ACCORDING TO CURRENT CODE.
29. EXISTING PIPES GREATER THAN 2 1/2" INSIDE DIAMETER AND MEDICAL GASES OF ANY SIZE SHALL BE BRACED ACCORDING TO CURRENT CODE.

FINISHES

1. IN AREAS REQUIRING NEW WORK AND PATCHING, EXISTING FINISHES ARE TO BE VERIFIED BY THE CONTRACTOR AND ALL NEW FINISHES SHALL MATCH THE EXISTING FINISHES, UNLESS OTHERWISE NOTED.
2. FOR EXISTING CEILING PATCHING, WHERE CEILING IS CUT OUT OR PORTIONS REMOVED FOR REMOVAL OF EXISTING WALL, DISTURBED PORTION SHALL BE PATCHED TO MATCH THE EXISTING CEILING FINISH BY THE RESPONSIBLE TRADE AS DEFINED BY THE GENERAL REQUIREMENTS OF THE SPECIFICATIONS.
3. WHERE ALL SURFACES ARE PATCHED TO MATCH THE EXISTING,THE NEW FINISH (PAINT , CEILING TILE, FLOORING, ETC.) SHALL BE APPLIED IN A MANNER THAT THERE WILL BE NO VISUAL DISTINCTIONS BETWEEN SURFACES AFTER COMPLETION OF WORK AND/OR REPAIR ALL DAMAGE CAUSED BY CONTRACTOR OR SUB-CONTRACTOR PERSONNEL.
4. UPON COMPLETION OF WORK, ALL CONSTRUCTION AREAS SHALL BE LEFT BROOM CLEAN AND FREE FROM DEBRIS.
5. WHEN INSTALLING DRILLED-IN ANCHORS AND /OR POWER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. LOCATE THE REIN FORCING BARS BY A NONDESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE REBARS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-INANCHOR AND/OR PIN.

FINISHES CONTINUED

6. CUTTING OF HOLES THROUGH CONCRETE SHALL BE BY DIAMOND CORE DRILL OR PNEUMATIC HAMMER. IMPACT ELECTRIC MANUAL HAMMER TYPE DRILLS WILL NOT BE ALLOWED.
7. CEILING HEIGHT DIMENSIONS ARE TO FINISHED SURFACE OF CEILING.
8. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE, UNLESS OTHERWISE NOTED.
9. DUCTS PENETRATING STUD WALLS SHALL BE PROVIDED WITH NECESSARY FRAMES AND BRACING AROUND THE OPENING.
10. CONTACT BETWEEN DISSIMILAR METALS SHALL BE PROTECTED WITH HEAVY MODIFIED BITUMINOUS PAINT.
11. ALL NEW INTERIOR WALL AND CEILING FINISHES SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT EDITION OF BUILDING CODES.
12. IF THE CONTRACTOR ASCERTAINS AT ANY TIME THAT REQUIREMENTS OF THIS CONTRACT CONFLICT WITH, OR ARE IN VIOLATION OF, APPLICABLE LAWS, CODES, REGULATIONS AND ORDINANCES, HE SHALL NOT PROCEED WITH WORK IN QUESTION, EXCEPT AT HIS OWN RISK, UNTIL VA'S RESIDENT ENGINEER HAS BEEN NOTIFIED IN WRITING AND WRITTEN DETERMINATION IS MADE BY VA'S RESIDENT ENGINEER. WHERE COMPLETED OR PARTIALLY COMPLETED WORK IS DISCOVERED TO BE IN VIOLATION WITH APPLICABLE LAWS, CODES, REGULATIONS AND ORDINANCES, CONTRACTOR SHALL BE REQUIRED TO REMOVE THAT WORK FROM THE PROJECT AND REPLACE SUCH WORK WITH ALL NEW WORK COMPLYING AT NO ADDITIONAL COST TO THE VA.
13. REMOVE AND RELOCATE CONDUIT, PLUMBING, WIRING, DUCTWORK, ETC. THAT PRESENTS AN OBSTRUCTION TO GENERAL CONSTRUCTION.
14. ALL UTILITIES SHALL BE RUN CONCEALED EXCEPT IN UNFINISHED AREAS.
15. PROVIDE SEISMIC SUPPORT AND BRACING TO ALL UTILITIES AND GENERAL CONSTRUCTION. ANCHOR ACE OF EQUIPMENT SHALL COMPLY WITH THE PROVISIONS OF CURRENT CODE FOR LATERAL FORCES ON ELEMENTS OF STRUCTURES, NON-STRUCTURAL COMPONENTS & EQUIPMENT SUPPORTED BY STRUCTURES.

EQUIPMENT & FURNISHINGS

1. ALL EQUIPMENT INDICATED AS OWNER FURNISHED / CONTRACTOR INSTALLED SHALL BE PLACED, CONNECTED TO NECESSARY UTILITIES, ANCHORED AS REQUIRED AND ADJUSTED PER THE CONSTRUCTION DOCUMENTS AND MANUFACTURERS RECOMMENDATIONS.
2. EQUIPMENT OF WEIGHT AND SIZE THAT REQUIRES RIGGING FOR PROPER INSTALLATION SHALL BE PROVIDED BY CONTRACTOR AT NO ADDITIONAL COST TO VA.
3. CONTRACTOR SHALL COORDINATE WITH VA FOR DELIVERY AND INSTALLATION OF EQUIPMENT TAKING SPECIAL NOTICE TO OVER SIZED EQUIPMENT THAT MAY REQUIRE ADDITIONAL CONSTRUCTION SEQUENCING. APPROPRIATE PROTECTIONS SHALL BE TAKEN BY CONTRACTOR TO PROTECT FINISHES.
4. CONTRACTOR TO LOCATE ALL VA RETAINED MATERIAL (TO REMAIN IN PLACE OR TO BE TURNED OVER TO VA) AND COORDINATE WITH VA COR FOR STORAGE.
5. ALL MATERIALS NOT IDENTIFIED AS VA RETAINED (TO REMAIN OR TO BE TURNED OVER TO VA) ARE TO BE REMOVED FROM THE PREMISES BY THE CONTRACTOR.
6. ALL WARRANTIES, MANUALS & TRAINING MUST BE TRANSFERRED TO THE VA PRIOR TO ACCEPTANCE OF FINAL COMPLETION.

SAFETY AND HEALTH

1. IT IS MGVAMC POLICY THAT PROCEDURES BE FOLLOWED FOR CONTROL OF SAFETY AND HEALTH HAZARDS ASSOCIATED WITH CONSTRUCTION ACTIVITIES PERFORMED BY EMPLOYEES OR CONTRACTORS MANAGED BY VASDHS.
2. INFECTION PREVENTION AND CONTROL (IPC) & COORDINATOR OR THEIR DESIGNEE IS RESPONSIBLE TO PARTICIPATE IN THE DESIGN AND IMPLEMENTATION OF CONSTRUCTION PROJECTS.
   - DOCUMENT THE PRE-CONSTRUCTION INFECTION CONTROL RISK ASSESSMENT (PICRA) IN CONJUNCTION WITH THE CONTRACTOR.
   - PROVIDE ADVICE AND RECOMMENDATIONS TO CONTRACTORS AND ENGINEERS TO MAINTAIN A HEALTHY AND SAFE ENVIRONMENT DURING CONSTRUCTION ACTIVITIES.
   - CONDUCT PERIODIC JOB-SITE INSPECTIONS TO ENSURE COMPLIANCE ITEMS ON THE POSTED PERMIT & IDENTIFY DEFICIENCIES TO THE CSO. PROVIDE INSPECTION SUMMARIES TO CSO & INFECTION CONTROL DEPARTMENT.
   - RECOMMEND TO TEMPORARILY HALT CONSTRUCTION IF, DURING INSPECTION, IT IS NOTED THAT THERE IS AND IMMEDIATE RISK TO PATIENTS OR EMPLOYEES.
   - COMPLETE PREOCCUPANCY INSPECTION & CHECKLIST.
3. CONSTRUCTION SAFETY OFFICER (CSO) & COMMITTEE IS RESPONSIBLE FOR OVERSIGHT OF THE CONSTRUCTION SAFETY PROGRAM AND ENSURE THE GOALS OF VHA DIRECTIVE 7715 ARE MET.
4. ENGINEERING SERVICES (FMS; Chief/CO/COR/CSO/PE/PM) STAFF HAVE THE OVERALL RESPONSIBILITY FOR THE DAY TO DAY OVERSIGHT OF ONGOING CONSTRUCTION PROJECTS.
   - COMMUNICATION WITH CONTRACTORS.
   - ENSURE THAT THE CONTRACTOR IS INFORMED OF THE IPC'S EXPECTATIONS DURING CONSTRUCTION.
   - NOTIFICATION TO IPC OF ALL CONSTRUCTION MEETINGS, INFORMATION, OR CHANGES THAT MAY IMPACT INFECTION CONTROL.
   - CONDUCT REVIEW OF AIR QUALITY, UTILITIES, NOISE, VIBRATION, LIFE SAFETY AND OTHER HAZARDS AS THEY PERTAIN TO THE PICRA.
   - ENSURE THAT IDENTIFIED DEFICIENCIES ARE CORRECTED BY THE CONTRACTOR AND ARE RESOLVED IN TIMELY MANNER.
   - RESPONSIBLE FOR RETRIEVAL OF DAILY AIR MONITORING LOG.
   - COORDINATE A FINAL INSPECTION AND CLEARANCE BY THE IPCC.
5. CONTRACTOR
   - CONDUCT A PRE-CONSTRUCTION INFECTION CONTROL RISK ASSESSMENT (PICRA) TO DETERMINE THE RISK GROUP, CONSTRUCTION CLASS, AND PRECAUTIONS THAT WILL BE REQUIRED DURING CONSTRUCTION.
   - PRIOR TO START OF WORK, AS PART OF THE GUIDELINES PROVIDED BY THE INFECTION CONTROL GROUP AS SPECIFIED IN THIS SECTION, PREPARE A PROGRAM DETAILING PROJECT-SPECIFIC INFECTION CONTROL MEASURES, INCLUDING PERIODIC STATUS REPORTS. SUBMIT PROGRAM TO CONTRACTING OFFICERS REPRESENTATIVE (COR) AND FACILITY INFECTION CONTROL GROUP FOR APPROVAL & PERMIT, IN ACCORDANCE WITH CONTRACT REQUIREMENTS AND SECTION 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
   - MAINTAIN A COPY OF INFECTION PREVENTION AND CONTROL PERMIT WITH THE DESIGNATED RISK CATEGORY, POSTED AT THE CONSTRUCTION SITE (ICRA, Appendix B).
   - PROVIDE A WRITTEN CERTIFICATION THAT ALL CONTRACT EMPLOYEES ASSIGNED TO THE WORK SITE HAVE HAD A PRE-PLACEMENT TUBERCULIN SCREENING WITHIN 90 DAYS PRIOR TO ASSIGNMENT TO THE WORKSITE AND BEEN FOUND TO HAVE NEGATIVE SCREENING REACTIONS. (CONTRACT EMPLOYEES WITH POSITIVE SCREENING REACTIONS TO THE TUBERCULIN MUST BE EVALUATED BY A PHYSICIAN TO DETERMINE EVIDENCE OF ACTIVE PULMONARY TB. AN EMPLOYEE WITH ACTIVE PULMONARY TB MUST UNDERGO TREATMENT TO RESOLVE THE CONDITION).

SAFETY AND HEALTH CONTINUED

6. CONSTRUCTION PROCEDURES & PROCESSES

BIOMEDICAL WASTE

a. ALL WASTE, INCLUDING SHARPS CONTAINERS, FROM THE CONSTRUCTION AREA SHALL BE REMOVED PRIOR TO THE START OF THE PROJECT.

b. INFECTION PREVENTION AND CONTROL STAFF SHALL BE NOTIFIED IMMEDIATELY IF UNEXPECTED BIOMEDICAL WASTE IS ENCOUNTERED BY CONSTRUCTION WORKERS.

BARRIER WALLS

a. CONSTRUCTION SITES MUST BE SEPARATED FROM PATIENT CARE AREAS BY BARRIERS THAT KEEP THE DIRT AND DUST INSIDE WORKSITES.

b. THE INTEGRITY OF THE BARRIER WALLS MUST ASSURE A COMPLETE SEAL OF THE CONSTRUCTION AREA FROM ADJACENT AREAS.

c. RIGID CONSTRUCTION OR FIRE RATED PLASTIC SHEETING (4- OR 6-MM THICKNESS) IS USED, DEPENDING ON THE LOCATION OF THE PROJECT, ADJACENT USES, AND DURATION OF THE PROJECT.

d. WALLS WILL BE DUST PROOF WITH AIRTIGHT SEALS MAINTAINED AT THE FULL PERIMETER OF THE WALLS, AS WELL AS ALL PENETRATIONS.

ENVIRONMENTAL CONTROL

a. **A HEPA FILTER VACUUM SYSTEM, RATED AT 95% CAPTURE OF 0.3 MICRONS SHALL BE INSTALLED TO ENSURE CONTINUOUS NEGATIVE AIR PRESSURE OF AT LEAST -0.02 W.C. MAINTAINED AT ALL TIMES WITHIN THE CONSTRUCTION ZONE FOR CLASS III & IV PROJECTS. THERE WILL BE NO RE-CIRCULATION OF AIR. CONTRACTOR IS TO COMPLETE DAILY NEGATIVE AIR PRESSURE VERIFICATION LOG WHICH WILL BE POSTED AT SITE NEXT TO MANOMETER.**

b. CONSTRUCTION DEBRIS WILL BE REMOVED IN TIGHTLY FITTED COVERED CARTS, WIPED DOWN PRIOR TO REMOVAL FROM PROJECT AREA. SPECIFIC CONSTRUCTION TRAFFIC PATTERNS WILL BE ESTABLISHED PRIOR TO THE BEGINNING OF CONSTRUCTION.

c. TACKY/WALK-OFF MATS SHALL BE UTILIZED IMMEDIATELY OUTSIDE THE CONSTRUCTION ZONE TO REMOVE DUST AND SOIL FROM SHOES, CARTWHEELS, ETC. AS PERSONNEL EXIT THE AREA. THE TACKY MAT MUST BE LARGE ENOUGH TO COVER THE EXIT AND CHANGED DAILY, OR WHENEVER IT BECOMES COVERED IN DUST AND DEBRIS.

d. EXTERIOR WINDOW SEALS MUST BE ASSURED TO MINIMIZE INFILTRATION OF OUTSIDE EXCAVATION DEBRIS.

e. WHEN USING DEMOLITION CHUTES, THE CHUTE OPENING MUST BE SEALED WHEN NOT IN USE. THE CHUTE AND DAMPER MUST BE SPRAYED WITH WATER, AS NECESSARY TO MAINTAIN DUST CONTROL.

f. CONTROL, COLLECTION AND DISPOSAL MUST BE PROVIDED FOR ANY DRAINING LIQUID OR SLUDGE ENCOUNTERED WHEN DEMOLISHING PLUMBING.

TRAFFIC CONTROL

a. DESIGNATED ENTRY AND EXIT PROCEDURE SILL BE DEFINED FOR EACH CONSTRUCTION PROJECT.

b. ALL EGRESS PATHWAYS WILL REMAIN FREE OF DEBRIS ALWAYS.

c. UNAUTHORIZED PERSONNEL WILL NOT BE ALLOWED TO ENTER THE CONSTRUCTION ZONE AND THE DOORS WILL REMAIN LOCKED. THE DOORS WILL BE LABELED WITH WARNING SIGNS STATING, "DANGER HARD HAT AREA" AND CONSTRUCTION AREA AUTHORIZED PERSONNEL ONLY.

d. ONLY DESIGNATED ELEVATORS WILL BE USED FOR CONSTRUCTION ACTIVITIES DURING SCHEDULED TIMES.

CLEANING

a. THE CONSTRUCTION ZONE AND ADJACENT ENTRY AREA SHALL BE MAINTAINED IN A CLEAN AND SANITARY MANNER BY THE CONTRACTOR AND WILL BE SWEPT AND MOPPED DAILY OR MORE FREQUENTLY, IF NEEDED, TO MINIMIZE DUST.

b. FMS WILL BE RESPONSIBLE FOR THE ROUTINE CLEANING OF ADJACENT AREAS AND FOR THE FINAL TERMINAL CLEANING OF THE CONSTRUCTION ZONE PRIOR TO OPENING OF NEWLY CONSTRUCTION AREAS.

PERSONNEL REQUIREMENTS

a. CLOTHING SHALL BE FREE OF LOOSE SOIL AND DEBRIS UPON EXITING THE CONSTRUCTION ZONE.

b. PERSONNEL PROTECTION EQUIPMENT, INCLUDING FACE SHIELDS, GLOVES, AND N95 RESPIRATORS WILL BE UTILIZED AS APPROPRIATE FOR THE TASK AT HAND. THE CONTRACTOR WILL PROVIDED THESE ITEMS.

c. PERSONNEL ENTERING STERILE/INVASIVE PROCEDURE AREAS WILL BE PROVIDED WITH A DISPOSABLE JUMP SUIT, HEAD COVERING, AND SHOE COVERING BY THE CONTRACTOR. THESE MUST BE REMOVED PRIOR TO EXITING THE WORK AREA. THIS IS DETERMINED IN THE PICRA PROCESS AND WILL BE NOTED ON THE PERMIT.

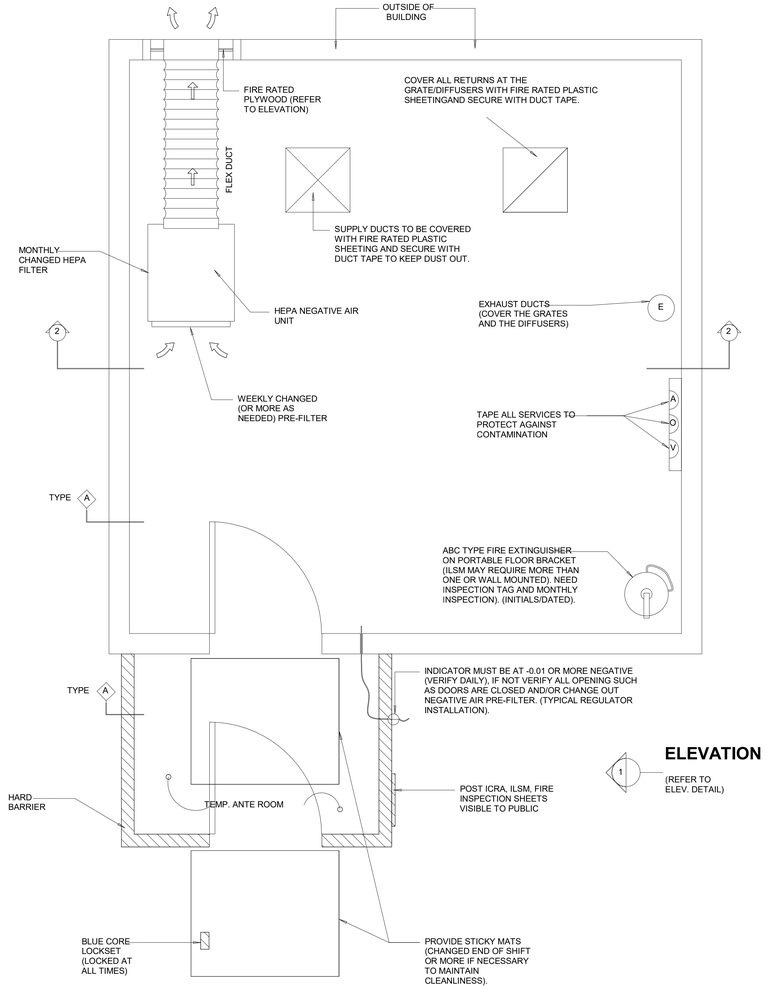
d. TOOLS AND EQUIPMENT MUST BE DAMP WIPED PRIOR TO ENTRY AND EXIT FROM STERILE AND INVASIVE PROCEDURE AREAS.

e. HOSPITAL APPROVED GERMICIDES WILL BE USED TO CLEAN TOOLS AND EQUIPMENT THAT MAY BE SOILED WITH BLOOD AND BODY FLUIDS.

f. ALL CONTRACTORS, SUBCONTRACTORS, SAFETY MANAGEMENT AND FMS EMPLOYEES SHALL RECEIVE INFECTION CONTROL TRAINING AS IT RELATES TO CONSTRUCTION.

ENVIRONMENTAL MONITORING

a. FMS, IN CONJUNCTION WITH IPC WILL PLAN FOR ENVIRONMENTAL MONITORING PRIOR TO THE OP

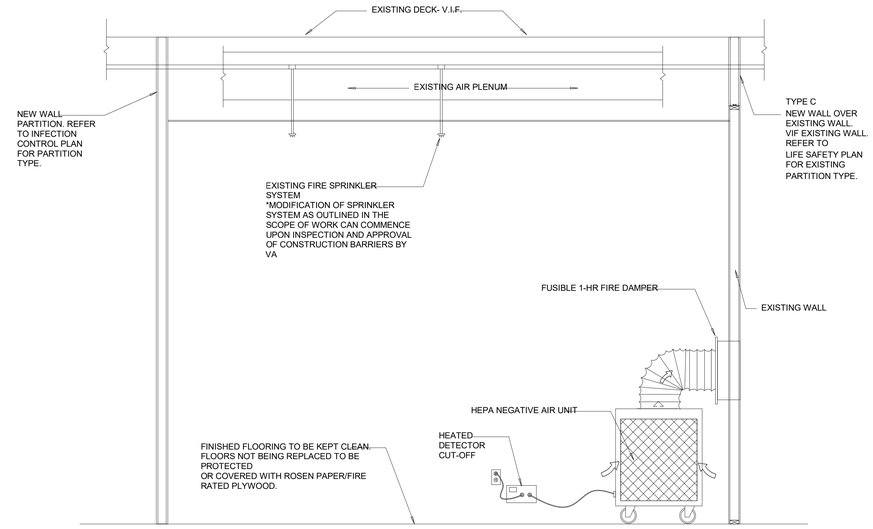


ELEVATION

1 (REFER TO ELEV. DETAIL)

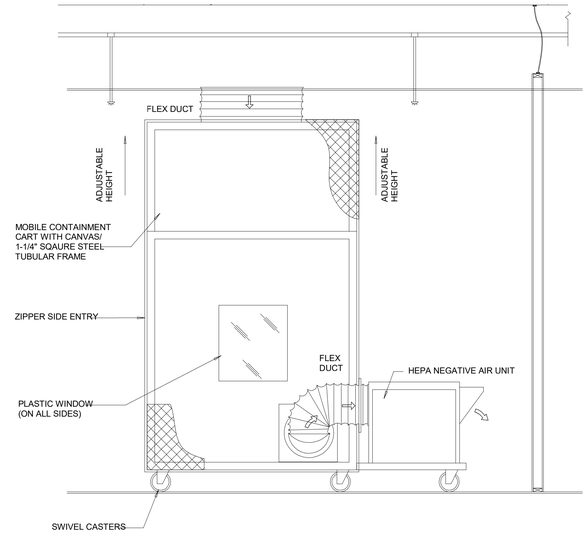
1 TYPICAL IDEAL CONSTRUCTION LAYOUT

1/2" = 1'-0"



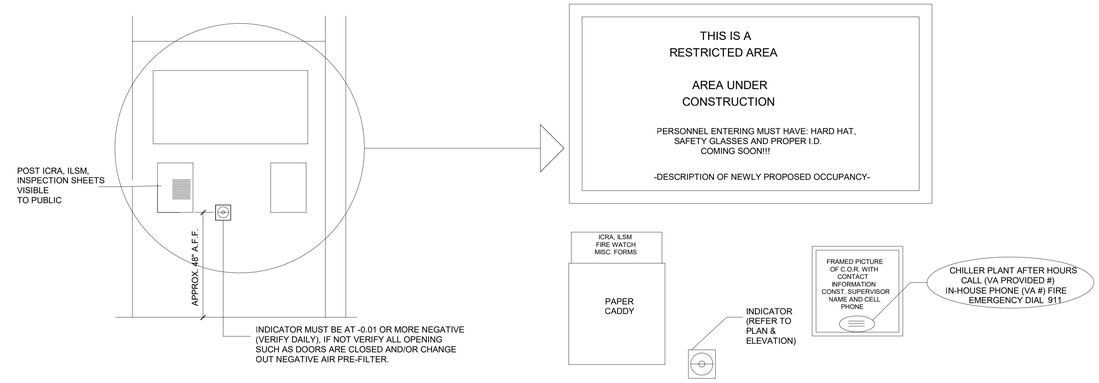
2 CROSS SECTION '2'

1/2" = 1'-0"



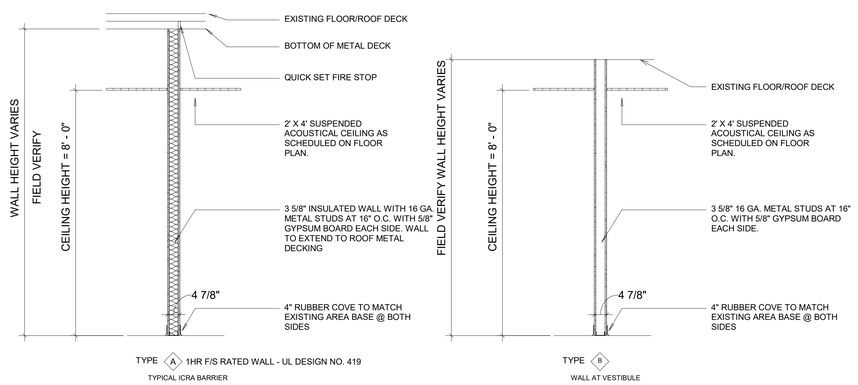
4 MOBILE CONTAINMENT CART (CONST. BARRIER TYPES)

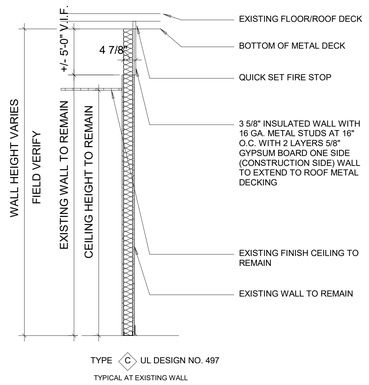
1/2" = 1'-0"



3 ANTE ROOM ELEVATION '1'

1/2" = 1'-0"





5 WALL CONSTRUCTION TYPES (DETAILS)

NOTE: ALL TEMPORARY CONSTRUCTION BARRIERS TO BE 1 -HOUR RATED.

1/2" = 1'-0"

Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON
11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ICRA DETAILS	100% Submittal - Not for Construction	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number: GI-005
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

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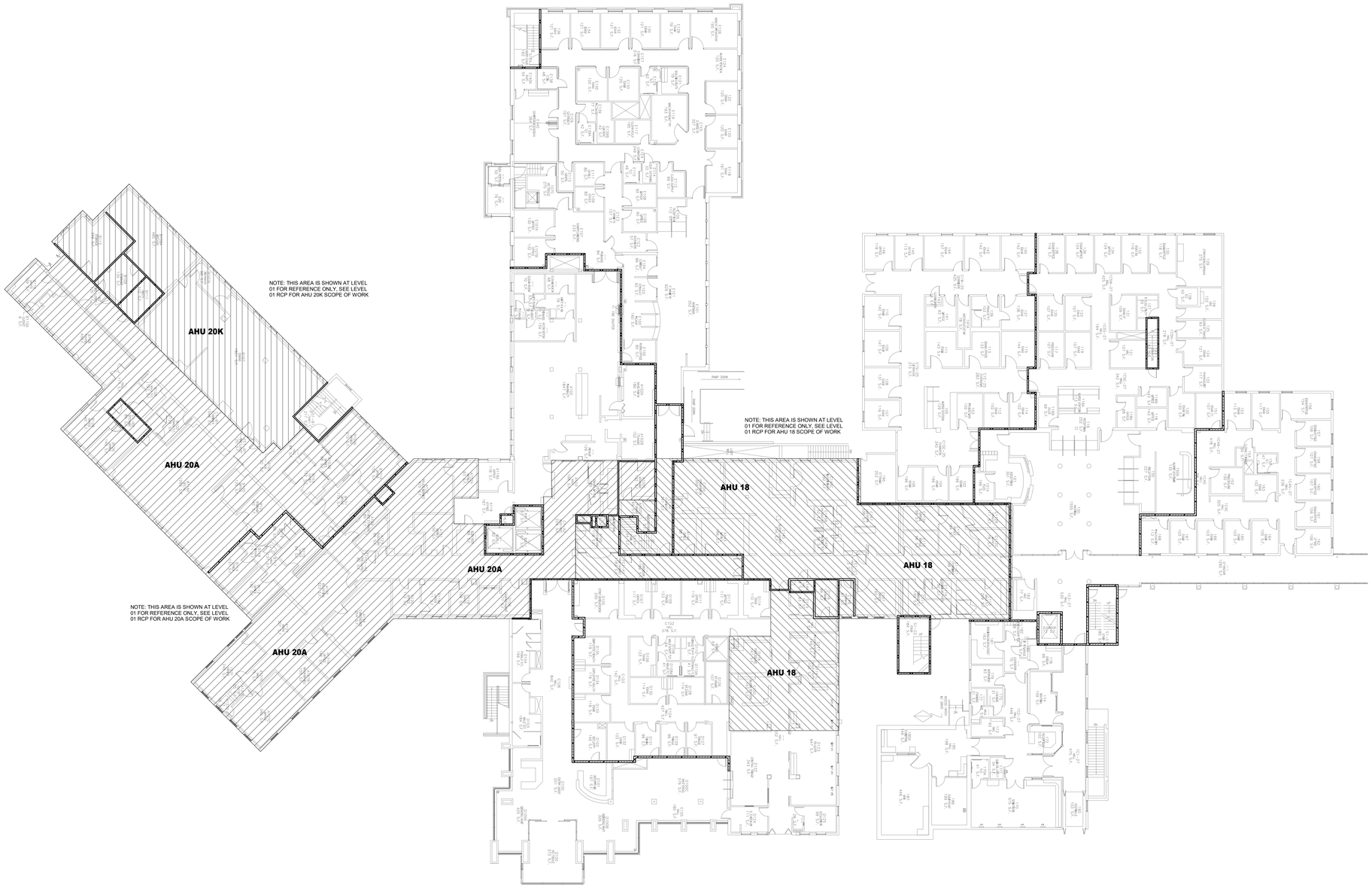


1 **LEVEL 01 - OVERALL FLOOR PLAN**
1/16" = 1'-0"

GENERAL NOTES

A. ANY CHANGES MUST BE APPROVED BY CO BEFORE DOING ANY ADDITIONAL WORK. REFER TO SPECIFICATION SECTION 01 00 00 AND PHASING PLANS (SHEET GI 002) FOR REGULAR WORK SCHEDULE. ANY WORK OUTSIDE OF REGULAR SCHEDULE REQUIRES APPROVAL FROM THE CONTRACTING OFFICER (CO).

B. COORDINATE STAGING AREA WITH COR.

C. PERFORM WORK IN ACCORDANCE WITH VHA, SAFETY AND HEALTH DURING CONSTRUCTION ACTIVITIES AND VHA, OCCUPATIONAL SAFETY AND HEALTH (OSH) .

D. WORK PERFORMED FOR THIS PROJECT MAY INTERRUPT SERVICE TO ADJACENT AREAS AT TIMES BUT WILL NOT INTERRUPT OVERALL FACILITY OPERATION. SEE SPECS FOR UTILITY INTERRUPTION AND OUTAGE REQUIREMENTS.

E. CONTRACTOR TO VERIFY ALL DETAILS AGAINST EXISTING CONDITIONS PRIOR TO PURCHASE OF EQUIPMENT AND PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR BRINGING ANY DISCREPANCIES IN PLANS AND EXISTING SITE CONDITIONS TO IMMEDIATE ATTENTION OF CONTRACTING OFFICER'S REPRESENTATIVE.

F. CONTRACTOR SHALL PERFORM ALL WORK AND PROVIDE ALL MATERIALS IN ACCORDANCE WITH VA MASTER CONSTRUCTION SPECIFICATIONS, WHICH CAN BE FOUND AT HTTP://WWW.CFM.VA.GOV/TIL/. WHERE DISCREPANCIES ARE FOUND THE MORE STRINGENT SHALL APPLY.

TEMPORARY CONSTRUCTION

A. THE CONTRACTOR SHALL USE THE FOLLOWING AS A GUIDE FOR ALL ICRA BARRIERS. TEMPORARY INFECTION CONTROL BARRIERS SHALL BE CONSTRUCTED AS FOLLOWS DEPENDING UPON LENGTH OF NEED:

A. 1 DAY MAXIMUM - PLASTIC
B. 1 WEEK MAXIMUM - FLAME-RETARDANT PLASTIC
C. GREATER THAN 1 WEEK - SEE NOTE B AND C.

B. TEMPORARY CONSTRUCTION BARRIERS SHALL BE 3 5/8" METAL STUDS @ 16" O.C. WITH 5/8" TYPE "X" GYP. BD. EACH SIDE. BARRIERS ARE TO EXTEND TO THE BOTTOM OF EXISTING CEILINGS. PROVIDE NON-DAMAGING SEAL AT INTERSECTION WITH CEILING. PROVIDE PLASTIC SHEET BARRIER SEAL BETWEEN TOP OF WALL AND STRUCTURE ABOVE. TAPE ALL SEAMS AND PENETRATION OPENINGS TO PREVENT CONTAMINATION FROM PASSING OVER THE TOP OR UNDERNEATH THE WALL FROM CONSTRUCTION AREAS.

C. TEMPORARY CONSTRUCTION BARRIERS SHALL BE EITHER TYPE I OR TYPE II. TYPE I BARRIERS SHALL BE ANCHORED TO THE FLOORING SURFACE (WHICH IS INTENDED TO BE REPLACED) WITH POWER ACTUATED FASTENERS. TYPE II BARRIERS SHALL BE ANCHORED TO THE FLOORING SURFACE (WHICH IS INTENDED TO REMAIN) BY TAPING BOTTOM STUD TRACK TO FLOOR SURFACE OR BY OTHER METHODS WHICH WILL NOT HARM FLOOR SURFACE.

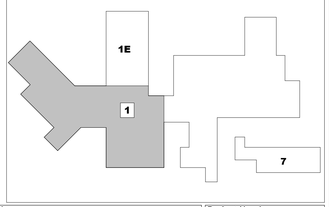
D. TEMPORARY PARTITIONS SHALL NOT CONSTRICT WALKWAYS TO LESS THAN 42" CLEAR. ANY EXITS CHANGED OR BLOCKED SIGNAGE NEEDS TO BE POSTED FOR THE MODIFICATIONS.

E. PROVIDE TEMPORARY RATED DOOR AND FRAME IN CONSTRUCTION BARRIER AT ENTRY POINTS TO THE CONSTRUCTION AREAS. DOORS ARE TO REMAIN LOCKED AT ALL TIMES. CONSTRUCTION CORES WILL BE PROVIDED BY THE CONTRACTOR.

FLOOR PLAN LEGEND

INCLUDED IN SCOPE OF WORK
1 HOUR FIRE BARRIER
1 HOUR FIRE/SMOKE BARRIER
2 HOUR FIRE BARRIER
2 HOUR FIRE/SMOKE BARRIER

KEY PLAN NTS — NORTH



Revisions:	Date:

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11/17/2025

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

Drawing Title: 1ST FLOOR SCOPE OF WORK
Phase: 100% Submittal - Not for Construction
Approved:

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number: 668-21-100
Building Number: 1
Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Drawing Number: AS-101

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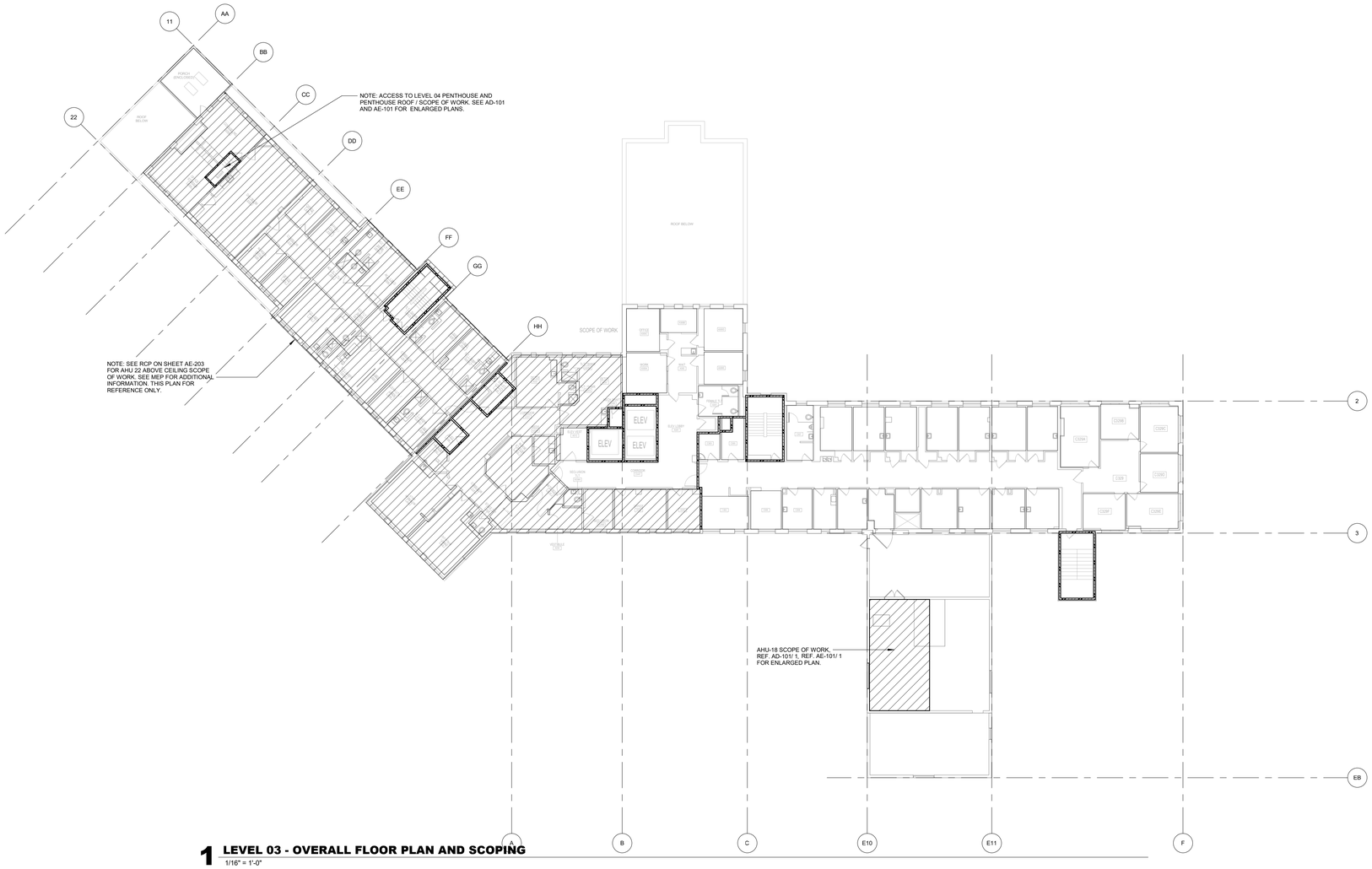

1 LEVEL 03 - OVERALL FLOOR PLAN AND SCOPING
1/16" = 1'-0"

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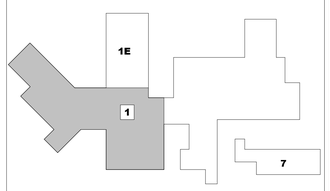
FLOOR PLAN LEGEND

INCLUDED IN SCOPE OF WORK
1 HOUR FIRE BARRIER
1 HOUR FIRE/SMOKE BARRIER
2 HOUR FIRE BARRIER
2 HOUR FIRE/SMOKE BARRIER

KEY PLAN NTS — NORTH



Revisions:	Date:

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STATE OF WASHINGTON
11/17/2025

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

Drawing Title: 3RD & 4TH FLOOR SCOPE OF WORK	Phase: 100% Submittal - Not for Construction	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
Approved:			Building Number: 1
		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number: AS-103
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

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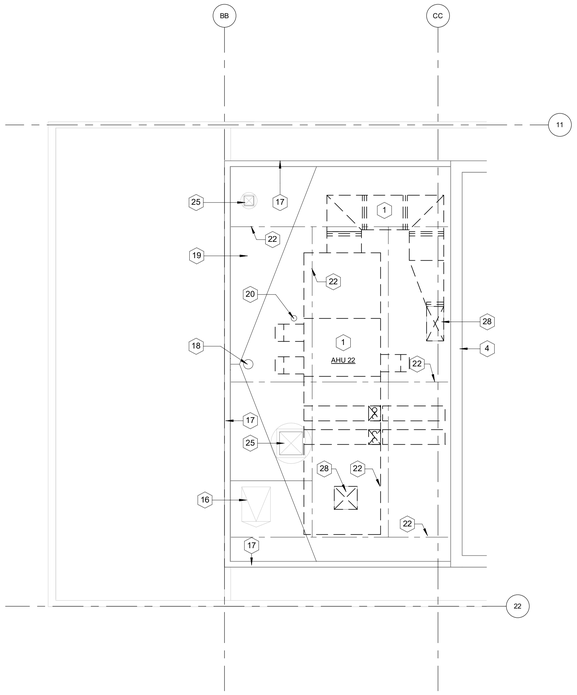
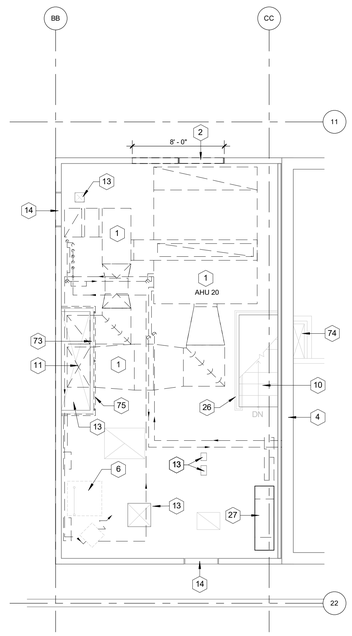
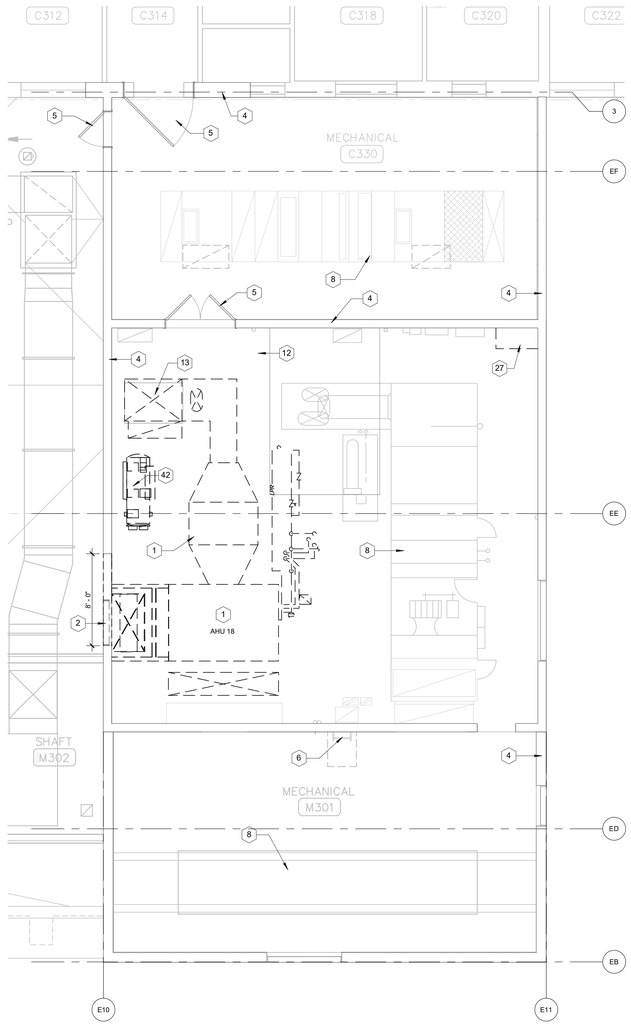


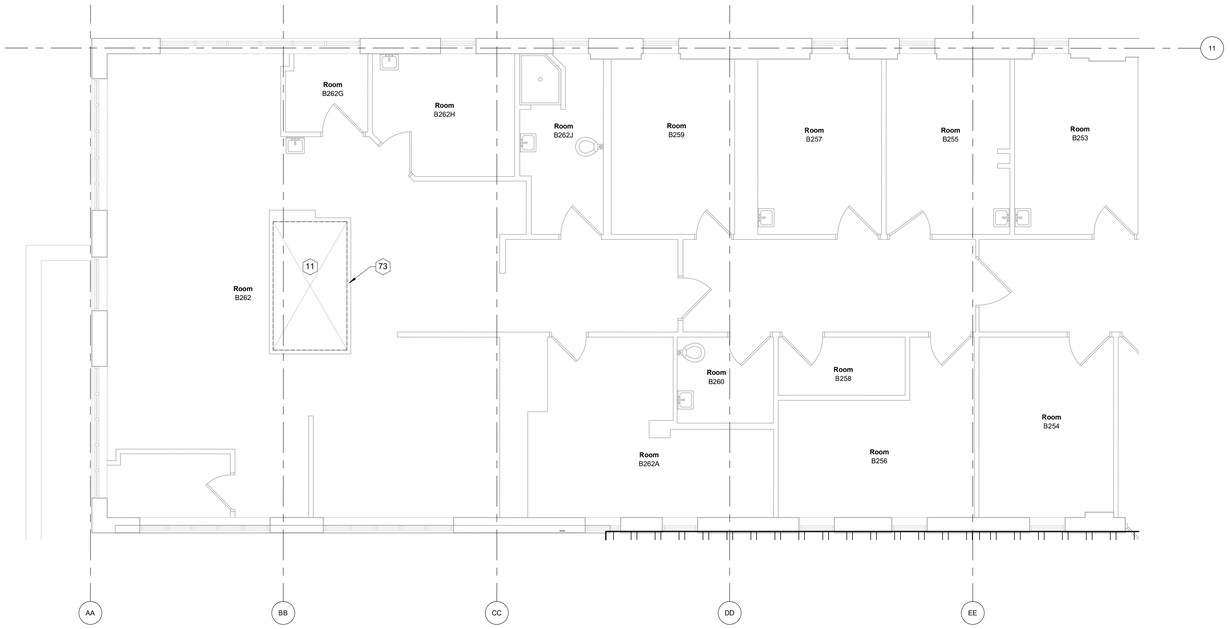
3 LEVEL 04 PENTHOUSE ROOF - AHU 22 ENLARGED DEMO PLAN
3/16" = 1'-0"



2 LEVEL 04 PENTHOUSE - AHU 20 ENLARGED DEMO PLAN
3/16" = 1'-0"



1 LEVEL 03 - AHU 18 ENLARGED DEMO PLAN
3/16" = 1'-0"



4 LEVEL 02 - FLOOR PLAN
3/16" = 1'-0"

GENERAL DEMOLITION NOTES

A. EXISTING CONSTRUCTION TO BE REMOVED IS INDICATED ON THE DRAWINGS. COORDINATE DEMOLITION WITH ARCHITECTURAL DRAWINGS AND REQUIREMENTS SHOWN ON ALL MECHANICAL PLUMBING AND ELECTRICAL, AND STRUCTURAL DRAWINGS

B. EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEYS. THE CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AND NOTIFY THE CO/COR OF ANY DISCREPENCIES.

C. CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT BUILDING AREAS

D. AREA OF WORK CONTAINS BUILDING INFRASTRUCTURE WHICH MAY BE CRITICAL TO THE ONGOING OPERATIONS OF THE HOSPITAL. ATTENTION SHALL BE BROUGHT TO THE COR PRIOR TO ANY DEMOLITION OR SHUT-DOWNS. REFER TO SPECIFICATIONS FOR MAJOR AND MINOR SHUTDOWN PROCEDURES.

E. PROTECT EXISTING MATERIALS AND EQUIPMENT WHICH ARE NOT TO BE DEMOLISHED. CONTRACTOR TO PROTECT FROM DAMAGE ALL EXISTING FLOORS, WALLS, CEILINGS, ETC. CONTRACTOR IS RESPONSIBLE FOR REPAIR AND REPLACEMENT OF ALL DAMAGED FLOORING, WALLS, CEILINGS, ETC. IF AREAS NEED TO BE REPAIRED, FINISHES ARE TO MATCH EXISTING.

F. MAINTAIN PROTECTED EGRESS AND ACCESS TO THE WORK. ALSO MAINTAIN REQUIRED EGRESS AROUND TEMPORARY PARTITIONS.

G. REMOVE ANY UNUSED OR ABANDONED MATERIALS IN WALLS AND ABOVE CEILINGS.

H. THE CONTRACTOR SHALL NOTIFY THE VA IN ADVANCE OF ANY SCHEDULED DEMO WORK IN THE AREA TO ALLOW THE VA TO REMOVE PERSONAL BELONGINGS AND DESIGNATE ALL MEDICAL EQUIPMENT, FURNITURE, AND OTHER ITEMS TO BE SALVAGED AND STORED BY THE CONTRACTOR. ALL ITEMS NOT DESIGNATED AS "SALVAGED" BY THE VA AFTER THIS TIME SHALL BE DISPOSED OF BY THE CONTRACTOR. REFER TO SPECIFICATION FOR NOTIFICATION REQUIREMENTS.

I. COORDINATE EXTENT OF DEMOLITION OF EXISTING ITEMS TO BE PARTIALLY DEMOLISHED WITH THE FLOOR PLAN AND REFLECTED CEILING PLAN.

J. REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS OFF-SITE WHICH ARE NOT SCHEDULED TO REMAIN, BE RELOCATED, OR BECOME THE PROPERTY OF THE VA.

K. DO NOT PROCEED WITH DEMOLITION WORK BEFORE THE INSTALLATION OF CONSTRUCTION TUNNEL AND BARRICADES. RELOCATE CONSTRUCTION BARRICADES AS NECESSARY FOR CONSTRUCTION WORK AND/OR AS DIRECTED BY VA AT NO ADDITIONAL COST TO VA.

L. CONTRACTOR TO SUBMIT BARRICADE LOCATIONS DRAWINGS TO VA FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION.

M. CONTRACTOR TO PROVIDE CONSTRUCTION BARRICADE IN ALL OCCUPIED AREAS AS REQUIRED AND/OR AS DIRECTED BY VA AT NO ADDITIONAL COST TO VA.

N. CONTRACTOR TO PROVIDE TEMPORARY EXIT SIGNS AND ILLUMINATION LEVELS PER THE IBC AND VA GUIDELINES. ALL EGRESS PATHS SHALL REMAIN CLEAR AT ALL TIMES.

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P. CONTRACTOR TO VERIFY EXISTING CONDITIONS AT ALL COLUMNS AND CHASES PRIOR TO DEMOLITION

Q. REMOVE CONSTRUCTION TUNNEL AND BARRICADE AT COMPLETION OF EACH PHASE AND EACH PROJECT'S CONSTRUCTION WORK, U.O.N.

R. DO NOT PENETRATE THE FLOOR SLAB WITHOUT COORDINATING WITH STRUCTURAL REQUIREMENTS.

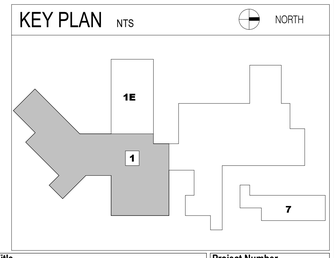
DEMOLITION SYMBOL LEGEND

- - - - - - - DASH LINE INDICATES ELEMENTS TO BE REMOVED OR DEMOLISH SEE MEP FOR ADDITIONAL INFORMATION.

KEYNOTES

1 DEMOLISH EXISTING MECHANICAL UNIT AND ASSOCIATED COMPONENTS. SEE MPE PLANS FOR ADDITIONAL INFO.
2 DEMOLISH EXISTING LOUVER AND WALL AS REQUIRED FOR REMOVAL AND INSTALLATION OF MECHANICAL UNIT.
4 EXISTING WALL TO REMAIN, TYPICAL.
5 EXISTING DOOR TO REMAIN, TYPICAL.
6 EXISTING ROOF ACCESS LADDER AND HATCH TO REMAIN.
8 EXISTING MECHANICAL UNIT TO REMAIN, TYPICAL.
10 EXISTING STAIR, GUARDRAIL, AND HANDRAIL TO REMAIN, TYPICAL.
11 THE GC SHALL REMOVE DUCT FROM CHASE DOWN TO FIRST FLOOR CEILING AREA, SEE KEYNOTE 73 FOR ALTERNATE.
12 EXISTING RAISED FLOOR SLAB.
13 EXISTING FLOOR PENETRATION FOR MECHANICAL DUCT. SEE MECHANICAL FOR ADDITIONAL INFO.
14 EXISTING LOUVER TO REMAIN.
16 EXISTING ROOF ACCESS LADDERHATCH TO REMAIN, PREP ROOF HATCH FOR NEW ROOF SYSTEM.
17 EXISTING PARAPET WALL TO REMAIN.
18 EXISTING ROOF DRAIN TO REMAIN.
19 EXISTING EPDM ROOFING OVER TAPERED INSULATION AND VAPOR BARRIER TO BE REMOVED.
20 EXISTING STAND PIPE, PREP PENETRATION FOR NEW ROOF SYSTEM.
22 EXISTING STRUCTURAL STEEL ABOVE ROOF TO BE REMOVED, PATCHING REPAIRED ASSOCIATED CONNECTION, TYPICAL.
25 EXISTING ROOF MOUNTED MECHANICAL EQUIPMENT TO REMAIN, PREP OPENING FOR NEW ROOF SYSTEM, TYPICAL.
26 EXISTING GUARDRAIL TO REMAIN.
27 EXISTING ELECTRICAL EQUIPMENT, SEE ELECTRICAL FOR SCOPE OF WORK.
28 EXISTING ROOF PENETRATION FOR MECHANICAL DUCT. SEE MECHANICAL FOR ADDITIONAL INFO. INFILL OPEN WITH METAL DECK, PATCH AND REPAIR ROOF AS REQ'D FOR CONSTRUCTION ACTIVITY.
42 EXISTING AIR COMPRESSOR TO BE RELOCATED PER MEP PLANS.
73 ALTERNATE: DEMOLISH WALL & INFILL FLOOR AND CELING OPENINGS, IF ALL SERVICES HAVE BEEN REMOVED FROM THE CHASE AREA.
74 EXISTING DUCT TO REMAIN, SEE MECHANICAL DRAWING.
75 REMOVE EXISTING RAIL.

KEY PLAN NTS



Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON
11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
DEMO ENLARGED PLANS	100% Submittal - Not for Construction	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	Drawing Number AD-101

VA FORM 08 - 6231

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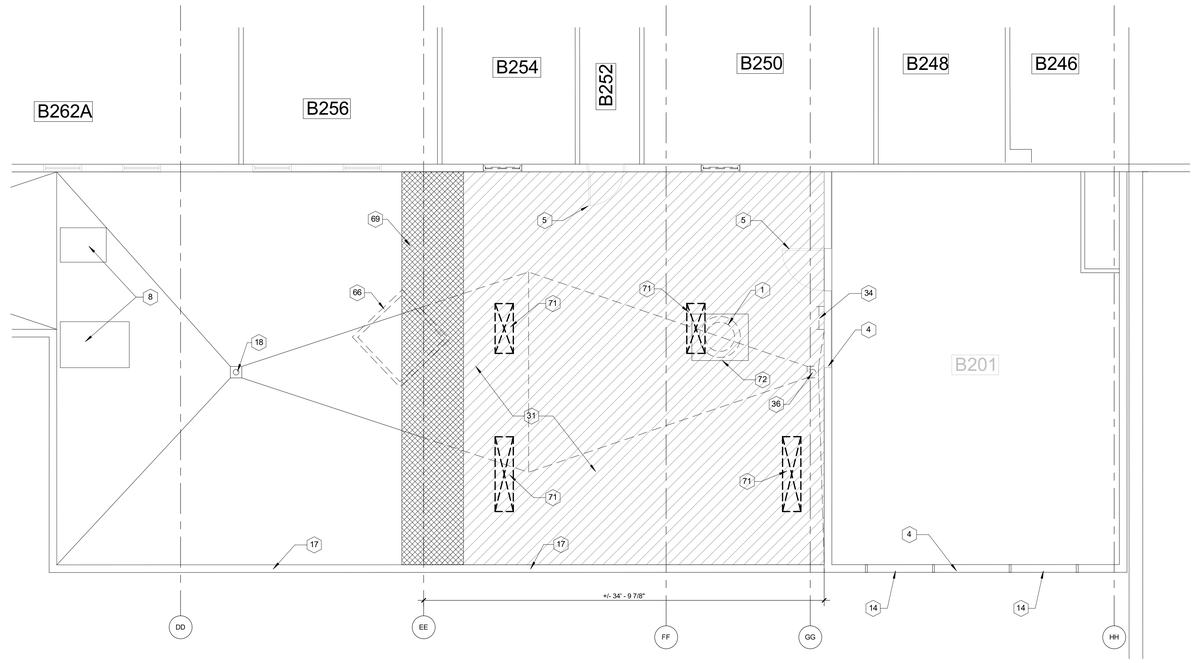

1 LEVEL 02 - ROOF DEMO PLAN

3/16" = 1'-0"

GENERAL DEMOLITION NOTES

A. EXISTING CONSTRUCTION TO BE REMOVED IS INDICATED ON THE DRAWINGS. COORDINATE DEMOLITION WITH ARCHITECTURAL DRAWINGS AND REQUIREMENTS SHOWN ON ALL MECHANICAL PLUMBING AND ELECTRICAL, AND STRUCTURAL DRAWINGS

B. EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEYS. THE CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AND NOTIFY THE CO/COR OF ANY DISCREPENCIES.

C. CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT BUILDING AREAS

D. AREA OF WORK CONTAINS BUILDING INFRASTRUCTURE WHICH MAY BE CRITICAL TO THE ONGOING OPERATIONS OF THE HOSPITAL. ATTENTION SHALL BE BROUGHT TO THE COR PRIOR TO ANY DEMOLITION OR SHUT-DOWNS. REFER TO SPECIFICATIONS FOR MAJOR AND MINOR SHUTDOWN PROCEDURES.

E. PROTECT EXISTING MATERIALS AND EQUIPMENT WHICH ARE NOT TO BE DEMOLISHED. CONTRACTOR TO PROTECT FROM DAMAGE ALL EXISTING FLOORS, WALLS, CEILINGS, ETC. CONTRACTOR IS RESPONSIBLE FOR REPAIR AND REPLACEMENT OF ALL DAMAGED FLOORING, WALLS, CEILINGS, ETC. IF AREAS NEED TO BE REPAIRED, FINISHES ARE TO MATCH EXISTING.

F. MAINTAIN PROTECTED EGRESS AND ACCESS TO THE WORK. ALSO MAINTAIN REQUIRED EGRESS AROUND TEMPORARY PARTITIONS.

G. REMOVE ANY UNUSED OR ABANDONED MATERIALS IN WALLS AND ABOVE CEILINGS.

H. THE CONTRACTOR SHALL NOTIFY THE VA IN ADVANCE OF ANY SCHEDULED DEMO WORK IN THE AREA TO ALLOW THE VA TO REMOVE PERSONAL BELONGINGS AND DESIGNATE ALL MEDICAL EQUIPMENT, FURNITURE, AND OTHER ITEMS TO BE SALVAGED AND STORED BY THE CONTRACTOR. ALL ITEMS NOT DESIGNATED AS "SALVAGED" BY THE VA AFTER THIS TIME SHALL BE DISPOSED OF BY THE CONTRACTOR. REFER TO SPECIFICATION FOR NOTIFICATION REQUIREMENTS.

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R. DO NOT PENETRATE THE FLOOR SLAB WITHOUT COORDINATING WITH STRUCTURAL REQUIREMENTS.

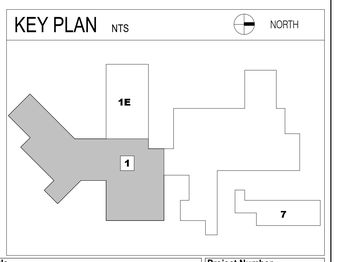
DEMOLITION SYMBOL LEGEND

- - - - - - - DASH LINE INDICATES ELEMENTS TO BE REMOVED OR DEMOLISH SEE MEP FOR ADDITIONAL INFORMATION.

KEYNOTES

1 DEMOLISH EXISTING MECHANICAL UNIT AND ASSOCIATED COMPONENTS. SEE MPE PLANS FOR ADDITIONAL INFO.
4 EXISTING WALL TO REMAIN, TYPICAL.
5 EXISTING DOOR TO REMAIN, TYPICAL.
8 EXISTING MECHANICAL UNIT TO REMAIN, TYPICAL.
14 EXISTING LOUVER TO REMAIN.
17 EXISTING PARAPET WALL TO REMAIN.
18 EXISTING ROOF DRAIN TO REMAIN.
31 REMOVE EXISTING ROOF MEMBRANE AND ALL ASSOCIATED COMPONENTS, PREP FOR NEW WALL CONSTRUCTION.
34 EXISTING ROOF ACCESS LADDER TO BE REMOVED & REPLACED, REF. AE-102.
36 REMOVE EXISTING STRAINER, ROOF DRAIN TO REMAIN FOR FUTURE CONNECTION, SEE PLUMBING.
66 REMOVE EXISTING MECHANICAL EQUIPMENT RACK, INCLUDING STANCHEONS.
69 IF EXISTING ROOF MEMBRANE IS IN SERVICEABLE CONDITION LEAVE PORTION OF MEMBRANE FOR RE-INSTALLATION ON FACE OF NEW CONCRETE CURB. IF UNABLE TO RE-INSTALL MEMBRANE, INSTALL NEW COMPATIBLE MEMBRANE TO CURB FACE & SPLICE WITH EXISTING MEMBRANE PER MEMBRANE MFR'S. DIRECTIONS.
71 REMOVE PORTION OF EXISTING CONCRETE FLOOR SLAB FOR NEW DUCT PENETRATIONS. COORDINATE SIZE AND LOCATIONS WITH MECH. ENGINEER, AHU MFR. AND COR. SLAB CUTS MUST BE MADE BETWEEN EXISTING CONCRETE JOIST. DO NOT CUT EXISTING JOISTS!
72 EXISTING FLOOR OPENING FOR EXISTING MECHANICAL EQUIPMENT. REUSE OPENING AS MUCH AS POSSIBLE, THEN INFILL THE UNUSED PORTION.

KEY PLAN NTS



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11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: DEMO ENLARGED PLANS

Phase: 100% Submittal - Not for Construction

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

Project Number: 668-21-100

Building Number: 1

Approved:

Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205

Issue Date: November 17, 2025

Checked: AESUS

Drawn: AESUS

Drawing Number: AD-102

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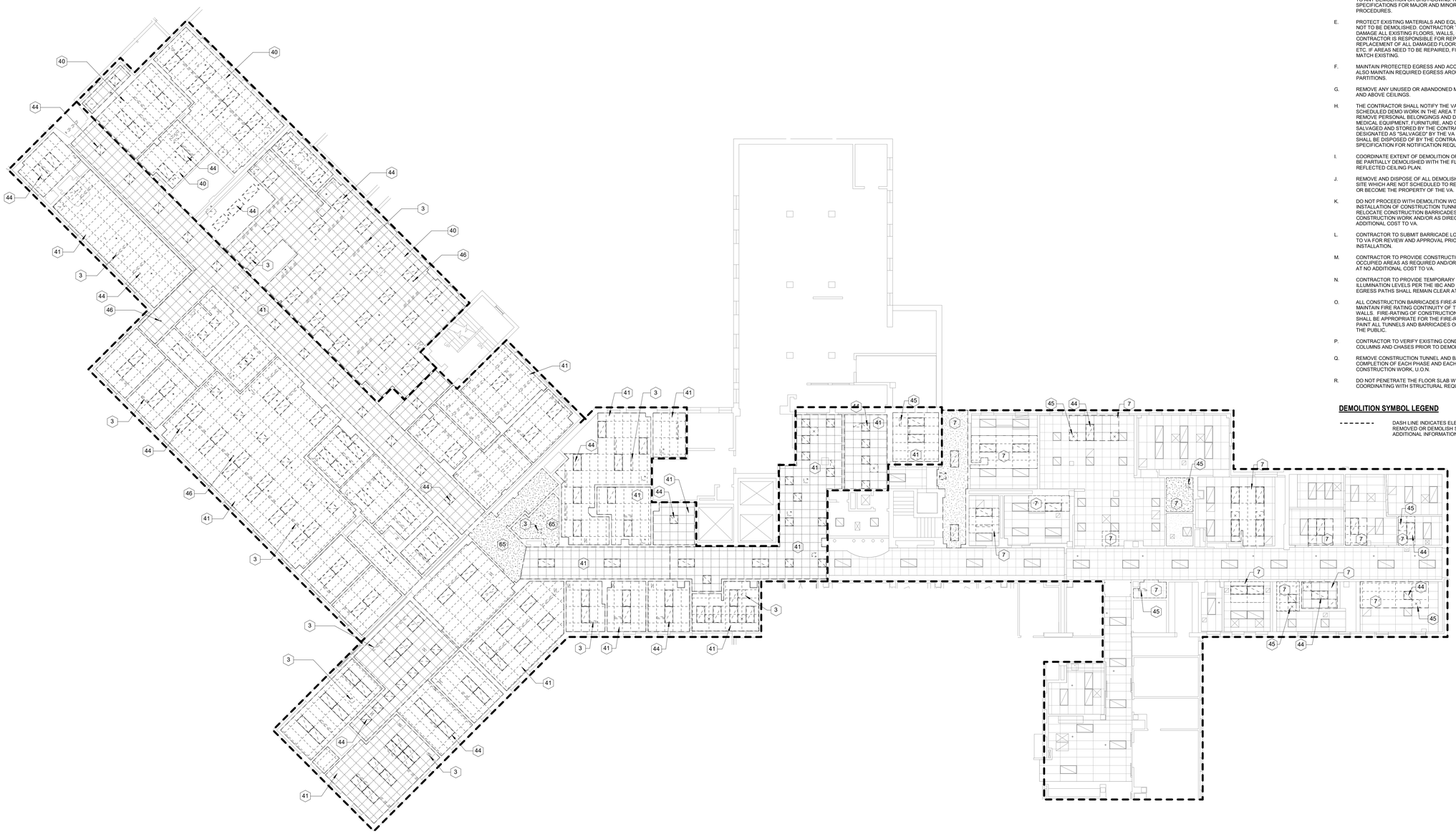

1 LEVEL 01 - REFLECTED CEILING PLAN DEMO

3/32" = 1'-0"

GENERAL DEMOLITION NOTES

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DEMO CEILING LEGEND

- GYP BD CEILING
- 2X2 ACOUSTIC CEILING TILE
- 2X4 ACOUSTIC CEILING TILE
- SUPPLY AIR
- RETURN AIR
- CEILING ACCESS
- SUPPLY AIR LINEAR
- 2X2 LIGHT
- 2X4 LIGHT
- LED LIGHT
- EXIT SIGNS
- SMOKE DETECTOR
- SPEAKER
- SPRINKLER, REFER TO FIRE SPRINKLER PLANS FOR ADDITIONAL INFORMATION
- SECURITY CAMERA
- SAFETY MIRROR
- SAFETY MIRROR
- SIGNAL REPEATER
- WIRELESS ACCESS POINT
- SIGNAL REPEATER
- SIGNAL REPEATER
- MOTION SENSOR
- COVER PLATE
- DRIP PAN
- SECURITY CAMERA
- WIFI EXTENDER

DEMOLITION SYMBOL LEGEND

- - - - - - DASH LINE INDICATES ELEMENTS TO BE REMOVED OR DEMOLISH SEE MEP FOR ADDITIONAL INFORMATION.

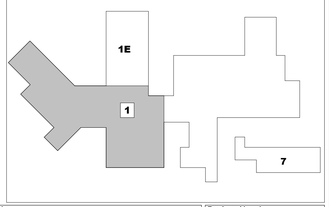
KEYNOTES

3 THE GC SHALL REMOVE AND DISCARD HVAC GRILLS IN PHASES 2A, 2B, & 3, TYPICAL.
7 THE GC SHALL REMOVE THE EXISTING CEILING SYSTEM AS REQUIRED FOR ABOVE CEILING WORK, TYPICAL. SEE MPE PLANS FOR ADDITIONAL INFO.
40 THE GC SHALL REMOVE AND REPLACE THE EXISTING CEILING AT KITCHEN AND DINNING WITH NEW WASHABLE ACT.
41 THE GC SHALL REMOVE AND REPLACE THE EXISTING CEILING WITH NEW ACT.
44 THE GC SHALL REMOVE AND RETAIN LIGHT FIXTURES, TYPICAL.
45 THE GC SHALL REMOVE HVAC GRILLS AND REINSTALL IN SAME LOCATIONS, TYPICAL.
46 THE GC SHALL REMOVE AND PROVIDE TEMPORARY UPRIGHT SPRINKLER HEADS DURING CONSTRUCTION AND AS REQUIRED FOR CEILING REMOVAL.
65 THE GC SHALL REMOVE AND REPLACE THE EXISTING CEILING WITH NEW GYPSUM BOARD CEILING.

KEY PLAN

NTS

NORTH



Revisions:	Date:

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11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: LEVEL 01 - REFLECTED CEILING PLAN DEMO	Phase: 100% Submittal - Not for Construction	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number: AD-201
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

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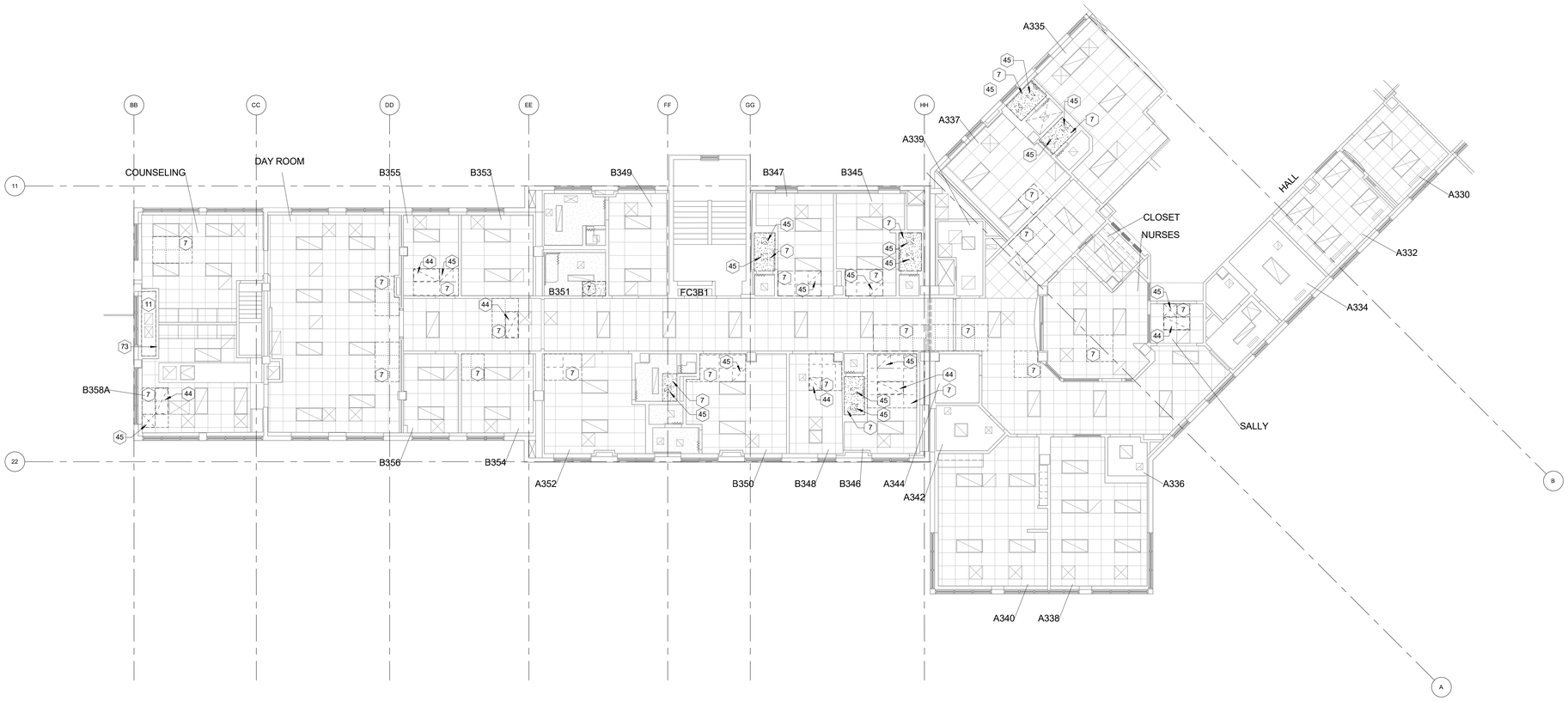

1 LEVEL 03 - REFLECTED CEILING PLAN DEMO

1/8" = 1'-0"

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DEMOLITION SYMBOL LEGEND

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KEYNOTES

7 THE GC SHALL REMOVE THE EXISTING CEILING SYSTEM AS REQUIRED FOR ABOVE CEILING WORK, TYPICAL. SEE MPE PLANS FOR ADDITIONAL INFO.

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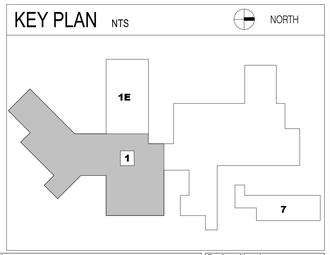
45 THE GC SHALL REMOVE HVAC GRILLS AND REINSTALL IN SAME LOCATIONS, TYPICAL.

73 ALTERNATE: DEMOLISH WALL & INFILL FLOOR AND CELING OPENINGS, IF ALL SERVICES HAVE BEEN REMOVED FROM THE CHASE AREA.

KEY PLAN NTS



Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON
11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: LEVEL 03 - REFLECTED CEILING PLAN DEMO	Phase: 100% Submittal - Not for Construction	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number: AD-203
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/2025_VA_Upgrade_AHU-18_20_22_ARCH.rvt

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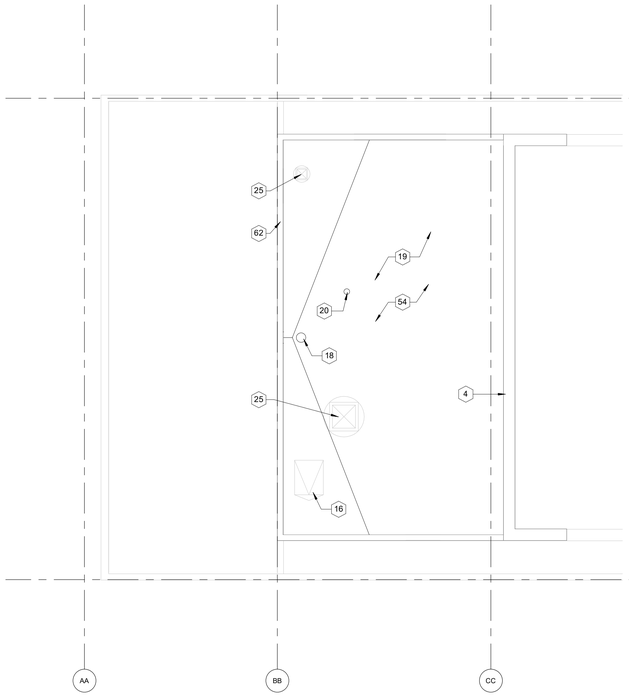
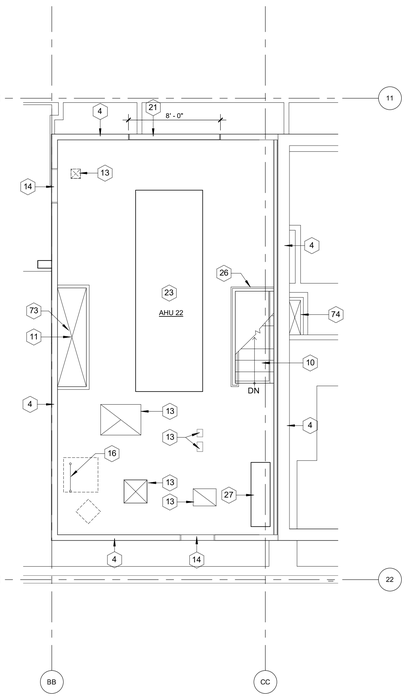
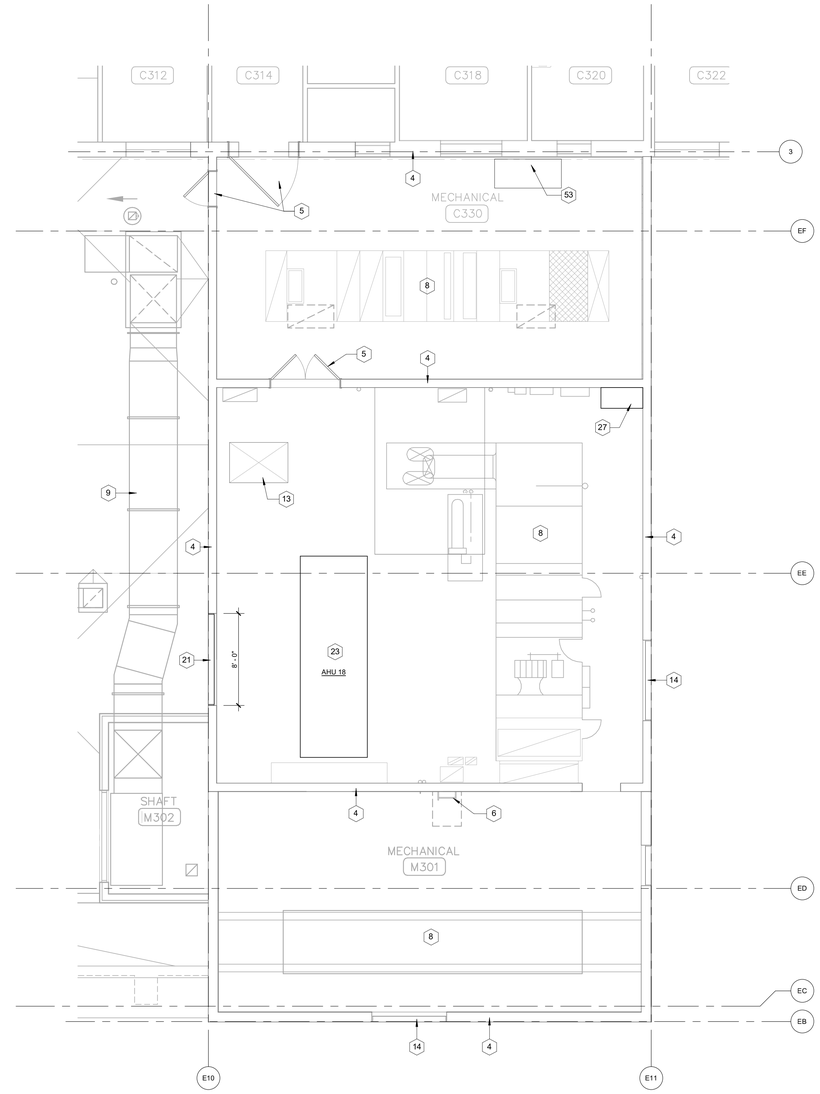


3 LEVEL 05 PENTHOUSE ROOF - ENLARGED PLAN
3/16" = 1'-0"



2 LEVEL 04 PENTHOUSE - AHU 22 ENLARGED PLAN
3/16" = 1'-0"



1 LEVEL 03 - AHU 18 ENLARGED PLAN
3/16" = 1'-0"

FLOOR PLAN GENERAL NOTES

A. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE. LARGER SCALE DRAWINGS SHALL HAVE PRECEDENCE OVER SMALLER SCALE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE CO/COR OF ANY DISCREPENCIES OR CONFLICTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.

B. ALL DIMENSIONS ARE TAKEN FROM EXISTING FACE OF WALLS

C. PRIOR TO START OF ANY WORK, THE CONTRACTOR IS REQUIRED TO VISIT THE SITE TO FAMILIARIZE THEMSELVES WITH THE EXTENT AND NATURE OF WORK TO BE PERFORMED. EXISTING CONDITIONS MAY SLIGHTLY VARY FROM THOSE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, DIMENSIONS, AND MATERIALS IN THE FIELD AND GENERATE A LIST OF DISCREPANCIES IN WRITING AND REPORT TO THE CO/COR. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

D. THE CONTRACTOR SHALL COORDINATE EQUIPMENT AND MATERIAL TRAFFIC AND STORAGE WITH THE CO/COR.

E. ALL ASPECTS OF CONTRACTOR STAGING AND CONSTRUCTION PHASING SHALL BE APPROVED BY THE CO/COR.

F. ALL UTILITY WORK SHALL BE COORDINATED WITH MECHANICAL, PLUMBING, ELECTRICAL, AND FIRE PROTECTION.

G. REFER AND ADHERE TO THE INFECTION PREVENTION MEASURE REQUIREMENTS IN SPECIFICATION SECTION 01 35 26.

H. EXTEND BOTH SIDES OF GYPSUM BOARD AT PARTITIONS TO UNDERSIDE OF STRUCTURE IN AREAS WITHOUT CEILING AND SEAL AIR TIGHT, TYPICAL, U.O.N.

I. PROVIDE HIGH IMPACT GYPSUM WALLBOARD UP TO 4'-0" A.F.F. AT THE FOLLOWING LOCATIONS: CORRIDORS, EQUIPMENT STORAGE ROOMS, AND STORAGE ALCOVES

J. PROVIDE INSULATION FOR ALL INTERIOR SOUND RATED PARTITIONS, U.O.N. EXTEND INSULATION AND GYPSUM BOARD ON BOTH SIDES TO UNDERSIDE OF STRUCTURE. NOTCH PARTITION TIGHTLY AROUND FRAMING AND OTHER CEILING OBSTRUCTIONS, AND SEAL AIR TIGHT, TYPICAL, U.O.N.

K. PROVIDE CONTINUOUS FIRE RATED CONSTRUCTION AROUND ALL RECESSED FIXTURES AND ACCESSORIES LOCATED IN FIRE RATED PARTITIONS

L. PROVIDE AND COORDINATE BACKING PLATES FOR ALL EQUIPMENT, ACCESSORIES, CASEWORK, ETC.

M. WHERE FLOOR FINISHES CHANGE BETWEEN TWO ROOMS, TRANSITION SHALL OCCUR AT CENTER OF DOOR, U.O.N.

N. ADJUST FURRING SPACE AS NECESSARY TO CLEAR ANY PIPES OR CONDUITS WITHIN THE FURRED SPACE. PROVIDE 1/2-INCH MINIMUM CLEARANCE BETWEEN PIPES/CONDUITS AND THE BACK OF GYPSUM BOARD, U.O.N.

O. PATCH ALL AREAS OF FIREPROOFING WHERE REMOVED FOR INSTALLATION OF NEW WORK.

P. REMOVE (E) GYP. BD. AS NECESSARY TO INSTALL ALL DUCT, PIPING, CONDUIT AND ACCESSORIES. REINSTALL GYP. BD. FINISH TO MATCH EXIST. CONDITIONS AND TO VA'S ACCEPTANCE.

Q. PROVIDE FIRESTOPPING AND/OR SEALANT AT ALL UNPROTECTED PENETRATIONS AND OPENINGS IN EXISTING RATED PARTITIONS AND FLOOR SLABS EXPOSED DURING THE CONSTRUCTION PROJECT THAT ARE WITHIN THE PROJECT AREA.

R. CONFIRM THAT ALL EXISTING WIFI IS REMOVED AND SALVAGED AND RELOCATED IN PLACE. CONTRACTOR TO COORDINATE WITH CO/COR.

S. THE CONTRACTOR SHALL COORDINATE ALL ROOF TOP WORK WITH THE CO/COR AND EXISTING WARRANTY INFORMATION.

T. PRIOR TO SAW CUTTING AND OR CORE DRILLING CONCRETE, THE CONTRACTOR SHALL V-RAY USING "A MODERN DETECTION SYSTEM" TO LOCATE REINFORCING AND OBSTRUCTIONS IN THE CONCRETE.

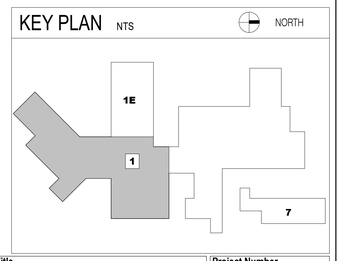
U. IF ASBESTOS CONTAINING MATERIALS ARE SUSPECTED, STOP ALL WORK IN THE AREA AND REPORT TO CO/COR.

V. PROTECT ALL EXISTING CONDITIONS & EQUIPMENT DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY OPENINGS AND REPONSIBLE FOR ANY DAMAGE THAT MAY RESULT FROM SUCH OPENINGS BEING LEFT UNPROTECTED OR THOSE THAT HAVE OCCURED AS A RESULT OF PROTECTING THE OPENINGS.

KEYNOTES

4 EXISTING WALL TO REMAIN, TYPICAL.
5 EXISTING DOOR TO REMAIN, TYPICAL.
6 EXISTING ROOF ACCESS LADDER AND HATCH TO REMAIN.
8 EXISTING MECHANICAL UNIT TO REMAIN, TYPICAL.
9 EXISTING ROOF MOUNTED DUCT, SEE MECHANICAL FOR ADDITIONAL INFO.
10 EXISTING STAIR, GUARDRAIL, AND HANDRAIL TO REMAIN, TYPICAL.
11 THE GC SHALL REMOVE DUCT FROM CHASE DOWN TO FIRST FLOOR CEILING AREA. SEE KEYNOTE 73 FOR ALTERNATE.
13 EXISTING FLOOR PENETRATION FOR MECHANICAL DUCT, SEE MECHANICAL FOR ADDITIONAL INFO.
14 EXISTING LOUVER TO REMAIN.
16 EXISTING ROOF ACCESS LADDERHATCH TO REMAIN, PREP ROOF HATCH FOR NEW ROOF SYSTEM.
18 EXISTING ROOF DRAIN TO REMAIN.
19 EXISTING EPDM ROOFING OVER TAPERED INSULATION AND VAPOR BARRIER TO BE REMOVED.
20 EXISTING STAND PIPE, PREP PENETRATION FOR NEW ROOF SYSTEM.
21 NEW LOUVER, REF MECHANICAL.
23 NEW MECHANICAL UNIT, SEE MECHANICAL FOR ADDITIONAL INFO.
25 EXISTING ROOF MOUNTED MECHANICAL EQUIPMENT TO REMAIN, PREP OPENING FOR NEW ROOF SYSTEM, TYPICAL.
26 EXISTING GUARDRAIL TO REMAIN.
27 EXISTING ELECTRICAL EQUIPMENT, SEE ELECTRICAL FOR SCOPE OF WORK.
53 RELOCATED AIR COMPRESSOR, SEE MPE FOR ADDITIONAL INFORMATION, TYPICAL.
54 NEW TPO ROOF SYSTEM, TYPICAL.
62 NEW CONT. PARAPET CAP AND FLASHING, TYPICAL.
73 ALTERNATE: DEMOLISH WALL & INFILL FLOOR AND CELING OPENINGS, IF ALL SERVICES HAVE BEEN REMOVED FROM THE CHASE AREA.
74 EXISTING DUCT TO REMAIN, SEE MECHANICAL DRAWING.

KEY PLAN NTS



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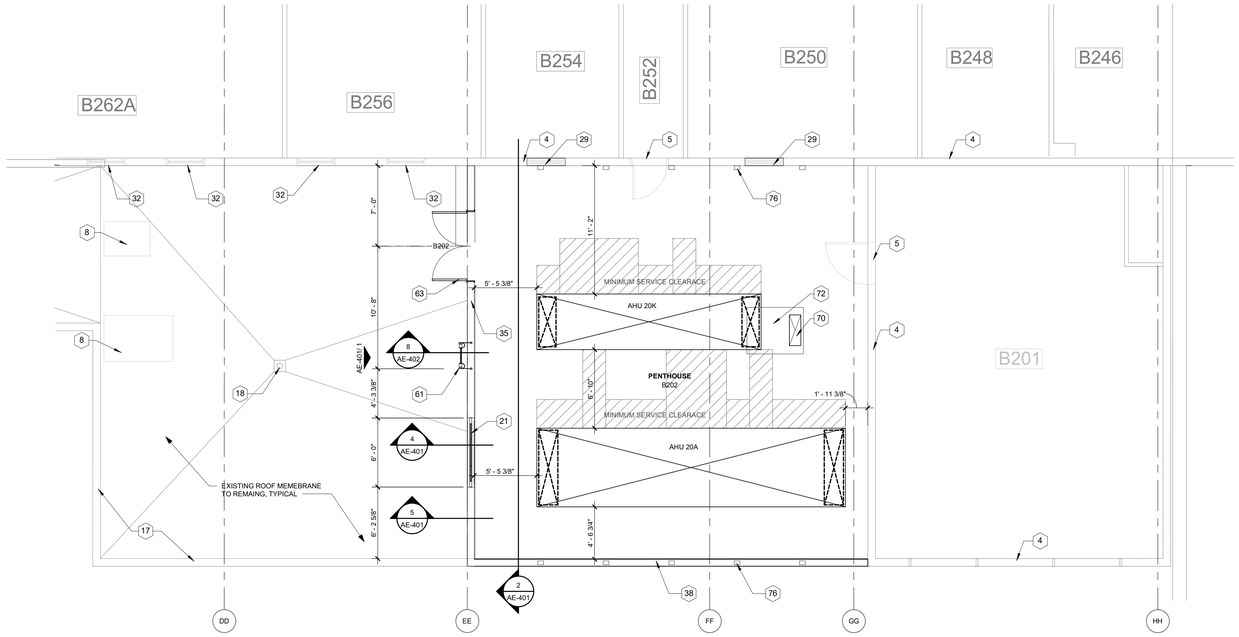
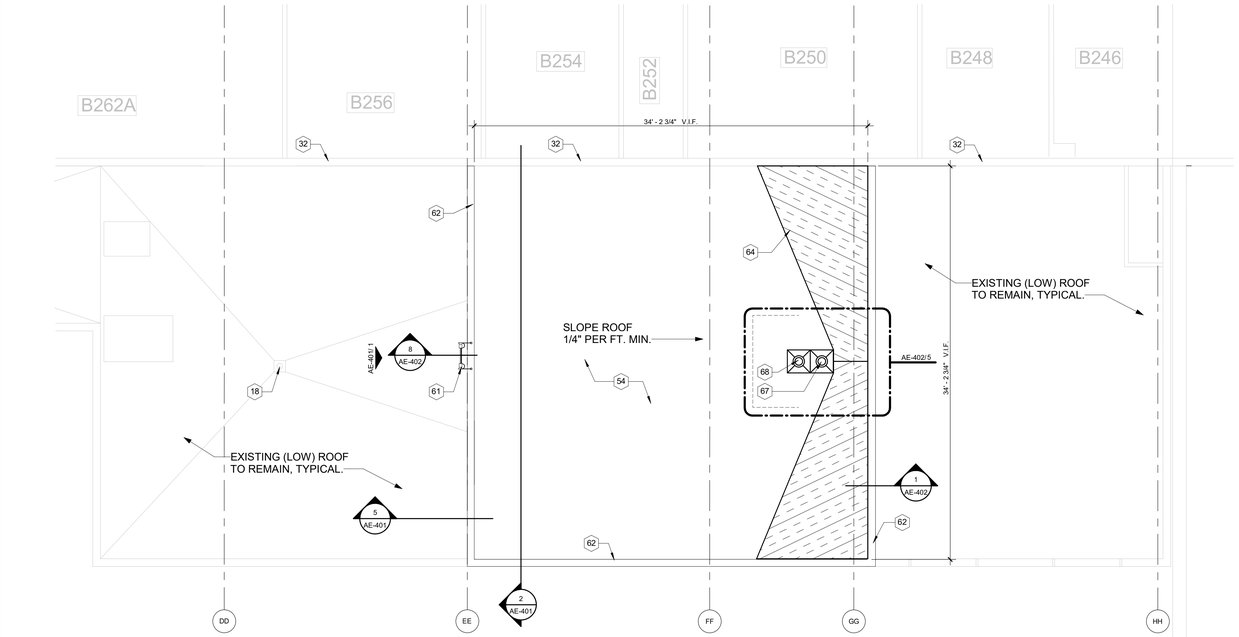


1 LEVEL 02 - FLOOR / ROOF PLAN

3/16" = 1'-0"



2 LEVEL 02 - PENTHOUSE ROOF PLAN

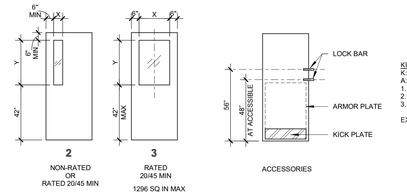
3/16" = 1'-0"

DOOR LEGEND

DOOR NOTES

1. CONTRACTORS TO USE THE ARCHITECT'S FLOOR PLAN DESIGNATION DOOR NUMBER IN ADDITION TO THE ROOM NUMBER ON ALL SHOP DRAWING SCHEDULE SUBMITTALS.

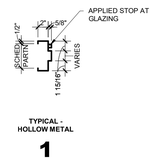
VISION PANELS AND ACCESSORIES



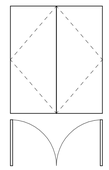
KICK/ARMOR PLATE LEGEND:
K: KICK PLATE
A: ARMOR PLATE
1. DOOR PUSH SIDE
2. DOOR PULL SIDE
3. BOTH SIDES

EXAMPLE: K1 = PUSH SIDE KICK PLATE

FRAME TYPES

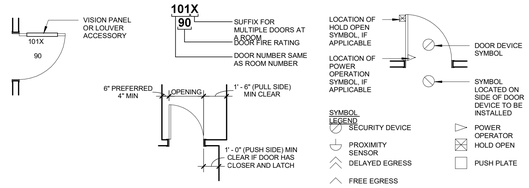


DOOR TYPES



A2
FLUSH
DOUBLE

DOOR PLAN DESIGNATION

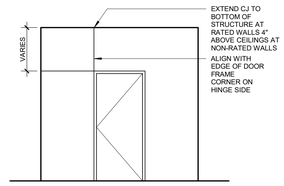


DOOR OPENING LOCATION

A. DOORS SHOWN ADJACENT TO A FLANKING WALL OR OTHER FIXED OBSTRUCTION, SHALL BE LOCATED AS SHOWN ABOVE.

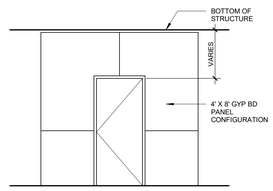
B. OTHER LOCATIONS SHALL BE ON CENTERLINE OF ROOM OR AS SPECIFICALLY DIMENSIONED.

CONTROL JOINT AT DOOR FRAMES



SINGLE DOORS

GYPSUM BD CONFIGURATION AT DOORS



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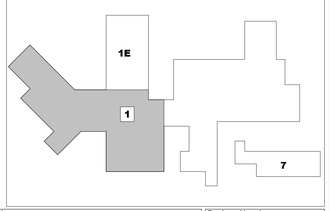
KEYNOTES

4	EXISTING WALL TO REMAIN, TYPICAL.
5	EXISTING DOOR TO REMAIN, TYPICAL.
8	EXISTING MECHANICAL UNIT TO REMAIN, TYPICAL.
17	EXISTING PARAPET WALL TO REMAIN.
18	EXISTING ROOF DRAIN TO REMAIN.
21	NEW LOUVER, REF MECHANICAL.
29	REMOVE EXISTING WINDOW AND INFILL WALL TO MATCH EXISTING.REFER TO DETAIL 2/AE-402.
32	EXISTING WINDOW TO REMAIN.
35	NEW WALL WITH EIFS FINISH, PAINT TO MATCH EXISTING.
38	NEW WALL ON TOP OF EXISTING PARAPET.
54	NEW TPO ROOF SYSTEM, TYPICAL.
61	ROOF ACCESS LADDER AND CAGE.
62	NEW CONT. PARAPET CAP AND FLASHING, TYPICAL.
63	NEW DOOR AND FRAME.
64	ROOF CRICKET, TYPICAL.
67	NEW ROOF DRAIN, CONNECT TO EXISTING RAIN LEADER, REFERENCE MECHANICAL DRAWINGS.
68	NEW OVERFLOW DRAIN, EXTEND TO DAYLIGHT, REFERENCE MECHANICAL DRAWINGS.
70	NEW EXHAUST DUCT FROM FLOOR BELOW EXTEND TO ROOF OF PENTHOUSE. LOCATE DUCT IN EXISTING HVAC DUCT CHASE, INFILL UNUSED PORTION OF OPENING IN FLOOR.
72	EXISTING FLOOR OPENING FOR EXISTING MECHANICAL EQUIPMENT. REUSE OPENING AS MUCH AS POSSIBLE, THEN INFILL THE UNUSED PORTION.
76	STRUCTURAL STEEL COLUMN, TYPICAL, SEE STRUCTURAL AND SHEET GI-001 FOR FIRE PROOFING REQUIREMENTS.

KEY PLAN

NTS

NORTH



DOOR SCHEDULE

REVISION	DOOR NUMBER	WIDTH	HEIGHT	DOOR TYPE	FRAME TYPE	MATERIALS AND FINISHES: DOOR MATERIAL	MATERIALS AND FINISHES: FRAME MATERIAL	MATERIALS AND FINISHES: FRAME FINISH	DOOR RATING	DETAILS: HEAD	DETAILS: JAMB	GLAZING TYPE	VISION PANEL & LOUVER TYPE	CONTROLS: POWER OPERATOR	HARDWARE	SECURITY RATING	COMMENTS	DOOR NUMBER
LEVEL 02 - ROOF DEMO PLAN																		
-	B202	6' - 0"	7' - 0"	A2				-	-	9/AE-402	10/AE-402	-	-	-	-			B202

Revisions:	Date:

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		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

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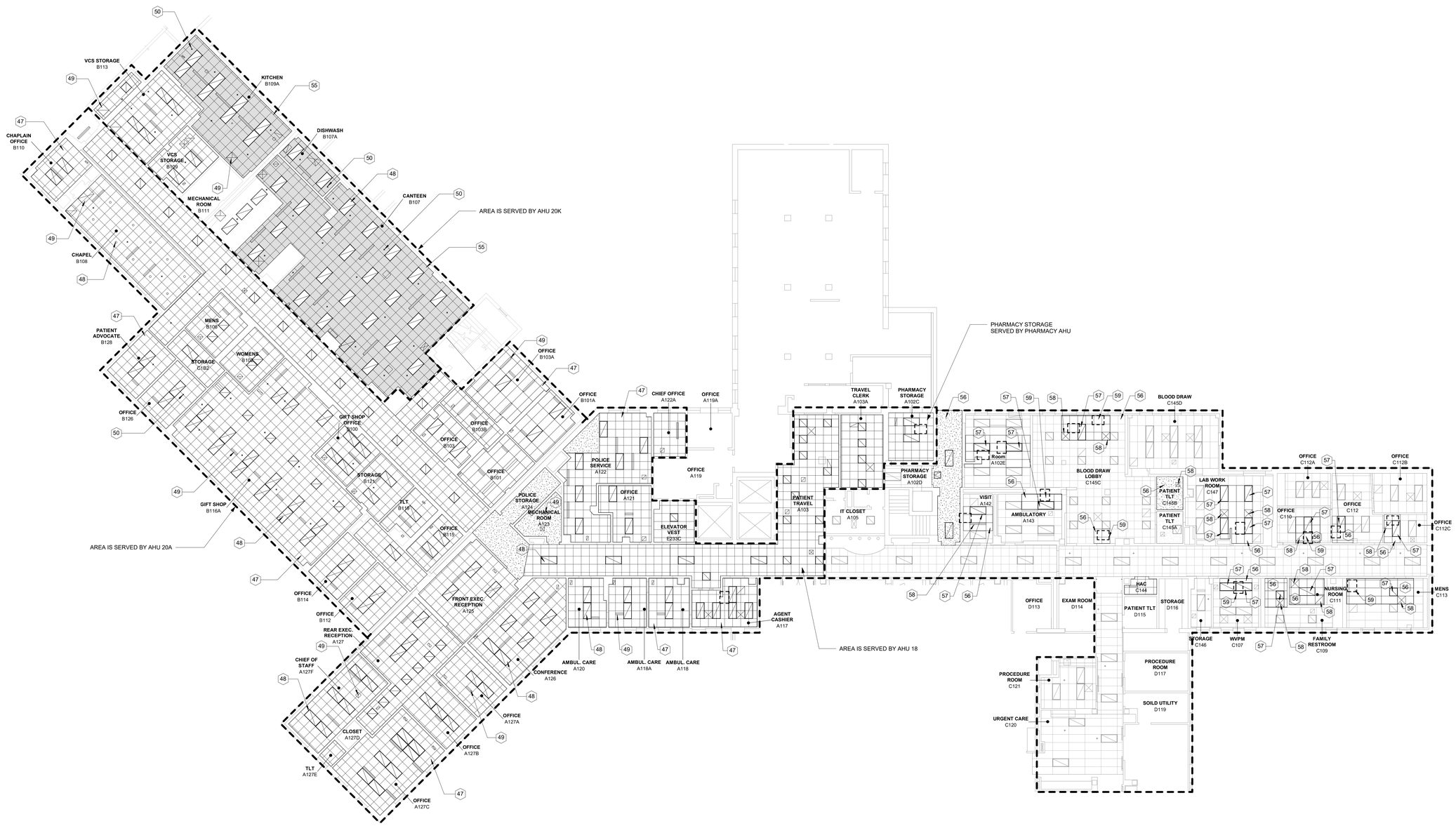


1 LEVEL 01 - REFLECTED CEILING PLAN

3/32" = 1'-0"

RCP GENERAL NOTES

A. THE GC SHALL VISIT THE SITE PRIOR TO BIDDING TO BETTER UNDERSTAND THE EXISTING CONDITIONS, TYPICAL.

B. IN THE CASE OF MINOR DISCREPANCIES BETWEEN MEP AND ARCHITECTURAL DOCUMENTS IN THE LOCATION OF CEILING MOUNTED COMPONENTS, THE ARCHITECTURAL REFLECTED CEILING PLAN SHALL GOVERN. IN THE CASE OF MAJOR DISCREPANCIES, THE COCOR SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.

C. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS WHERE NO CEILING IS REQUIRED OR INDICATED.

D. LIGHTS, DIFFUSERS, EXIT SIGNS, SMOKE DETECTORS, SPEAKERS, STROBES, AND MISCELLANEOUS DEVICES SHALL BE REMOVED AND RE-INSTALLED AS REQUIRED TO INSTALL NEW HVAC EQUIPMENT, SEE MPE FOR ADDITIONAL INFO.

E. ALL CORRIDOR SPRINKLER HEADS SHALL REMAIN UNDISTURBED IN THE CORRIDOR UNLESS NOTED OTHERWISE.

F. ACCESS DOOR LOCATIONS IN GYPSUM BOARD CEILINGS ARE INDICATED ON RCP'S ONLY WHERE ARCHITECTURALLY SIGNIFICANT. REFERENCE SPECIFICATIONS AND MEP DRAWINGS FOR OTHER ACCESS DOOR LOCATIONS.

G. EXIT SIGNS ARE SHOWN ON REFLECTED CEILING PLAN ONLY WHERE LOCATION IS ARCHITECTURAL SIGNIFICANT.

H. AT NEW DUCTWORK IN EXISTING CEILING TO REMAIN. REMOVE AND SALVAGE CEILING GRID, CEILING TILES, AND CEILING FIXTURES. REINSTALL IN PLACE. PATCH AND REPAIR AS REQUIRED.

CEILING SYMBOLS

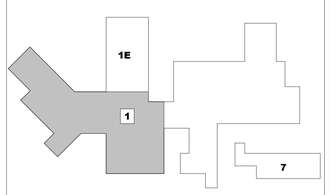
- GYP BD CEILING
- ACOUSTIC CEILING TILE (SEE CEILING TYPE LEGEND)
- WASHABLE CEILING TILE (SEE CEILING TYPE LEGEND)
- SUPPLY AIR
- RETURN AIR
- EXHAUST AIR
- ACCESS PANEL
- SUPPLY AIR LINEAR
- 2" X 4" LIGHT
- 2" X 2" LIGHT
- EXIT SIGNS - HATCH INDICATES EXIT TEXT AND ARROW INDICATES DIRECTION
- DOWNLIGHT
- 1'-0" A.F.F. — CEILING HEIGHT ABOVE FINISH FLOOR
- EXP — NO CEILING, EXPOSED TO STRUCTURE / DECK ABOVE
- + — EXISTING SPRINKLER HEAD

KEYNOTES

47 NEW ACOUSTICAL CEILING SYSTEM, TYPICAL.
48 NEW LED LIGHT FIXTURES, TYPICAL.
49 NEW HVAC GRILLS, TYPICAL.
50 PROVIDE NEW FIRE SPRINKLER ESCUTCHEON, TYPICAL.
55 NEW 2X2 WASHABLE CEILING SYSTEM AT KITCHEN AN DINNING, TYPICAL.
56 RE-INSTALL EXISTING CEILING SYSTEM.
57 RE-INSTALL EXISTING ELECTRICAL DEVICES.
58 RE-INSTALL EXISTING HVAC DEVICES.
59 HVAC EQUIPMENT TO BE REMOVED AND REPLACED, SEE MPE FOR ADDITIONAL INFO.

KEY PLAN

NTS — NORTH



Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON
11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: LEVEL 01 - REFLECTED CEILING PLAN	Phase: 100% Submittal - Not for Construction	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
Approved:			Building Number: 1
		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number: AE-201
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/20025_VA_Upgrade_AHU-18_20_22_ARCH.rvt

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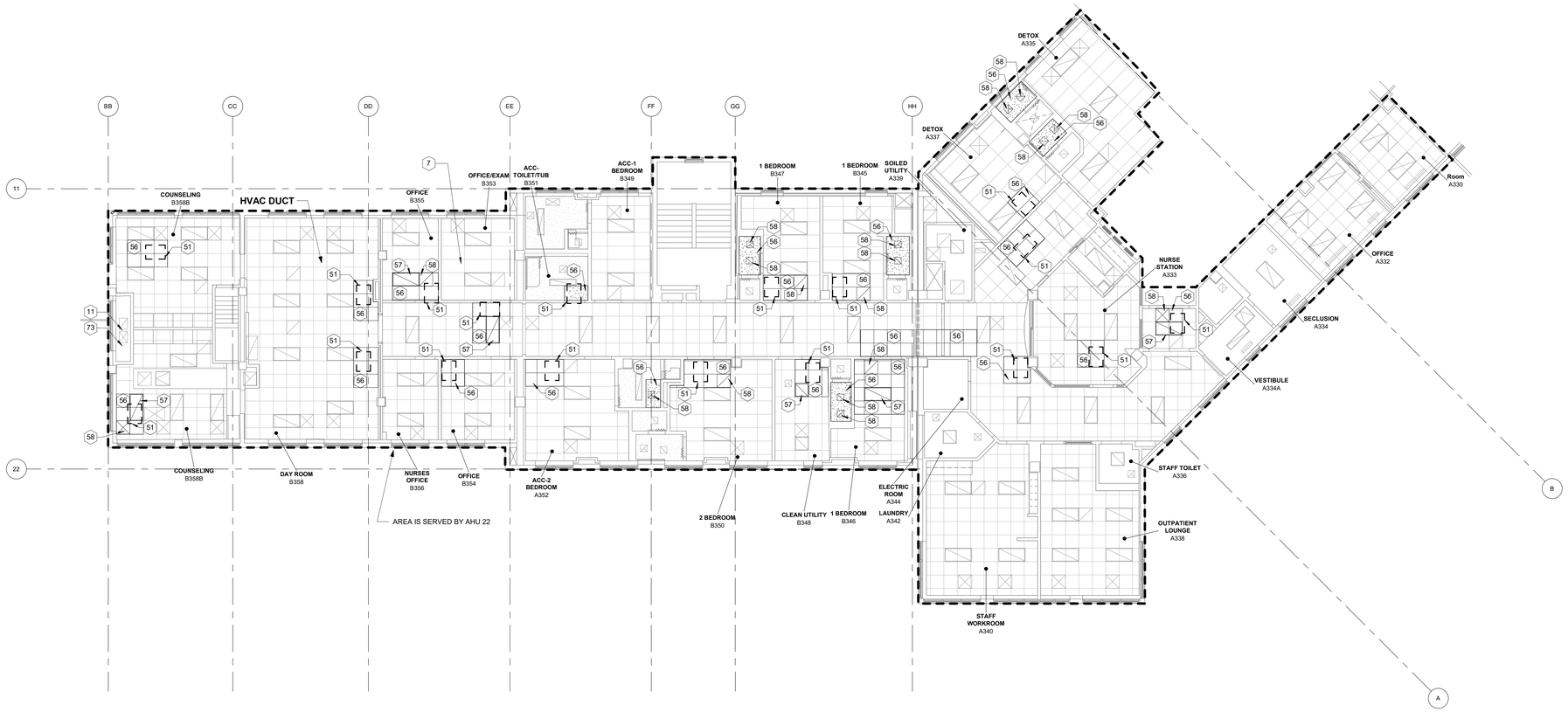


1 LEVEL 03 - REFLECTED CEILING PLAN

1/8" = 1'-0"

RCP GENERAL NOTES

A. THE GC SHALL VISIT THE SITE PRIOR TO BIDDING TO BETTER UNDERSTAND THE EXISTING CONDITIONS, TYPICAL.

B. IN THE CASE OF MINOR DISCREPANCIES BETWEEN MEP AND ARCHITECTURAL DOCUMENTS IN THE LOCATION OF CEILING MOUNTED COMPONENTS, THE ARCHITECTURAL REFLECTED CEILING PLAN SHALL GOVERN. IN THE CASE OF MAJOR DISCREPANCIES, THE CO/COR SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.

C. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS WHERE NO CEILING IS REQUIRED OR INDICATED.

D. LIGHTS, DIFFUSERS, EXIT SIGNS, SMOKE DETECTORS, SPEAKERS, STROBES, AND MISCELLANEOUS DEVICES SHALL BE REMOVED AND RE-INSTALLED AS REQUIRED TO INSTALL NEW HVAC EQUIPMENT. SEE MPE FOR ADDITIONAL INFO.

E. ALL CORRIDOR SPRINKLER HEADS SHALL REMAIN UNDISTURBED IN THE CORRIDOR UNLESS NOTED OTHERWISE.

F. ACCESS DOOR LOCATIONS IN GYPSUM BOARD CEILINGS ARE INDICATED ON RCP'S ONLY WHERE ARCHITECTURALLY SIGNIFICANT. REFERENCE SPECIFICATIONS AND MEP DRAWINGS FOR OTHER ACCESS DOOR LOCATIONS.

G. EXIT SIGNS ARE SHOWN ON REFLECTED CEILING PLAN ONLY WHERE LOCATION IS ARCHITECTURAL SIGNIFICANT.

H. AT NEW DUCTWORK IN EXISTING CEILING TO REMAIN. REMOVE AND SALVAGE CEILING GRID, CEILING TILES, AND CEILING FIXTURES. REINSTALL IN PLACE, PATCH AND REPAIR AS REQUIRED.

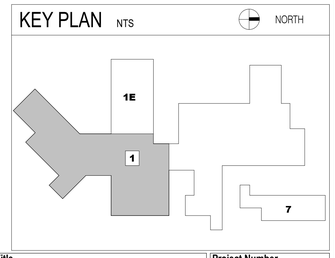
CEILING SYMBOLS

	GYP BD CEILING
	ACOUSTIC CEILING TILE (SEE CEILING TYPE LEGEND)
	WASHABLE CEILING TILE (SEE CEILING TYPE LEGEND)
	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
	ACCESS PANEL
	SUPPLY AIR LINEAR
	2" X 4" LIGHT
	2" X 2" LIGHT
	EXIT SIGNS - HATCH INDICATES EXIT TEXT AND ARROW INDICATES DIRECTION
	DOWNLIGHT
1'-0" A.F.F.	CEILING HEIGHT ABOVE FINISH FLOOR
EXP	NO CEILING, EXPOSED TO STRUCTURE / DECK ABOVE
+	EXISTING SPRINKLER HEAD

KEYNOTES

7 THE GC SHALL REMOVE THE EXISTING CEILING SYSTEM AS REQUIRED FOR ABOVE CEILING WORK, TYPICAL. SEE MPE PLANS FOR ADDITIONAL INFO.
11 THE GC SHALL REMOVE DUCT FROM CHASE DOWN TO FIRST FLOOR CEILING AREA, SEE KEYNOTE 73 FOR ALTERNATE.
51 EXISTING HVAC EQUIPTMENT TO BE REMOVED AND REPLACED, TYPICAL. SEE MECHANICAL FOR ADDITIONAL INFORMATION.
56 RE-INSTALL EXISTING CEILING SYSTEM.
57 RE-INSTALL EXISTING ELECTRICAL DEVICES.
58 RE-INSTALL EXISTING HVAC DEVICES.
73 ALTERNATE: DEMOLISH WALL & INFILL FLOOR AND CEILING OPENINGS, IF ALL SERVICES HAVE BEEN REMOVED FROM THE CHASE AREA.

KEY PLAN NTS



Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON
11/17/2025

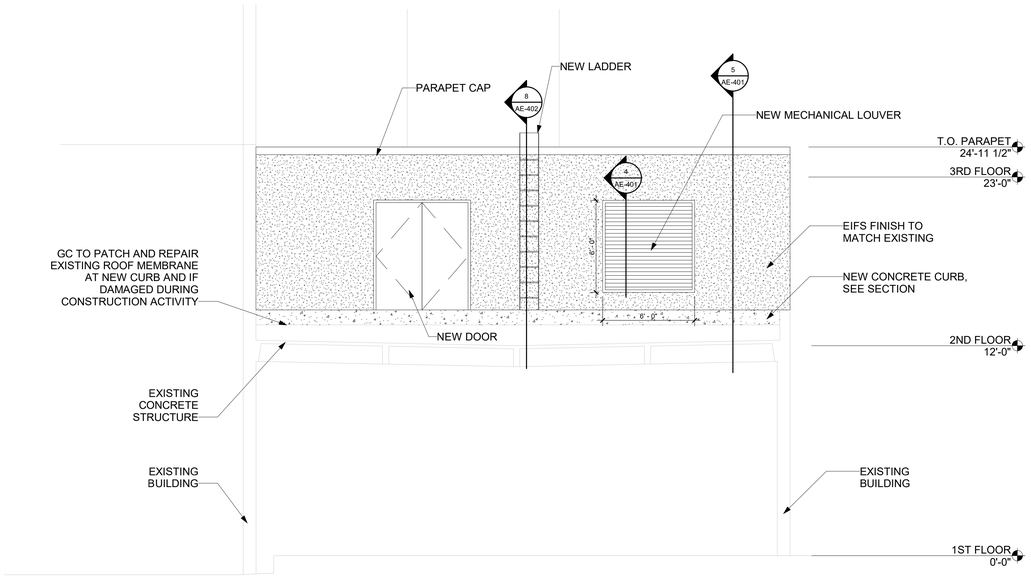
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

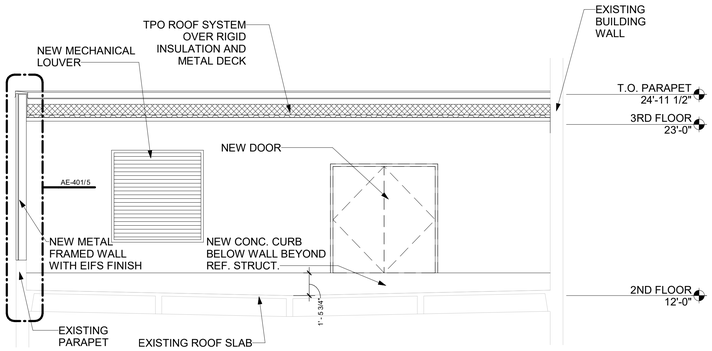
Drawing Title	LEVEL 03 - REFLECTED CEILING PLAN
Phase	100% Submittal - Not for Construction
Approved:	
Project Title	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number	668-21-100
Building Number	1
Location:	Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205
Issue Date	November 17, 2025
Checked	AESUS
Drawn	AESUS
Drawing Number	AE-203

VA FORM 08 - 6231

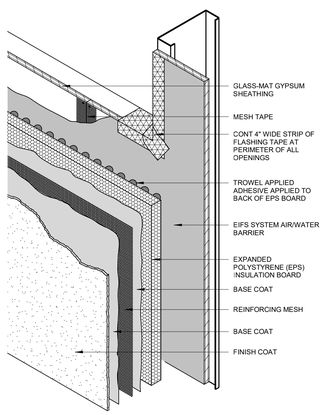
Autodesk Docs://AESUS Projects/22035_VA_Upgrade_AHU-18_20_22_ARCH.rvt 11/6/2025 5:41:15 PM



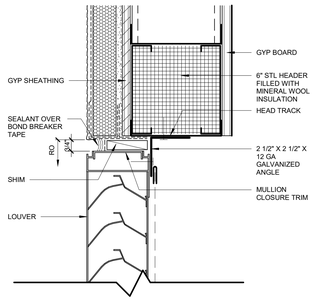
1 PENTHOUSE ELEVATION - SOUTH
1/4" = 1'-0"

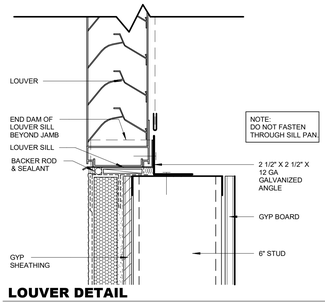


2 PENTHOUSE SECTION
1/4" = 1'-0"

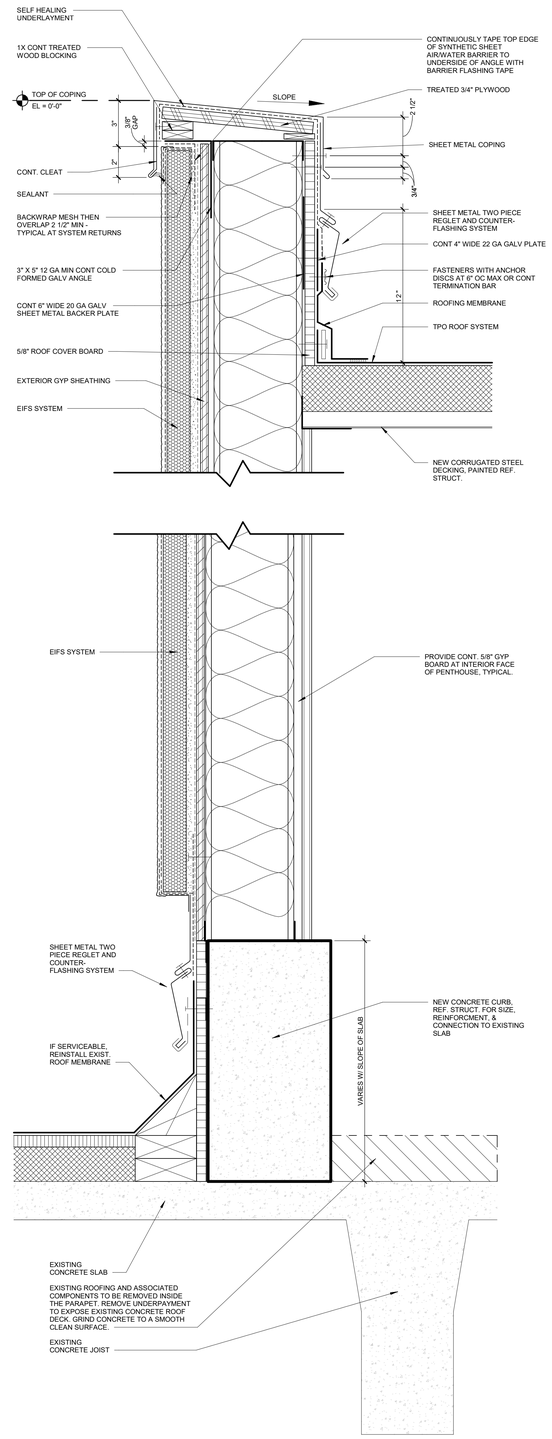


3 PENTHOUSE WALL SECTION LAYERS
3" = 1'-0"

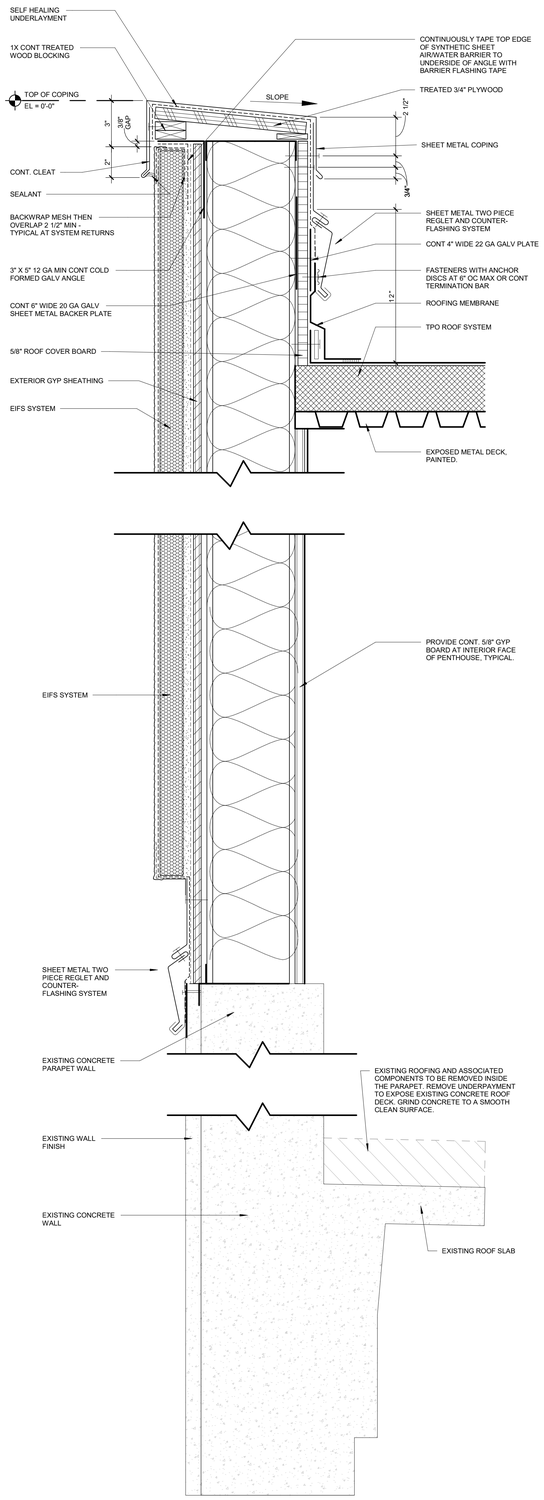




4 LOUVER DETAIL
3" = 1'-0"



5 PENTHOUSE WALL SECTION SOUTH
3" = 1'-0"



6 PENTHOUSE WALL SECTION WEST
3" = 1'-0"

Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON
11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ELEVATIONS AND SECTIONS	100% Submittal - Not for Construction	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Drawing Number
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	AE-401

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/20025_VA_Upgrade_AHU-18_20_22_ARCH.rvt
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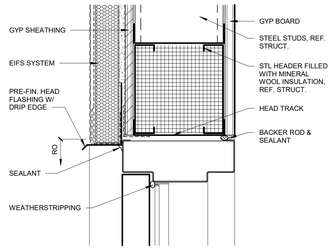
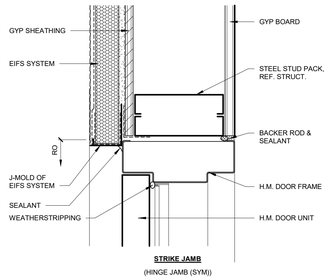


9 EXTERIOR DOOR HEAD DETAIL - HOLLOW METAL
3" = 1'-0"



10 EXTERIOR DOOR JAMB DETAIL - HOLLOW METAL
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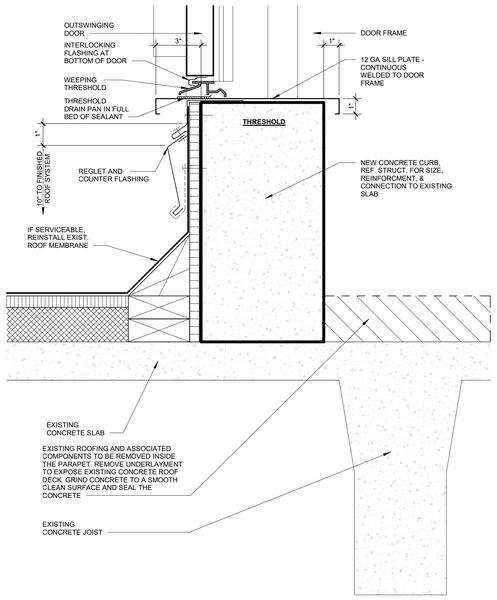

11 EXTERIOR DOOR THRESHOLD DETAIL - HOLLOW METAL
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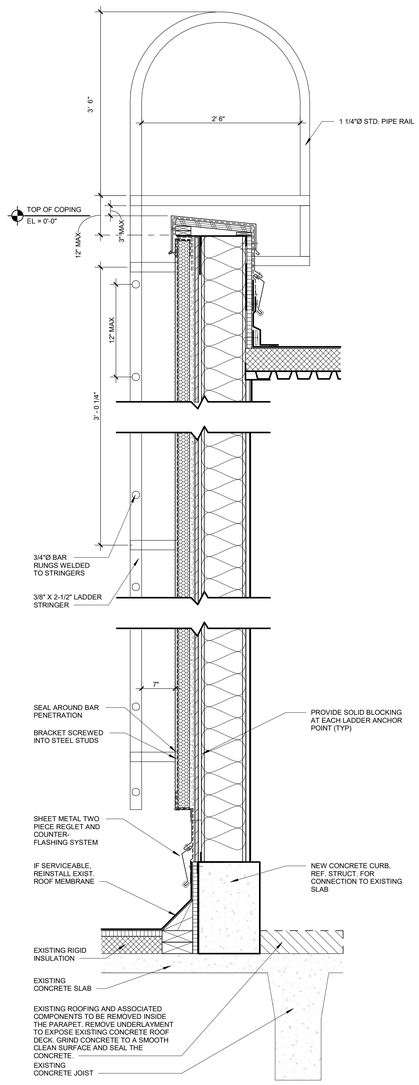
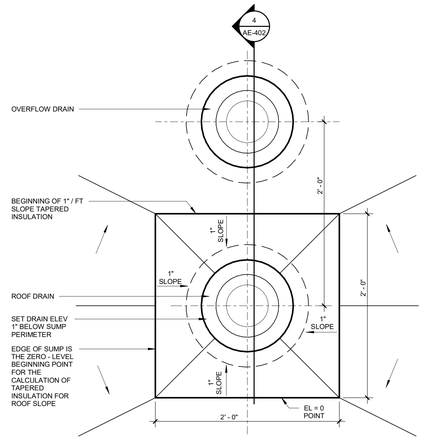
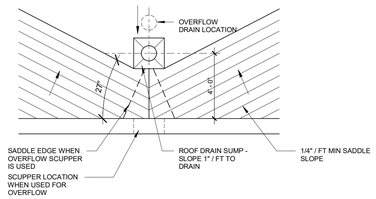


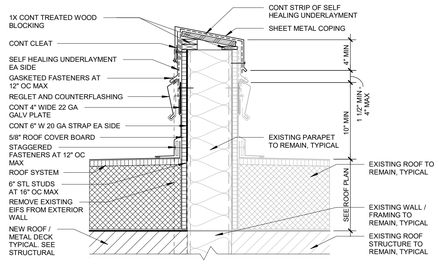
8 LADDER DETAIL
1 1/2" = 1'-0"



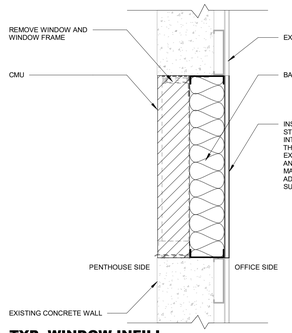
6 ROOF DRAIN WITH ADJACENT OVERFLOW DRAIN
1 1/2" = 1'-0"



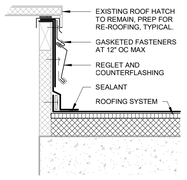
5 TYPICAL SADDLE ADJACENT TO PARAPET
1/4" = 1'-0"



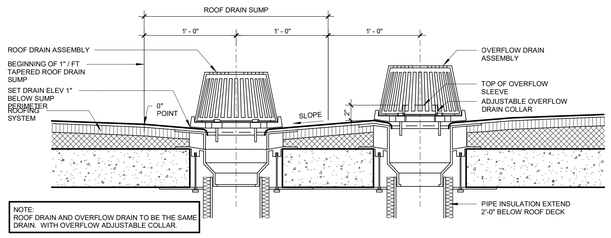
1 AREA DIVIDER
1 1/2" = 1'-0"



2 TYP. WINDOW INFILL
1 1/2" = 1'-0"



3 ROOF HATCH
1 1/2" = 1'-0"



4 ROOF DRAIN - OVERFLOW DRAIN/SUMP SECTION
1 1/2" = 1'-0"

Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON 11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
DETAILS	100% Submittal - Not for Construction	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	Drawing Number AE-402

VA FORM 08 - 6231

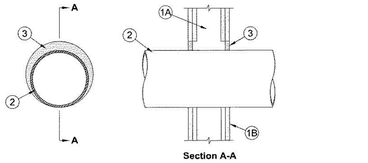
Autodesk Docs://AESUS Projects/22025_VA_Upgrade_AHU-18_20_22_ARCH.rvt 11/6/2025 5:41:17 PM

System No. W-L-1222

July 26, 2006

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1/4, 3/4 and 1 Hr (See Item 2)



Section A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

B. **Gypsum Board*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through Penetrant —** One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

A. **Steel Pipe —** Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.

D. **Copper Pipe —** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

E. **Copper Tube —** Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel	2 in. (51 mm)	1 hr
conduit or EMT		
Steel or iron pipe, steel	8 in. (203 mm)	3/4 hr
conduit or EMT		
Copper pipe or tube	4 in. (102 mm)	1/4 hr

2A. **Through Penetrating Product* — Flexible Metal Piping —** As an alternate to Item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.

OMEGA FLEX INC

GASTITE, DIV OF TITEFLEX

WARD MFG L L C

3. **Fill, Void or Cavity Material* — Sealant —** Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. Fill material forced into grouped penetrant interstices to max extent possible within opening.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

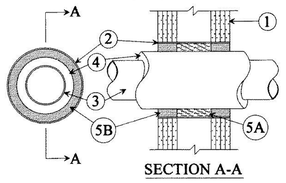
NOTE: PER VA SPOKANE, WA FACILITY STANDARDS, FIRE -RATED ASSEMBLIES SHALL BE HILTI

System No. W-L-5073

June 07, 1997

F Rating — 4 Hr

T Rating — 1-1/2 Hr



SECTION A-A

1. **Wall Assembly —** The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in Design No. U435 in the Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing shall consist of channel shaped steel studs, min 3-5/8 wide, fabricated from min 25 MSG galv steel, spaced max 24 in. OC.

B. **Gypsum Board* —** Four layers of nom 1/2 in. thick gypsum wallboard as specified in Design No. U435. Max diam of opening is 18-1/2 in.

2. **Steel Sleeve** — Cylindrical sleeve fabricated from min 0.035 in. thick (No. 20 gauge) galv steel sheet and having a min 2 in. lap along the longitudinal seam. Length of sleeve to be equal to thickness of wall. Sleeve to be installed by rolling the sheet metal to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it unroll against the circular cutouts in the gypsum wallboard layers.

3. **Through Penetrants —** One metallic pipe or tubing to be installed concentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes or tubing may be used:

A. **Steel Pipe —** Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Copper Tubing —** Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

C. **Copper Pipe —** Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

4. **Pipe Covering* —** Nom 1-1/2 in. thick hollow cylindrical heavy density (3-5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the steel sleeve shall be min 1-1/4 in. to max 1-1/2 in.

See **Pipe Equipment Covering — Materials** (BRGU) Category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

5. **Firestop System —** The firestop system shall consist of the following:

A. **Packing Material —** Min 3-5/8 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into the opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Sealant —** Min 2 in. thickness applied within steel sleeve, flush with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

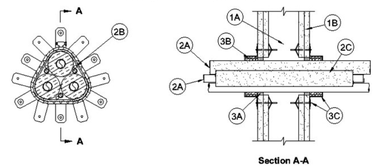
NOTE: PER VA SPOKANE, WA FACILITY STANDARDS, FIRE -RATED ASSEMBLIES SHALL BE HILTI

System No. W-L-8081

March 18, 2008

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 0 and 1 Hr (See Item 1)



Section A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

B. **Gypsum Board* —** Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 6 in. (152 mm).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating of the firestop system is 0 hr for 1 hr fire rated wall assemblies and 1 hr for 2 hr fire rated wall assemblies.

2. **Air Conditioning (AC) Line Set —** Max of three AC line sets bundled within the opening. Each line set consists of one metallic pipe, one insulated metallic pipe and one electrical cable. The aggregate cross-sectional area of the penetrants does not exceed 84 percent of the cross-sectional area of the wall opening. The annular space between the penetrants and the periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). Penetrants to be rigidly supported on both sides of wall assembly.

2A. **Metallic Pipes —** The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe —** Nom 1 in. (25 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 1/2 in (13 mm) diam (or smaller) steel conduit or EMT.

D. **Copper Pipe or Tube —** Nom 1 in. (25 mm) diam (or smaller) type L (or heavier) copper tube or Regular (or heavier) copper pipe.

2B. **Cables —** Max 4 pair No. 18 AWG (or smaller) thermoset cable with PVC insulation and jacket.

2C. **Pipe Covering —** The following pipe covering shall be used with the metallic pipes (Types 2A, 2B and 2D only) having a nom diam greater than 1/2 in. (13 mm):

A. **Tube Insulation - Plastica* —** Nom 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.

See **Plastica** (QMFZ) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

3. **Firestop System —** The details of the firestop system shall be as follows:

A. **Fill, Void or Cavity Material* - Sealant —** Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. Fill material forced into grouped penetrant interstices to max extent possible within opening.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

B. **Fill, Void or Cavity Material* —** Wrap Strip - Nom 3/16 in. (5 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Wrap strip is continuously wrapped around the outer circumference of bundled penetrants two times with ends butted and held in place with tape. Wrap strip installed flush with both surfaces of wall assembly.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E- W25/1-3/4" Wrap Strip

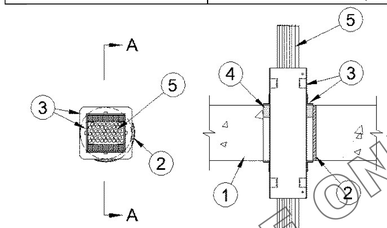
C. **Steel Collar —** Steel collar fabricated from coils of precut min 0.016 in. (0.41 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be min 1-3/4 in. (44 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to both surfaces of wall. In addition, collars contain preformed retainer tabs 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, located opposite the anchor tabs. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and compressed with a min 1/2 in. (13 mm) wide by 0.028 in. (0.71 mm) thick stainless steel band at collar mid-height. Every other anchor tab of collar secured to surface of wall with min 1-1/2 in. (38 mm) long drywall or laminate screws with min 3/4 in. (19 mm) steel washers.

NOTE: PER VA SPOKANE, WA FACILITY STANDARDS, FIRE -RATED ASSEMBLIES SHALL BE HILTI

System No. C-AJ-3214

July 12, 2012

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 and 4 Hr (See Item 5)	F Ratings — 2 and 4 Hr (See Item 5)
T Rating — 1/2 Hr	FT Rating — 1/2 Hr
L Ratings At Ambient — Less Than 1, 1.3, 4 or 7 CFM/Device Module (See Item 5)	FH Ratings — 2 and 4 Hr (See Item 5)
L Ratings At 400 F — Less Than 1, 2 or 3 CFM/Device Module (See Item 5)	FTH Rating — 1/2 Hr
	L Ratings At Ambient — Less Than 1, 1.3, 4 or 7 CFM/Device Module (See Item 5)
	L Ratings At 400 F — Less Than 1, 2 or 3 CFM/Device Module (See Item 5)



Section A-A

1. **Floor or Wall Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Diam of opening to be 4 in. (102 mm).

See **Concrete Blocks** category (CAZT) in the Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve** — (Optional) - Nom 4 in (102 mm) diam Schedule 10 to Schedule 40 steel pipe or rigid steel conduit cast or grouted into concrete floor or wall flush with floor or wall surfaces.

3. **Firestop Device*** — One firestop device module centered within the opening. The firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device module to be installed in accordance with the accompanying installation instructions. The space between the firestop device module and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm). Firestop device module secured in place by means of steel restraint plates shed to accommodate the firestop device module. Steel restraint plates each provided with a closed cell silicone gasket and sized to lap approx 1/2 in. (13 mm) on floor or wall surfaces. Steel restraint plate installed on both sides of floor or wall and secured to firestop device module with steel set screws. The firestop device module is to be installed with its ends projecting an equal distance beyond each surface of the floor or wall assembly. As an option, firestop device may be cast or grouted into wall assembly. When device is cast or grouted in place, the steel restraint plates are optional.

SPECIFIED TECHNOLOGIES INC — EZ PATH Series 33 Fire Rated Pathway

3A. **Firestop Device* - Extension Module —** (Optional, Not Shown) - Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (Item 3) to increase its length to facilitate installation in thicker floors or walls. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (Item 3) and extension module(s) secured in place by means of steel plates installed with gasketing material supplied with product. Steel plates installed on both sides of floor or wall and secured to each device or extension module(s) by means of steel set screws provided with plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the floor or wall assembly.

SPECIFIED TECHNOLOGIES INC — EZ PATH Extension

4. **Fill, Void or Cavity Material* - Sealant or Putty —** Prior to installation of steel restraint plates, min 1 in. (25 mm) thickness of sealant or putty installed in annular space flush with top surface of floor or both surfaces of wall.

SPECIFIED TECHNOLOGIES INC — SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal Putty

5. **Cables —** Cables may represent a 0 to 100 percent visual fill within the loading area for the firestop device module. Cables to be rigidly supported on both sides of the floor or wall assembly. Any combination of the following types of cables may be used:

A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

B. Max 350 kcmil single copper conductor power cable with XLPE jacket and insulation

C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

D. Max 3/C No. 10 AWG metal clad or armored cable with steel or aluminum jacket.

E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.

F. Max 4 pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.

G. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.

H. Optical fiber cable with PVC or polyethylene (PE) jacket and insulation and having a max diam of 5/8 in. (16 mm).

When Item 5A, 5B, 5C, 5D or 5E is used, the Fand FH Ratings are 2 hr and the T, FT and FTH Ratings are 3/4 hr. When max 200 pair No. 24 AWG telecommunication cable is used or when Item 5F, 5G or 5H is used, the F and FH Ratings are 4 hr and the T Ratings are 1 hr.

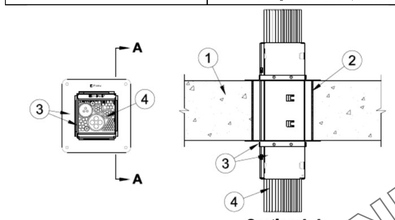
The L Rating for each empty firestop device module is less than 1 cfm at ambient and at 400F. When Item 5A is used, the L Rating for each firestop device module with 100 percent visual fill is 4 cfm at ambient and 3 cfm at 400F. When Item 5F is used, the L Rating for each firestop device module with 100 percent visual fill is 1.3 cfm at ambient and less than 1 cfm at 400F.When Item 5G or 5H is used, the L Rating for each firestop device module with 100 percent visual fill is 7 cfm at ambient and 2 cfm at 400F.

NOTE: PER VA SPOKANE, WA FACILITY STANDARDS, FIRE -RATED ASSEMBLIES SHALL BE HILTI

System No. C-AJ-3260

April 23, 2013

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Ratings — 0 and 1/2 Hr (See Item 4)	FT Ratings — 0 and 1/2 Hr (See Item 4)
L Rating At Ambient — 2.3 CFM/Device Module	FH Rating — 2 Hr
L Rating At 400 F — 2.3 CFM/Device Module	FTH Ratings — 0 and 1/2 Hr (See Item 4)
	L Rating At Ambient — 2.3 CFM/Device Module
	L Rating At 400 F — 2.3 CFM/Device Module



Section A-A

1. **Floor or Wall Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Floor may also be constructed of any UL Classified hollow-core **Precast Concrete Units***. Diam of opening to be 6 in. (152 mm).

See **Concrete Blocks** (CAZT) or **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve —** (Optional) - Nom 6 in. (152 mm) diam Schedule 10 to Schedule 40 steel pipe or rigid steel conduit cast or grouted into concrete floor or wall flush with floor or wall surfaces.

3. **Firestop Device* —** One firestop device module centered within the opening. The firestop device module consists of a 4 by 4-5/8 by 14 in. (102 by 118 by 356 mm) long galv steel tube with an intumescent material lining. Firestop device module to be installed in accordance with the accompanying installation instructions. The space between the firestop device module and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm). Firestop device module secured in place by means of steel restraint plates sized to accommodate the firestop device module. Steel restraint plates each provided with an intumescent gasket and sized to lap onto floor or wall surfaces. Steel restraint plate installed on both sides of floor or wall and secured to firestop device module with steel set screws. The firestop device module is to be installed with its ends projecting an equal distance beyond each surface of the floor or wall assembly. As an option, firestop device may be cast or grouted into floor wall assembly. When device is cast or grouted in place, the steel restraint plates are optional.

SPECIFIED TECHNOLOGIES INC — EZ PATH Series 44+ Fire Rated Pathway

3A. **Firestop Device* - Extension Module —** (Optional, Not Shown) - Extension module attached to ends of firestop device (Item 3) to increase its length to facilitate installation in thicker floors or walls. Each module consists of a 4 by 4-5/8 by 6 in. (102 by 118 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (Item 3) and extension module(s) secured in place by means of steel plates installed with gasketing material supplied with product. Steel plates installed on both sides of floor or wall and secured to device or extension module(s) by means of steel set screws provided with plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the floor or wall assembly.

SPECIFIED TECHNOLOGIES INC — EZ PATH Series 44+ Extension

4. **Cables —** Cables may represent a 0 to max 100 percent visual fill within the loading area for the firestop device module. Cables to be rigidly supported on both sides of the floor or wall assembly. Any combination of the following types of cables may be used:

A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) or plenum-rated jacketing and insulation.

B. Max 750 kcmil single copper conductor power cable with XLPE jacket and insulation

C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

D. Max 3/C No. 2/0 AWG metal clad or armored cable with steel or aluminum jacket.

E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.

F. Max 4 pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.

G. Coaxial cable with fluorinated ethylene or PVC insulation and jacketing having a max diam of 5/8 in. (16 mm).

H. Optical fiber cable with PVC or polyethylene (PE) jacket and insulation and having a max diam of 5/8 in. (16 mm).

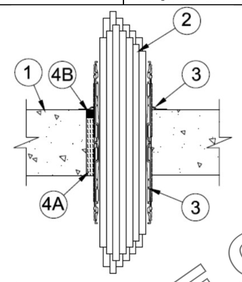
When cable fill within the device is min 0 percent (empty) to max 20 percent, the T, FT and FTH Ratings are 0 Hr. When cable fill within the device is greater than 20 percent, the T, FT and FTH Ratings are 1/2 Hr.

NOTE: PER VA SPOKANE, WA FACILITY STANDARDS, FIRE -RATED ASSEMBLIES SHALL BE HILTI

System No. C-AJ-3285

December 19, 2013

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Ratings — 1, 1-1/2 and 3 Hr (See Item 2)	FT Ratings — 1, 1-1/2 and 3 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM (See Items 2 and 4)	FH Rating — 3 Hr
L Rating At 400 F — Less Than 1 CFM (See Items 2 and 4)	FTH Ratings — 1, 1-1/2 and 3 Hr (See Item 2)
	L Rating At Ambient — Less Than 1 CFM (See Items 2 and 4)
	L Rating At 400 F — Less Than 1 CFM (See Items 2 and 4)



1. **Floor or Wall Assembly —** Reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Min 4-1/2 in. (114 mm) thick floors and min 5 in. (127 mm) thick walls. Wall may also be constructed of any UL Classified **Concrete Blocks***. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***. Opening in floor or wall to be max 3 in. (76 mm) diam for 2 in. (51 mm) device and max 5 in. (127 mm) diam for 4 in. (102 mm) device.

See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CKZY) categories in the Fire Resistance Directory for names of manufacturers.

2. **Cables —** Within the loading area for each firestop device, the cables may represent a 0 to 100 percent visual fill. Cables to be tightly bundled within the device and rigidly supported on both sides of floor or wall assembly. Any combination of the following types of cables may be used:

A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

C. Max 4/0 AWG Type RHH ground cable.

D. Max four ea. No. 22 AWG Cat 6 computer cables.

E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.

F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/2 in. (13 mm).

G. Max 20/C No. 22 AWG shielded printer cable with PVC jacket.

H. **Through-Penetrating Product*** - Two copper conductors No. 18 AWG (or smaller) Power or Non Power Limited Fire Alarm Cable with or without a jacket under a metal armor.

AFC CABLE SYSTEMS INC

I. Max. 1/4 in. (6 mm) diam S-Video Cable consisting of two max No. 24 AWG 75 ohm coax or twisted pair cable with PE insulation and PVC jacket.

The hourly T, FT and FTH Ratings for blank opening (no cables) are 3 hr. The hourly T, FT and FTH Ratings for opening with cables are 1-1/2 hr except that, when cable type 2A, 2B, 2C, 2E or 2H is used, the T, FT and FTH Ratings are 1 hr. See Table below for L Ratings.

Max Cable ----	Cable Type	L Rating, CFM/Sq		L Rating, CFM	
		Ambient	400°F	Ambient	400°F
0%	—	1	2	Less than 1	Less than 1
100%	Any cables (Item 2) in any combination	7	7	Less than 1	Less than 1

3. **Firestop Device* —** Firestop device consists of a corrugated steel tube with an inner plastic housing, intumescent material rings and tightly twisted inner fabric smoke seal. Firestop device to be installed in accordance with the accompanying installation instructions. Device slid into floor or wall such that ends project an equal distance from the approximate centerline of the assembly. As an option, in floors, steel sleeve of device may be installed flush with bottom of floor. The annular space between the device and the periphery of the opening shall be min 0 in. (point contact). Device provided with flange(s) that are spun clockwise onto device threads, butting tightly to top side of floor or both sides of floor or wall. In floors, when one device flange is used, device flange to be secured to floor with min two 1-1/4 in. (32 mm) long masonry screws or anchors.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 653 2" Speed Sleeve and CP 653 4" Speed Sleeve

4. **Firestop System —** The firestop system shall consist of the following:

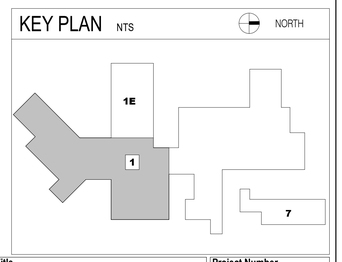
A. **Packing Material —** Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into annular space between firestop device and opening as a permanent form. Packing material to be installed flush with bottom of floor and recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Sealant —** Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. **For L Ratings, an additional 1/4 in. (6 mm) bead of fill material is required at the device/floor or device/wall interface on top side of floor or both sides of wall assembly prior to installing flange(s).**

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S Sealant, CP604 Sealant, CP 606 Sealant, CFS-S SIL GG, CFS-S SIL SL (floors only) or FS-ONE Sealant

NOTE: PER VA SPOKANE, WA FACILITY STANDARDS, FIRE -RATED ASSEMBLIES SHALL BE HILTI

KEY PLAN NTS



Revisions:	Date:

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21016385 REGISTERED ARCHITECT DAVID COMBS STATE OF WASHINGTON 11/17/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FIRE RATED ASSEMBLIES - W-L-1222, W-L-5073, W-L-8081, C-AJ-3214, C-AJ-3260, C-AJ-3285

Phase: 100% Submittal - Not for Construction

Approved:

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

Project Number: 668-21-100

Building Number: 1

Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205

Issue Date: November 17, 2025 | Checked: AESUS | Drawn: AESUS

Drawing Number: AE-952

PRELIMINARY NOT FOR CONSTRUCTION ONLY
PRELIMINARY NOT FOR CONSTRUCTION ONLY
PRELIMINARY NOT FOR CONSTRUCTION ONLY

GENERAL STRUCTURAL NOTES

BUILDING CODE:

2018 INTERNATIONAL BUILDING CODE, (IBC) WITH APPLICABLE CITY AMENDMENTS.

GRAVITY LOADS:

ROOF: NEW ROOF LIVE LOAD = 20 PSF (REDUCIBLE).
EXISTING ROOF LIVE LOAD = 30 PSF (REDUCIBLE).
NEW PENTHOUSE ROOF DEAD LOAD = 15 PSF.
EXISTING ROOF DEAD LOAD = 20 PSF.

FLOOR: EXISTING FLOOR LIVE LOAD (MECHANICAL ROOM) = 125 PSF.
EXISTING FLOOR LIVE LOAD (PENTHOUSE) = 125 PSF.
EXISTING FLOOR LIVE LOAD (OFFICE) = 50 PSF.
EXISTING FLOOR DEAD LOAD (MEZZANINE) = 75 PSF.
EXISTING FLOOR DEAD LOAD (MECHANICAL ROOM) = 65 PSF.

LATERAL LOADS :

WIND: ULTIMATE DESIGN WIND SPEED = 115 MPH (3s GUST).
NOMINAL DESIGN WIND SPEED = 89.1 MPH (3s GUST).
RISK CATEGORY: III
WIND EXPOSURE: C.
INTERNAL PRESSURE COEFFICIENT (ENCLOSED BUILDINGS): +0.18 / −0.18
COMPONENTS & CLADDING ULTIMATE WIND PRESSURE: 33.4 PSF - END ZONE; 28.7 PSF - TYPICAL

SEISMICITY: VA SEISMIC H-18-8
IP = 1.5
RISK CATEGORY III
SEISMIC IMPORTANCE FACTOR: I_E = 1.25
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS: (S_S = 0.307, S_1 = 0.112)
SITE CLASS: D
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS: (S_{DS} = 0.318, S_{D1} = 0.177)
SEISMIC DESIGN CATEGORY:
BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE SHEARWALL
DESIGN BASE SHEAR: 3.45 K
SEISMIC RESPONSE COEFFICIENT, Cs = 0.10
RESPONSE MODIFICATION FACTOR R = 4.0
ANALYSIS PROCEDURE USED: EQUIVALENT FORCE METHOD

POST INSTALLED ANCHORS:

THESE ANCHORS MAY ONLY BE USED WHERE SPECIFIC ANCHORS ARE NOT DENOTED ON PLANS, DETAILS OR NOTES.

SPECIAL STRUCTURAL INSPECTION IS REQUIRED DURING PLACEMENT OF ALL ANCHORS UNLESS SPECIFICALLY NOTED OTHERWISE.

USE OF OTHER ANCHOR PRODUCTS MUST BE APPROVED BY THE ENGINEER OF RECORD.

		CONCRETE	MASONRY
ADHESIVE	DEWALT/POWERS	PURE 110 + ESR 3298 AC 200 + ESR 4027	AC100+GOLD ESR 3200
	HILTI	HY200 ESR 3187 RE 100-V3 ESR 3829	HY70 ESR 2682
	SIMPSON	SET-XP ESR 2508	SET-XP PER UES ER-265
SCREW	DEWALT/POWERS	SCREW-BOLT + ESR 3889	WEDGE BOLTS + ESR 1678
	HILTI	KWIK-HUS-EZ ESR 3027	KWIK-HUS-EZ ESR 3056
	SIMPSON	TITEN HD ESR 2713	TITEN HD ESR 1056
WEDGE	DEWALT/POWERS	POWER-STUD + SD2 ESR 2502	POWER-STUD + SD1 (2966)
	HILTI	KWIK BOLT TZ ESR 1917	KWIK BOLT 3 ESR 1385
	SIMPSON	STRONG BOLT 2 ESR 3037	WEDGE ALL ESR 1396

STRUCTURAL STEEL:

THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND STRUCTURES SHALL BE IN ACCORDANCE WITH AISC 360. FOR ALL STEEL WHERE Fy > 36 KSI, THE ASTM OR OTHER SPECIFICATION DESIGNATION SHALL BE INCLUDED NEAR THE ERECTION MARK ON EACH SHIPPING ASSEMBLY OR IMPORTANT CONSTRUCTION COMPONENT OVER ANY SHOP COAT OF PAINT PRIOR TO SHIPMENT FROM THE FABRICATOR'S PLANT. USE THE FOLLOWING MINIMUM PROPERTIES UNLESS NOTED OTHERWISE:

* WIDE FLANGE STEEL SHALL BE ASTM A992 (Fy = 50 KSI).
* ROUND HSS SHALL BE ASTM A500 GRADE C (Fy = 42 KSI).
* RECTANGULAR AND SQUARE HSS SHALL BE ASTM A500 GRADE C (Fy = 46 KSI).
* STRUCTURAL TUBE SHALL BE ASTM A500, GRADE C (Fy = 50 KSI).
* MISCELLANEOUS STEEL SHALL BE ASTM A36 (Fy = 36 KSI).
* BOLTS SHALL BE F1554 GRADE 36 (ASTM A307).

ALL REFERENCE TO HEADED STUDS SHALL BE "TRW/NELSON" HIGH STRENGTH HEADED STUDS OR APPROVED EQUAL. AT CONTRACTOR'S OPTION HEADED STUDS PER ABOVE MAY BE SUBSTITUTED FOR CONVENTIONAL ANCHORS AND MACHINE BOLTS (REVERSE SUBSTITUTION NOT ALLOWABLE). ALL BOLTS, ANCHOR BOLTS, EXPANSION BOLTS, ETC. SHALL BE INSTALLED WITH STEEL WASHERS. AT SHORT SLOTTED HOLES USE SNUG TIGHT INSTALLATION UNLESS NOTED OTHERWISE.

WELDING:

ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES ISSUED BY AN ACCEPTED TESTING AGENCY AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW. UNLESS NOTED OTHERWISE.

ALL WELDS PER THE REFERENCED OR LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) STANDARDS:

AWS D1.1-00 STRUCTURAL WELDING CODE - STEEL
AWS C5.4 RECOMMENDED PRACTICES FOR STUD WELDING

ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES.

STEEL ROOF DECK:

NEW PENTHOUSE ROOF DECK SHALL BE 1 1/2" DEEP, 36" WIDE, 20 GAGE PAINTED (GALVANIZED) STEEL, WITH MINIMUM YIELD STRESS OF 38 KSI, WITH MINIMUM S = .244 IN3 AND I = .231 IN4 PER FOOT OF WIDTH. DECK SHALL BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AS 3 SPAN MINIMUM AND SHALL BE ATTACHED FOR A MINIMUM DIAPHRAGM SHEAR CAPACITY OF 200 PLF USING THE FOLLOWING MINIMUM ATTACHMENTS:

SCREW DECK TO SUPPORTING MEMBERS WITH #12 SCREW WITH 36/4 SCREW PATTERN PER SHEET AT ENDS; END LAPS AND AT INTERMEDIATE SUPPORTS, AND AT 12" O.C. AT PERIMETER BEAMS AND OPENING EDGES RUNNING PARALLEL TO THE DECK. SIDE SEAM ATTACHMENT SHALL BE PUNCHLOK SYSTEM ATTACHMENTS AT 12" O.C. U.N.O.

STRUCTURAL COLD-FORMED STEEL:

STRUCTURAL AND NON-STRUCTURAL FRAMING MEMBERS UTILIZED IN STEEL CONSTRUCTION SHALL BE COLD-FORMED TO SHAPE FROM SHEET STEEL COMPLYING WITH THE REQUIREMENTS OF ASTM A1003 / A1003M. FRAMING MEMBERS USED IN STEEL CONSTRUCTION SHALL BE IDENTIFIED WITH A LEGIBLE STICKER, STAMP, STENCIL, OR EMBOSSMENT, SPACED A MAXIMUM OF 48" O.C. PER ASTM C645 OR ASTM C955. ALL MEMBERS AND CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE IN COMPLIANCE WITH THE "NORTH AMERICAN SPECIFICATIONS (NAS-16) FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" INCLUDING ESR-3064P.

MINIMUM DESIGN BASE METAL THICKNESS OF COLD-FORMED STEEL MEMBERS SHALL BE PER THE FOLLOWING TABLE AND SHALL COMPLY WITH THE MANUFACTURING TOLERANCES LISTED IN ASTM C955.

DESIGNATION (THICKNESS IN MILS)	MINIMUM BASE METAL (THICKNESS IN INCHES)	REFERENCE GAGE NUMBER	Fy (KSI)
18	0.0179	25	33
27	0.0269	22	33
30	0.0296	20 - DRYWALL	33
33	0.0329	20 - STRUCTURAL	33
43	0.0428	18	33
54	0.0538	16	50
68	0.0677	14	50
97	0.0966	12	50
118	0.1180	10	50

UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, EACH JOIST, RAFTER TRUSS AND STRUCTURAL WALL STUD SHALL BE ALIGNED VERTICALLY SO THAT THE CENTERLINE IS WITHIN 0.75" OF THE LOAD BEARING MEMBER BENEATH. ALL JOISTS AND TRUSSES SHALL BE INSTALLED WITH FULL BEARING OVER THE WIDTH OF THE BEARING MEMBER BENEATH. DO NOT NOTCH FLANGES OF MEMBERS WITHOUT EXPRESSED WRITTEN APPROVAL OF THE ENGINEER OF RECORD. PROVIDE BLOCKING AT SUPPORTS OF ALL JOISTS. DOUBLE UP FLOOR JOISTS AND BLOCKING UNDER LOAD BEARING PARTITIONS UNLESS NOTED OTHERWISE.

ENDS OF STRUCTURAL WALL STUDS SHALL HAVE SQUARE END CUTS AND SHALL BE SEATED TIGHT AND SQUARELY AGAINST THE TRACKS. (MAXIMUM GAP TOLERANCE = 1/8"). UNLESS NOTED OTHERWISE, INSTALL DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS AND ISOLATED BEARING POINTS OF FRAMING MEMBERS ABOVE.

BRIDGING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR AXIAL LOAD BEARING WALLS, UNLESS NOTED OTHERWISE ON THE DRAWINGS, PROVIDE EQUALLY SPACED BRIDGING AT 4'-0" O.C. MAXIMUM. BRIDGING SHALL ALSO BE PROVIDED AT ROOF LINE(S) UNLESS SOLID BLOCKING IS SPECIFIED ON THE DRAWINGS. FOR WALLS WITH NO AXIAL LOAD PROVIDE BRIDGING AT MID-HEIGHT OR AT 5'-0" O.C. MAXIMUM.

STEEL SHALL BE GALVANIZED WHERE NOTED AND AT ALL LOCATIONS EXPOSED TO WEATHER. COLDFORM TRACKS AND LEDGERS BOLTED TO MASONRY OR CONCRETE SHALL BE INSTALLED WITH MINIMUM 1/8" X 3" X 3" PLATE WASHERS.

FASTENERS:

FASTENERS SHALL BE MANUFACTURED FROM MATERIAL NOT SUSCEPTIBLE TO CORROSION OR HAVE RUST INHIBITIVE COATING SUITABLE FOR THE INSTALLATION IN WHICH THEY ARE BEING USED. ALL BODY DIAMETERS SHOULD MEET ANSI / ASME B18.6.4.

SELF-DRILLING (TAPPING) SCREW FASTENERS FOR STEEL-TO-STEEL AND SHEATHING-TO-STEEL CONNECTIONS SHALL BE IN COMPLIANCE WITH SAE J78 OR OTHER RECOGNIZED DESIGN STANDARD. USE OF LARGER THAN SPECIFIED SCREW SIZE SHALL BE PERMITTED, PROVIDING THAT THE MINIMUM SPACING AND EDGE DISTANCE REQUIREMENTS (THREE TIMES THE NOMINAL SCREW DIAMETER) ARE MET. SCREW FASTENERS SHALL EXTEND THROUGH THE STEEL CONNECTION A MINIMUM OF THREE EXPOSED THREADS AND PENETRATE COMPONENTS WITHOUT CAUSING PERMANENT SEPARATION BETWEEN COMPONENTS. FOR STEEL-TO-STEEL CONNECTIONS SCREW HEAD SHALL BE IN CONTACT WITH THINNER MATERIAL UNLESS SPECIFICALLY NOTED OTHERWISE.

WELDING:

WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH AWS D1.3 WHERE AT LEAST ONE OF THE CONNECTED PARTS IS EQUAL TO OR LESS THAN 0.188". A WRITTEN WELDING PROCEDURE SPECIFICATION MUST BE USED. WELDED AREAS SHALL BE TREATED WITH AN APPROVED TREATMENT TO RETAIN THE CORROSION RESISTANCE OF THE WELDED AREA. WELDERS EXPERIENCED IN THE WELDING OF LIGHT GAGE STRUCTURAL STEEL FRAMING SHALL PERFORM ALL WELDING.

GENERAL NOTES:

1. THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING AND THE CONSTRUCTION SITE. THE CONTRACTOR SHALL USE ADEQUATE SHORING, BRACING, AND GUYS IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE OR IMPLY INSPECTION OF THESE ITEMS).

2. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.

3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL ITEMS WITH APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

5. TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE.

6. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION, LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

7. OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS CHOSEN, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES, APPROVALS AND THE COORDINATION OF THE WORK WITH ALL RELATED TRADES AND SUPPLIERS.

STATEMENT OF SPECIAL STRUCTURAL INSPECTIONS:

IN ADDITION TO THE INSPECTIONS REQUIRED BY SECTION 110 OF THE INTERNATIONAL BUILDING CODE, SPECIAL STRUCTURAL INSPECTION IS REQUIRED FOR THE WORK LISTED BELOW AS STATED IN SECTION 1704 AND 1705 OF THE INTERNATIONAL BUILDING CODE. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK/TESTING ASSIGNED FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS.

1. WELDING: (REFERENCE AISC 360 SECTION N)
   * INSPECT WELDS ACCORDING TO AWS D1.1/D1.1M.
   * INSPECT FLOOR AND ROOF DECK WELDS ACCORDING TO AWS D1.3.
   * INSPECT WELDING OF REINFORCING STEEL ACCORDING TO AWS D1.4 AND ACI 318:3.5.2.
   * SPECIAL INSPECTION IS REQUIRED FOR ALL WELDS NOT PERFORMED IN AN APPROVED FABRICATOR'S SHOP IN ACCORDANCE WITH SECTION 1704.3.1 OF THE INTERNATIONAL BUILDING CODE.
   * VERIFICATION OF THE QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS.
   * AN AWS CERTIFIED WELDING INSPECTOR FROM AN INDEPENDENT TESTING LABORATORY SHALL VISUALLY INSPECT ALL FIELD WELDS.

2. EXPANSION AND EPOXY (ADHESIVE) ANCHORS: CONTINUOUS DURING THE PLACEMENT OF ALL ANCHORS.
   * ALL HOLES MUST BE DRILLED PRIOR TO SPECIAL INSPECTORS ARRIVAL ON SITE.
   * INSPECTOR TO VERIFY CORRECT DIAMETER AND DEPTH OF ALL HOLES AS WELL AS CORRECT ANCHOR TYPE, NUMBER, AND SPACING OF ALL ANCHORS AND THE EPOXY (ADHESIVE) TYPE.
   * INSPECTOR TO OBSERVE BRUSHING AND CLEANING OF ALL HOLES WITH COMPRESSED AIR PER MANUFACTURERS REQUIREMENTS.

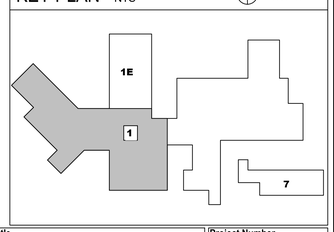
SPECIAL STRUCTURAL INSPECTION NOTES:

1. CONTACT SIMPLY STRUCTURAL INC. PRIOR TO THE START OF CONSTRUCTION FOR ADDITIONAL INFORMATION.
2. SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OR ARCHITECT OF RECORD, AND OTHER DESIGNATED PERSONS AT A MINIMUM OF ONCE PER WEEK.
3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE BUILDING CODE.
4. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR, THEN, IF UNCORRECTED, THE PROPER DESIGN AUTHORITY AND THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO APPROVE DEVIATIONS FROM THE DESIGN DRAWINGS OR SPECIFICATIONS.
5. CONTRACTOR SHALL PROVIDE THE SPECIAL INSPECTOR SAFE ACCESS TO ALL ITEMS REQUIRING SPECIAL INSPECTION. ACCESS SHALL BE PROVIDED VIA IN-PLACE LADDERS, SCAFFOLDING, AND/OR CONTRACTOR OPERATED LIFTS AS REQUIRED FOR SAFE OBSERVATION.
6. SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A STATE LICENSED STRUCTURAL ENGINEER, WHO IS FAMILIAR WITH THE STRUCTURAL DESIGN OF THIS PROJECT. THE SUPERVISING STRUCTURAL ENGINEER SHALL SEAL THE SPECIAL INSPECTION CERTIFICATE.

STANDARD ABBREVIATIONS

A.B.	ANCHOR BOLT	I.J.	ISOLATION JOINT
A.B.C.	AGGREGATE BASE COURSE	INFO.	INFORMATION
A/C	AIR CONDITIONER	INT.	INTERIOR
A.F.F.	ABOVE FINISHED FLOOR	JT.	JOINT
ALT.	ALTERNATE	K(KIP)	1000 POUNDS
APPROX.	APPROXIMATELY	L	ANGLE
@	AT (MEASUREMENT)	LBS (#)	POUNDS
ARCH.	ARCHITECTURAL	LG.	LONG
BLDG.	BUILDING	L.L.	LIVE LOAD
BM.	BEAM	LLH	LONG LEG HORIZONTAL
B.F.F.	BELOW FINISHED FLOOR	LLV	LONG LEG VERTICAL
B.O.B.	BOTTOM OF BEAM	LONG.	LONGITUDINAL
B.O.D.	BOTTOM OF DECK	MFR.	MANUFACTURER
B.O.F.	BOTTOM OF FOOTING	MAS.	MASONRY
BOTT.	BOTTOM	MAS. C.J.	MASONRY CONTROL JOINT
BRG.	BEARING	MAT'L.	MATERIAL
CANT.	CANTILEVER	MAX.	MAXIMUM
C.I.P.	CAST IN PLACE	MIN.	MINIMUM
C.J.	CONSTRUCTION JOINT	MISC.	MISCELLANEOUS
CL.	CENTERLINE	N/A	NOT APPLICABLE
CLR.	CLEAR	N.T.S.	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
COL.	COLUMN	OPNG.	OPENING
CONC.	CONCRETE	PREFAB	PREFABRICATED
CONT.	CONTINUOUS	PL	PLATE
CONTR.	CONTRACTOR	plf	POUNDS PER LINEAR FOOT
CTR.	CENTER	psf	POUNDS PER SQUARE FOOT
DTL.	DETAIL	psi	POUNDS PER SQUARE INCH
DIA.	DIAMETER	P.T.	POST TENSION OR PRESSURE TREATED
DIM.	DIMENSION	REINF.	REINFORCING
D.L.	DEAD LOAD	REQD.	REQUIRED
ø OR DIA.	DIAMETER	REV.	REVISED/ REVISION
DN.	DOWN	SCHED.	SCHEDULE
DWG.	DRAWING	SIM.	SIMILAR
EA.	EACH	S.I.P.	STRUCTURAL INSULATED PANEL
E.E.	EACH END	SLH	SHORT LEG HORIZONTAL
E.F.	EACH FACE	SLV	SHORT LEG VERTICAL
E.J.	EXPANSION JOINT	SQ.	SQUARE
EL.	ELEVATION	STD.	STANDARD
EQ.	EQUAL	SW	SHEARWALL
E.W.	EACH WAY	STL.	STEEL
EXIST.	EXISTING	STRUCT.	STRUCTURAL
EXP.	EXPANSION	T.C.	TOP CHORD
FIN.	FINISH	T.O.B.	TOP OF BEAM
FLR.	FLOOR	T.O.D.	TOP OF DECK
FDN.	FOUNDATION	T.O.F.	TOP OF FOOTING
F.F.	FINISHED FLOOR	T.O.L.	TOP OF LEDGER
FT.	FOOT	T.O.M.	TOP OF MASONRY
FTG.	FOOTING	T.O.P.	TOP OF PLATE
GA.	GAGE	T.O.S.	TOP OF STEEL
GALV.	GALVANIZED	T.O.W.	TOP OF WALL
G.C.	GENERAL CONTRACTOR	TRANS.	TRANSVERSE
G.L.B.	GLUE-LAMINATED BEAM	TYP.	TYPICAL
G.S.N.	GENERAL STRUCTURAL NOTES	U.N.O.	UNLESS NOTED OTHERWISE
H.A.S.	HEADED ANCHOR STUD	VERT.	VERTICAL
HC	HOLLOW CORE	V.S.	VALLEY SET
HG	HIP GIRDER	WD.	WOOD
HORIZ.	HORIZONTAL	W/	WITH
H.P.	HIGH POINTS	W/C	WATER/CEMENT RATIO
I.B.C.	INTERNATIONAL BUILDING CODE	W/O	WITHOUT
I.C.C.	INTERNATIONAL CODE COUNSEL	WP	WORK POINT
I.R.C.	INTERNATIONAL RESIDENTIAL CODE	W.W.F.	WELDED WIRE FABRIC

KEY PLAN NTS NORTH



Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
GSN	100% Submission	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205	Drawing Number: S1.1
		Issue Date: November 17, 2025 / Checked: MJW / Drawn: LV	

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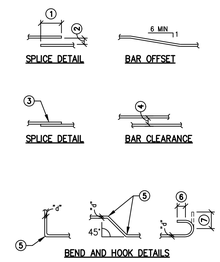
VA FORM 08-6231



KEY NOTES:

1. LAP – SEE G.S.N.
2. MAXIMUM 1/5 LAP BUT NOT MORE THAN 6"
3. WIRE TIES.
4. 1d (1" MINIMUM).
5. RADIUS:3d FOR #1 – #8 BARS
   4d FOR #9 – #11 BARS
   5d FOR #14 & #18 BARS
   5d FOR ALL GRADE 40 BARS
6. 4d (4" MIN.) 180 DEGREE HOOK
7. 12d (90 DEGREE HOOK).
8. 6d (4" MINIMUM).
9. 135 DEGREE BEND.
10. BEND AROUND 1 1/2" PIN FOR #3 BARS. BEND AROUND 2" PIN FOR #4 BARS. BEND AROUND 2 1/2" PIN FOR #5 BARS.

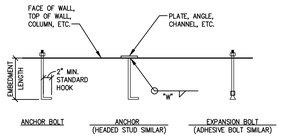
01 TYPICAL CONCRETE REINFORCING BAR DETAILS

102–02 NOT TO SCALE

BOLT DIAMETER	VERT BOLT EMBEDMENT LENGTH	HORIZ BOLT EMBEDMENT LENGTH	HEADED STUD FILLET WELD SIZE "W"
1/2"	7"	4"	1/4"
5/8"	7"	4"	5/16"
3/4"	7"	5"	5/16"
7/8"	8"	6"	5/16"
1"	9"	7"	3/8"

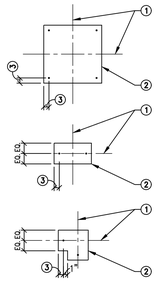
KEY NOTES:

1. PROVIDE ANCHORS, ANCHOR BOLTS AND EXPANSION BOLTS PER THIS SCHEDULE UNLESS NOTED ON PLANS OR DETAILS.
2. EXPANSION OR ADHESIVE BOLTS USED IN MASONRY SHALL HAVE L.C.C. APPROVAL IN MASONRY.
3. AT "ANCHORS" USE 3/16" FILLET WELD("W").
4. THICKNESS OF DRYPACK DOES NOT APPLY TOWARDS EMBEDMENT.



02 TYPICAL ANCHOR, ANCHOR BOLT, AND EXPANSION BOLT SCHEDULE

102–03 NOT TO SCALE



KEY NOTES:

1. CENTERLINE OF COLUMN AND STEEL BASE PLATE.
2. STEEL BASE PLATE.
3. 1 1/4" MINIMUM OR PER AISC TABLE J3.5.

03 PLAN – TYPICAL BOLT PATTERN FOR STEEL COLUMN BASE PLATE

102–04 NOT TO SCALE

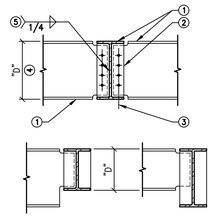
CONC PSI	f'c = ≥ 2,500/3,000		f'c = ≥ 4,000		f'c = ≥ 5,000		f'c = ≥ 3,000	
BAR LOCATION / SIZE (METRIC)	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP	STD LAP	ENCLOSED WITH SPIRAL TIES
#3 (10)	24"	31"	19"	24"	17"	22"	12"	12"
#4 (13)	32"	41"	25"	32"	22"	29"	15"	12"
#5 (16)	39"	51"	31"	40"	28"	36"	19"	14"
#6 (19)	47"	61"	37"	48"	33"	43"	23"	17"
#7 (22)	69"	89"	54"	70"	49"	63"	26"	20"
#8 (25)	78"	102"	62"	80"	55"	72"	30"	23"
#9 (29)	88"	115"	70"	91"	63"	81"	34"	25"
#10 (32)	99"	129"	79"	102"	70"	91"	38"	28"
#11 (36)	110"	143"	87"	113"	78"	101"	42"	31"

KEY NOTES:

1. TOP BARS ARE ANY HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
2. LAP SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES PER LATEST EDITION OF ACI 318 UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS OR SCHEDULES.
3. CONTACT STRUCTURAL ENGINEER IF CLEAR SPACING OF REINFORCEMENT IS LESS THAN OR EQUAL TO 2 BAR DIAMETERS (d), OR IF CLEAR COVER IS LESS THAN THE BAR DIAMETER (db).
4. THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE.
5. FOR ADDITIONAL INFORMATION, SEE G.S.N., PLANS, SCHEULES AND DETAILS.

04 LAP SCHEDULE FOR REINFORCING STEEL

102–01 NOT TO SCALE



KEY NOTES:

1. STEEL BEAM.
2. 3/8" STEEL SHEAR PLATE – USE 5/8" STEEL SHEAR PLATE WHERE "D" = 27" OR GREATER.
3. FOR SIZE, TYPE AND NUMBER OF BOLTS, SEE TYPICAL BOLT SCHEDULE.
4. "D" = LESSER OF BEAM DEPTHS AS OCCURS.
5. WELD 3 SIDES TYPICAL – USE SAME CONNECTION AT STIFFENER PLATES WHEN REQUIRED.

AT ONE SIDED CONNECTIONS, INSTALL 3/8" STIFFENER PLATE OPPOSITE SHEAR PLATE.

05 TYPICAL STEEL BEAM TO STEEL BEAM

710–01 NOT TO SCALE

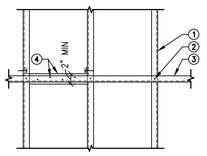
NOMINAL BEAM DEPTH "D"	NUMBER OF 3/4" DIA. ASTM, A307 BOLTS
UP TO 7"	2
8" – 11"	2
12" – 14"	3
15" – 17"	4
18" – 20"	5
21" – 23"	6
24" – 29"	7

KEY NOTES:

1. THE TYPICAL STEEL BEAM TO STEEL COLUMN OR STEEL BEAM TO STEEL BEAM CONNECTION CONSISTS OF 3/8" SINGLE SHEAR PLATES WITH 3/4" DIA. ASTM A307 BOLTS. USE 5/8" SHEAR PLATES WHERE "D" = 27" OR GREATER.
2. ALL BOLTS SHALL BE INSTALLED USING SHORT SLOTTED HOLES IN EITHER BEAM WEB OR THE SHEAR PLATE PER LATEST AISC SPECIFICATIONS.
3. CONNECTIONS REQUIRING DOUBLE ANGLES OR BENT PLATES WILL BE MARKED ON THE PLANS WITH AN ASTERISK (*).
   ALL DOUBLE ANGLES SHALL BE 4"x4"x1/4" AND ALL BENT PLATES SHALL BE 1/4" THICK – DETAIL PER SECTION 4 OF THE AISC STEEL CONSTRUCTION MANUAL.

06 TYPICAL BOLTED STEEL CONNECTIONS

710–02 NOT TO SCALE



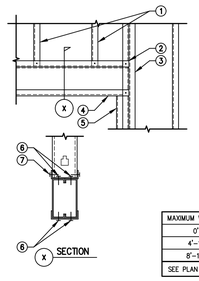
KEY NOTES:

1. CFS STUD WALL.
2. (1) #8 SCREW PER STUD.
3. SIMPSON CSCZ AT 48" O.C. VERTICAL.
4. BLOCKING 18 GAGE MIN – WITH (4) #8 SCREWS TO STRAP AND THRU SHEATHING ON OPPOSITE SIDE. (LOCATE AT 50" O.C. MAX).

USE THIS DETAIL IN LIEU OF FULL HEIGHT SHEATHING IN NON–BEARING CFS WALLS.

07 CFS WALL BRACING

800–01.5 NOT TO SCALE



KEY NOTES:

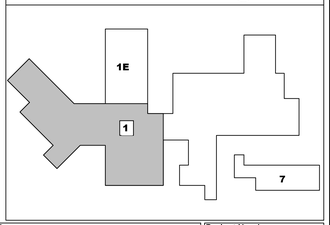
1. CFS STUDS.
2. COPE WEB OF TRACKS AND ATTACH FLANGES TO STUD WITH 1 #10 SCREW.
3. DOUBLE KING STUDS FASTENED TOGETHER WITH #10 SCREWS AT 12" O.C. – STAGGERED.
4. CONTINUOUS TRACK.
5. TRIMMER STUD BENEATH HEADER.
6. 2 #10 SCREWS AT 12" O.C.
7. (1) #10 SCREW EACH SIDE.

MAXIMUM WIDTH OF OPENING	STUD SIZE
0' TO 4'–0"	2 – 4" X 18 GAGE
4'–1" TO 8'–0"	2 – 6" X 18 GAGE
8'–1" TO 10'–0"	2 – 8" X 18 GAGE
SEE PLAN FOR OPENINGS LARGER THAN ABOVE	

08 HEADER IN STRUCTURAL CFS WALL

811–01.1 NOT TO SCALE

KEY PLAN NTS — NORTH



Revisions:	Date:

CONSULTANT

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Exp. 9/30/25

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	TYPICAL DETAILS 01-30
Phase	100% Submission
Project Title	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number	668-21-100
Building Number	1
Approved:	
Location:	Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205
Issue Date	November 17, 2025
Checked	MJW
Drawn	LV
Drawing Number	S1.2

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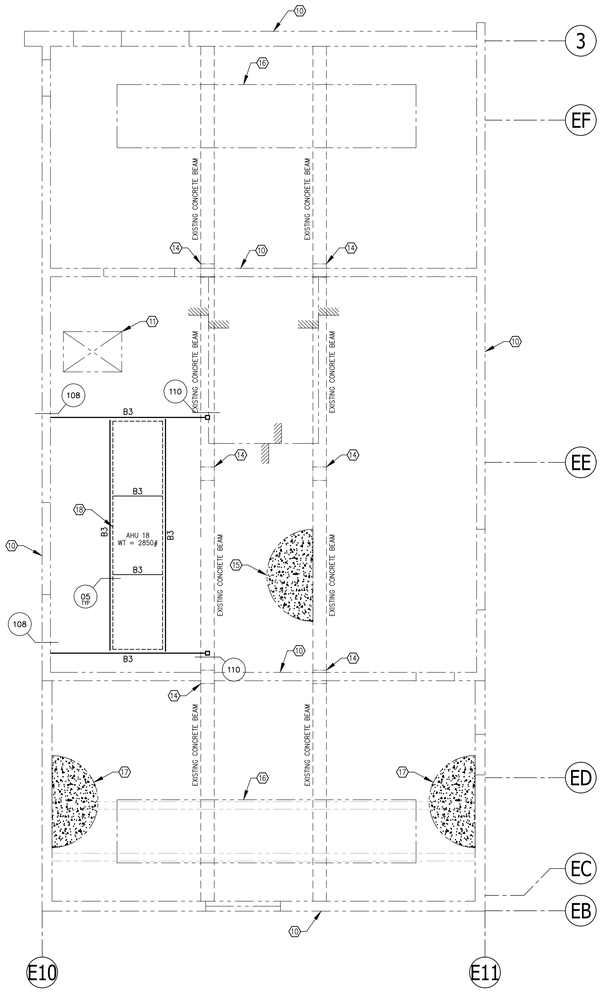
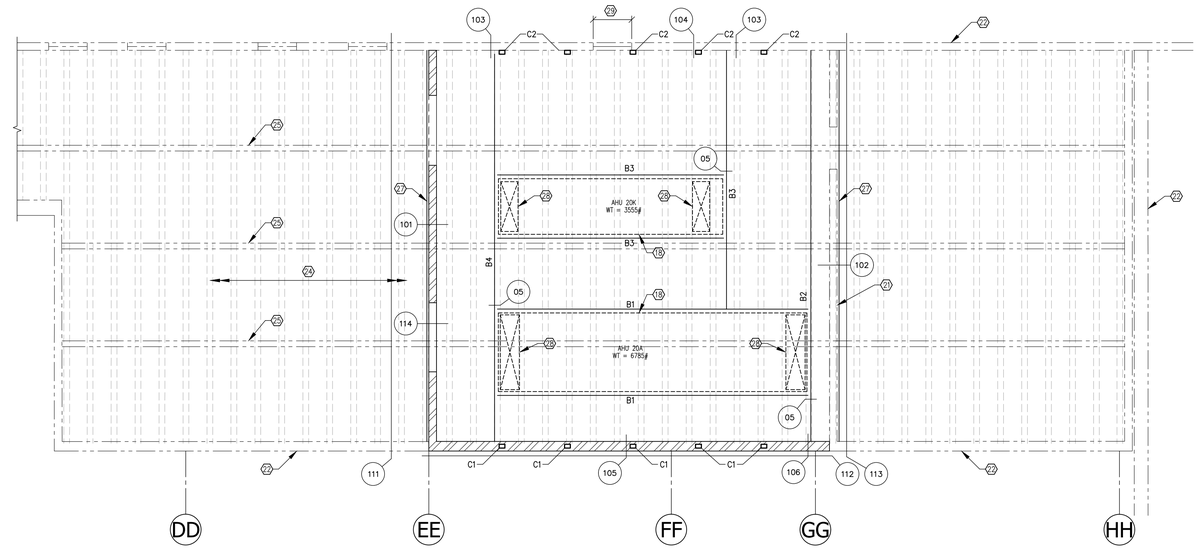


LEVEL 3 PARTIAL FLOOR FRAMING PLAN AHU-18

SCALE: 3/16" = 1'-0"



LEVEL 2 PARTIAL LOW ROOF FRAMING PLAN AHU-20

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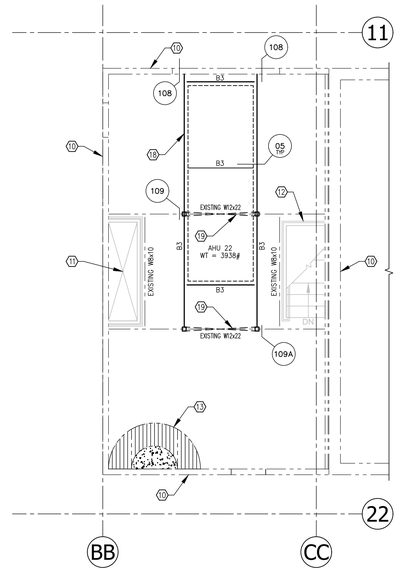
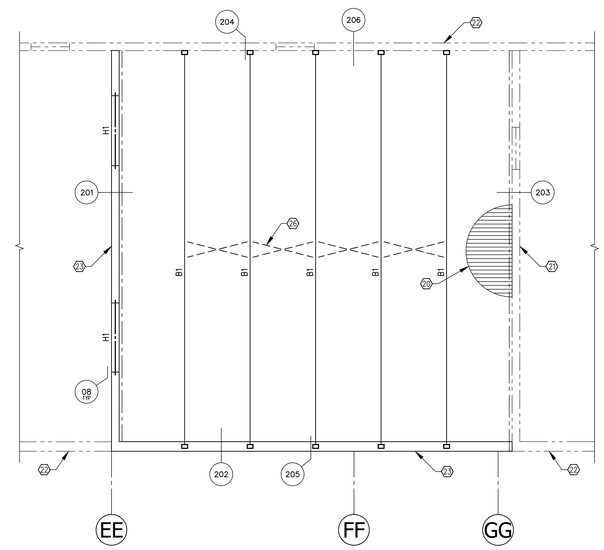


LEVEL 4 PARTIAL FLOOR FRAMING PLAN AHU-22

SCALE: 3/16" = 1'-0"



LEVEL 3 NEW PENTHOUSE ROOF FRAMING PLAN AHU-20

SCALE: 3/16" = 1'-0"

FLOOR FRAMING NOTES – TYPICAL U.N.O.:

1. **VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. BUILDING DIMENSIONS WERE PROVIDED BY ARCHITECT AND SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.**
2. KEYNOTES AND SCHEDULED MARK DESIGNATIONS ARE TYPICAL TO THE PROJECT AND MAY NOT APPEAR ON THIS PLAN.
3. B1, B2, ETC. – AS SHOWN ON PLAN INDICATES BEAM. SEE SCHEDULE THIS SHEET AND G.S.N.
4. H1, H2, ETC. – AS SHOWN ON PLAN INDICATES HEADER. SEE SCHEDULE THIS SHEET AND G.S.N.
5. C1, C2, ETC. – AS SHOWN ON PLAN INDICATES STEEL COLUMN. SEE SCHEDULE THIS SHEET AND G.S.N.
6. FOR CLARITY, DETAILS MAY ONLY SHOW ONE SIDE OF FRAMING CONDITION.
7. FOR CLARITY, ALL FLOOR OPENINGS MAY NOT BE SHOWN ON FRAMING PLAN. FOR EXACT SIZE, NUMBER AND LOCATION OF OPENINGS SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL DETAILS.
8. VERIFY EXACT SIZE, WEIGHT, AND LOCATION OF MECHANICAL UNITS, EQUIPMENT AND SUPPORTS INDICATED ON PLAN WITH ARCHITECTURAL, ELECTRICAL, MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS.

FLOOR FRAMING KEYNOTES:

(10) EXISTING 8" THICK CONCRETE WALL TO REMAIN.
(11) EXISTING MECHANICAL FLOOR OPENING TO REMAIN.
(12) EXISTING STEEL STAIRS TO REMAIN.
(13) EXISTING CONCRETE TOPPING OVER STEEL DECK TO REMAIN.
(14) EXISTING CONCRETE COLUMN BELOW FLOOR TO REMAIN.
(15) EXISTING 10" THICK CONCRETE SLAB TO REMAIN.
(16) EXISTING AHU TO REMAIN.
(17) EXISTING 4" THICK CONCRETE SLAB TO REMAIN.
(18) NEW AHU PER PLAN. FOR SEISMIC RESTRAINT OF THESE UNITS, BOLT UNIT CURB TO SUPPORTING STEEL STRUCTURE WITH (2) 1/2" DIA. (MIN) BOLTS PER SIDE. (8 TOTAL MIN. PER UNIT).
(19) NEW L3x3x1/4 X-BRACING FROM NEW COLUMN TO COLUMN.

COLUMN SCHEDULE (C_)

MARK	SIZE	BASE CONNECTION	NOTES
C1	HSS6x4x1/4	1/2"x6"x14" STEEL BASEPLATE WITH (2) 5/8" DIA. SCREW ANCHORS	---
C2	HSS6x4x1/4	1/2"x4"x14" STEEL BASEPLATE WITH (2) 5/8" DIA. SCREW ANCHORS	---

BEAM SCHEDULE (B_)

MARK	SIZE	CAMBER	NOTES
B1	W12x26	---	---
B2	W12x35	---	---
B3	W12x22	---	---
B4	W12x50	---	---

HEADER SCHEDULE (H_)

MARK	SIZE	TRIMMERS	KING STUDS
H1	(2)600S162-54 MIL BOXED	(1)600S162-54 MIL	(2)600S162-54 MIL BACK-TO-BACK

ROOF FRAMING NOTES – TYPICAL U.N.O.:

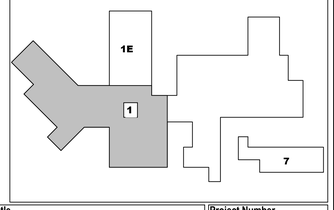
1. **VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. BUILDING DIMENSIONS WERE PROVIDED BY ARCHITECT AND SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.**
2. – AS SHOWN ON PLAN INDICATES 600S162-54 MIL CFS STEEL STUD WALL. STUDS SHALL BE SPACED AT 16" O.C. SEE G.S.N., TYPICAL DETAILS, PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
3. B1, B2, ETC. – AS SHOWN ON PLAN INDICATES BEAM. SEE SCHEDULE THIS SHEET AND G.S.N
4. H1, H2, ETC. – AS SHOWN ON PLAN INDICATES HEADER. SEE SCHEDULE THIS SHEET AND G.S.N.
5. C1, C2, ETC. – AS SHOWN ON PLAN INDICATES STEEL COLUMN. SEE SCHEDULE THIS SHEET, G.S.N.
6. FOR CLARITY, DETAILS MAY ONLY SHOW ONE SIDE OF FRAMING CONDITION.
7. FOR CLARITY, ALL ROOF OPENINGS MAY NOT BE SHOWN ON FRAMING PLAN. FOR EXACT SIZE, NUMBER AND LOCATION OF OPENINGS SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL DETAILS.
8. VERIFY EXACT SIZE, WEIGHT, AND LOCATION OF MECHANICAL UNITS, EQUIPMENT AND SUPPORTS INDICATED ON PLAN WITH ARCHITECTURAL, ELECTRICAL, MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS.

ROOF FRAMING KEYNOTES:

(20) NEW 1 1/2"x20 GAGE STEEL DECK PER G.S.N.
(21) EXISTING STEEL STUD WALL TO REMAIN.
(22) EXISTING 8" THICK CONCRETE WALL TO REMAIN.
(23) NEW STEEL STUD WALL PER PLAN.
(24) EXISTING CONCRETE SLAB OVER CONCRETE "T" BEAMS AT 2'-1" O.C. TO REMAIN.
(25) EXISTING CONTINUOUS CONCRETE BRIDGING.
(26) NEW L2x2x1/4 WELDED DIAGONAL BRIDGING AT MIDSPAN.
(27) STRENGTHEN EXISTING CONCRETE "T" ROOF BEAM DIRECTLY UNDER NEW CONCRETE CURB AND WALL PER DETAIL 121.
(28) SAW CUT NEW DUCT OPENING BETWEEN EXISTING CONCRETE STEMS. DO NOT CUT OR DAMAGE EXISTING STEM OR EXISTING REINFORCING IN ANY WAY.
(29) EXISTING DOOR OPENING TO REMAIN.

KEY PLAN NTS

NORTH



Revisions:	Date:

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Registered Professional Engineer (Structural) CERTIFICATE NO. 36714 MICHAEL J. WILDA 10/21/25 ARIZONA U.S.A. Exp. 9/30/25

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: PLANS	Phase: 100% Submission	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205	Drawing Number: S2.1
		Issue Date: November 17, 2025 / Checked: MJW / Drawn: LV	

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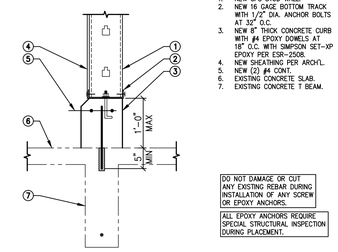


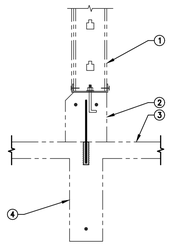
KEY NOTES:

1. NEW CFS STUD WALL.
2. NEW 16 GAGE BOTTOM TRACK WITH 1/2" DIA. ANCHOR BOLTS AT 32" O.C.
3. NEW 8" THICK CONCRETE CURB WITH #4 EPOXY DOWELS AT 18" O.C. WITH SIMPSON SET-XP EPOXY PER ESR-2508.
4. NEW SHEATHING PER AROYL.
5. NEW (2) #4 CONT.
6. EXISTING CONCRETE SLAB.
7. EXISTING CONCRETE T BEAM.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.

ALL EPOXY ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.

101 NEW CONCRETE CURB AT EXISTING ROOF 23-027 NOT TO SCALE



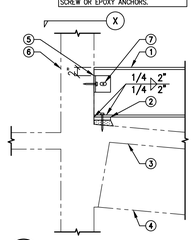
KEY NOTES:

1. EXISTING CFS STUD WALL.
2. EXISTING 8" THICK CONCRETE CURB.
3. EXISTING SLAB.
4. EXISTING CONCRETE T BEAM.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.

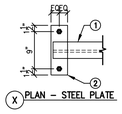
102 EXISTING CONCRETE CURB AT EXISTING ROOF 23-027 NOT TO SCALE

ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OR ANY SCREW OR EPOXY ANCHORS.



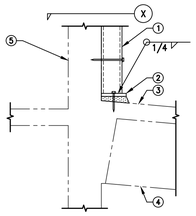
KEY NOTES:

1. NEW STEEL BEAM.
2. NEW 1/2"x4"x12" STEEL PLATE WITH (2) SIMPSON 5/8" DIA. TITEN HD ANCHORS WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE SLAB PER ESR-2713 ON 1 1/2" DRYPACK.
3. EXISTING CONCRETE ROOF SLAB.
4. EXISTING CONCRETE T BEAM.
5. NEW L4x4x1/4x4" LONG STEEL ANGLE WITH (1) SIMPSON 5/8" DIA. TITEN HD ANCHOR WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713.
6. EXISTING CONCRETE WALL.
7. (1) 5/8" DIA. THRU BOLT IN 1 1/2" LONG HORIZ. SLOTTED HOLE IN STEEL ANGLE.



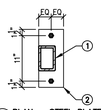
X PLAN – STEEL PLATE

103 NEW STEEL BEAM AT EXISTING CONCRETE WALL 23-027 NOT TO SCALE



KEY NOTES:

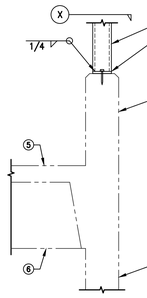
1. NEW STEEL COLUMN.
2. NEW STEEL PLATE WITH (2) WITH (2) SIMPSON 5/8" DIA. TITEN HD ANCHORS WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE SLAB PER ESR-2713 ON 1 1/2" DRYPACK.
3. EXISTING CONCRETE ROOF SLAB.
4. EXISTING CONCRETE T BEAM.
5. EXISTING CONCRETE WALL.



X PLAN – STEEL PLATE

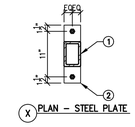
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.

104 NEW STEEL COLUMN AT EXISTING ROOF 23-027 NOT TO SCALE



KEY NOTES:

1. NEW STEEL BEAM AND SHEAR TAB BEYOND.
2. NEW STEEL PLATE WITH (2) SIMPSON 5/8" DIA. TITEN HD ANCHORS WITH 4" MIN. EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713 ON 1 1/2" DRYPACK.
3. EXISTING CONCRETE WALL PARAPET.
4. EXISTING CONCRETE WALL.
5. EXISTING CONCRETE ROOF SLAB.
6. EXISTING CONCRETE T BEAM.

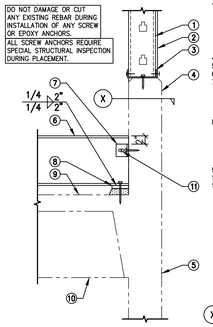


X PLAN – STEEL PLATE

ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.

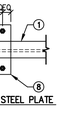
105 NEW STEEL BEAM AT EXISTING CONCRETE WALL 23-027 NOT TO SCALE

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.



KEY NOTES:

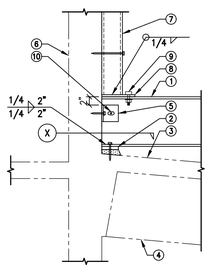
1. NEW CFS STUD WALL.
2. NEW SHEATHING PER AROYL.
3. NEW 16 GAGE BOTTOM TRACK WITH SIMPSON 1/2" DIA. TITEN HD ANCHORS AT 32" O.C. WITH 4" MIN. EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713. PROVIDE DRYPACK AS REQUIRED FOR LEVEL BASE.
4. EXISTING CONCRETE WALL PARAPET.
5. EXISTING CONCRETE WALL.
6. NEW STEEL BEAM.
7. NEW L3x3x1/4x4" LONG STEEL ANGLE WITH (1) SIMPSON 5/8" DIA. TITEN HD ANCHOR WITH 4" MIN. EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713.
8. NEW 1/2"x4"x12" STEEL PLATE WITH (2) SIMPSON 5/8" DIA. TITEN HD ANCHORS WITH 4" MIN. EMBEDMENT INTO EXISTING CONCRETE SLAB PER ESR-2713 ON 1 1/2" DRYPACK.
9. EXISTING CONCRETE ROOF SLAB.
10. EXISTING CONCRETE T BEAM.
11. (1) 5/8" DIA. THRU BOLT IN 1 1/2" LONG HORIZ. SLOTTED HOLE IN STEEL ANGLE.



X PLAN – STEEL PLATE

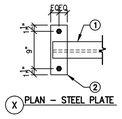
106 NEW STEEL BEAM AT EXISTING CONCRETE WALL 23-027 NOT TO SCALE

ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OR ANY SCREW OR EPOXY ANCHORS.



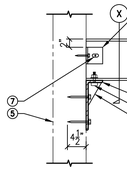
KEY NOTES:

1. NEW STEEL BEAM.
2. NEW 1/2"x4"x12" STEEL PLATE WITH (2) SIMPSON 5/8" DIA. TITEN HD ANCHORS WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE SLAB PER ESR-2713 ON 1 1/2" DRYPACK.
3. EXISTING CONCRETE ROOF SLAB.
4. EXISTING CONCRETE T BEAM.
5. NEW L4x4x1/4x4" LONG STEEL ANGLE WITH (1) SIMPSON 5/8" DIA. TITEN HD ANCHOR WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE SLAB PER ESR-2713.
6. EXISTING CONCRETE WALL.
7. NEW STEEL COLUMN WITH (4) SIMPSON 5/8" DIA. TITEN HD ANCHORS EVENLY SPACED WITH 4" MIN. EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713.
8. NEW 1/2" BOTTOM PLATE.
9. (2) 3/4" DIA. BOLTS ON BEAM GAGE.
10. (1) 5/8" DIA. THRU BOLT IN 1 1/2" LONG HORIZ. SLOTTED HOLE IN STEEL ANGLE.



X PLAN – STEEL PLATE

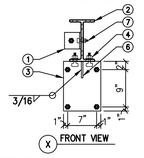
107 NEW STEEL BEAM AT EXISTING CONCRETE WALL 23-027 NOT TO SCALE



KEY NOTES:

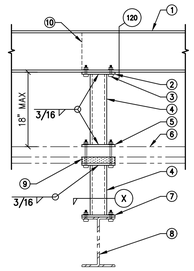
1. NEW L4x4x3/16x3" LONG STEEL ANGLE WITH (1) SIMPSON 5/8" DIA. TITEN HD ANCHOR PER ESR-2713.
2. NEW STEEL BEAM PER PLAN.
3. NEW 1/2"x4"x12"x6" BENT STEEL PLATE WITH (4) SIMPSON 3/4" DIA. TITEN HD ANCHORS PER ESR-2713.
4. (2) 3/4" DIA. BOLTS ON BEAM GAGE.
5. EXISTING CONCRETE TILT WALL.
6. 1/4"x4"x4" KNIFE PLATE.
7. (1) 5/8" DIA. THRU BOLT IN 1 1/2" LONG HORIZ. SLOTTED HOLE IN STEEL ANGLE.

ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.



X FRONT VIEW

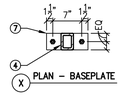
108 NEW STEEL BEAM AT EXISTING CONCRETE WALL 23-027 NOT TO SCALE



KEY NOTES:

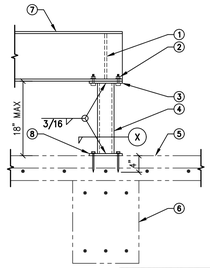
1. NEW STEEL BEAM PER PLAN.
2. 1/2" CAP PLATE.
3. (2) 3/4" DIA. BOLTS ON BEAM GAGE.
4. NEW HSS4x4x1/4 SUPPORT COLUMN.
5. 1/2"x10"x10" STEEL BASEPLATE WITH (4) 3/4" DIA. THRU BOLTS.
6. EXISTING 4" THICK CONCRETE TOPPING OVER STEEL DECK.
7. 1/2"x4"x10" STEEL BASEPLATE WITH (2) 3/4" DIA. THRU BOLTS.
8. EXISTING STEEL BEAM.
9. NEW DRYPACK IN FLUTES TO PROVIDE FULL BEARING.
10. DENOTES END OF BEAM AT 109A.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.



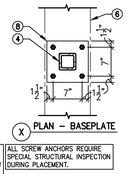
X PLAN – BASEPLATE

109 NEW STEEL COLUMN AT EXISTING FLOOR 23-027 NOT TO SCALE



KEY NOTES:

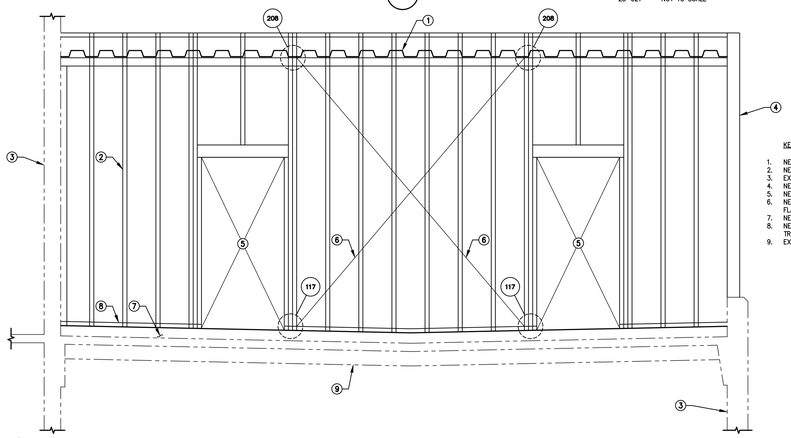
1. NEW STEEL BEAM AND SHEAR TAB BEYOND.
2. (2) 3/4" DIA. BOLTS ON BEAM GAGE.
3. 1/2" CAP PLATE.
4. NEW HSS4x4x1/4 SUPPORT COLUMN.
5. EXISTING CONCRETE FLOOR SLAB.
6. EXISTING CONCRETE BEAM.
7. NEW STEEL BEAM PER PLAN.
8. NEW 1/2"x10"x10" STEEL BASEPLATE WITH (4) SIMPSON 3/4" DIA. THRU BOLTS.



X PLAN – BASEPLATE

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.

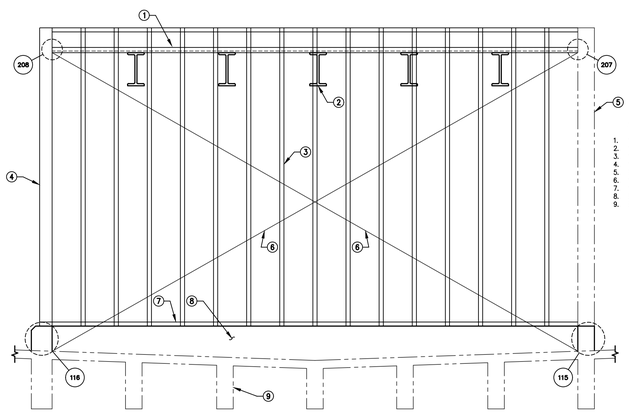
110 NEW STEEL COLUMN AT EXISTING CONCRETE BEAM 23-027 NOT TO SCALE



KEY NOTES:

1. NEW STEEL DECK.
2. NEW CFS STUD WALL.
3. EXISTING CONCRETE WALL.
4. NEW CFS END STUDS.
5. NEW OPENING.
6. NEW 16 GAGE x3" CONT. FLAT STRAP.
7. NEW CONCRETE CURB.
8. NEW CONT. CFS BOTTOM TRACK.
9. EXISTING CONCRETE "T" BEAM.

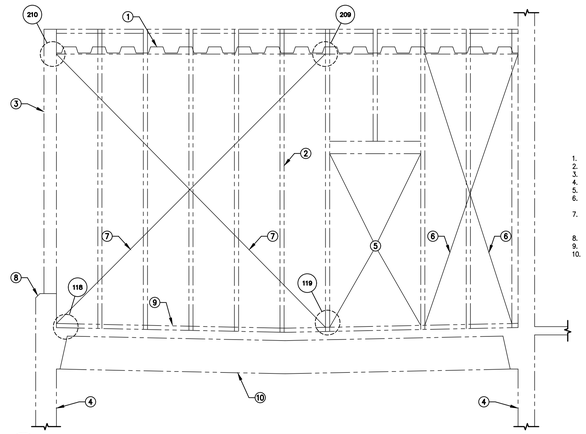
111 ELEVATION VIEW 23-027 NOT TO SCALE



KEY NOTES:

1. NEW STEEL DECK.
2. NEW STEEL BEAM PER PLAN.
3. NEW CFS STUD WALL.
4. NEW CFS END STUDS.
5. EXISTING CFS END STUDS.
6. NEW 16 GAGE x3" FLAT STRAP.
7. NEW CONT. CFS BOTTOM TRACK.
8. EXISTING CONCRETE CURB.
9. EXISTING CONCRETE "T" BEAM.

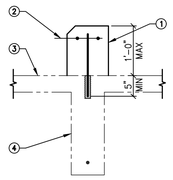
112 ELEVATION VIEW 23-027 NOT TO SCALE



KEY NOTES:

1. EXISTING STEEL DECK.
2. EXISTING CFS STUD WALL.
3. EXISTING CFS END STUDS.
4. EXISTING CONCRETE WALL.
5. EXISTING OPENING.
6. EXISTING 16 GAGE x2" STRAP TO REMAIN.
7. NEW 16 GAGE x3" FLAT STRAP. REPLACE EXISTING 16 GAGE x2" FLAT STRAP WITH NEW STRAP.
8. EXISTING CONCRETE CURB.
9. EXISTING CFS BOTTOM TRACK.
10. EXISTING CONCRETE "T" BEAM.

113 ELEVATION VIEW 23-027 NOT TO SCALE



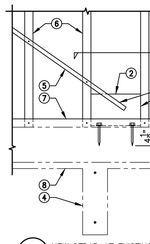
KEY NOTES:

1. NEW 8" THICK CONCRETE CURB WITH #4 EPOXY DOWELS AT 18" O.C. WITH SIMPSON SET-XP EPOXY PER ESR-2508.
2. NEW (2) #4 CONT.
3. EXISTING CONCRETE SLAB.
4. EXISTING CONCRETE "T" BEAM.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.
ALL EPOXY ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.

114 NEW CONCRETE CURB AT EXISTING ROOF 23-027 NOT TO SCALE

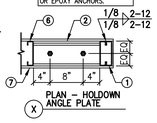
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.



KEY NOTES:

1. NEW DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.
2. NEW L6x6x5/16x1'-4" STEEL ANGLE WITH (2) SIMPSON 3/4" DIA. TITEN HD ANCHORS PER ESR-2713.
3. EXISTING CONCRETE ROOF CURB.
4. EXISTING CONCRETE "T" BEAM.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. NEW CFS STUDS PER PLAN.
7. NEW CFS BOTTOM TRACK.
8. EXISTING CONCRETE SLAB.
9. EXISTING CFS STUD WALL.

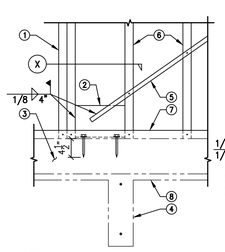
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.



X PLAN – HOLDOWN ANGLE PLATE

115 NEW STRAP AT EXISTING HOLDOWN 23-027 NOT TO SCALE

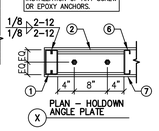
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.



KEY NOTES:

1. NEW DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.
2. NEW L6x6x5/16x1'-4" STEEL ANGLE WITH (2) SIMPSON 3/4" DIA. TITEN HD ANCHORS PER ESR-2713.
3. EXISTING CONCRETE ROOF CURB.
4. EXISTING CONCRETE "T" BEAM.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. NEW CFS STUDS PER PLAN.
7. NEW CFS BOTTOM TRACK.
8. EXISTING CONCRETE SLAB.

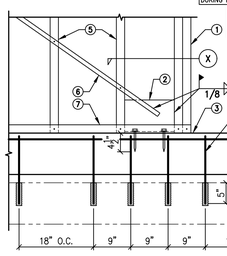
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.



X PLAN – HOLDOWN ANGLE PLATE

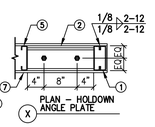
116 NEW STRAP AT EXISTING HOLDOWN 23-027 NOT TO SCALE

ALL EPOXY/SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.



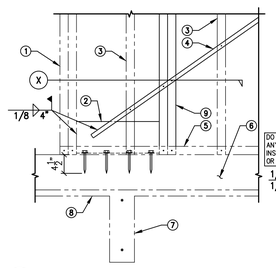
KEY NOTES:

1. NEW DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.
2. NEW L6x6x5/16x1'-4" STEEL ANGLE WITH (2) SIMPSON 3/4" DIA. TITEN HD ANCHORS PER ESR-2713.
3. NEW CONCRETE CURB.
4. EXISTING CONCRETE "T" BEAM.
5. NEW CFS STUDS PER PLAN.
6. NEW 16 GAGE x3" CONT. FLAT STRAP.
7. NEW CFS BOTTOM TRACK.
8. NEW (4) #4 EPOXY DOWELS AT 9" O.C. BELOW STEEL ANGLE WITH SIMPSON SET-XP EPOXY PER ESR-2508.



X PLAN – HOLDOWN ANGLE PLATE

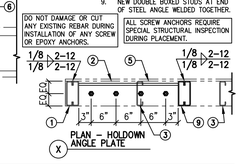
117 NEW STRAP AT NEW CONCRETE CURB 23-027 NOT TO SCALE



KEY NOTES:

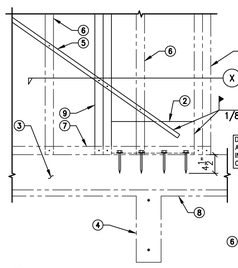
1. EXISTING DOUBLE STUDS AT END OF WALL.
2. NEW L6x6x5/16x24" STEEL ANGLE WITH (4) SIMPSON 3/4" DIA. (STAINLESS STEEL) TITEN HD ANCHORS PER ESR-2713. REMOVE EXISTING STEEL ANGLE PLATE AND ANCHOR BOLTS AND INSTALL NEW ANGLE AND ANCHORS.
3. EXISTING CFS STUDS.
4. NEW 16 GAGE x3" CONT. FLAT STRAP.
5. EXISTING CFS BOTTOM TRACK.
6. EXISTING CONCRETE ROOF CURB.
7. EXISTING CONCRETE "T" BEAM.
8. EXISTING CONCRETE SLAB.
9. NEW DOUBLE BOXED STUDS AT END OF STEEL ANGLE WELDED TOGETHER.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.



X PLAN – HOLDOWN ANGLE PLATE

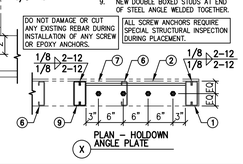
118 NEW STRAP AT EXISTING HOLDOWN 23-027 NOT TO SCALE



KEY NOTES:

1. EXISTING DOUBLE STUDS AT END OF WALL.
2. NEW L6x6x5/16x24" STEEL ANGLE WITH (4) SIMPSON 3/4" DIA. (STAINLESS STEEL) TITEN HD ANCHORS PER ESR-2713. REMOVE EXISTING STEEL ANGLE PLATE AND ANCHOR BOLTS AND INSTALL NEW ANGLE AND ANCHORS.
3. EXISTING CONCRETE ROOF CURB.
4. EXISTING CONCRETE "T" BEAM.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. EXISTING CFS STUDS.
7. EXISTING CFS BOTTOM TRACK.
8. EXISTING CONCRETE SLAB.
9. NEW DOUBLE BOXED STUDS AT END OF STEEL ANGLE WELDED TOGETHER.

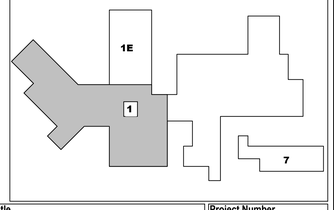
DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.
ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.



X PLAN – HOLDOWN ANGLE PLATE

119 NEW STRAP AT EXISTING HOLDOWN 23-027 NOT TO SCALE

KEY PLAN NTS — NORTH



Revisions:	Date:

CONSULTANT

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STAMP

MICHAEL J. VALDA 36714 — Registered Professional Engineer — Arizona U.S.A. — Exp. 9/30/25 — 10/21/25

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FLOOR FRAMING DETAILS 101-119	Phase: 100% Submission	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205	Drawing Number: S3.1
		Issue Date: November 17, 2025 — Checked: MJW — Drawn: LV	

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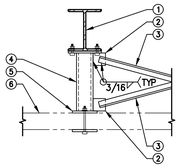
VA FORM 08-6231

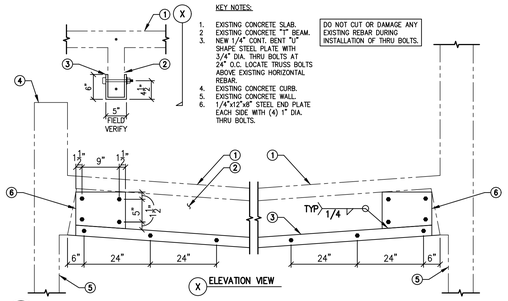


KEY NOTES:

1. NEW STEEL BEAM PER PLAN.
2. NEW 1/4x3"x3" STEEL PLATE.
3. NEW ANGLE BRACE PER PLAN.
4. NEW STEEL COLUMN PER PLAN.
5. NEW STEEL BASEPLATE AND THRU BOLTS.
6. EXISTING 4" THICK CONCRETE TOPPING OVER STEEL DECK.

120 NEW BRACING AT NEW COLUMN

23-027 NOT TO SCALE



KEY NOTES:

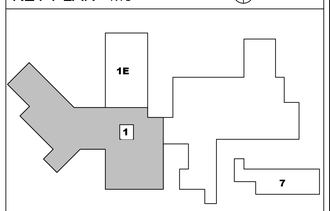
1. EXISTING CONCRETE SLAB.
2. EXISTING CONCRETE "T" BEAM.
3. NEW 1/4" CONT. BENT "U" SHAPE STEEL PLATE WITH 3/4" DIA. THRU BOLTS AT 24" O.C. LOCATE TRUSS BOLTS ABOVE EXISTING HORIZONTAL REBAR.
4. EXISTING CONCRETE CURB.
5. EXISTING CONCRETE WALL.
6. 1/4"x12"x6" STEEL END PLATE EACH SIDE WITH (4) 1" DIA. THRU BOLTS.

DO NOT CUT OR DAMAGE ANY EXISTING REBAR DURING INSTALLATION OF THRU BOLTS.

121 NEW STEEL PLATES AT EXISTING CONCRETE "T" BEAM

23-027 NOT TO SCALE

KEY PLAN NTS NORTH



Revisions:	Date:

CONSULTANT

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REGISTERED PROFESSIONAL ENGINEER (CIVIL)
36714
MICHAEL J. WILDA
10/21/25
ARIZONA, U.S.A.
Exp. 9/30/25

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	FLOOR FRAMING DETAILS 120-121
Phase	100% Submission
Project Title	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number	668-21-100
Building Number	1
Approved:	
Location:	Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205
Issue Date	November 17, 2025
Checked	MJW
Drawn	LV
Drawing Number	S3.2

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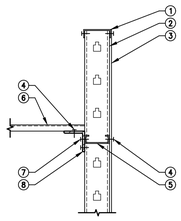
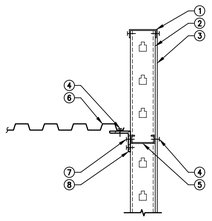
VA FORM 08-6231



KEY NOTES:

1. 16 GAGE CFS STUD TRACK WITH 1 #10 SCREW EACH SIDE.
2. CFS STUD WALL.
3. SHEATHING PER ARCHITECT.
4. EDGE ATTACHMENT.
5. CFS STUD BLOCKING.
6. STEEL DECK.
7. ATTACH LEDGER TO BLOCKING WITH (3) #10 SCREWS PER BLOCK.
8. CONT. L3x3x3/16 STEEL ANGLE LEDGER WITH (2) #10 SCREW TO EACH STUD.

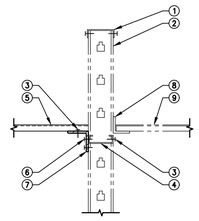
201 STEEL DECK AT CFS STUD WALL — 854-01M NOT TO SCALE



KEY NOTES:

1. 16 GAGE CFS STUD TRACK WITH 1 #10 SCREW EACH SIDE.
2. CFS STUD WALL.
3. SHEATHING PER ARCHITECT.
4. EDGE ATTACHMENT.
5. CFS STUD BLOCKING.
6. STEEL DECK.
7. ATTACH LEDGER TO BLOCKING WITH (3) #10 SCREWS PER BLOCK.
8. CONT. L3x3x3/16 STEEL ANGLE LEDGER WITH (2) #10 SCREW TO EACH STUD.

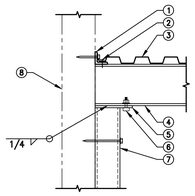
202 STEEL DECK AT CFS STUD WALL — 854-01M NOT TO SCALE



KEY NOTES:

1. EXISTING CFS STUD TRACK WITH 1 #10 SCREW EACH SIDE.
2. EXISTING CFS STUD WALL.
3. NEW EDGE ATTACHMENT.
4. NEW CFS STUD BLOCKING.
5. NEW STEEL DECK.
6. ATTACH LEDGER TO BLOCKING WITH (3) #10 SCREWS PER BLOCK.
7. NEW CONT. L3x3x3/16 STEEL ANGLE LEDGER WITH (2) #10 SCREW TO EACH STUD.
8. EXISTING L3x3x3/16 STEEL LEDGER ANGLE.
9. EXISTING STEEL DECK.

203 NEW STEEL DECK AT EXISTING CFS STUD WALL — 854-01M NOT TO SCALE



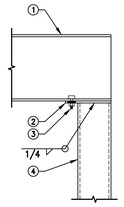
KEY NOTES:

1. NEW CONT. STEEL LEDGER PER DETAIL 206.
2. EDGE ATTACHMENT.
3. NEW STEEL DECK.
4. NEW STEEL BEAM.
5. NEW 1/2" CAP PLATE.
6. (2) 3/4" DIA. BOLTS ON BEAM GAGE.
7. NEW STEEL COLUMN WITH (4) SIMPSON 5/8" DIA. TITEN HD ANCHORS EVENLY SPACED WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713.
8. EXISTING CONCRETE WALL.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.

ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.

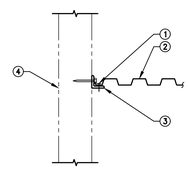
204 NEW STEEL COLUMN AND BEAM AT EXISTING CONCRETE WALL — 23-027 NOT TO SCALE



KEY NOTES:

1. STEEL BEAM.
2. 1/2" CAP PLATE.
3. 2 – 3/4" DIA. BOLTS ON BEAM GAGE.
4. STEEL COLUMN.

205 STEEL BEAM TO STEEL COLUMN CONNECTION — 730-07.1M NOT TO SCALE



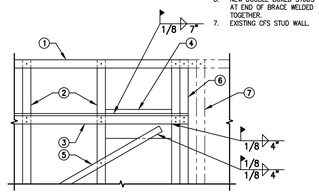
KEY NOTES:

1. EDGE ATTACHMENT.
2. NEW STEEL DECK.
3. NEW CONT. L3x3x3/16 STEEL ANGLE LEDGER WITH SIMPSON 5/8" DIA. TITEN HD ANCHOR AT 32" O.C. WITH 4" MIN EMBEDMENT INTO EXISTING CONCRETE WALL PER ESR-2713.
4. EXISTING CONCRETE WALL.

DO NOT DAMAGE OR CUT ANY EXISTING REBAR DURING INSTALLATION OF ANY SCREW OR EPOXY ANCHORS.

ALL SCREW ANCHORS REQUIRE SPECIAL STRUCTURAL INSPECTION DURING PLACEMENT.

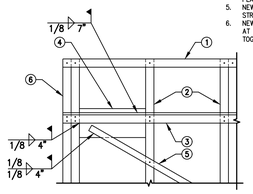
206 NEW STEEL ANGLE LEDGER AT EXISTING CONCRETE WALL — 23-027 NOT TO SCALE



KEY NOTES:

1. NEW CFS TOP TRACK.
2. NEW CFS STUDS PER PLAN.
3. NEW CONT. STEEL ANGLE LEDGER.
4. NEW 5/16"x6"x1'-4" STEEL PLATE.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. NEW DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.
7. EXISTING CFS STUD WALL.

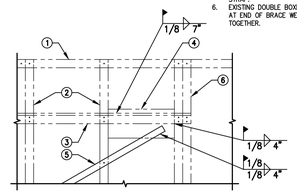
207 STRAP AT CFS STUD WALL — 23-027 NOT TO SCALE



KEY NOTES:

1. NEW CFS TOP TRACK.
2. NEW CFS STUDS PER PLAN.
3. NEW CONT. STEEL ANGLE LEDGER.
4. NEW 5/16"x6"x1'-4" STEEL PLATE.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. NEW DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.

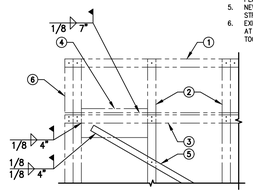
208 STRAP AT CFS STUD WALL — 23-027 NOT TO SCALE



KEY NOTES:

1. EXISTING CFS TOP TRACK.
2. EXISTING CFS STUDS PER PLAN.
3. EXISTING CONT. STEEL ANGLE LEDGER.
4. EXISTING 5/16"x6"x1'-4" STEEL PLATE.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. EXISTING DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.

209 NEW STRAP AT EXISTING CFS STUD WALL — 23-027 NOT TO SCALE

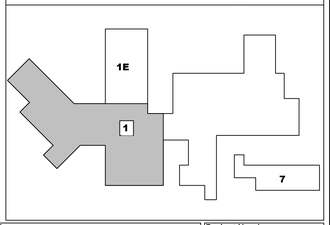


KEY NOTES:

1. EXISTING CFS TOP TRACK.
2. EXISTING CFS STUDS PER PLAN.
3. EXISTING CONT. STEEL ANGLE LEDGER.
4. EXISTING 5/16"x6"x1'-4" STEEL PLATE.
5. NEW 16 GAGE x3" CONT. FLAT STRAP.
6. EXISTING DOUBLE BOXED STUDS AT END OF BRACE WELDED TOGETHER.

210 NEW STRAP AT EXISTING CFS STUD WALL — 23-027 NOT TO SCALE

KEY PLAN NTS — NORTH



Revisions:	Date:

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Registered Professional Engineer (Civil) — CERTIFICATE NO. 36714 — MICHAEL J. WILDA — 10/21/25 — ARIZONA, U.S.A. — Exp. 9/30/25

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ROOF FRAMING DETAILS 201-230	Phase: 100% Submission	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205	Building Number: 1
		Issue Date: November 17, 2025 / Checked: MJW / Drawn: LV	Drawing Number: S4.1

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VA FORM 08-6231

MECHANICAL SYMBOLS LEGEND

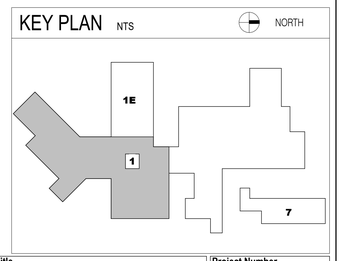
ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
X-X, Xø ###	DIFFUSER TAG (X-X = DIFFUSER TYPE, Xø = NECK SIZE, ### = CFM VALUE)
	VAV BOX - HW
	VAV BOX - EH
	VAV UNIT - PARALLEL POWERED
	AIR VALVE FOR SUPPLY, RETURN, AND EXHAUST
	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	SUPPLY SLOT DIFFUSER
	RETURN SLOT GRILLE
	SUPPLY, RETURN, OR EXHAUST SIDEWALL DIFFUSER/GRILLE
	FLEXIBLE ROUND DUCT
	FLEXIBLE RECTANGULAR DUCT
	SUPPLY RECTANGULAR DUCT GOING DOWN
	SUPPLY RECTANGULAR DUCT GOING DOWN
	SUPPLY RECTANGULAR DUCT GOING DOWN
	SUPPLY RECTANGULAR DUCT GOING UP
	RETURN RECTANGULAR DUCT GOING UP
	EXHAUST RECTANGULAR DUCT GOING UP
	SUPPLY ROUND DUCT GOING DOWN
	RETURN ROUND DUCT GOING DOWN
	SUPPLY ROUND DUCT GOING DOWN
	SUPPLY ROUND DUCT GOING UP
	RETURN ROUND DUCT GOING UP
	SUPPLY ROUND DUCT GOING UP
	PIPE GOING DOWN
	PIPE TEE GOING DOWN
	PIPE GOING UP
	PIPE TEE GOING UP
	MANUAL DAMPER
SD	SMOKE DAMPER
FD	FIRE DAMPER
FSD	FIRE AND SMOKE DAMPER
M	MOTORIZED DAMPER
AM	AIR FLOW MEASURING DAMPER
H	HUMIDIFIER GRID
	DUCT SMOKE DETECTOR
	REHEAT COIL
T	THERMOSTAT
H	HUMIDISTAT
CO2	CO2 SENSOR
	PRESSURE MONITOR
	PRESSURE SENSOR
	BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	GATE VALVE
	GLOBE VALVE
R	PRESSURE REGULATING VALVE
	STEAM TRAP - INVERTED VALVE

GENERAL NOTES

A. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL COMPLY WITH ALL VA TIL STANDARDS AND SPOKANE VA AMMENDMENTS. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR MECHANICAL CONSTRUCTION.
B. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES, AND COMPLY WITH ALL NATIONAL, STATE, AND MUNICIPAL LAWS, CODES, AND ORDINANCES RELATING TO BUILDING AND PUBLIC SAFETY.
C. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR A COMPLETE WORKING AND COORDINATED SYSTEM.
D. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF WALLS WHICH EXTEND TO STRUCTURE. EACH HVAC DUCT OR PIPE PENETRATION THROUGH THESE WALLS SHALL BE INSTALLED AS DETAILED. WHERE FLEXIBLE DUCT WOULD PENETRATE A WALL WHICH EXTENDS TO STRUCTURE, PROVIDE INSULATED RIGID DUCT EXTENDING 12 INCHES ON EITHER SIDE OF THE PARTITION.
E. COORDINATE THE EXACT LOCATION OF MECHANICAL EQUIPMENT WITH THE LOCATIONS OF LIGHT FIXTURES, PIPING, CONDUIT AND OTHER CONSTRUCTION, TO ALLOW FOR PROPER ACCESS TO SERVICE EQUIPMENT.
F. COORDINATE THE LOCATION OF DUCTWORK AND PIPING WITH OTHER TRADES AND PROVIDE OFFSETS IN DUCTWORK AND PIPING AS REQUIRED.
G. IT IS THE INTENT OF THESE DOCUMENTS TO ALLOW ALL CEILING CONSTRUCTION AND HEIGHTS TO BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. COORDINATE THE LOCATION OF DUCTWORK AND PIPING AND PROVIDE OFFSETS IN DUCTWORK AND PIPING AS REQUIRED TO MEET THIS INTENT.
H. CONDUIT, PIPING, AND DUCTWORK SHALL BE INDEPENDENTLY SUPPORTED, AND EACH SUPPORT SHALL BE INDEPENDENT OF PARTITION AND CEILING SYSTEMS SUPPORTS.
I. REFER TO RISER DIAGRAMS AND FLOW DIAGRAMS FOR PIPE SIZES NOT SHOWN ON THE PLANS.
J. INSTALL ALL FLOOR MOUNTED EQUIPMENT ON PADS AS SPECIFIED. PAD BY GENERAL CONTRACTOR. COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR.
K. PROTECT EQUIPMENT FROM DAMAGE DURING HANDLING AND INSTALLATION UNTIL COMPLETION OF CONSTRUCTION.
L. REMOVE ALL EXCESS MATERIAL AND DEBRIS AND CLEAN ALL EQUIPMENT UPON COMPLETION OF WORK. TOUCH UP WITH PAINT WHERE REQUIRED.
M. CONTRACTOR SHALL VISIT JOBSITE AND VERIFY SIZE AND LOCATION OF ALL EXISTING ITEMS AND CONDITIONS.
N. ALL CONNECTIONS BETWEEN PIPES OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC UNIONS.
O. ALL EXISTING FACILITIES SHALL BE PROTECTED DURING THE CONSTRUCTION ACTIVITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE AND STORE ITEMS WHICH ARE SUBJECT TO DAMAGE.
P. ARCHITECT SHALL HAVE FINAL APPROVAL OF ALL GRILLE, DIFFUSER, AND THERMOSTAT LOCATIONS.
Q. COORDINATE ALL AIR DEVICE LOCATIONS AND MOUNTING FRAME STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS. PROVIDE 6'-0" FROM CENTER TO CENTER FROM SUPPLY TO EXHAUST/RETURN GRILLES FOR PROPER AIRFLOW.
R. COORDINATE ALL WALL MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.
S. REFER TO ARCHITECTURAL LIFE SAFETY PLANS FOR COORDINATION OF FIRE, SMOKE, AND COMBINATION FIRE/SMOKE DAMPERS. THE DESIGN INTENT IS TO PROVIDE THE INDICATED DAMPERS IN ACCORDANCE WITH REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL LIFE SAFETY DAMPERS, INCLUDING FIRE ALARM CONTROL WIRING AND MONITORING REQUIRED BY THE IBC AND LOCAL ORDINANCES AND CODE INTERPRETATIONS.
T. ALL DUCT RUN-OUTS TO VAV TERMINAL BOXES SHALL BE 2" LARGER THAN INLET SIZE IF BOX IS MORE THAN 15 FT. FROM MAIN SUPPLY DUCT.
U. ANY DEVIATIONS FROM SCHEDULED EQUIPMENT RESULTING IN ADDITIONAL COST DUE TO THE LACK OF COORDINATION WITH DIMENSIONS AND WEIGHTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
V. ALL FIRE/SMOKE COMBINATION DAMPERS AND/OR FIRE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION DETAILS THAT WERE TESTED AT U.L. LABORATORIES AND U.L. LISTED.
X. WIRING:
COMBUSTIBLE ELECTRICAL OR ELECTRONIC WIRING METHODS AND MATERIALS, OPTICAL FIBER CABLE, AND OPTICAL FIBER RACEWAYS EXPOSED WITHIN A PLENUM SHALL HAVE A PEAK OPTICAL DENSITY NOT GREATER THAN .50, AN AVERAGE OPTICAL DENSITY NOT GREATER THAN 0.15 AND A FLAME SPREAD NOT GREATER THAN 5 FEET WHEN TESTED IN ACCORDANCE WITH NFPA 262. ONLY TYPE OFNP (PLENUM RATED NON-CONDUCTIVE FIBER CABLE) SHALL BE INSTALLED IN PLENUM-RATED RACEWAYS. WIRING, CABLE, AND RACEWAYS ADDRESSED IN THIS SECTION SHALL BE LISTED AND LABELED AS PLENUM RATED AND SHALL BE INSTALLED IN ACCORDANCE WITH ICC ELECTRICAL CODE.
Y. PROVIDE VOLUME AND BALANCING DAMPERS FOR EACH BRANCH OR DIFFUSER. REFERENCE: CONSTRUCTION DOCUMENT SPECIFICATION SECTIONS 233300 & 230593. PROVIDE LINKAGE VOLUME DAMPERS TO DAMPERS LOCATED ABOVE HARD-LID CEILINGS SIMILAR TO YOUNG REGULATOR MODEL 927C OR EQUIVALENT SOLID LINKAGE DAMPER.
Z. ALL DUCT DETECTORS TO COMPLY WITH NFPA WHICH REQUIRES VISUAL LED MONITORING AS WELL AS CENTRAL FIRE ALARM & BMS MONITORING OF ALL DUCT DETECTORS. VISUAL MONITORS WILL BE INSTALLED WHERE AVAILABLE. WHERE NOT AVAILABLE, A VISUAL AND AUDIBLE ALARM WILL BE PROVIDED THROUGH THE BMS AND FIRE ALARM SYSTEM TO A CONSTANTLY ATTENDED LOCATION.

KEY PLAN NTS



Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL LEGEND, ABBREVIATIONS, & SCHEDULES

Phase: 100% Submittal

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

Project Number: 668-21-100

Building Number: 1

Approved:

Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205

Issue Date: November 17, 2025 | Checked: AESUS | Drawn: AESUS

Drawing Number: M-001

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/22035_VA_Upgrade_AHU-18_20_22_MECH.rvt

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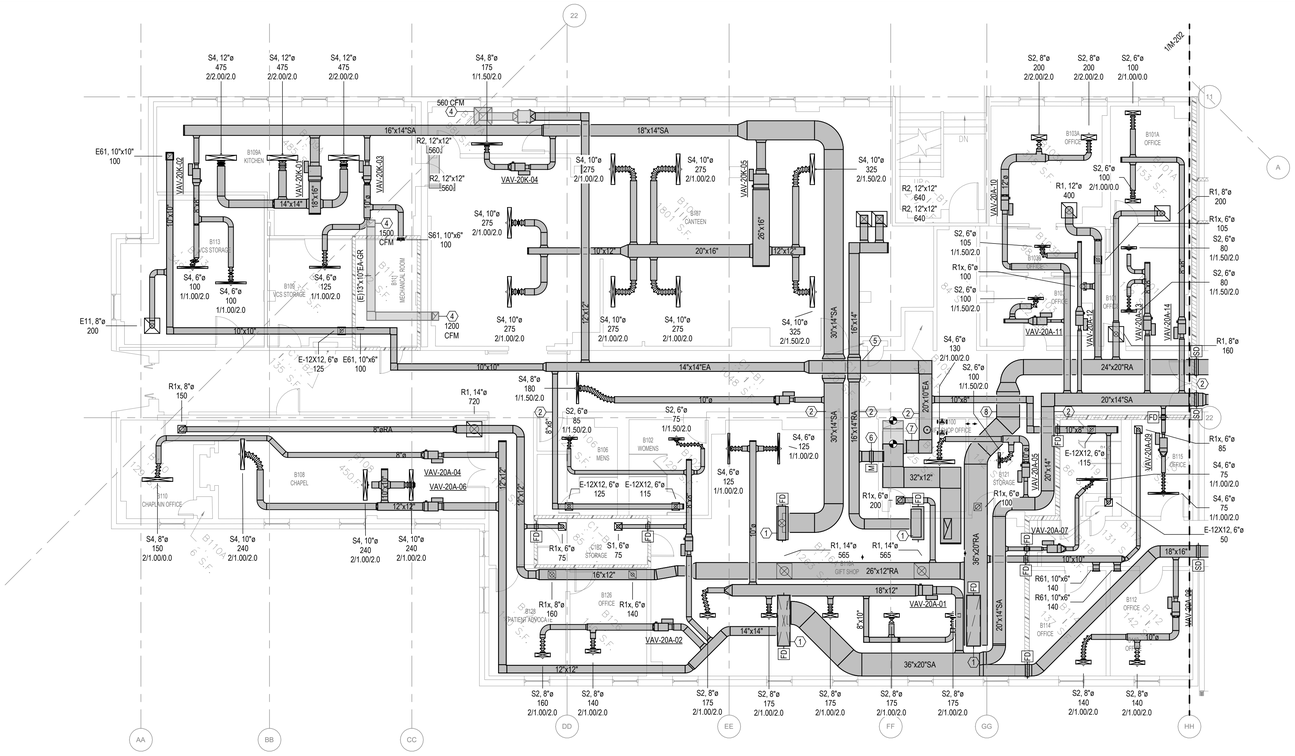
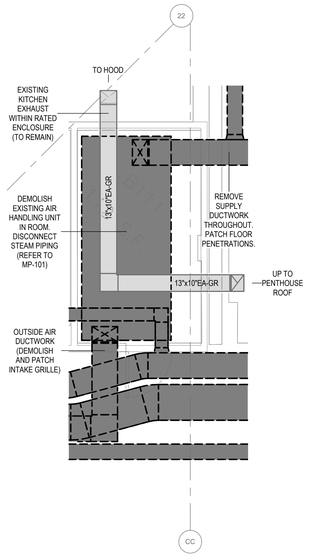
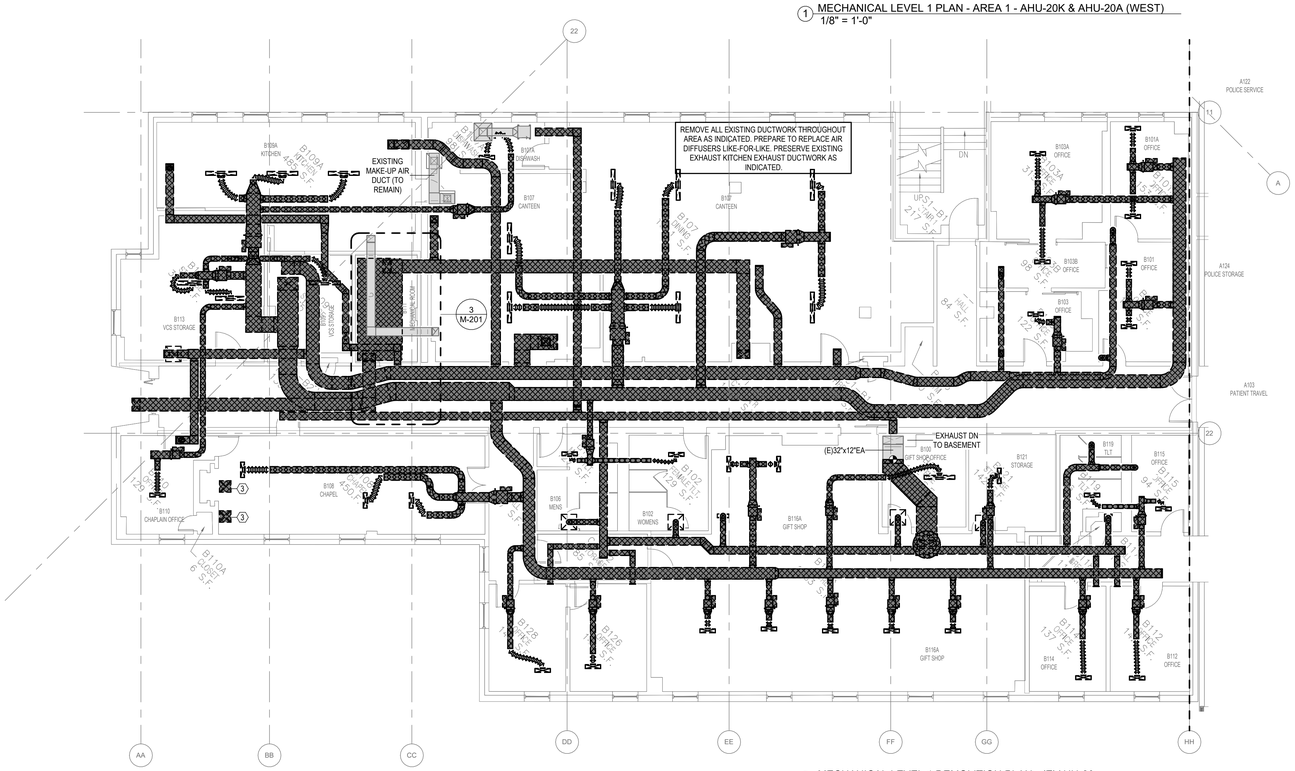


1 MECHANICAL LEVEL 1 PLAN - AREA 1 - AHU-20K & AHU-20A (WEST)
1/8" = 1'-0"



3 B111 MECH ROOM DEMOLITION
1/4" = 1'-0"



2 MECHANICAL LEVEL 1 DEMOLITION PLAN - (E)AHU-20
1/8" = 1'-0"

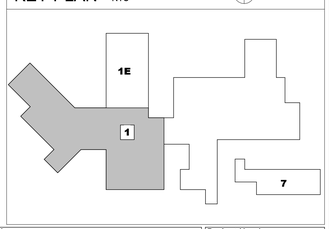
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 DUCT MAINS DOWN FROM PENTHOUSE. PROVIDE 2-HR VERTICAL FIRE DAMPER ASSEMBLY. REFER TO DETAIL ON SHEET M-501.
2 DUCTWORK CROSSES EXISTING BUILDING EXPANSION. COORDINATE PENETRATION DETAILS.
3 REMOVE CHAPEL EXHAUST AND MAKE-UP DUCTWORK, GRILLES, LOUVERED PENTHOUSE AT ROOF. AND EXHAUST FAN AT ROOF. PROVIDE INSULATED ROOF CAP AT EXISTING CURB AND INFILL FLOOR OPENINGS.
4 EXISTING KITCHEN HOOD TO REMAIN. INTERFACE ON/OFF CONTROLS WITH DDC SYSTEM (ADJUSTS TERMINAL UNIT MINIMUM FLOW SETPOINT).
5 OFFSET DUCTWORK AS NECESSARY FOR CROSSING DUCT MAINS (MAINTAIN EQUAL DUCT AREA).
6 MOTORIZED DAMPER CONNECTING RETURN FROM DINING AREA TO EXHAUST (REFER TO CONTROL DIAGRAMS).
7 CONNECT EXHAUST TO EXISTING EXHAUST RISER.
8 COORDINATE DUCT LOCATION WITH EXISTING AND NEW PIPING RISERS (UP TO PENTHOUSE ABOVE).

KEY PLAN NTS NORTH



Revisions:	Date:

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

Drawing Title	Phase	Project Title	Project Number
MECHANICAL LEVEL 1 PLAN - AREA 1	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date November 17, 2025 / Checked AESUS / Drawn AESUS	Drawing Number M-201

VA FORM 08 - 6231

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LEGEND NOTES

(#)

EXISTING SUPPLY AND RETURN DUCTWORK TO EXISTING OFFICES TO REMAIN.

1 REMOVE SUPPLY OUTLET FEEDING IT ROOM AND ASSOCIATED DUCT RUNOUT.

2 EXISTING SUPPLY AND RETURN DUCTWORK TO EXISTING OFFICES TO REMAIN.

3 REPLACE EXISTING TERMINAL UNIT. PROVIDE DUCT TRANSITIONS AS NEEDED. PROVIDE NEW COIL KIT (ISOLATION VALVES, STRAINER, CONTROL VALVE, CIRCUIT SETTER).

4 REPLACE FLEXIBLE DUCTWORK AT RETURN AND EXHAUST RUNOUTS WITH NEW, HARD (GALVANIZED STEEL) DUCTWORK.

5 EXISTING SUPPLY AND RETURN DUCT MAIN SIZES WERE EVALUATED. DUCT VELOCITY IS BELOW LIMITS ESTABLISHED BY VA TIL. EXISTING SUPPLY AND RETURN DUCTWORK MAY REMAIN. NEW WORK IS LIMITED TO REPLACEMENT OF TERMINAL UNITS, REBALANCING, AND REPLACEMENT OF LIMITED DUCTWORK AS INDICATED.

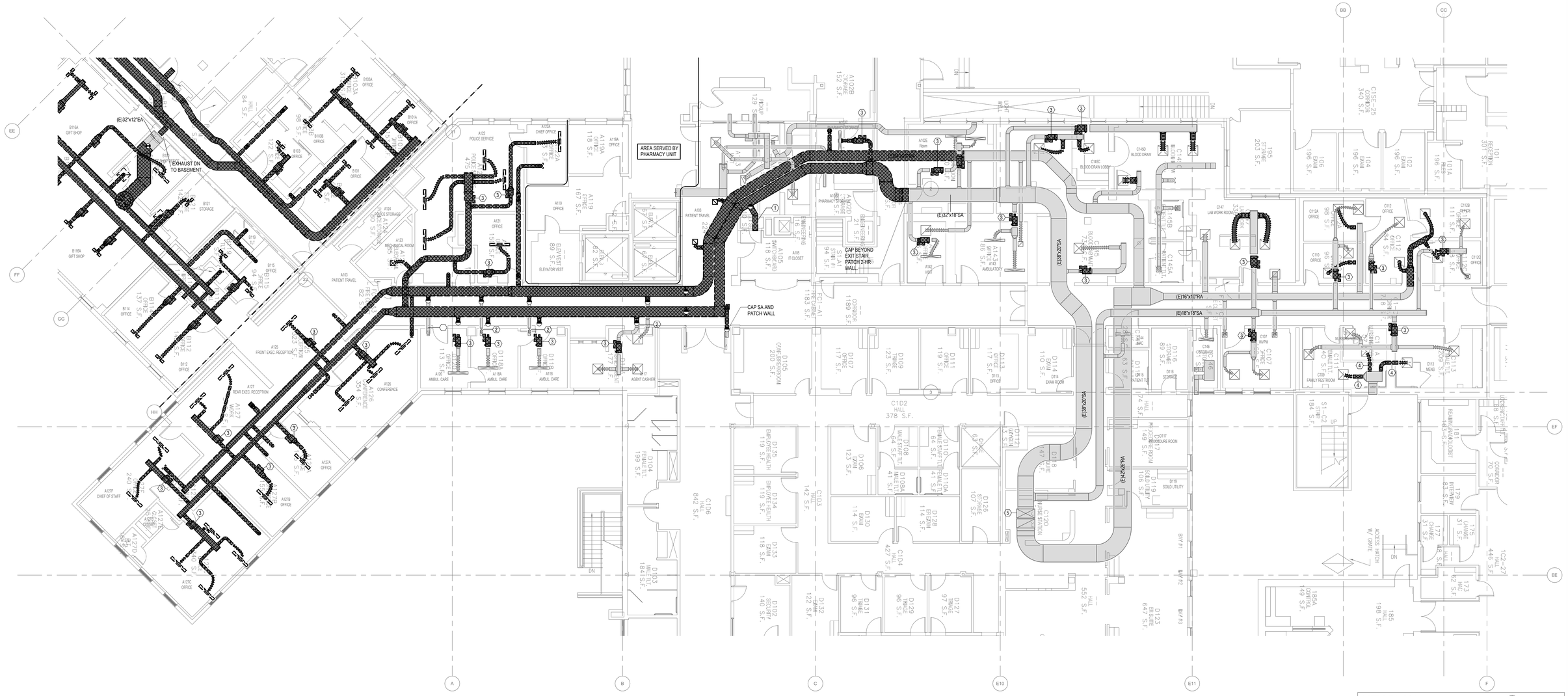
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.

B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).

C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.

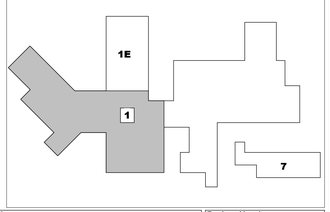
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.



1 MECHANICAL LEVEL 1 DEMOLITION PLAN - AREA 2 - (E)AHU-18
1/8" = 1'-0"

KEY PLAN NTS

NORTH



Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL LEVEL 1 PLAN - AREA 2 - DEMOLITION

Approved:

Phase: 100% Submittal

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205

Issue Date: November 17, 2025

Checked: Checker

Drawn: Author

Project Number: 668-21-100

Building Number: 1

Drawing Number: M-202

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/23205_VA_Upgrade_AHU-18_20_22_MECH H1

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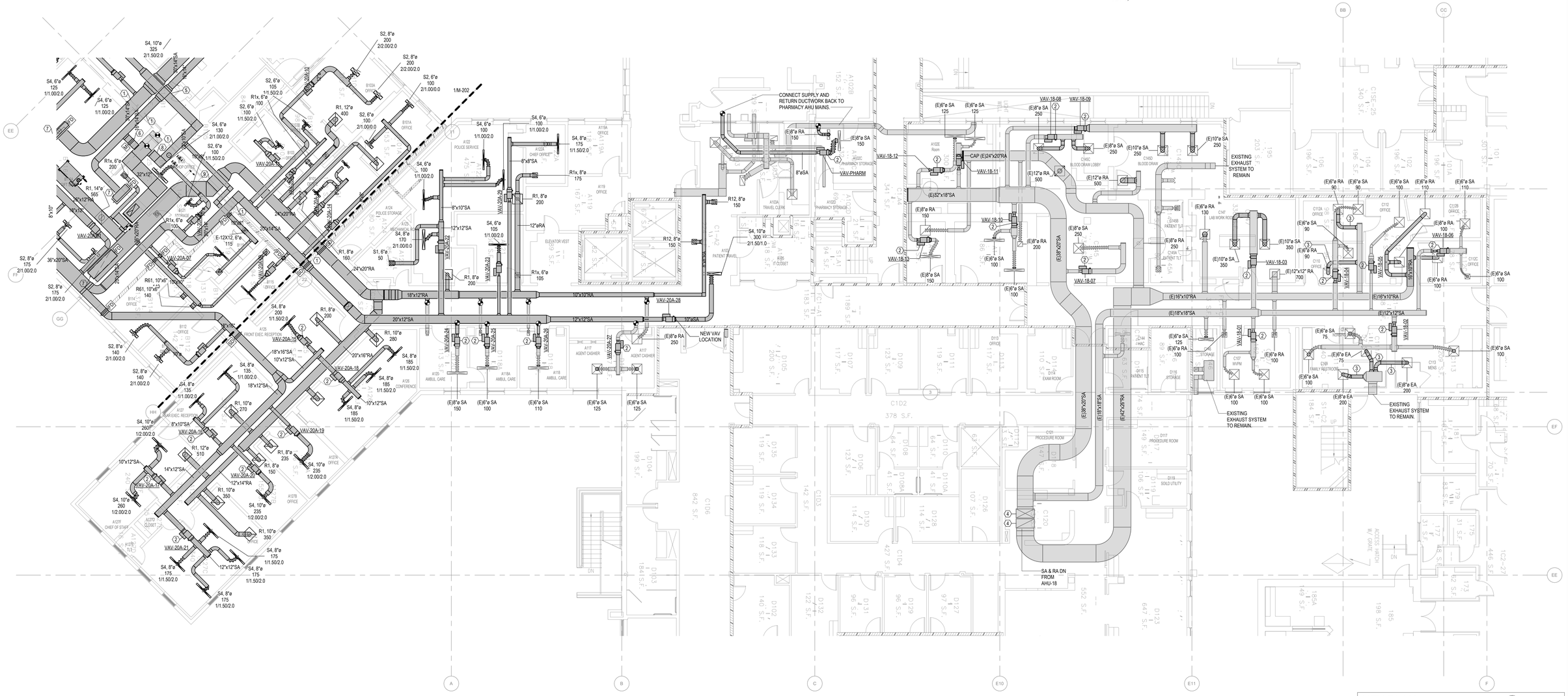
LEGEND NOTES

1. DUCTWORK CROSSES EXISTING BUILDING EXPANSION. COORDINATE PENETRATION DETAILS.
2. REPLACE EXISTING TERMINAL UNIT. PROVIDE DUCT TRANSITIONS AS NEEDED. PROVIDE NEW COIL KIT (ISOLATION VALVES, STRAINER, CONTROL VALVE, CIRCUIT SETTER).
3. REPLACE FLEXIBLE DUCTWORK AT RETURN AND EXHAUST RUNOUTS WITH NEW, HARD (GALVANIZED STEEL) DUCTWORK.
4. EXISTING DUCTWORK IS ADEQUATELY SIZED AND MAY REMAIN SUBJECT TO THE FOLLOWING: INSPECT, PRESSURE TEST, AND RESEAL (WHERE DEFICIENT) ALL EXISTING DUCTWORK. TOTAL DUCT LEAKAGE SHALL BE LIMITED TO 10% OF TOTAL FLOW. AT POINTS OF CONNECTION, WIPE AND SANITIZE THE INTERIOR WITH RUBBING ALCOHOL.
5. OFFSET DUCTWORK AS NECESSARY FOR CROSSING DUCT MAINS (MAINTAIN EQUAL DUCT AREA).
6. MOTORIZED DAMPER CONNECTING RETURN FROM DINING AREA TO EXHAUST (REFER TO CONTROL DIAGRAMS).
7. DUCT MAINS DOWN FROM PENTHOUSE. PROVIDE 2-HR VERTICAL FIRE DAMPER ASSEMBLY. REFER TO DETAIL ON SHEET M-501.
8. CONNECT EXHAUST TO EXISTING EXHAUST RISER.
9. COORDINATE DUCT LOCATION WITH EXISTING AND NEW PIPING RISERS (UP TO PENTHOUSE ABOVE).

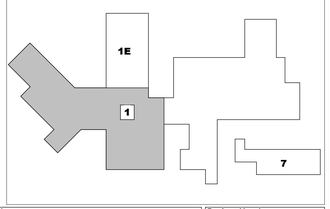
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.



1 MECHANICAL LEVEL 1 PLAN - AREA 2 - AHU-18 & AHU-20A (EAST)
1/8" = 1'-0"

KEY PLAN NTS NORTH



Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
MECHANICAL LEVEL 1 PLAN - AREA 2 - NEW WORK	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	Drawing Number M-203

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/22025_VA_Upgrade_AHU-18_20_22_MECH.rvt

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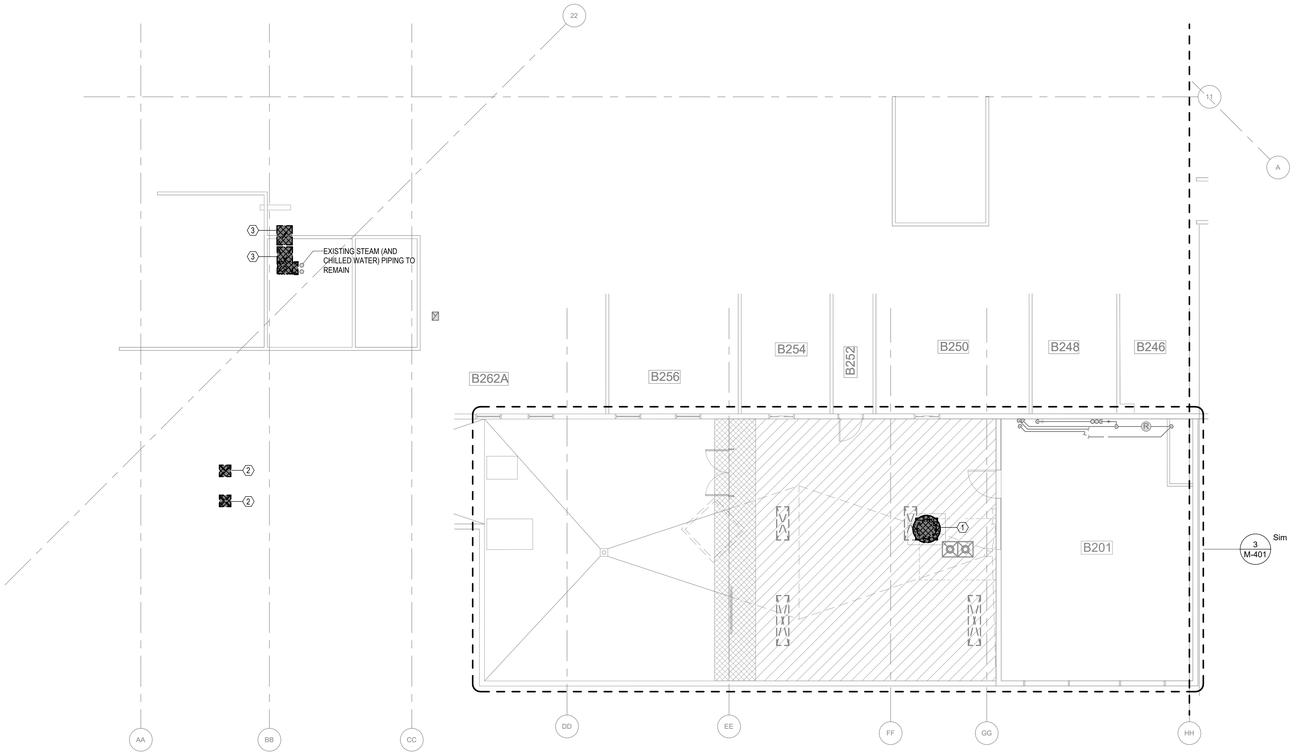
GENERAL NOTES (FIRE)

A. THESE DOCUMENTS REPRESENT THE DESIGN INTENT AND COVERAGE AREA FOR THE FIRE SPRINKLER SYSTEM WITHIN THE PROJECT SCOPE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE FIRE SPRINKLER SYSTEM APPROVED PER NFPA AND BY THE AUTHORITY HAVING JURISDICTION. PROVIDE HYDRAULIC CALCULATIONS, SHOP DRAWINGS, AND ANY ADDITIONAL EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION AND COMPLY WITH THE SPECIFICATIONS AND ALL APPLICABLE CODES AND CRITERIA.
B. EXISTING AND NEW SPRINKLER LAYOUT IS INDICATED ON THIS SHEET. PROVIDE NEW FIRE SPRINKLERS AND BRANCH PIPING. DEMOLISH EXISTING SPRINKLER AND DEMOLISH EXISTING BRANCH PIPING AS NEEDED. RE-USE EXISTING MAINS WHERE POSSIBLE.
C. EXISTING FIRE AND SMOKE ZONES SHALL BE MAINTAINED.
D. HAZARD CLASSIFICATION IS ORDINARY HAZARD IN MECHANICAL ROOMS UNLESS NOTED OTHERWISE.
E. THE SPACING AND SIZES OF SPRINKLERS AND PIPES SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13. SPRINKLERS SHALL BE INSTALLED BY PERSONNEL WHO HAVE ENGINEERING FACILITIES AND EXPERIENCE IN SUCH WORK AND WHO ARE REGULARLY EMPLOYED TO DO SUCH WORK.
F. PROVIDE A UL AND FM LISTED SPRINKLER GUARD IN LOCATIONS WHERE SPRINKLERS ARE SUBJECT TO MECHANICAL DAMAGE: INCLUDING IN MECHANICAL ROOMS, ELECTRICAL ROOMS, STAIRWELL LANDINGS, ELEVATOR SHAFTS, AND ON ALL SPRINKLERS INSTALLED BELOW 7'-0" AFF.

SPRINKLER LEGEND

● UPRIGHT SPRINKLER WITH GUARD



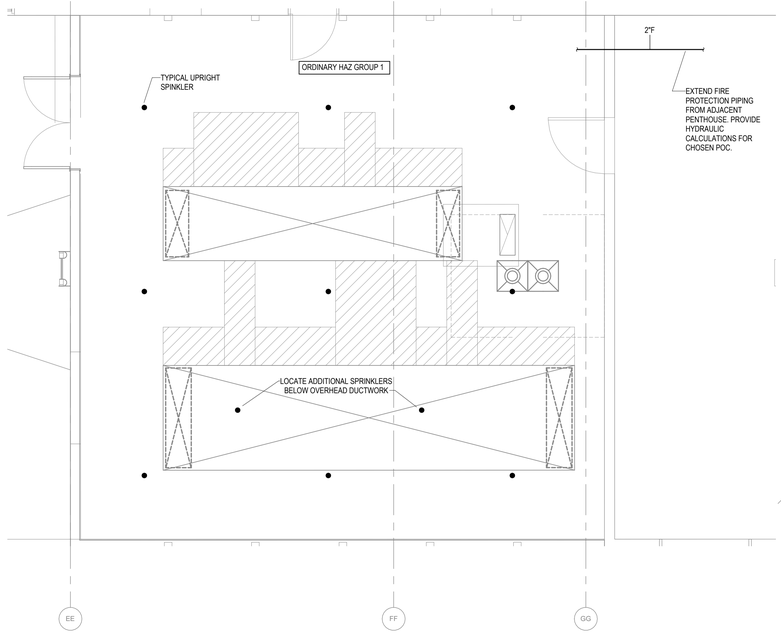
2 MECHANICAL LEVEL 2 DEMOLITION PLAN - AREA 1
1/8" = 1'-0"

GENERAL NOTES

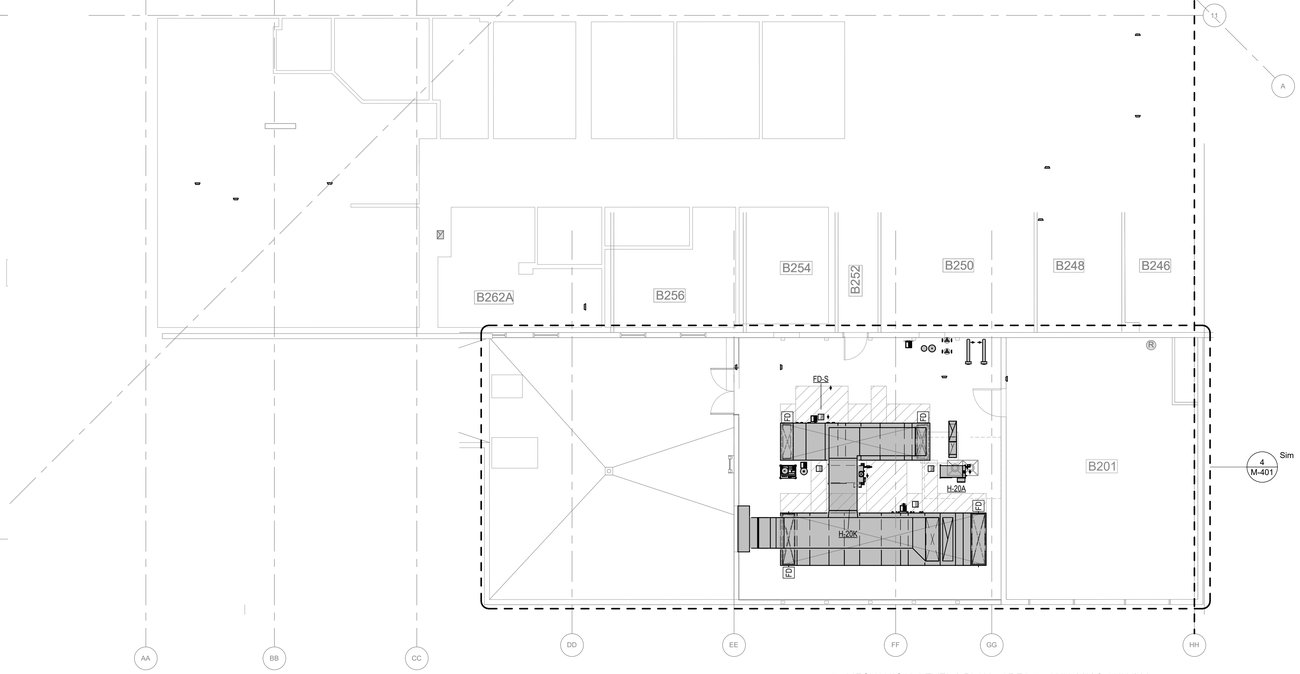
A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 DEMOLISH EXISTING EXHAUST FAN. NEW FAN TO BE INSTALLED ON NEW PENTHOUSE ROOF.
2 REMOVE CHAPEL EXHAUST AND MAKE-UP DUCTWORK, GRILLES, LOUVERED PENTHOUSE AT ROOF, AND EXHAUST FAN AT ROOF. PROVIDE INSULATED ROOF CAP AT EXISTING CURB AND INFILL FLOOR OPENINGS.
3 REMOVE SUPPLY AND RETURN MAINS FROM (E)AHU-20 DOWN THROUGH FLOORS TO DECK OF 1ST FL. REFER TO ARCH.

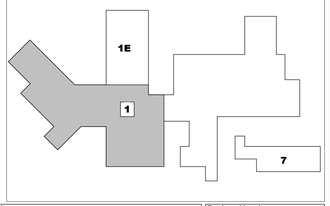


3 Mechanical HVAC Level 2 - New Penthouse - Fire Protection
1/4" = 1'-0"



1 MECHANICAL LEVEL 2 PLAN - AREA 1 - AHU-20K & AHU-20A
1/8" = 1'-0"

KEY PLAN NTS



Revisions:	Date:

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ORLANDO ERIK GONZALES
STATE OF WASHINGTON
EXPIRES 10/12/2026
REGISTERED PROFESSIONAL ENGINEER

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

Drawing Title	Phase	Project Title	Project Number
MECHANICAL LEVEL 2 PLAN - AREA 1	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date November 17, 2025 / Checked AESUS / Drawn AESUS	Drawing Number M-204

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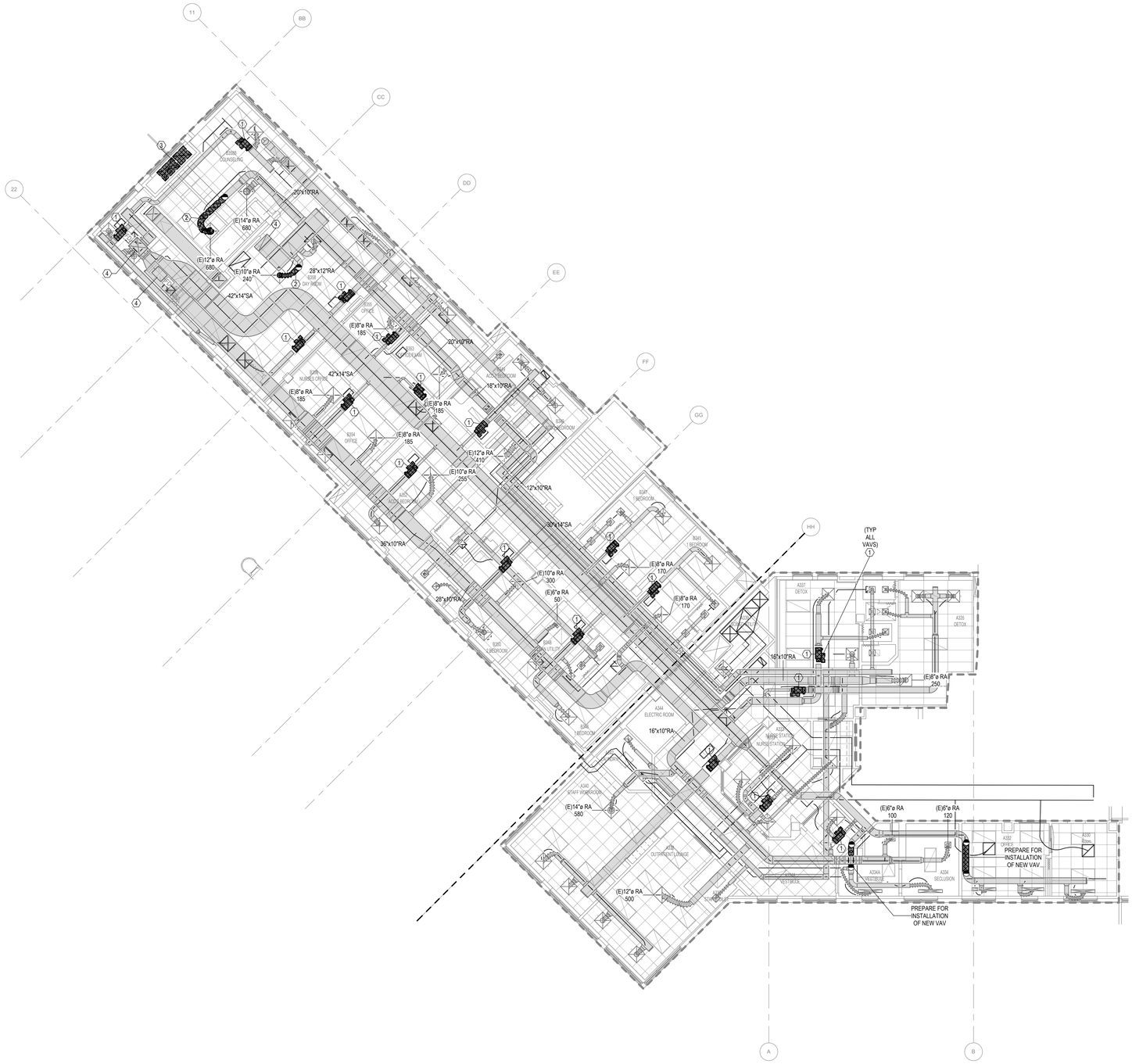


1 MECHANICAL LEVEL 3 DEMOLITION PLAN - AREA 3 - (E)AHU-22
1/8" = 1'-0"

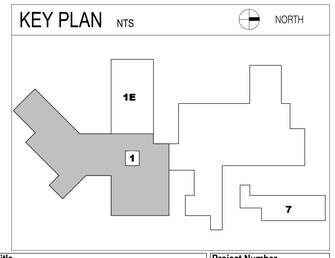
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 REPLACE EXISTING TERMINAL UNIT. PROVIDE DUCT TRANSITIONS AS NEEDED. PROVIDE NEW COIL KIT (ISOLATION VALVES, STRAINER, CONTROL VALVE, CIRCUIT SETTER).
2 REPLACE FLEXIBLE DUCTWORK AT RETURN AND EXHAUST RUNOUTS WITH NEW, HARD (GALVANIZED STEEL) DUCTWORK.
3 REMOVE SUPPLY AND RETURN MAINS FROM (E)AHU-20 DOWN THROUGH FLOORS TO DECK OF 1ST FL. REFER TO ARCH.
4 EXISTING DUCTWORK IS ADEQUATELY SIZED AND MAY REMAIN SUBJECT TO THE FOLLOWING: INSPECT, PRESSURE TEST, AND RESEAL (WHERE DEFICIENT) ALL EXISTING DUCTWORK. TOTAL DUCT LEAKAGE SHALL BE LIMITED TO 10% OF TOTAL FLOW. AT POINTS OF CONNECTION, WIPE AND SANITIZE THE INTERIOR WITH RUBBING ALCOHOL.

KEY PLAN NTS



Revisions:	Date:

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STATE OF WASHINGTON
ORLANDO ERIK GONZALES
REGISTERED PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL LEVEL 3 PLAN - AREA 3 - DEMOLITION

Approved:

Phase: 100% Submittal

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205

Issue Date: November 17, 2025 | Checked: Checker | Drawn: Author

Project Number: 668-21-100

Building Number: 1

Drawing Number: M-205

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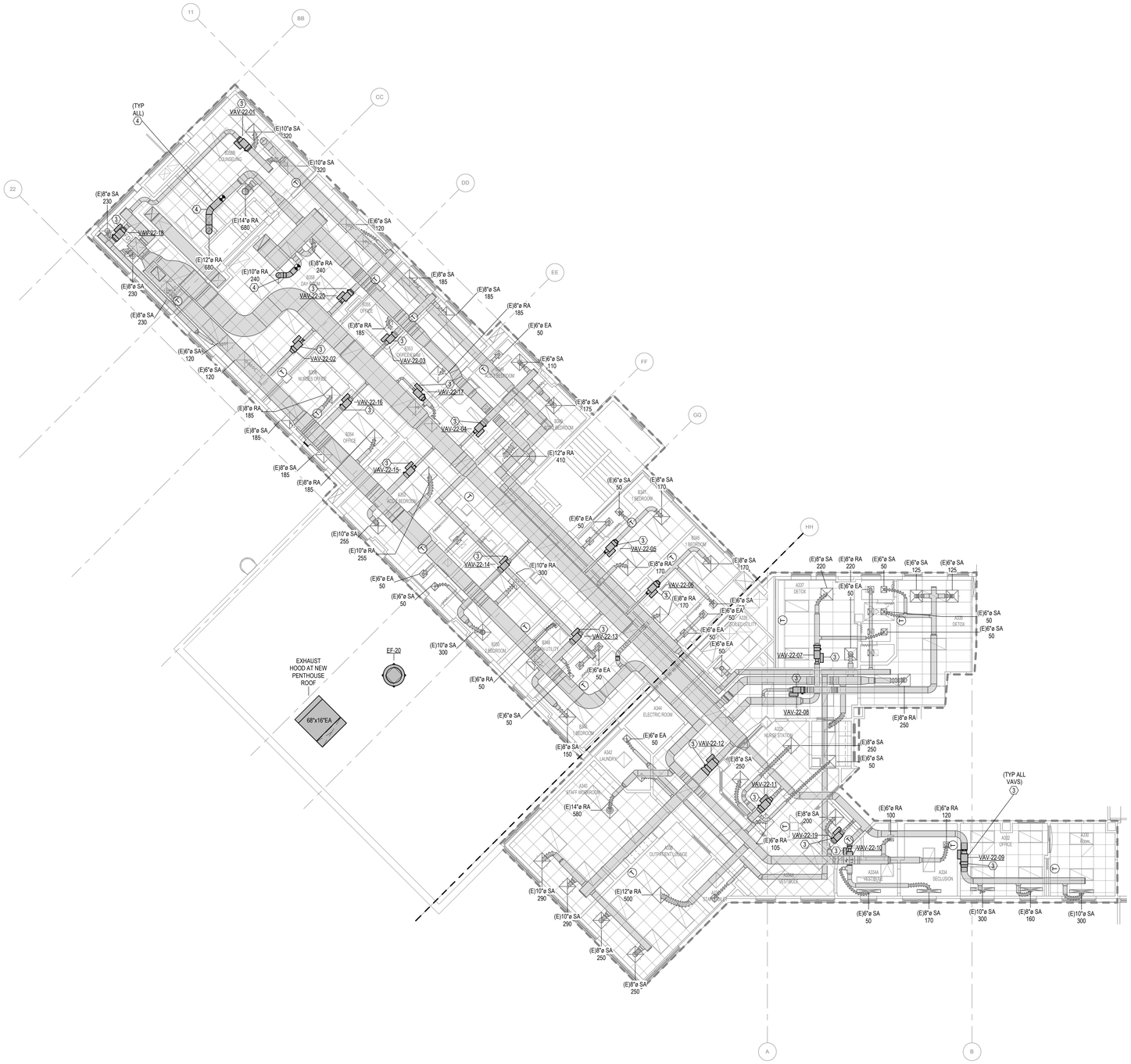
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

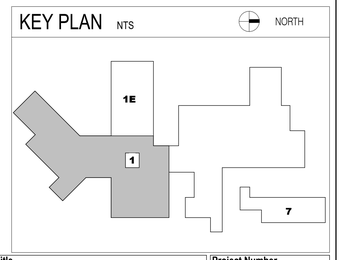
(#)

3 REPLACE EXISTING TERMINAL UNIT. PROVIDE DUCT TRANSITIONS AS NEEDED. PROVIDE NEW COIL KIT (ISOLATION VALVES, STRAINER, CONTROL VALVE, CIRCUIT SETTER).
4 REPLACE FLEXIBLE DUCTWORK AT RETURN AND EXHAUST RUNOUTS WITH NEW, HARD (GALVANIZED STEEL) DUCTWORK.



1 MECHANICAL LEVEL 3 PLAN - AREA 3 - AHU-22
1/8" = 1'-0"

KEY PLAN NTS



Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
MECHANICAL LEVEL 3 PLAN - AREA 3 - NEW WORK	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date November 17, 2025 / Checked AESUS / Drawn AESUS	Drawing Number M-206

VA FORM 08 - 6231

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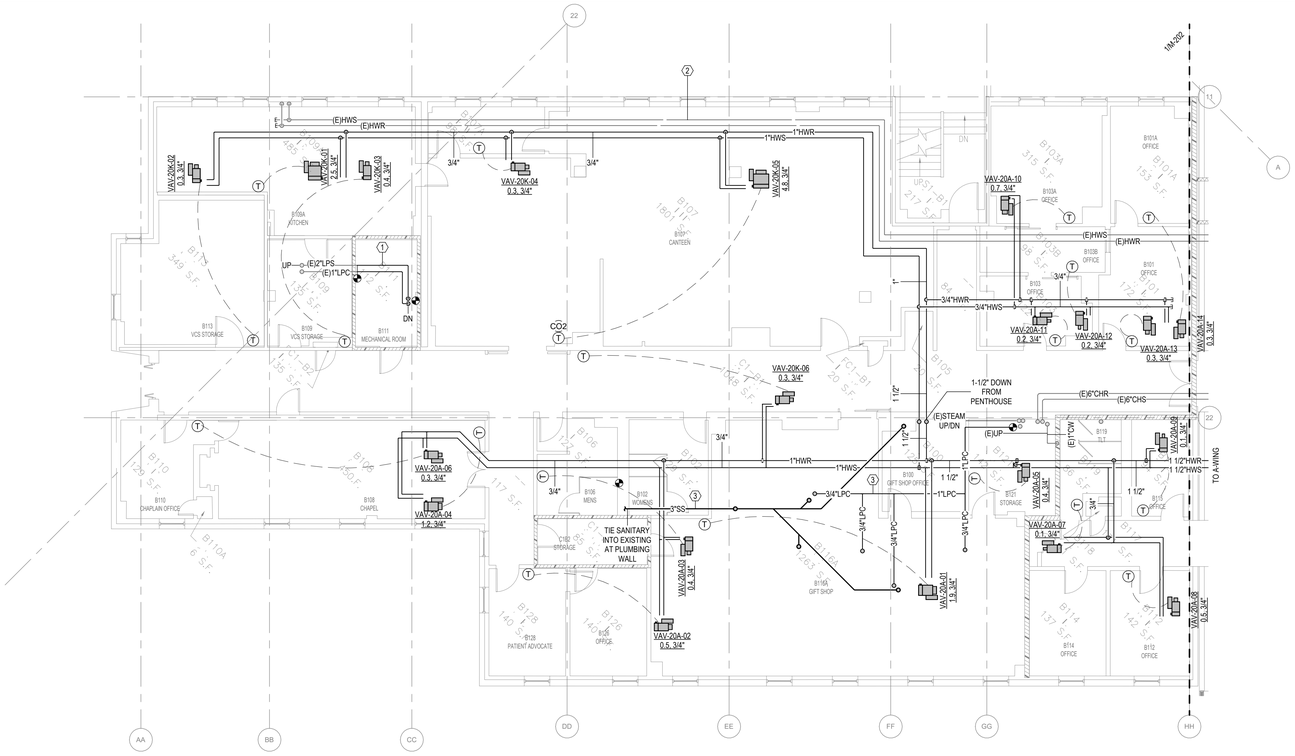
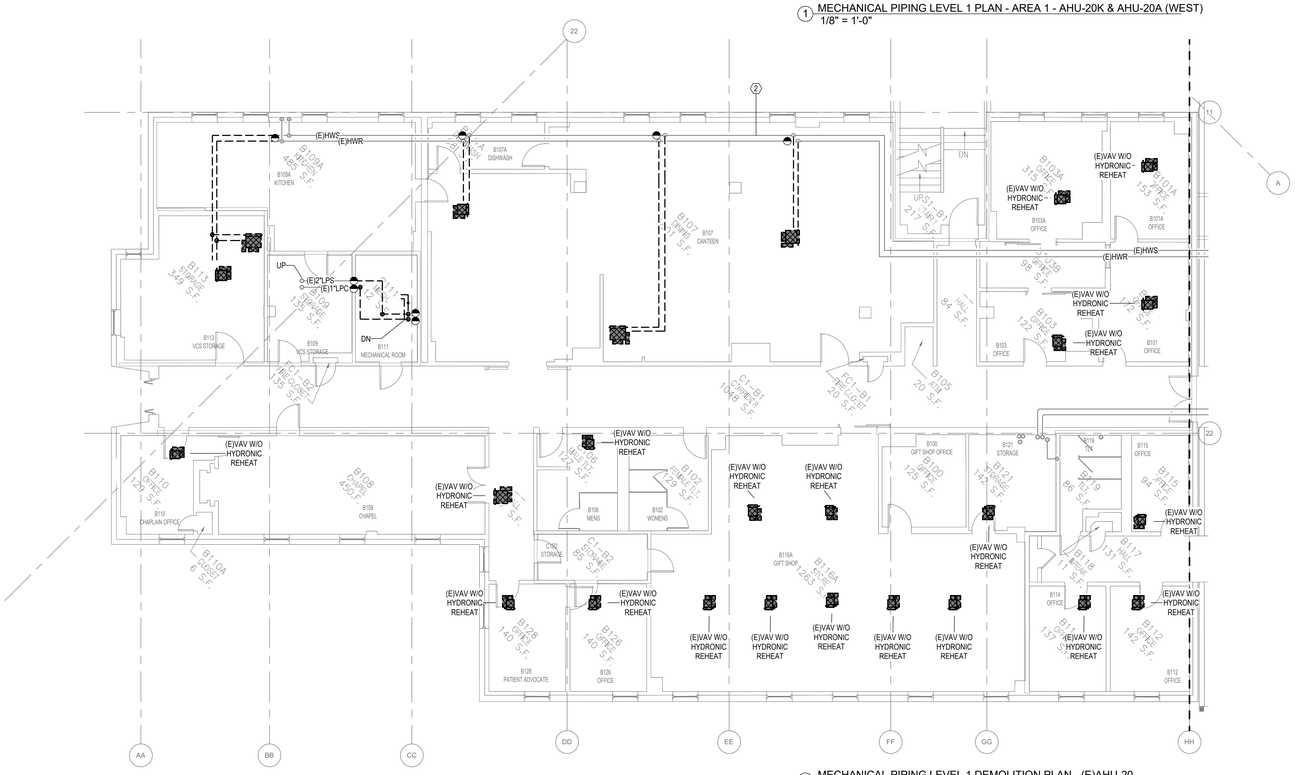


1 MECHANICAL PIPING LEVEL 1 PLAN - AREA 1 - AHU-20K & AHU-20A (WEST)
1/8" = 1'-0"



2 MECHANICAL PIPING LEVEL 1 DEMOLITION PLAN - (E)AHU-20
1/8" = 1'-0"

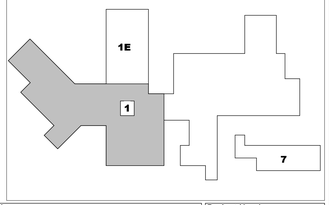
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 PROVIDE NEW LPS AND LPR PIPING FROM FLOOR TO EXISTING HORIZONTAL MAINS. PITCH BACK TO FLOOR RISERS. MAINTAIN PIPING AT APPROXIMATELY 9' AFF. FIELD VERIFY EXACT SIZE OF PIPING.
2 ALTERNATE: INVESTIGATE REMOVAL OF EXISTING PIPING MAIN BACK TO SOURCE IF SERVES NO OTHER UNITS.
3 SANITARY/CONDENSATE PIPING AND STEAM CONDENSATE MAY BE ROUTED ON FLOOR BELOW OR (CONTRACTOR OPTION) AT THE PENTHOUSE FLOOR (WHERE AHUS ARE LOCATED ON RAISED STEEL). WHERE ROUTED ALL OR PARTIALLY WITHIN THE PENTHOUSE, CONTRACTOR SHALL ROUTE PIPING ALONGSIDE OTHER UTILITIES AND PROVIDE RAMPS AND SUPPORTS FOR FACILITY PERSONNEL TO TRAVERSE OVER ALL PIPING TO AVOID DAMAGE AND TRIPPING HAZARDS; FUNNEL DRAINS / STANDPIPES WOULD REPLACE ALL PROPOSED FLOOR SINKS.

KEY PLAN NTS



Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
MECHANICAL PIPING LEVEL 1 PLAN - AREA 1	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date November 17, 2025 / Checked AESUS / Drawn AESUS	Drawing Number MP-201

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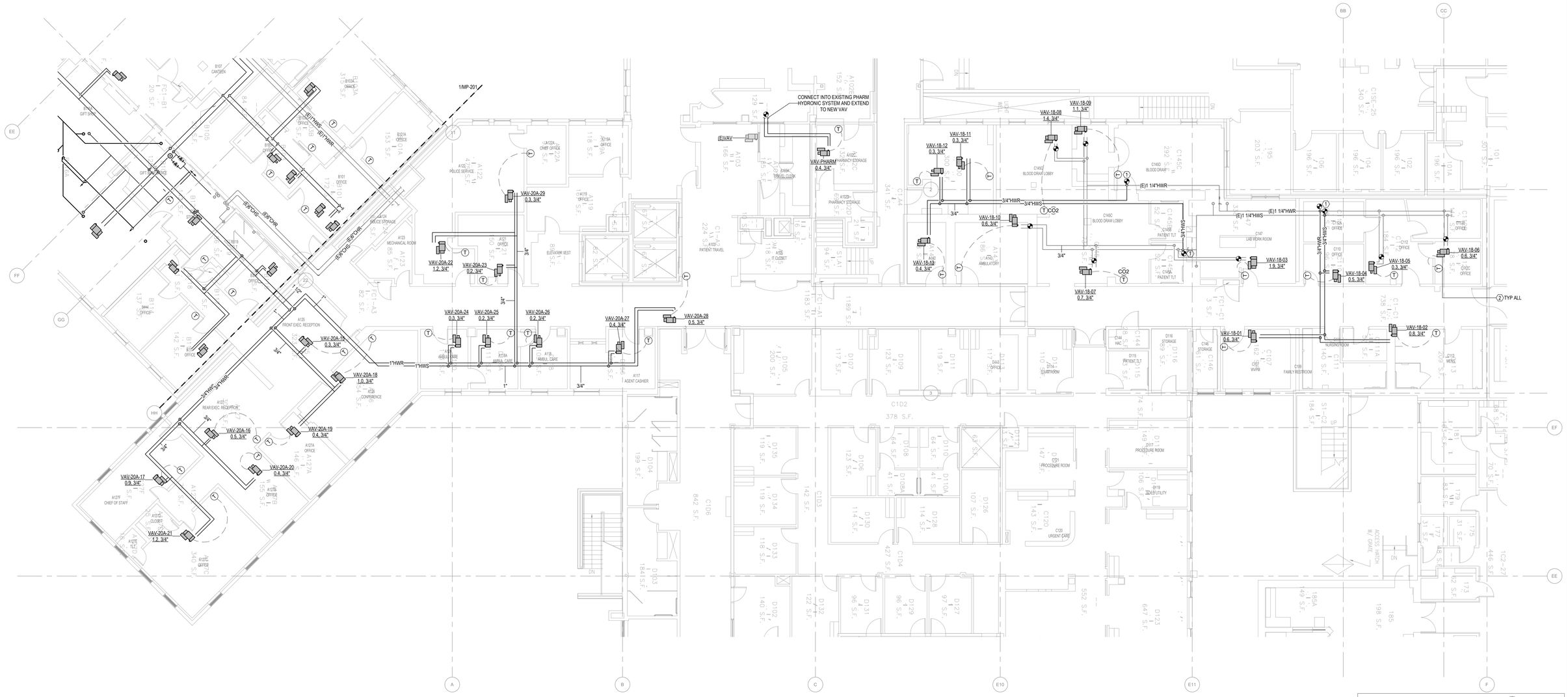
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

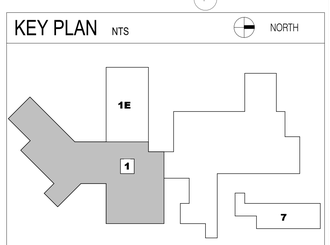
LEGEND NOTES

1 CONNECT TO EXISTING HEATING HOT WATER PIPING AND EXTEND TO NEW TERMINAL UNIT LOCATIONS.
2 REPLACE EXISTING TERMINAL UNIT. PROVIDE DUCT TRANSITIONS AS NEEDED. PROVIDE NEW COIL KIT (ISOLATION VALVES, STRAINER, CONTROL VALVE, CIRCUIT SETTER).



1 MECHANICAL PIPING LEVEL PLAN - AREA 2 - AHU-18
1/8" = 1'-0"

KEY PLAN NTS



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Drawing Title	Phase	Project Title	Project Number
MECHANICAL PIPING LEVEL 1 PLAN - AREA 2	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205	Building Number 1
		Issue Date November 17, 2025 / Checked Checker / Drawn Author	Drawing Number MP-203

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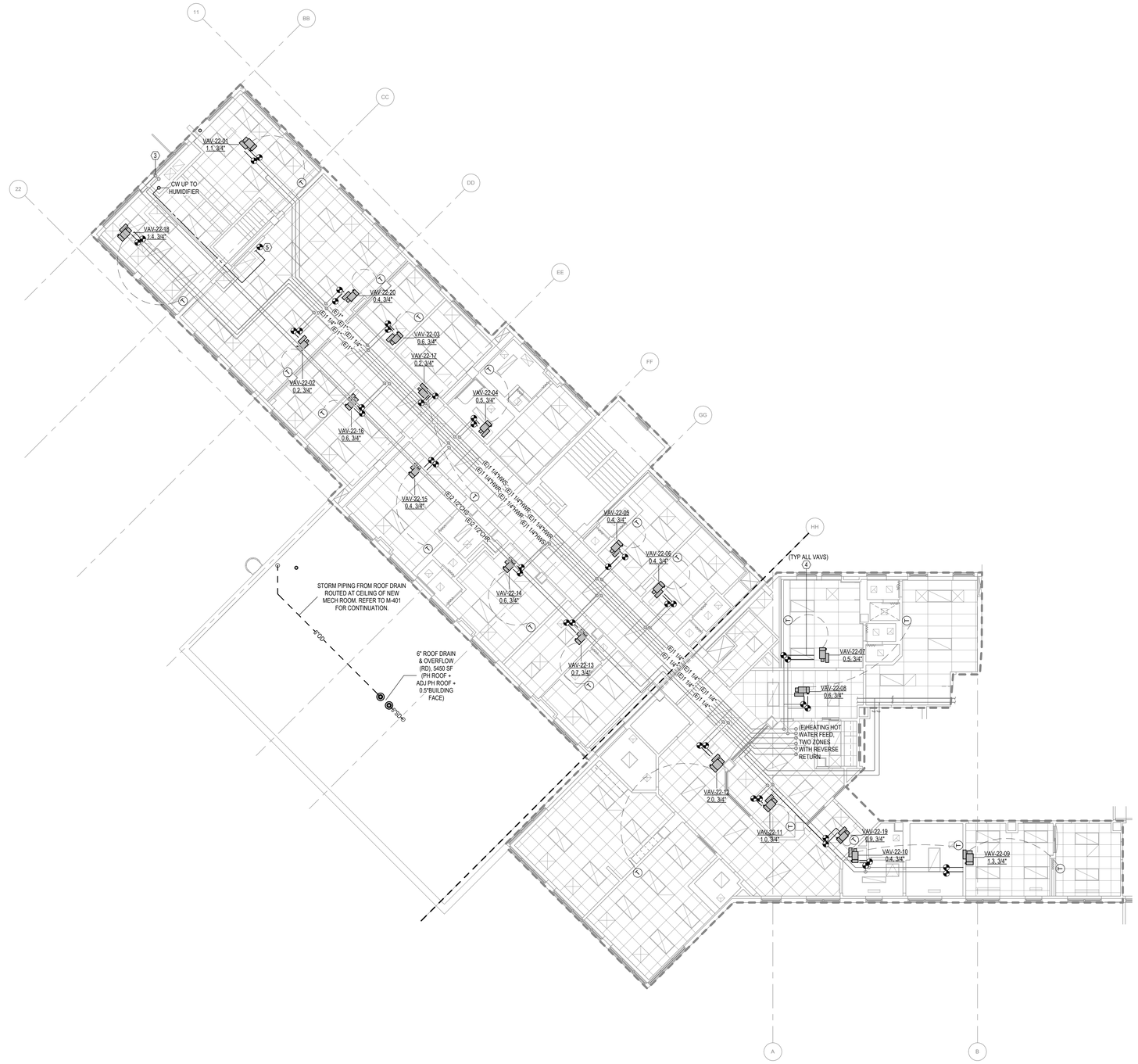


1 MECHANICAL PIPING LEVEL 3 PLAN - AREA 3 - AHU-22
1/8" = 1'-0"

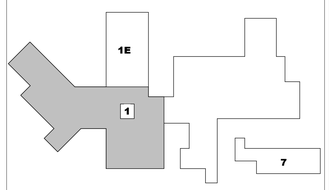
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. ALL THERMOSTATS SHALL BE REPLACED WITH UPGRADED MODELS. ALL THERMOSTATS ON THIS FLOOR (LEVEL 3, MENTAL HEALTH) SHALL BE ANTI-LIGATURE: CONTRACTOR SHALL ENSURE ALL THERMOSTATS OR SENSORS IN PATIENT AREAS ARE FULLY RECESSED INTO THE WALL AND COVERED WITH A TAMPER-RESISTANT, ANTI-LIGATURE COVER PLATE. THIS COVER PLATE SHALL BE STAINLESS STEEL, INSTALLED WITH NO GAPS, AND MUST FEATURE A SLOPED OR BEVELED DESIGN TO PREVENT LOOPING. ALL UNITS MUST BE SECURED USING TAMPER-RESISTANT SCREWS.
E. ALL CEILING TILES ON THIS LEVEL (LEVEL 3, MENTAL HEALTH) ARE FASTENED (SCREWED) TO CEILING GRID WITH TAMPER-PROOF SCREWS. REPLACE ANY GRIDS, TILES, OR FASTERS WHERE DAMAGED.

LEGEND NOTES

3 EXISTING CHILLED WATER FEED UP TO PENTHOUSE. REFER TO ADDITIONAL ISOLATION VALVES ON THIS FLOOR.
4 REPLACE EXISTING TERMINAL UNIT. PROVIDE DUCT TRANSITIONS AS NEEDED. PROVIDE NEW COIL KIT (ISOLATION VALVES, STRAINER, CONTROL VALVE, CIRCUIT SETTER).
5 EXTEND COLD WATER FROM NEARBY FIXTURE TO PENTHOUSE (HUMIDIFICATION).

KEY PLAN NTS NORTH



Revisions:	Date:

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ORLANDO ERIK GONZALES STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING LEVEL 3 PLAN - AREA 3
Approved:
Phase: 100% Submittal
Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number: 668-21-100
Building Number: 1
Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Drawing Number: MP-206

VA FORM 08 - 6231

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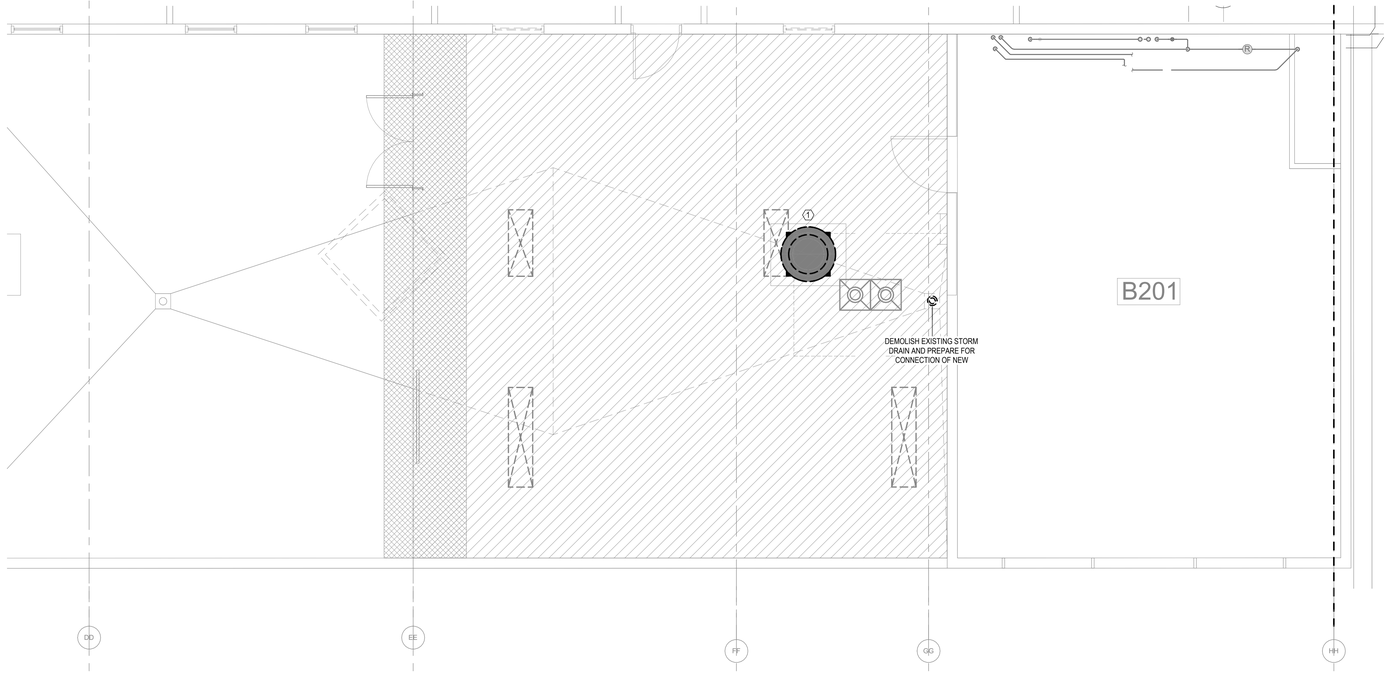
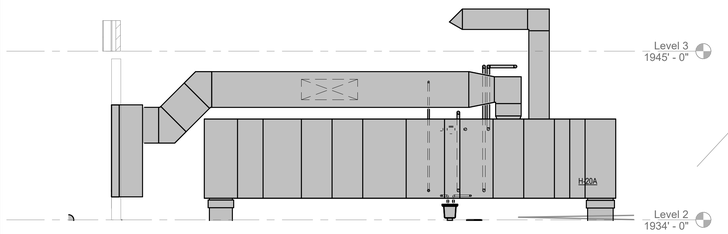
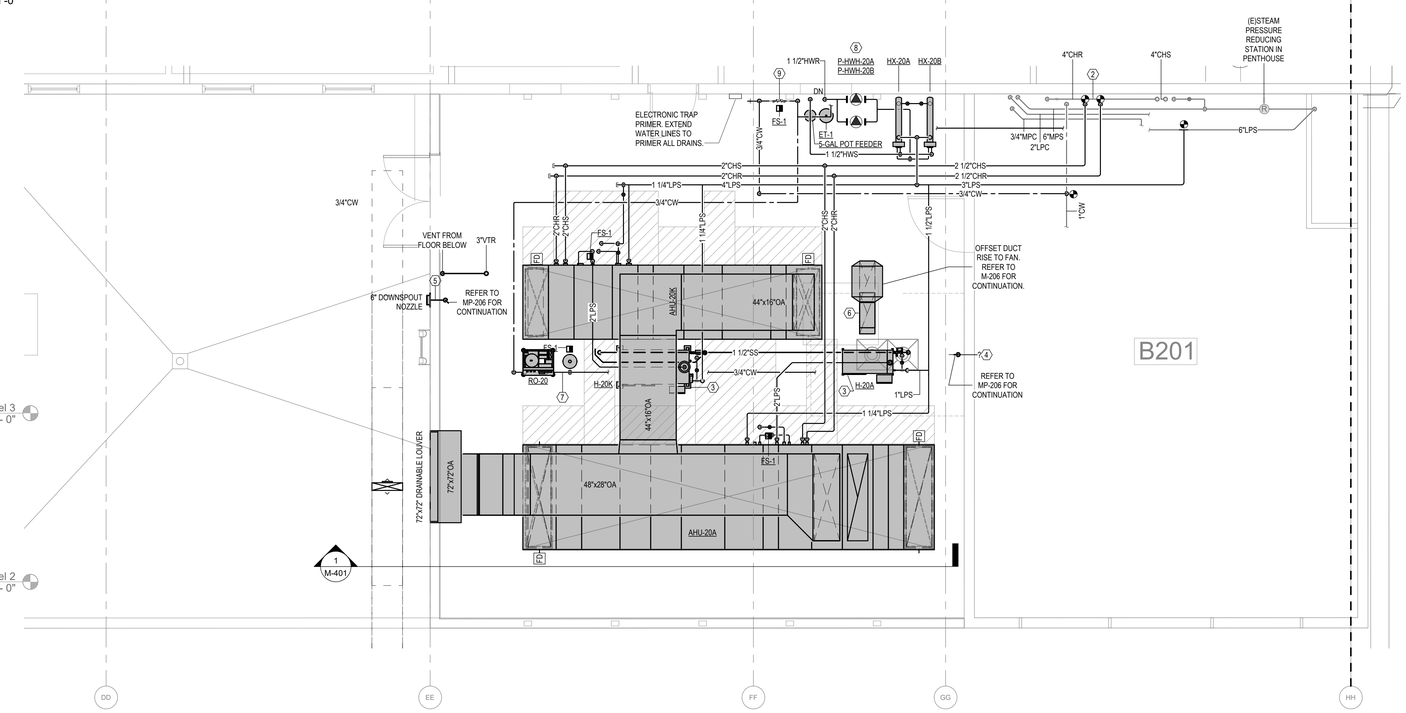


3 MECHANICAL ENLARGED LEVEL 2 DEMOLITION PLAN
1/4" = 1'-0"



1 MECHANICAL SECTION - AHU-20A & AHU-20K
1/4" = 1'-0"



4 MECHANICAL ENLARGED LEVEL 2 PLAN - AHU-20A & AHU-20K
1/4" = 1'-0"

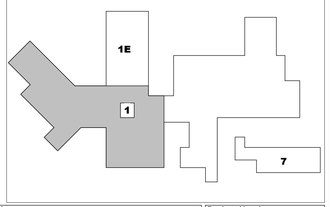
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 DEMOLISH EXISTING EXHAUST FAN. NEW FAN TO BE INSTALLED ON NEW PENTHOUSE ROOF.
2 CONNECT TO EXISTING CHILLED WATER AND LOW PRESSURE STEAM PIPING LOCATED IN ADJACENT PENTHOUSE.
3 PROVIDE STEAM-TO-STEAM HUMIDIFIER. INSTALL STEAM GRID WITHIN EACH AIR HANDLING UNIT. EXTEND STAINLESS STEEL STEAM PIPING TO EACH GRID.
4 CONNECT TO EXISTING PRIMARY STORM DRAIN.
5 EXTEND 6" OVERFLOW DRAIN TO DOWNSPOUT NOZZLE. INSTALL DOUNSPOUT 18" ABOVE FINISHED ROOF.
6 EXTEND EXHAUST DUCTWORK UP TO FAN ON PENTHOUSE ROOF.
7 PROVIDE PIPING TO REVERSE OSMOSIS (RO) UNIT AND EXTEND RO WATER (CPVC) TO BOTH STEAM-TO-STEAM HUMIDIFIERS. REFER TO DETAIL ON SHEET M-502.
8 PROVIDE STEAM-TO-HEATING-WATER SKID, HEATING HOT WATER PUMPS, AIR SCOOP, EXPANSION TANK, POT FEEDER, MAKE-UP WATER, AND RELIEF PIPING. REFER TO DETAILS. INLINE PUMPS MAY BE STACKED AT WALL (SHOWN SIDE-BY-SIDE FOR CLARITY).
9 PROVIDE 3/4" CW DOWN TO 3/4" REDUCED PRESSURE BACKFLOW PREVENTOR (AT 5' AFF) AND 3/4" HOSE BIBB (BELOW).

KEY PLAN NTS NORTH



Revisions:	Date:

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ERIK GONZALES
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

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

Drawing Title: MECHANICAL ENLARGED PLANS
Phase: 100% Submittal
Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number: 668-21-100
Building Number: 1
Approved:
Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Drawing Number: M-401

VA FORM 08 - 6231

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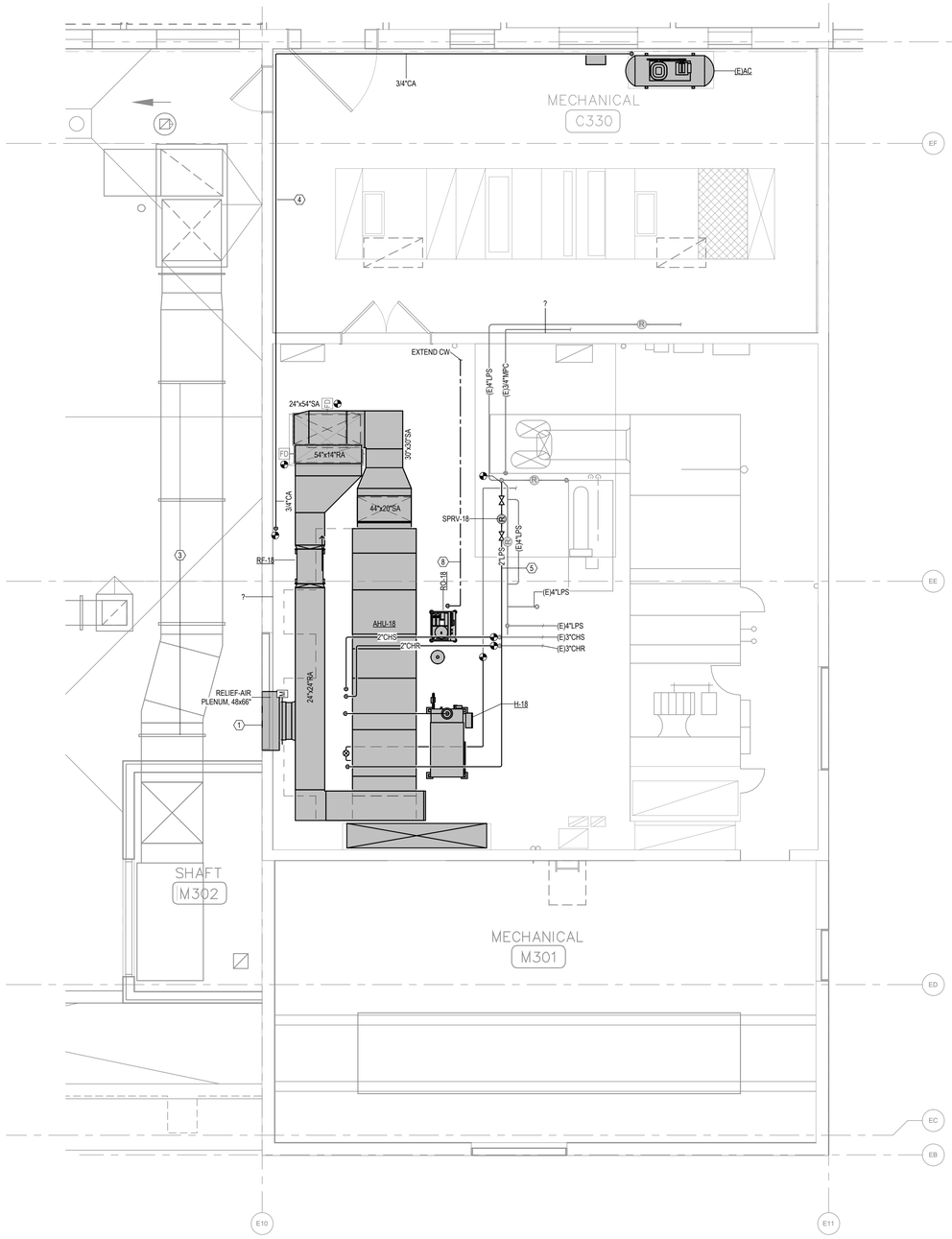
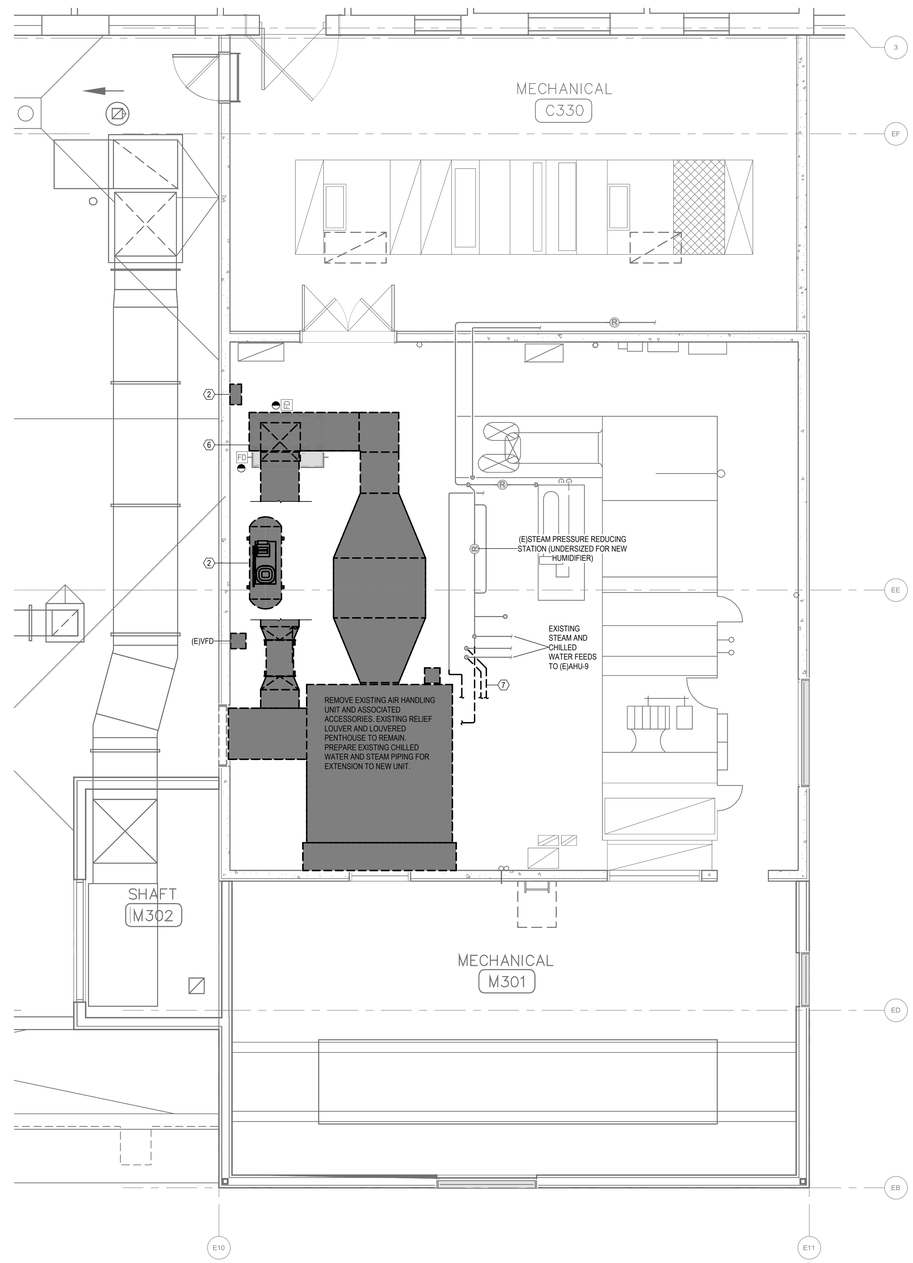


2 MECHANICAL ENLARGED LEVEL 3 PLAN - AHU-18
1/4" = 1'-0"



1 MECHANICAL ENLARGED LEVEL 3 DEMOLITION PLAN - (E)AHU-18
1/4" = 1'-0"

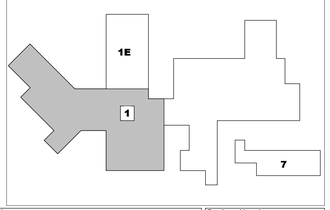
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 RE-INSTALL DISCONNECTED LOUVER.
2 COORDINATE WITH VA FOR SCHEDULED INTERRUPTION OF PNEUMATIC AIR SERVICE. DISCONNECT EXISTING AIR COMPRESSOR, VIBRATION BASE, AIR DRYER, AND ASSOCIATED ACCESSORIES. RELOCATE EQUIPMENT TO NEW INDICATED LOCATION AND EXTEND 3/4" PNEUMATIC AIR PIPING TO ORIGINAL CONNECTION POINT. RESTORE SYSTEM TO FULL OPERATION.
3 DISCONNECT SPAN OF EXISTING OUTSIDE AIR DUCT TO ALLOW FOR REPLACEMENT OF AHU THROUGH EXISTING LOUVER OPENING. DISCONNECT LOUVER.
4 INSTALL EXISTING AIR COMPRESSOR, VIBRATION BASE, AIR DRYER, AND ASSOCIATED ACCESSORIES AT NEW LOCATION. EXTEND 3/4" TYPE K COPPER LINE BACK TO EXISTING POINT-OF-CONNECTION. EXTEND ABOVE DOORWAY AND INSTALL ADDITIONAL OFFSETS AS NECESSARY.
5 EXTEND CHILLED WATER PIPING TO NEW AIR HANDLING UNITS. EXTEND STEAM PIPING TO AIR HANDLING UNITS AND STEAM-TO-STEAM HUMIDIFIERS.
6 DEMOLISH SUPPLY AND RETURN DUCTWORK BACK TO SHAFT WITH EXISITNG FLOOR FIRE DAMPERS AND PREPARE FOR EXTENSION IN NEW WORK.
7 EXISTING CHILLED WATER MAINS UP FROM FLOOR BELOW SERVING AHU-18. REMOVE EXISTING RUNOUTS (LOW) AND CAP. PROVIDE NEW 2" RUNOUTS (HIGH) AND ROUTE TO NEW AHU-18.
8 PROVIDE PIPING TO REVERSE OSMOSIS (RO) UNIT AND EXTEND RO WATER (CPVC) TO BOTH STEAM-TO-STEAM HUMIDIFIERS. REFER TO DETAIL ON SHEET M-502.

KEY PLAN NTS NORTH



Revisions:	Date:

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STATE OF WASHINGTON ERIK GONZALES REGISTERED PROFESSIONAL ENGINEER

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

Drawing Title: MECHANICAL ENLARGED PLANS
Phase: 100% Submittal
Approved:
Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number: 668-21-100
Building Number: 1
Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: Checker
Drawn: Author
Drawing Number: M-402

VA FORM 08 - 6231

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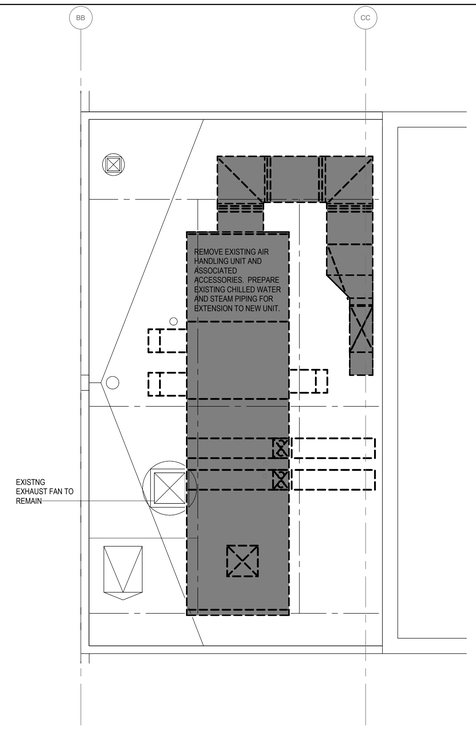
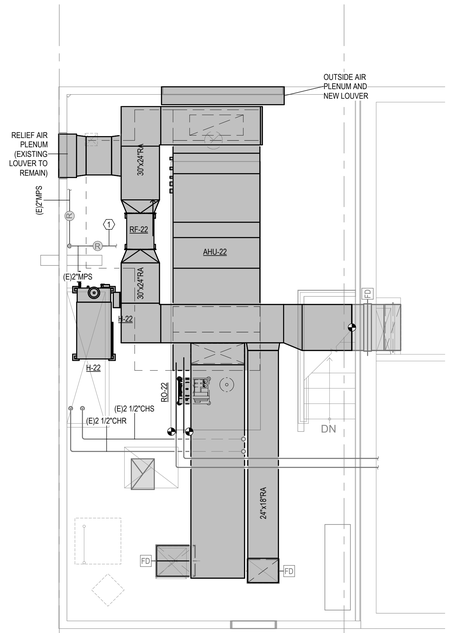
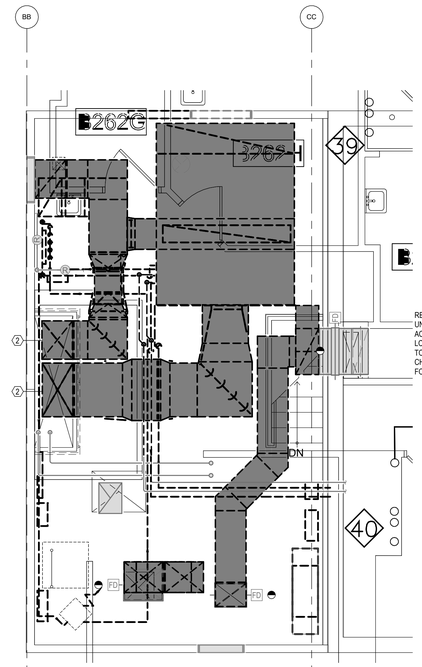


4 MECHANICAL ENLARGED PENTHOUSE ROOF DEMOLITION PLAN - (E)AHU-22
1/4" = 1'-0"



1 MECHANICAL ENLARGED LEVEL 4 PLAN - AHU-22
1/4" = 1'-0"



REMOVE EXISTING AIR HANDLING UNIT AND ASSOCIATED ACCESSORIES. EXISTING RELIEF LOUVER AND LOUVERED PENTHOUSE TO REMAIN. PREPARE EXISTING CHILLED WATER AND STEAM PIPING FOR EXTENSION TO NEW UNIT.

3 MECHANICAL ENLARGED LEVEL 4 DEMOLITION PLAN - AHU-20
1/4" = 1'-0"

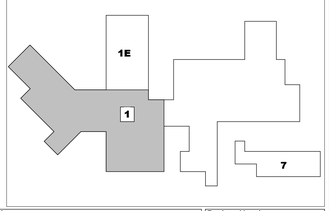
GENERAL NOTES

A. REFER TO SHEET M-001 FOR ADDITIONAL GENERAL NOTES.
B. PROVIDE NEW INSULATION FOR ALL NEW DUCTWORK, DUCT ACCESSORIES, MECHANICAL PIPING (CHILLED WATER, HEATING HOT WATER, STEAM, STEAM CONDENSATE, ETC), AND PIPE ACCESSORIES (VALVES, TRAP ASSEMBLIES, ETC).
C. PATCH AND SEAL ALL WALLS WHERE DUCTWORK / PIPING IS REMOVED. PROVIDE APPROPRIATE FIRE CAULKING BASED ON FIRE RATING.
D. WHERE POSSIBLE, MATCH LOCATIONS OF NEW THERMOSTATS WITH EXISTING THERMOSTAT LOCATIONS (NOT SHOWN). PROVIDE NEW THERMOSTATS WHERE NEW VAVS ARE PROVIDED.

LEGEND NOTES

1 EXTEND CHILLED WATER PIPING TO NEW AIR HANDLING UNITS. EXTEND STEAM PIPING TO AIR HANDLING UNITS AND STEAM-TO-STEAM HUMIDIFIERS.
2 REMOVE SUPPLY AND RETURN MAINS FROM (E)AHU-20 DOWN THROUGH FLOORS TO DECK OF 1ST FL. REFER TO ARCH.

KEY PLAN NTS NORTH



Revisions:	Date:

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STATE OF WASHINGTON ORLANDO ERIK GONZALES EXPIRES 11/15/26 PROFESSIONAL ENGINEER

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

Drawing Title: MECHANICAL ENLARGED PLANS
Phase: 100% Submittal
Approved:
Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number: 668-21-100
Building Number: 1
Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Drawing Number: M-403

VA FORM 08 - 6231

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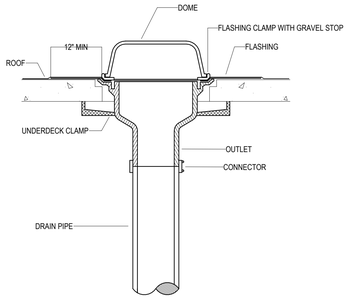
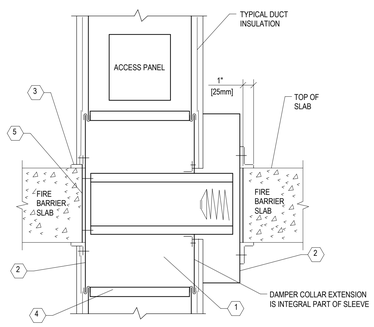


12 ROOF DRAIN DETAIL
NTS



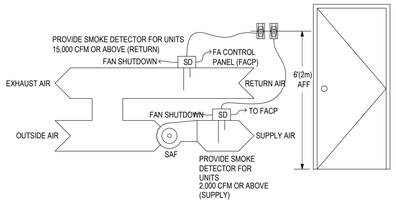
KEYED NOTES:

1. HORIZONTAL DAMPER SHOWN, FOLLOW MANUFACTURER'S INSTRUCTIONS, INCLUDING GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN LINE WITH FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE GAGE NOT LESS THAN CONNECTING DUCT, FASTEN SLEEVE TO DAMPER AND FLOOR SLAB WITH PERIMETER ANGLES.
3. USE GALVANIZED STEEL PERIMETER ANGLES NOT LESS THAN 1-1/2" X 1-1/2" (40mm x 40mm), MIN 14 GAGE, AND SHALL PROVIDE 1" (25mm) MINIMUM OVERLAP OF OPENING ON ALL SIDES. PERIMETER ANGLE IS FASTENED TO PARTITION.
4. BREAKAWAY DUCT CONNECTION OF TYPES INDICATED IN SMACNA. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING FUSIBLE LINK OR LINKS.
5. PROVIDE 1/2" TO 1/4" (6mm TO 15mm) CLEARANCE ON HEIGHT AND WIDTH.

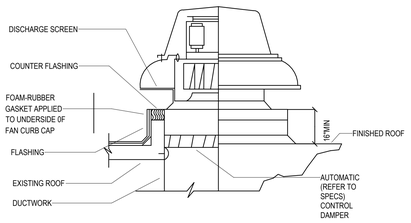
11 FIRE DAMPER AT FLOOR PENETRATION
NTS

NOTES:

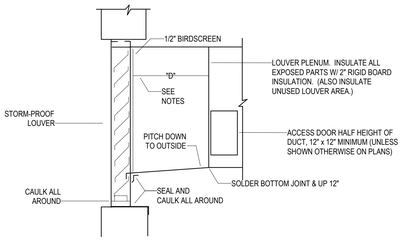
1. PROVIDE MINIMUM 3/4" (19MM) (MIN.) EMT CONDUIT FOR ALL FIRE ALARM WIRING. PROVIDE BUSHINGS FOR ALL WIRING ENTRIES INTO JUNCTION BOXES.
2. PROVIDE DUCT SMOKE DETECTOR REMOTE INDICATOR TEST SWITCH AT 6 FEET (2M) ABOVE THE FINISH FLOOR INSIDE MECHANICAL ROOM ADJACENT TO DOOR.
3. ALL FIRE PROTECTION SYSTEM AND DEVICES MUST BE COMPATIBLE WITH THE CAMPUS FIRE PROTECTION SYSTEM BY EDWARDS SIGNALING.
4. ANY NEW FIRE ALARM INSTALLATION, OR MODIFICATION TO AN EXISTING FIRE ALARM SYSTEM MUST INCLUDE A VERIFICATION THAT THE REQUIREMENTS OF NFPA 72 CONCERNING THE LABELING OF THE FIRE ALARM PANEL, THE LABELING OF THE ASSOCIATED ELECTRICAL PANELBOARD, THE LABELING OF THE ASSOCIATED CIRCUIT BREAKER, AND A UL AND NFPA APPROVED METHOD OF LOCKING THE CIRCUIT BREAKER IN THE "ON" POSITION, IF IT IS USED AS A MEANS OF DISCONNECT FOR THE FIRE ALARM PANEL.
5. AN INVENTORY OF ALL NEW FIRE ALARM EQUIPMENT INSTALLED SHALL BE PROVIDED TO THE COR IN A SPREADSHEET FORMAT TO INCLUDE MODEL, SERIAL NUMBER, AND LOCATION FOR INCLUSION INTO FACILITY DATABASE.



10 DUCT SMOKE DETECTOR DETAIL (REPLACEMENT)
NTS



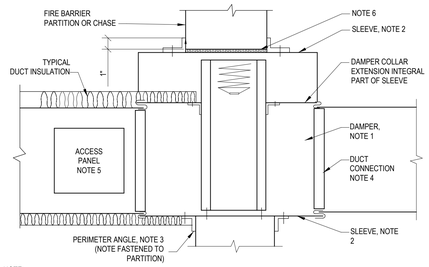
9 ROOF MOUNTED EXHAUST FAN DETAIL
NTS



NOTES:

1. WHEN "D" IS OVER 24" PROVIDE 3/4" DRAIN AT 5'-0" CENTERS (IF DEPTH INTO PAPER IS GREATER THAN 5'-0"), 6" FROM LOUVER WITH TRAP.

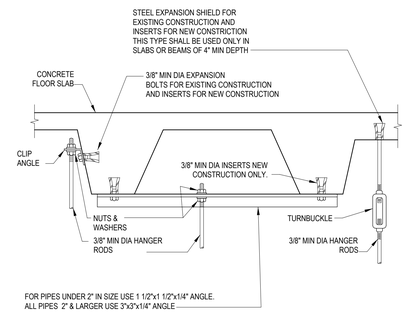
8 LOUVER CONNECTION DETAIL
NTS



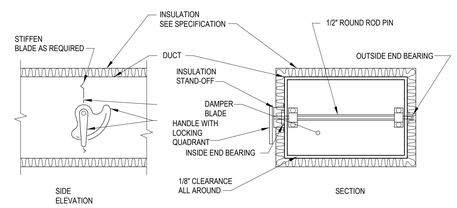
NOTE:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, 1S SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGELS: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2" [40x40mm], 14 GAGE, TO PROVIDE 1" [25mm] MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA.
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
6. PROVIDE 1/4" TO 1/2" [6 TO 15mm] CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.
7. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" [75mm] HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

7 SECTION THRU FIRE DAMPER INSTALLATION
NTS



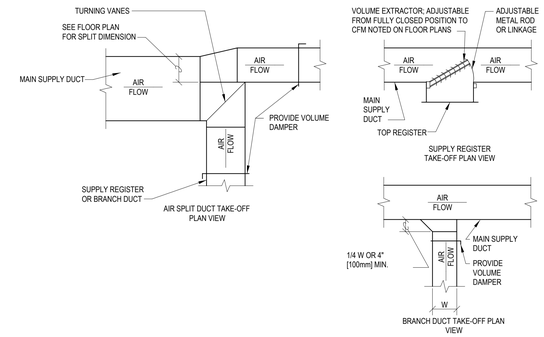
6 SECURING HANGER RODS IN CONCRETE
NTS



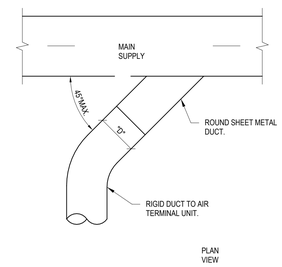
NOTE:

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.

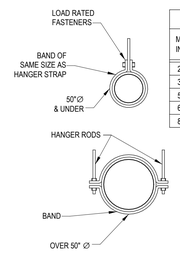
5 VOLUME DAMPER DETAIL
NTS



4 SUPPLY DUCTWORK TAKE-OFFS
NTS



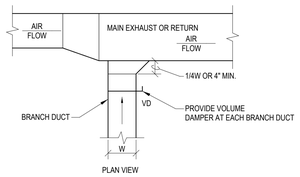
3 SUPPLY DUCT TAKEOFF - AIR TERMINAL UNIT
NTS



HANGER STRAPS OR RODS			
MAX. DUCT Ø IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS.	MAX. SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10]Ø. RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13]Ø RODS	2500 [1133]	144 [3600]

NOTE: TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

2 ROUND DUCT HANGERS
NTS



1 EXHAUST OR RETURN BRANCH DUCTWORK
NTS

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL DETAILS
Phase	100% Submittal
Project Title	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number	668-21-100
Building Number	1
Approved:	
Location:	Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205
Issue Date	November 17, 2025
Checked	AESUS
Drawn	AESUS
Drawing Number	M-501

VA FORM 08 - 6231

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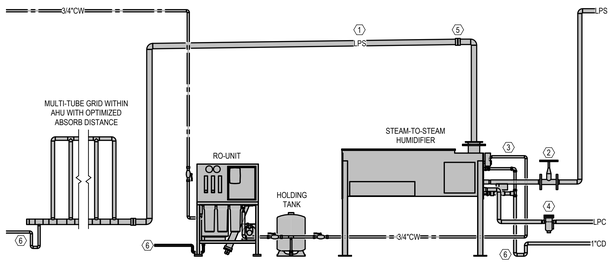
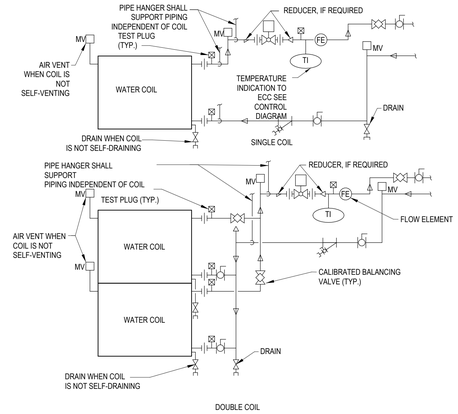


GENERAL NOTES:
A. PROVIDE UNIONS AT ALL CONNECTIONS TO EQUIPMENT.
B. ALL TRAP SEALS SHALL BE PROVIDED AT DEPTH AS RECOMMENDED BY MANUFACTURER.
C. SUPPORT ALL PIPING INDEPENDENT OF EQUIPMENT.
D. ALL STEAM PIPING SHALL BE FULLY INSULATED, INCLUDING REMOVABLE ASSEMBLIES AT VALVES AND ACCESSORIES.

(#) DETAIL NOTES:

1. PROVIDE INSULATED, STAINLESS STEEL PIPING FROM HUMIDIFIER TO GRID. SLOPE TOWARDS GRID (1%).
2. MOTORIZED STEAM VALVE (FURNISHED WITH HUMIDIFIER).
3. COLD-WATER MAKE-UP WATER CONNECTED TO SOLENOID VALVE.
4. FLOAT&THERMOSTATIC STEAM TRAP.
5. PROVIDE UNION TO ALLOW CLEANING OF HUMIDIFIER.
6. TRAP SEAL DEPTH PER MANUFACTURER'S RECOMMENDATIONS. ROUTE TO NEAREST DRAIN.

7 STEAM-TO-STEAM HUMIDIFIER DETAIL
NTS



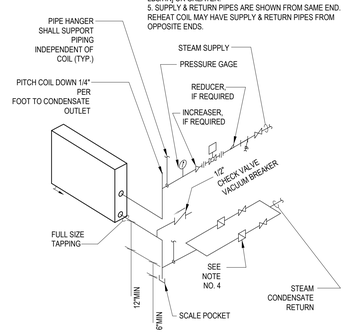
NOTES:
1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" ∅ PIPE & SMALLER. TYPE "H-P" FOR 5" ∅ PIPE & LARGER.

2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.

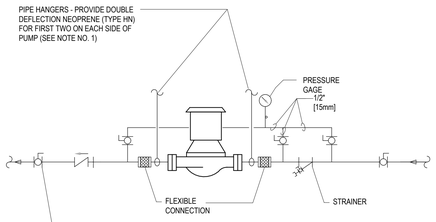
3. THE FLOW ELEMENT MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

6 WATER COILS - PIPING CONNECTIONS
NTS

NOTES:
1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATOR UNITS, THE RUNOUT PIPING FOR CONNECTIONS TO COIL SHALL BE INSTALLED WITH SWING JOINTS TO ALLOW FOR THE VIBRATION.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALVES, OR EQUIPMENT.
3. TRAP EACH COIL SEPARATELY WHEN INSTALLED IN A BANK OF TWO OR MORE HIGH. ALSO PROVIDE SEPARATE VACUUM BREAKER FOR EACH COIL.
4. TWO TRAP ASSEMBLIES IN PARALLEL ARE SHOWN. TWO TRAPS REQUIRED WHEN CONDENSATE LOAD IS 2400 KG/HR [5,000 LBS/HR] OR GREATER.
5. SUPPLY & RETURN PIPES ARE SHOWN FROM SAME END. REHEAT COIL MAY HAVE SUPPLY & RETURN PIPES FROM OPPOSITE ENDS.



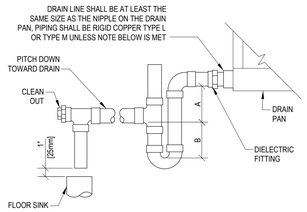
3 STEAM COIL - PIPING CONNECTIONS
NTS



NOTES:

1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.

12 IN-LINE PUMPS - CONNECTIONS
NTS

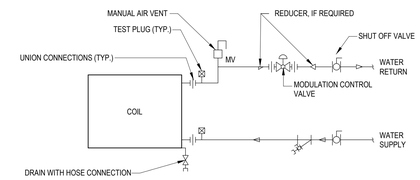


NOTE: 1. CPVC PIPE MAY BE USED ONLY IF APPROVED BY LOCAL VA AND IS INDOORS AND DOES NOT PASS THROUGH RATED BARRIERS.
2. DIELECTRIC FITTING TO BE USED WHEN TWO DISSIMILAR METALS ARE TO BE CONNECTED.

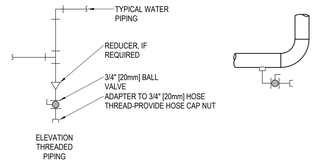
UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

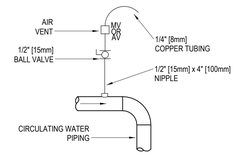
9 AIR HANDLING UNIT DRAIN TRAP DETAIL
NTS



5 TERMINAL UNIT WATER COILS
NTS

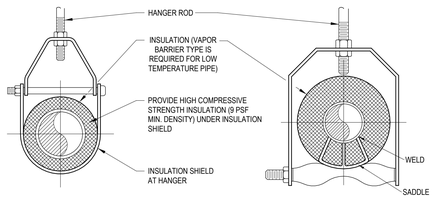


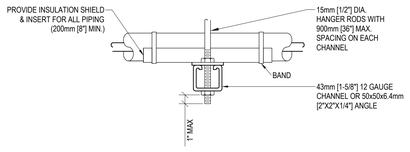
NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.



NOTES:
1. VENT ALL HIGH POINTS INDICATED ABOVE.
2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN.

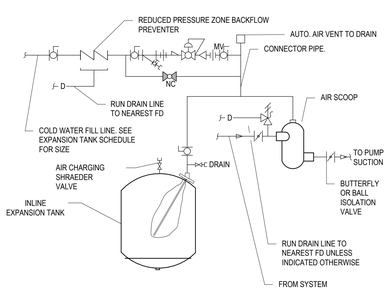
2 HYDRONIC PIPING VENT AND DRAINS
NTS





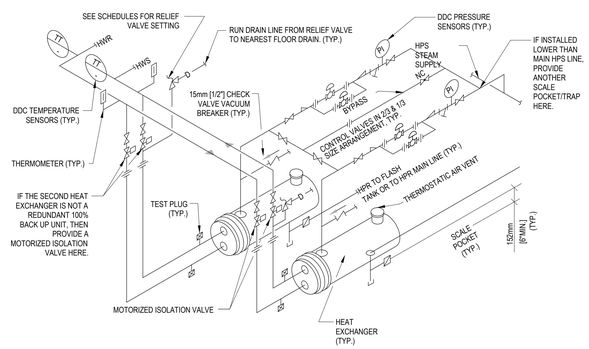
MAXIMUM PIPE/TUBING SUPPORT SPACING										
NOM. SIZE	mm [IN]	THRU 20 [THRU $\frac{3}{4}$]	25 [1]	32 [1 $\frac{1}{4}$]	40 [1 $\frac{1}{2}$]	50 [2]	65 [2 $\frac{1}{2}$]	75 [3]	100 [4]	125 [5]
PIPE	mm [FT]	2100 [7]	2100 [7]	2100 [7]	2700 [9]	3000 [10]	3400 [11]	3700 [12]	4100 [14]	4900 [16]
TUBING	mm [FT]	1500 [5]	1800 [6]	2100 [7]	2400 [8]	2400 [8]	2700 [9]	3000 [10]	3700 [12]	4000 [13]
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.										

4 PIPE HANGERS
NTS



NOTES:
1. SEE EXPANSION TANK SYSTEM SCHEDULE FOR COMPONENT SIZES.
2. PROVIDE AIR SCOOP WITH INTEGRAL AAV.
3. SET PRESSURE REDUCING VALVE SO PRESSURE AT HIGHEST POINT IN SYSTEM HAS A MINIMUM OF 12 PSIG.
4. PROVIDE RELIEF VALVE (MAY ADMIT IF PROVIDED AT HEATING SKID).

10 FLOOR MOUNTED EXPANSION TANK - PIPING CONNECTIONS
NTS



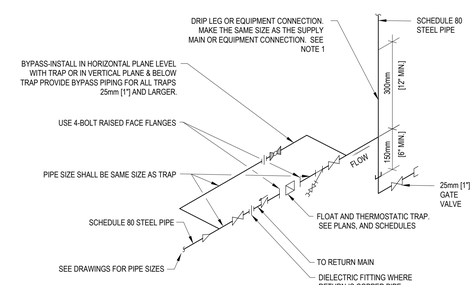
NOTES:
1. THE ABOVE DETAIL SHOWS REQUIRED PIPING FOR TWO HEAT EXCHANGERS IN PARALLEL. INDICATE IF 100% REDUNDANT OR NOT.

2. PROVIDE SADDLE SUPPORTS AND LEGS OR HANGERS FOR HEAT EXCHANGER. MOUNTING HEIGHT SHALL BE ADJUSTED TO FACILITATE GRAVITY RETURN OF STEAM CONDENSATE.

3. MAKE THE BYPASS THE SAME SIZE AS THE CONNECTIONS TO THE CONTROL VALVES.

4. CONTROL VALVES SHALL BE IN A $\frac{1}{3}$ AND $\frac{2}{3}$ SIZE ARRANGEMENT.

11 HEAT EXCHANGER - STEAM TO HOT WATER
NTS



NOTE:
ALL DRIP POINTS ON STEAM MAINS SHALL BE PROVIDED WITH A 300mm [12"] MINIMUM HIGH DRIP LEG FROM BOTTOM OF STEAM MAIN TO TRAP INLET. DRIP LEG SHALL HAVE 150mm [6"] SCALE POCKET BELOW TRAP INLET.

1 FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY
NTS

Revisions:	Date:

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

Drawing Title: MECHANICAL DETAILS
Phase: 100% Submittal
Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Project Number: 668-21-100
Building Number: 1
Approved:
Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Drawing Number: M-502

VA FORM 08 - 6231

Autodesk Docs://AESUS Projects/20025_VA_Upgrade_AHU-18_20_22_MECH.rvt
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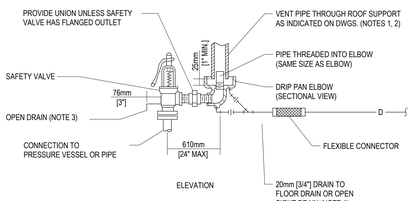
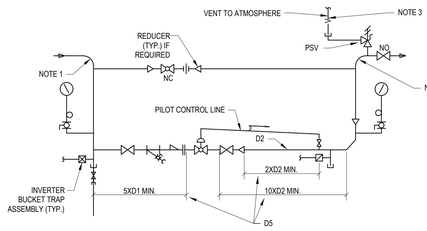


NOTES:

1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, SIZE THE VENT PIPE SO THAT STEAM IS NOT BLOWN OUT AT THE VENT PIPE ENTRANCE. UTILIZE THE CALCULATION METHOD CONTAINED IN ANSI B31.1. POWER PIPING CODE, APPENDIX II. THE VENT PIPE SHOULD GO VERTICAL THRU THE ROOF WITH NO TURNS OR ANGLES. WHERE REQUIRED THERE SHALL BE NO MORE THEN A TOTAL OR 180 DEGREES IN DIRECTIONAL CHANGES MADE WITH 45 DEG. ELBOWS.
2. VENT PIPE SHALL TERMINATE 1829mm [6'] MIN. ABOVE FINISHED ROOF.
3. DISCHARGE OF DRAIN SHALL BE DIRECTED AWAY FROM PLATFORMS OR OTHER AREAS WHERE PERSONNEL MAY OCCUPY.
4. DO NOT CONNECT ANY OTHER DRAIN TO THE DRIP PAN ELBOW DRAIN PIPE.
5. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

6 STEAM SAFETY VALVE
NTS

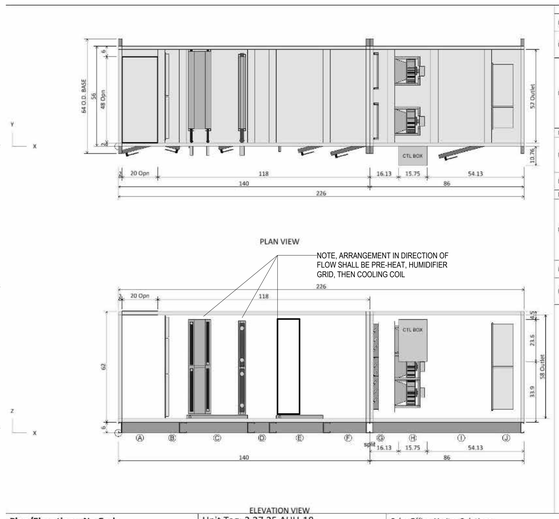


NOTES:

1. SEE FLOOR PLANS FOR PIPE SIZES.
2. SEE EQUIPMENT SCHEDULES FOR VALVE DATA. INSTALL VALVES AS RECOMMENDED BY MANUFACTURER.
3. MAKE BYPASS VALVE DISCHARGE PIPE THE SAME SIZE AS D2 FOR THE LARGEST PRV.
4. PROVIDE NECESSARY UNIONS FOR THE REMOVAL OF VALVE WITH SCREWED CONNECTIONS.
5. SLOPE PILOT CONTROL LINE FROM PRESSURE REDUCING VALVE TO DOWN STREAM STEAM PIPING. MIMIMUM SLOPE SHALL BE 25'/100', 25mm/300mm [1"/12"]

5 STEAM PRESSURE REDUCING STATION
NTS

3ZA291 VA Spokane 57 2/27/2025



Component Key		
A	Plenum Section Right Door (WxH):	16 ins x 48 ins
B	Panel Filter Filter Type: Right Door (WxH):	Pleated (MERV 8) 8 ins x 58 ins
C	Combination Coil Heating Coil Type: Heating Model: Cooling Coil Type: Cooling Model: Cooling Total Capacity: Heating Total Capacity: Right Door (WxH):	Hot Water 5WH0902B Cold Water 5WH0908B 236886.0 Btu/hr 486073.0 Btu/hr 8 ins x 52 ins
D	Access Section	
E	Chilled Water coil Coil Model: Total Capacity: Right Door (WxH):	5WH0004C 0.0 Btu/hr 14 ins x 52 ins
F	Access Section Right Door (WxH):	20 ins x 54 ins
G	Damper	
H	Supply Fan Fan Type: Fan Size (Class): Air Flowrate: T.S.P: Motor Power: Control box door swing:	Centrifugal - Plenum 355 (2) 1866.7 cfm 5.9 insWg 4.4 HP 15.75 ins
I	Access Section Right Door (WxH):	26 ins x 58 ins
J	Panel and Bag Filter Pre Filter Type: Bag Filter Type:	Throwaway (StrataDensity) HEPA

NOTE: CUTSHEETS ARE PROVIDED FOR REFERENCE ONLY AND MAY CONTAIN ERRORS OR OMISSIONS. REFER TO PLANS AND SPECIFICATIONS.

2.27.25 AHU-18 Drawing

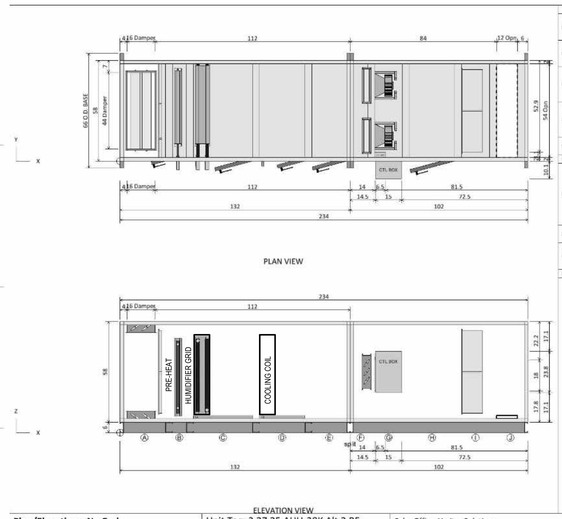
Plan/Elevation - No Ends	Unit Tag: 2.27.25 AHU-18		Sales Office: Varitec Solutions		
Product: Vision Air Handler	Project Name: VA Spokane		Sales Engineer:		
Model: CAH016GDCM	Feb. 27, 2025	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

DAIKIN 13600 Industrial Park Blvd, Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.62

All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.

4 AHU-18 CONFIGURATION (REFERENCE ONLY)
NTS

3ZA291 VA Spokane 24 2/27/2025



Component Key		
A	Mixing Box Filter Type: Right Door (WxH):	PerfectPleat HC M8 8 ins x 54 ins
B	Hot Water Coil Coil Model: Total Capacity:	5WQ1101C 326370.0 Btu/hr
C	Chilled Water coil Coil Model: Total Capacity: Right Door (WxH):	5WH1105B 170373.0 Btu/hr 22 ins x 48 ins
D	Chilled Water coil Coil Model: Total Capacity: Right Door (WxH):	5WH0004C 0.0 Btu/hr 16 ins x 48 ins
E	Access Section Right Door (WxH):	20 ins x 50 ins
F	Damper	
G	Supply Fan Fan Type: Fan Size (Class): Air Flowrate: T.S.P: Motor Power: Control box door swing:	Centrifugal - Plenum 12 (2) 2187.5 cfm 5.9 insWg 4.1 HP 15.00 ins
H	Access Section Right Door (WxH):	26 ins x 54 ins
I	Panel and Bag Filter Pre Filter Type: Bag Filter Type:	Throwaway (StrataDensity) HEPA
J	Plenum Section	

NOTE: CUTSHEETS ARE PROVIDED FOR REFERENCE ONLY AND MAY CONTAIN ERRORS OR OMISSIONS. REFER TO PLANS AND SPECIFICATIONS.

2.27.25 AHU-20K Alt 2 RF Drawing

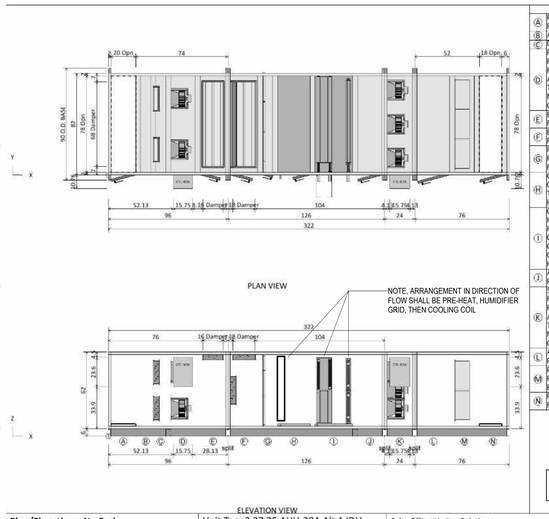
Plan/Elevation - No Ends	Unit Tag: 2.27.25 AHU-20K Alt 2 RF		Sales Office: Varitec Solutions		
Product: Vision Air Handler	Project Name: VA Spokane		Sales Engineer:		
Model: CAH016GDQM	Feb. 27, 2025	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

DAIKIN 13600 Industrial Park Blvd, Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.62

All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.

2 AHU-20K CONFIGURATION (REFERENCE ONLY)
NTS

3ZA291 VA Spokane 42 2/27/2025



Component Key		
A	Plenum Section Right Door (WxH):	20 ins x 48 ins
B	Access Section	
C	Damper	
D	Return Fan Fan Type: Fan Size (Class): Air Flowrate: T.S.P: Motor Power: Control box door swing:	Centrifugal - Plenum 355 (2) 2500.0 cfm 1.4 insWg 4.4 HP 15.75 ins
E	Economizer Return/Exhaust Right Door (WxH):	16 ins x 58 ins
F	Economizer Mixing/Outside Air Right Door (WxH):	18 ins x 58 ins
G	Panel Filter Filter Type: Right Door (WxH):	Pleated (MERV 8) 8 ins x 58 ins
H	Chilled Water coil Coil Model: Total Capacity: Right Door (WxH):	5WH0004C 0.0 Btu/hr 14 ins x 52 ins
I	Combination Coil Heating Coil Type: Heating Model: Cooling Coil Type: Cooling Model: Cooling Total Capacity: Heating Total Capacity:	Hot Water 5WH0802B Cold Water 5WL0908B 446866.0 Btu/hr 847928.0 Btu/hr
J	Access Section Right Door (WxH):	20 ins x 54 ins
K	Supply Fan Fan Type: Fan Size (Class): Air Flowrate: T.S.P: Motor Power: Control box door swing:	Centrifugal - Plenum 355 (2) 2160.0 cfm 5.7 insWg 4.4 HP 15.75 ins
L	Access Section Right Door (WxH):	26 ins x 58 ins
M	Panel and Bag Filter Pre Filter Type: Bag Filter Type:	Throwaway (StrataDensity) HEPA
N	Plenum Section Right Door (WxH):	22 ins x 48 ins

NOTE: CUTSHEETS ARE PROVIDED FOR REFERENCE ONLY AND MAY CONTAIN ERRORS OR OMISSIONS. REFER TO PLANS AND SPECIFICATIONS.

2.27.25 AHU-20A Alt 1 IDU Drawing

Plan/Elevation - No Ends	Unit Tag: 2.27.25 AHU-20A Alt 1 IDU		Sales Office: Varitec Solutions		
Product: Vision Air Handler	Project Name: VA Spokane		Sales Engineer:		
Model: CAH026GDCM	Feb. 27, 2025	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

DAIKIN 13600 Industrial Park Blvd, Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.62

All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.

3 AHU-20A CONFIGURATION (REFERENCE ONLY)
NTS

3ZA291 VA Spokane 9 2/27/2025

Component Key		
A	Mixing Box Filter Type: Right Door (WxH):	PerfectPleat HC M8 8 ins x 58 ins
B	Hot Water Coil Coil Model: Total Capacity:	5WH0802B 635643.0 Btu/hr
C	Chilled Water coil Coil Model: Total Capacity: Left Door (WxH):	5WH1106B 300488.0 Btu/hr 18 ins x 52 ins
D	Damper	
E	Supply Fan Fan Type: Fan Size (Class): Air Flowrate: T.S.P: Motor Power: Control box door swing:	Centrifugal - Plenum 355 (2) 2000.0 cfm 5.0 insWg 4.4 HP 15.75 ins
F	Access Section Right Door (WxH):	26 ins x 58 ins
G	Panel and Bag Filter Pre Filter Type: Bag Filter Type:	Pleated (MERV 8) HEPA
H	Plenum Section	

NOTE: CUTSHEETS ARE PROVIDED FOR REFERENCE ONLY AND MAY CONTAIN ERRORS OR OMISSIONS. REFER TO PLANS AND SPECIFICATIONS.

2.27.25 AHU-22 Drawing

Plan/Elevation - No Ends	Unit Tag: 2.27.25 AHU-22		Sales Office: Varitec Solutions		
Product: Vision Air Handler	Project Name: VA Spokane		Sales Engineer:		
Model: CAH021GDCM	Feb. 27, 2025	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

DAIKIN 13600 Industrial Park Blvd, Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.62

All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.

1 AHU-22 CONFIGURATION (REFERENCE ONLY)
NTS

Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD
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Architecture, Engineering, and, Sustainable Design
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STAMP
ORLANDO ERIK GONZALES, STATE OF WASHINGTON, 21115, PROFESSIONAL ENGINEER

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

Drawing Title	Phase	Project Title	Project Number
MECHANICAL DETAILS	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205	Drawing Number: M-503
		Issue Date: November 17, 2025 / Checked: AESUS / Drawn: AESUS	

VA FORM 08 - 6231

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PUMP SCHEUDLE

NOTES:
1. PRIMARY AND BACKUP PUMP OPERATION.

MARK	LOCATION	SERVES	SYSTEM	FLUID FLOW (GPM)	FLUID HEAD (FT)	FLUID TEMPERTURE (°F)	FLUID SP GR	EFFICIENCY (%)	WEIGHT (LBS)	ELECTRICAL VOLT	ELECTRICAL PHASE	ELECTRICAL MOTOR HP	ELECTRICAL MOTOR RPM	ELECTRICAL MOTOR SPEED CONTROL	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
P-HWH-20A	NEW PENTHOUSE	AHU-20K & 20A VAVS	HEATING WATER	20	40	140.0 °F	1	50	200	208	3	1	1760	VFD	Taco	1506D	ALL NOTES
P-HWH-20B	NEW PENTHOUSE	AHU-20K & 20A VAVS	HEATING WATER	20	40	140.0 °F	1	50	200	208	3	1	1760	VFD	Taco	1506D	ALL NOTES

STEAM TO WATER HEAT EXCHANGER SCHEDULE

NOTES:
1. SHELL & TUBE HEAT EXCHANGERS (MIN 7 SF HEATING SURFACE). PROVIDE STEEL SUPPORTING STRUCTURE.

MARK	LOCATION	SERVES	SYSTEM	FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT)	STEAM INLET PRESSURE (PSIG)	STEAM CONTROL VALVE (LB/HR)	STEAM TRAP CAPACITY (LB/HR)	WEIGHT (LBS)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
HX-20A	NEW PENTHOUSE	AHU-20K & 20A VAVS	HEATING WATER	20	120	140	5	10	160	240	150	Taco	G4406S	ALL NOTES
HX-20B	NEW PENTHOUSE	AHU-20K & 20A VAVS	HEATING WATER	20	120	140	5	10	160	240	150	Taco	G4406S	ALL NOTES

PACKAGED REVERSE OSMOSIS SCHEDULE

NOTES:
1. PROVIDE PRESSURIZED HOLDING TANK (44 GALLON, EQUAL TO DRISTEEM 202 TANK). UNIT SHALL COME ASSEMBLED WITH 10" SEDIMENT AND CARBON FILTER, 5-MICRON SEDIMENT FILTER, 2.5"x21" MEMBRANES IN SS HOUSING.

MARK	LOCATION	SERVES	INCOMING WATER PPM DISOLVED SOLIDS	PRODUCT CAPACITY @ 50°F (LBS/HR)	NO. VESSELS	WEIGHT (LBS)	ELECTRICAL VOLT	ELECTRICAL PHASE	ELECTRICAL CIRCUIT FLA	ELECTRICAL CIRCUIT MOCP	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
RO-18	AHU-18 PENTHOUSE	H-18	200	200	2	180	120	1	5.5	15	DRISTEEM	RO 202	ALL NOTES
RO-20	PREVIOUS AHU-20 PENTHOUSE	H-20 & H-20K	200	200	2	180	120	1	5.5	15	DRISTEEM	RO 202	ALL NOTES
RO-22	NEW PENTHOUSE	H-22	200	200	2	180	120	1	5.5	15	DRISTEEM	RO 202	ALL NOTES

AIR DEVICE SCHEDULE

BASE SPECIFICATIONS: UNLESS NOTED OTHERWISE, AIR DEVICES SHALL BE ALUMINUM CONSTRUCTION WITH WHITE, BAKED POWER-COAT, 2-MIL FINISH (SEE FINISH). LINEAR DIFFUSERS SHALL BE FURNISHED WITH PLENUMS, ALIGNMENT STRIPS, AND BLANK-OFF PLATES (WHERE ZERO FLOW). WHERE SHOWN ON PLANS, LINEAR DIFFUSER AND LINEAR BAR GRILLES SHALL BE FURNISHED WITH INACTIVE MITERED CORNERS AND TEES OF SAME WIDTH. REFER TO PLANS AND RCP TO DETERMINE MOUNTING FRAME OPTIONS.

ACCESSORIES (REFER TO TYPE & REMARKS): STEEL CONSTRUCTION [ST], ALUMINIZED STEEL CONSTRUCTION [AST], INSULATED BACK PAN (UL 181/NFPA 90A SMOKE REQUIREMENTS) [BP], LOW TEMPERATURE DISIGN WITH INSULATED PAN AND INDUCTION CHAMBERS [LT], FULL ALUMINUM FOR MRI APPLICATION [MRI], FIRE RATED (UL AND NFPA 90A) [FR], LINEAR BAR GRILLE ACCESS CORE [LAC].

TAG LEGEND:
AA, BB"axCC" — AA=MARK, BB=NECK SIZE, CC=LENGTH,
DDD CFM — DDD=DESIGN FLOW
EE SL1/FF"/GG WAY — LINEAR EE=NO. SLOTS, FF=SLOT WIDTH,
GG (INTEGER); DIRECTION, WHERE 0=VERTICAL OR RETURN/EXHAUST, 1=TOWARD NECK, -1=AWAY, 2=TWO-WAY,
GG (FRACTIONAL): 0.X (HORIZONTAL AND VERTICAL, WHERE X% HORIZ, 1-X% VERT), 1.Y (TWO-WAY, WHERE Y% TOWARD, 1-Y% AWAY)

MARK	TYPE	PANEL/FRAME SIZE (IMIN)	NECK TYPE	DAMPER	STYLE	FINISH	BASIS OF DESIGN MODEL	BASIS OF DESIGN MANUFACTURER	REMARKS
E11	CEILING GRILLE	24"x24"	ROUND	NO	PERFORATED	WHITE	PRICE / KRUEGER / TITUS	APODR / 56690 / PAR-AA	
E61	RETURN REGISTER	SEE PLAN	RECTANGULAR	NO	ALUMINUM BLADE	WHITE	PRICE / KRUEGER / TITUS	60 / AFS580 / 3FL	
E-12X12		24"x24"	NO	NO			ASPD / SPLQ / OMNI-AA	PRICE / KRUEGER / TITUS	
R1	<varies>	24"x24"	ROUND	NO	PERFORATED	WHITE	56690	KRUEGER	
R1x	<varies>	12"x12"	ROUND	NO	PERFORATED	WHITE	56690	KRUEGER	
R2	CEILING GRILLE	24"x24"	SQUARE	NO	PERFORATED	WHITE	56690	KRUEGER	
R12	CEILING GRILLE	12"x12"	ROUND	NO	PERFORATED	WHITE	56690	KRUEGER	
R61	RETURN REGISTER	SEE PLAN	RECTANGULAR	NO	ALUMINUM BLADE	WHITE	PRICE / KRUEGER / TITUS	60 / AFS580 / 3FL	
S1	<varies>	12"x12"	ROUND	NO	PLAQUE	WHITE	5PLQ	KRUEGER	
S2	LINEAR	24" LENGTH	PLENUM, OVAL/ROUND	NO	LINEAR SLOT	WHITE	DFL	KRUEGER	
S4	<varies>	48" LENGTH	PLENUM, OVAL/ROUND	NO	LINEAR SLOT	WHITE	DFL	KRUEGER	
S61	SUPPLY GRILLE	SEE PLAN	RECTANGULAR	NO	DOUBLE DEFLECTION	WHITE	PRICE / KRUEGER / TITUS	620 / 5880 / 300F	

STEAM PRESSURE REDUCING VALVE SCHEDULE

NOTES:
1. FURNISH UNIT WITH REMOTE PILOT AND ASSOCIATED ACCESSORIES. REFER TO DETAIL.

MARK	LOCATION	SERVES	SIZE	REQUIRED CAPACITY (LBS/HR)	PRESSURE IN (PSIG)	PRESSURE OUT (PSIG)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
SPRV-18	PENTHOUSE (AHU-18)	AHU-18, H-18	3/4	400	100	15	XYLEMINC	2100 v SPS-30	ALL

EXPANSION TANK SCHEDULE

MARK	LOCATION	APPROX SYSTEM VOLUME (GAL)	SYSTEM TEMPERTURE RANGE MIN (°F)	SYSTEM TEMPERTURE RANGE MAX (°F)	INITIAL PRESSURE IN TANK (PSIG)	MAX OPERATING PRESSURE (PSIG)	FILL PRESSURE AT TANK RELIEF VALVE (PSIG)	FILL PRESSURE AT TANK AT TANK (PSIG)	MIN. BLADDER VOLUME (GAL)	PIPE SIZE TO TANK (IN)	REMARKS
ET-1	NEW PENTHOUSE	35	60	180	12	75	100	12	5	3/4	

AIR HANDLING UNIT SCHEDULE

NOTES:
1. PROVIDE 120V / 20A CIRCUIT FOR LIGHTING AND RECEPTACLES. PROVIDE SINGLE-POINT POWER CONNECTION FOR 208V / 3PH. ALL FANS SHALL BE ECM SPEED CONTROLLED. PROVIDE MOTOR SPEED CONTROL PANEL.
2. ALL COILS (WITH EXCEPTION OF AHU-20A) SHALL BE SIZED FOR 100% OUTSIDE AIR (FULL EPIDEMIC MODE). PROVIDE INVERTED BUCKET STEAM TRAP FOR EACH STEAM COIL.
3. UNITS WITH EPIDEMIC MODE SHALL UTILIZE ACMCA 511 - CLASS 1A DAMPERS AT MIXING SECTION TO SEPARATE OUTSIDE AIR AND EXHAUST.

MARK	LOCATION	SERVES	FANS SUPPLY CFM	FANS SUPPLY EXT IN-WG	FANS SUPPLY MOTOR HP	FANS SUPPLY SPEED CONTROL	FANS RETURN CFM	FANS RETURN EXT IN-WG	FANS RETURN MOTOR HP	FANS RETURN SPEED CONTROL	FANS OUTSIDE AIR MINIMUM CFM	FANS OUTSIDE AIR EPIDEMIC / ECONOMIZER CFM	COOLING TYPE	COOLING EAT Db (°F)	COOLING EAT Wb (°F)	COOLING LAT Db (°F)	COOLING LAT Wb (°F)	COOLING EWT (°F)	COOLING LWT (°F)	COOLING FLOW (GPM)	COOLING WPD (FT-WG)	HEATING TYPE	HEATING EAT (°F)	HEATING LAT (°F)	HEATING FLOW (STEAM LBS-HR)	HEATING PRESSURE (STEAM PSI)	PREFILTER MERV RATING	AFTER FILTER MERV RATING	ASSOCIATED COMPONENTS	WEIGHT (LBS)	ELECTRICAL VOLT	ELECTRICAL PHASE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
AHU-18	AHU-18 PENTHOUSE	LEVEL 1, AREA 2	5600	2	(2)7.5	ECM	5000	1.5	--	--	1120	5000	CHILLED	92.8 °F	63.0 °F	54.0 °F	53.0 °F	45.0 °F	55.0 °F	40	10	STEAM	2.9 °F	60.0 °F	235	10	MERV7, MERV11	MERV16A (EPIDEMIC MODE), MERV14 (NORMAL)	RF-18, H-18	3950	208	3	DAIKIN APPLIED	ALL NOTES	
AHU-20A	NEW PENTHOUSE	LEVEL 1, AREA 1 & A-WING	10500	2	(4)5	ECM	9700	1.5	(4)3	ECM	2100	10500	CHILLED	76.0 °F	56.0 °F	54.0 °F	53.0 °F	45.0 °F	55.0 °F	25	10	STEAM	2.9 °F	60.0 °F	110	10	MERV7, MERV13	MERV14	H-20A	7000	208	3	DAIKIN APPLIED	ALL NOTES	
AHU-20K	NEW PENTHOUSE	LEVEL 1, KICHEN & DINING	4500	2	(2)7.5	ECM	1250	1.5	(2)3	ECM	3250	4500	CHILLED	92.8 °F	63.0 °F	54.0 °F	53.0 °F	45.0 °F	55.0 °F	30	10	STEAM	2.9 °F	60.0 °F	189	10	MERV7, MERV13	MERV16A (EPIDEMIC MODE), MERV14 (NORMAL)	H-20K	3500	208	3	DAIKIN APPLIED	ALL NOTES	
AHU-22	PREVIOUS AHU-20 PENTHOUSE	LEVEL 3, AREA 3	8000	2	(4)5	ECM	8000	1.5	--	--	1600	8000	CHILLED	92.8 °F	63.0 °F	54.0 °F	53.0 °F	45.0 °F	55.0 °F	60	10	STEAM	2.9 °F	60.0 °F	336	10	MERV7, MERV11	MERV16A (EPIDEMIC MODE), MERV14 (NORMAL)	H-22, RF-22	4100	208	3	DAIKIN APPLIED	ALL NOTES	

FAN SCHEDULE

NOTES:
1. PROVIDE INTEGRAL ECM SPEED CONTROLLER FOR DIRECT DRIVE MOTOR.
2. PROVIDE ENCLOSED SPRING MOUNTS FOR HANGING OF FAN FROM ABOVE.
3. PROVIDE ROOF CURB AND GRAVITY BACKDRAFT DAMPER.

MARK	LOCATION	SERVES	SYSTEM	AIR FLOW (CFM)	TSP (IN)	WEIGHT (LBS)	ELECTRICAL VOLT	ELECTRICAL PHASE	ELECTRICAL HP	ELECTRICAL MOTOR SPEED CONTROL	ELECTRICAL CIRCUIT FLA	ELECTRICAL CIRCUIT MCA	ELECTRICAL CIRCUIT MOCP	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
EF-20	NEW PENTHOUSE	KITCHEN & ADMIN	EXHAUST AIR	4500	1.25	200	208	3	3	ECM	9.7	12.1	20	GREENHECK	GB-220HP-VG	NOTES 1,3
RF-18	LEVEL 3 MECH RM	AHU-18	RETURN AIR	5000	1.5	400	208	3	3	ECM	9.7	12.1	20	GREENHECK	SQ-18-M2-VG	NOTES 1,2
RF-22	LEVEL 4 PENTHOUSE	AHU-20	RETURN AIR	8000	1.5	400	208	3	5	ECM	12.6	15.8	25	GREENHECK	SQ-20-M2-VG	NOTES 1,2

HUMIDIFIER SCHEDULE

NOTES:
1. FURNISH UNIT WITH INTEGRAL DRAIN COOLER. STEAM PIPING FROM UNIT TO AHU SHALL BE STAINLESS STEEL, INSULATED. PROVIDE INVERTED BUCKET STEAM TRAPS.

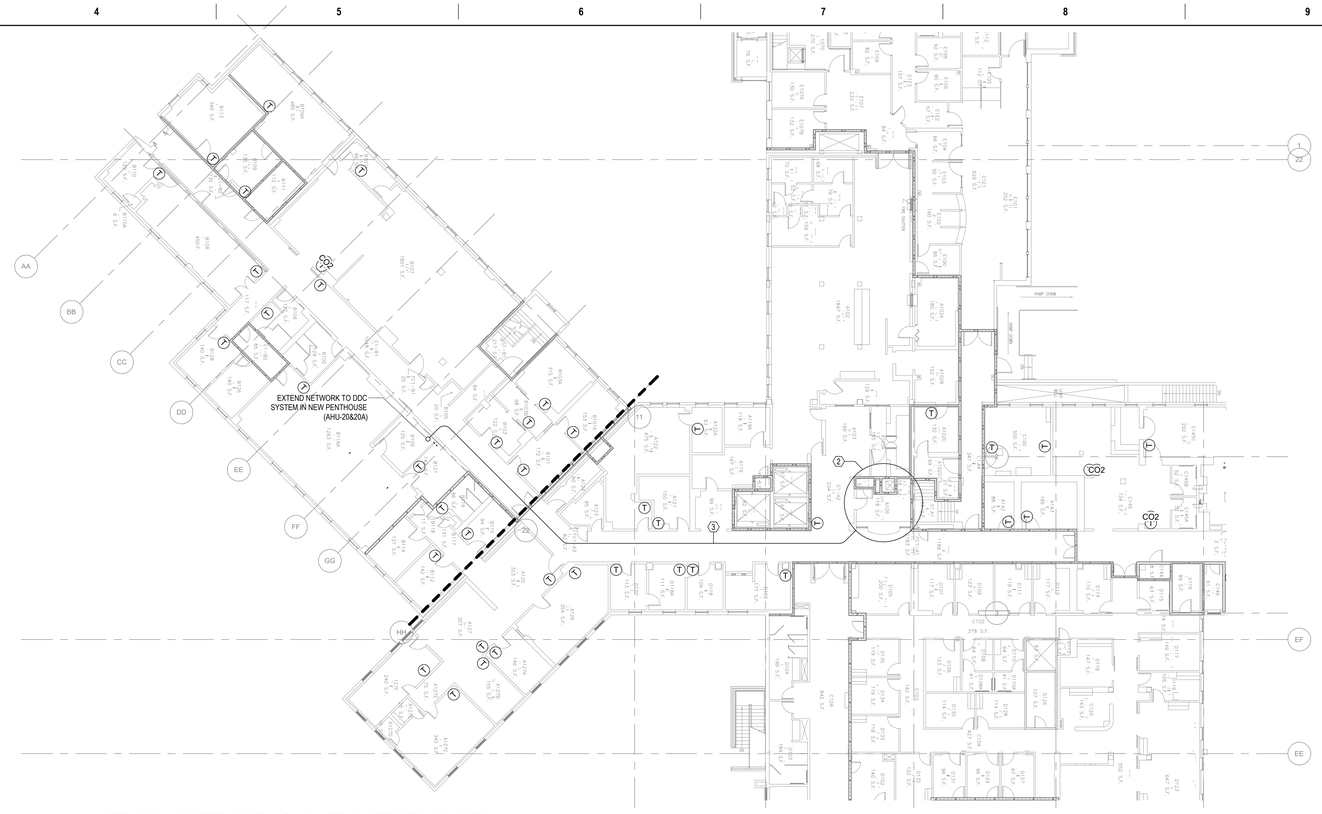
MARK	LOCATION	SERVES	HUMIDIFIER TYPE	AIRFLOW (CFM)	EAT Db (°F)	EAT Wb (°F)	LAT Db (°F)	LAT Wb (°F)	GENERATOR STEAM MIN INLET PRESSURE (GAS IN-WG)	GENERATOR WATER INPUT / OUTPUT TYPE	GENERATOR WATER INPUT / OUTPUT MIN INLET PRESSURE (PSI)	GENERATOR OUTPUT STEAM (LBS/HR)	GENERATOR OUTPUT OUTLET PRESSURE (PSI)	WEIGHT (LBS)	ELECTRICAL VOLT	ELECTRICAL PHASE	ELECTRICAL CIRC UIT MCA	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
H-18	LEVEL 3 MECH RM	AHU-18	STEAM-TO-STEAM	5600	55.0 °F	36.2 °F	55.3 °F	41.8 °F	15	RO	25	142	0	400	120	1	3	DRISTEEM	STS-200	ALL NOTES
H-20A	NEW PENTHOUSE	AHU-20A	Steam Generation - Steam to Steam	10500	62.0 °F	49.9 °F	62.2 °F	52.2 °F	15	RO	25	54	0	300	120	1	3	DRISTEEM	STS-100	ALL NOTES
H-20K	NEW PENTHOUSE	AHU-20K	STEAM-TO-STEAM	4500	55.0 °F	36.2 °F	55.3 °F	41.8 °F	15	RO	25	114	0	400	120	1	3	DRISTEEM	STS-200	ALL NOTES
H-22	LEVEL 4 PENTHOUSE	AHU-22	STEAM-TO-STEAM	8000	55.0 °F	36.2 °F	55.3 °F	41.8 °F	15	RO	25	175	0	400	120	1	3	DRISTEEM	STS-200	ALL NOTES

SINGLE DUCT TERMINAL UNIT SCHEDULE

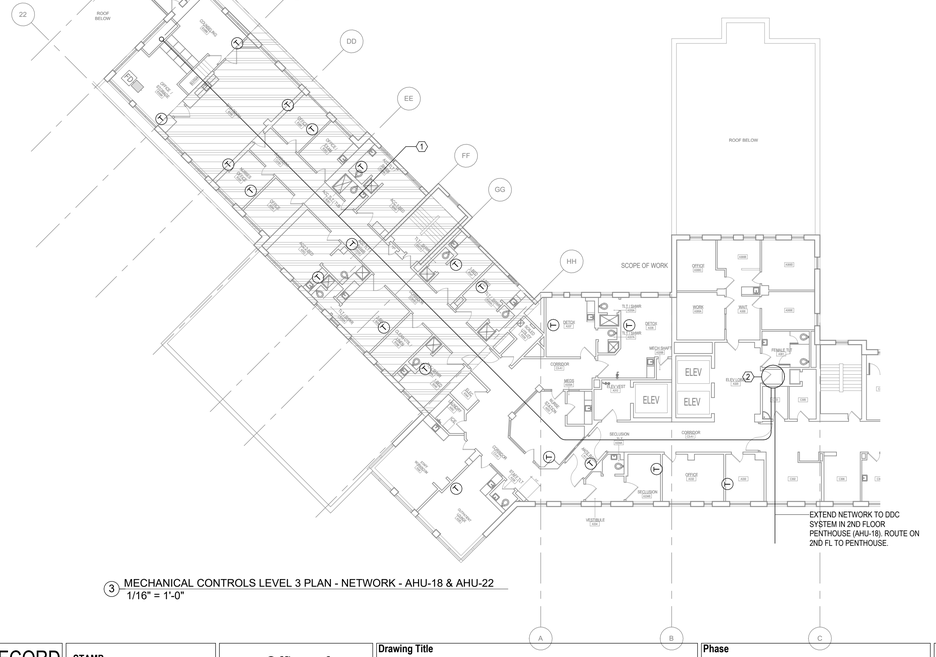
BASE SPECIFICATION: AHRI CERTIFIED, 22GA GALVANIZED STEEL HOUSING, MULTI-POINT, CENTER AVERAGING AIRFLOW SENSOR, 1/2" DAMPER SHAFT WITH POSITION INDICATOR. FOIL FACED FIBERGLASS LINER 1" [LFF1], BOTTOM ACCESS DOOR WITH QUARTER-TURN LATCHES [BAC], DISCONNECT SWITCH [DSC]. WATER COIL: AHRI 410 RATED, SIZE ROWS AND FINS TO MEET DESIGN CRITERIA. ELEC COIL: ETL CERTIFIED, UL1995 & CSA236.

ACCESSORIES (REFER TO TYPE & REMARKS): SOUND ATTENUATOR HOUSING WITH LINER [ATT], DOWNSTREAM COIL ACCESS PANEL [CAC], DOUBLE-WALL GALVANIZED INSULATED LINER 1" [LDW1], CELLULAR FOAM 1" [LCL1], FIBERGLASS 1" [LFB1].

MARK	SERVES	SYSTEM	TYPE	SIZE	AIRFLOW (CFM) OCCUPIED COOLING MAX	AIRFLOW (CFM) OCCUPIED HEATING MAX	AIRFLOW (CFM) UNIT PRESSURE DROP (IN WG)	REHEAT COIL TYPE	REHEAT CAPACITY (BTU/HR)	REHEAT EAT (°F)	REHEAT LAT (°F)	REHEAT EWT (°F)	REHEAT LWT (°F)	REHEAT PIPE RUNOUT SIZE (IN)	REHEAT FLOW (GPM)	REHEAT MAX WPD (FT-WG)	WEIGHT (LBS)	ELECTRICAL VOLT	ELECTRICAL PHASE	ELECTRICAL CIRCUIT MCA	ELECTRICAL CIRCUIT POWER (KW)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
VAV-18-01	C107 OFF	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	200	160	1.5	WATER	5530	53.0 °F	85.0 °F	140	120	3/4"	0.6	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-02	C113,C111 TLT	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	275	220	1.5	WATER	7603	53.0 °F	85.0 °F	140	120	3/4"	0.8	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-03	C147 LAB	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	10"	700	560	1.5	WATER	19354	53.0 °F	85.0 °F	140	120	3/4"	1.9	2	39	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-04	C110,112A OFF	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	180	145	1.5	WATER	4977	53.0 °F	85.0 °F	140	120	3/4"	0.5	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-05	C112 OFF	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	100	80	1.5	WATER	2765	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-06	C112C OFF	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	210	170	1.5	WATER	5806	53.0 °F	85.0 °F	140	120	3/4"	0.6	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-07	C145 BLOOD WAIT	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	250	200	1.5	WATER	6912	53.0 °F	85.0 °F	140	120	3/4"	0.7	2	29	120	1	0.4	N/A	KRUEGER	LMHS	CO2
VAV-18-08	C145C BLOOD	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	8"	500	400	1.5	WATER	13824	53.0 °F	85.0 °F	140	120	3/4"	1.4	2	32	120	1	0.4	N/A	KRUEGER	LMHS	CO2
VAV-18-09	C145C BDRAW	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	8"	400	320	1.5	WATER	11059	53.0 °F	85.0 °F	140	120	3/4"	1.1	2	32	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-10	A143 AMBUL	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	200	160	1.5	WATER	5530	53.0 °F	85.0 °F	140	120	3/4"	0.6	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-11	A102E BREAK	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	125	100	1.5	WATER	3456	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-12	A102E	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	125	100	1.5	WATER	3456	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-18-13	A142 VISIT	AHU-18	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	150	120	1.5	WATER	4147	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-01	B100 GIFT	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	12"	1125	565	1.5	WATER	19440	53.0 °F	85.0 °F	140	120	3/4"	1.9	2	47	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-02	B106,B102 TLT, B126 OFFICE	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	8"	300	150	1.5	WATER	5184	53.0 °F	85.0 °F	140	120	3/4"	0.5	2	32	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-03	B128 ADVOCATE	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	235	120	1.5	WATER	4061	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-04	B108 CHAPEL	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	10"	720	360	1.5	WATER	12442	53.0 °F	85.0 °F	140	120	3/4"	1.2	2	39	120	1	0.4	N/A	KRUEGER	LMHS	CO2
VAV-20A-05	B121 STORAGE	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	230	115	1.5	WATER	3974	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-06	B110 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	150	75	1.5	WATER	2592	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-07	B119 TLT	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	75	40	1.5	WATER	1296	53.0 °F	85.0 °F	140	120	3/4"	0.1	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-08	B112 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	280	140	1.5	WATER	4838	53.0 °F	85.0 °F	140	120	3/4"	0.5	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-09	B115 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	75	40	1.5	WATER	1296	53.0 °F	85.0 °F	140	120	3/4"	0.1	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-10	B103A OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	8"	400	200	1.5	WATER	6912	53.0 °F	85.0 °F	140	120	3/4"	0.7	2	32	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-11	B103 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	100	50	1.5	WATER	1728	53.0 °F	85.0 °F	140	120	3/4"	0.2	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-12	B103B OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	105	55	1.5	WATER	1814	53.0 °F	85.0 °F	140	120	3/4"	0.2	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-13	B101 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	160	80	1.5	WATER	2765	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-14	B101A OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	200	100	1.5	WATER	3456	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-15	A125 RECEP	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	200	100	1.5	WATER	3456	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-16	A127 WORK	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	270	135	1.5	WATER	4666	53.0 °F	85.0 °F	140	120	3/4"	0.5	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-17	A127F OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	8"	520	260	1.5	WATER	8986	53.0 °F	85.0 °F	140	120	3/4"	0.9	2	32	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-18	A126 CONF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	10"	555	280	1.5	WATER	9590	53.0 °F	85.0 °F	140	120	3/4"	1.0	2	39	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-19	A127A OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	235	120	1.5	WATER	4061	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-20	A127B WORK/OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	235	120	1.5	WATER	4061	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-21	A127C OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	10"	700	350	1.5	WATER	12096	53.0 °F	85.0 °F	140	120	3/4"	1.2	2	39	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-22	A122 POLICE	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	10"	670	335	1.5	WATER	11578	53.0 °F	85.0 °F	140	120	3/4"	1.2	2	39	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-23	A121 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	105	55	1.5	WATER	1814	53.0 °F	85.0 °F	140	120	3/4"	0.2	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-24	D120 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	150	75	1.5	WATER	2592	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-25	D118A OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	100	50	1.5	WATER	1728	53.0 °F	85.0 °F	140	120	3/4"	0.2	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-26	D118 OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	4"	110	55	1.5	WATER	1901	53.0 °F	85.0 °F	140	120	3/4"	0.2	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-27	D156 CASH	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	250	125	1.5	WATER	4320	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-28	A103 PAT TRAVEL	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	8"	300	150	1.5	WATER	5184	53.0 °F	85.0 °F	140	120	3/4"	0.5	2	32	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20A-29	A122A OFF	AHU-20A	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	175	90	1.5	WATER	3024	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20K-01	B109A KITCHEN	AHU-20K	SINGLE DUCT, DSC, WATER, LFF1, BAC	14"	1425	715	1.5	WATER	24624	53.0 °F	85.0 °F	140	120	3/4"	2.5	2	58	120	1	0.4	N/A	KRUEGER	LMHS	FAN ON = MAX FLOW
VAV-20K-02	B113 STORAGE	AHU-20K	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	200	100	1.5	WATER	3456	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20K-03	CORRIDOR	AHU-20K	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	225	115	1.5	WATER	3888	53.0 °F	85.0 °F	140	120	3/4"	0.4	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20K-04	B107A DISH	AHU-20K	SINGLE DUCT, DSC, WATER, LFF1, BAC	6"	175	90	1.5	WATER	3024	53.0 °F	85.0 °F	140	120	3/4"	0.3	2	29	120	1	0.4	N/A	KRUEGER	LMHS	
VAV-20K-05	B107 DINING	AHU-20K	SINGLE DUCT, DSC, WATER, LFF1, BAC	16"	2300



1 MECHANICAL CONTROLS LEVEL 1 PLAN - AREA 2 - NETWORK - AHU-20&20A
1/16" = 1'-0"



3 MECHANICAL CONTROLS LEVEL 3 PLAN - NETWORK - AHU-18 & AHU-22
1/16" = 1'-0"

GENERAL NOTES

A. SURVEY EXISTING CONDITIONS TO DETERMINE EXISTING POWER SOURCES. TERMINAL UNITS (VAVS) UTILIZE A COMBINATION OF DISTRIBUTED 24V POWER AND 120V DISCONNECTS AT EACH VAV.
B. PROVIDE NECESSARY NETWORK INFRASTRUCTURE UPGRADES AND COMMUNICATIONS NETWORK.
C. PROVIDE OR UPDATE GRAPHICS AND BUILDING MANAGEMENT SYSTEM TO SUPPORT SEQUENCE OF OPERATION. ALL POINTS SHALL BE SHOWN ON GRAPHICS UNLESS NOTED OTHERWISE.
D. PER FACILITY STANDARD, FINAL APPROVED CONTROLS SUBMITTAL (PDF) SHALL BE AVAILABLE AT EACH AHU GRAPHIC (HYPERLINK).

LEGEND NOTES (#)

1 DUCT MAINS DOWN FROM PENTHOUSE. PROVIDE 2-HR VERTICAL FIRE DAMPER ASSEMBLY. REFER TO DETAIL ON SHEET M-501.
2 COORDINATE ETHERNET TERMINATION POINT AND IP ADDRESS WITH OWNER (PRIVATE NETWORK FOR BACNET CONTROLS).
3 EXTEND CONTROLS SYSTEM NETWORK (ETHERNET CAT6A) BACK TO TELECOM ROOM.

Revisions:	Date:

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ORLANDO ERIK GONZALES, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

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

Drawing Title: MECHANICAL CONTROLS
Approved:
Phase: 100% Submittal
Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM
Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Project Number: 668-21-100
Building Number: 1
Drawing Number: M-801

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GENERAL NOTES

A. SURVEY EXISTING CONDITIONS TO DETERMINE EXISTING POWER SOURCES. TERMINAL UNITS (VAVS) UTILIZE A COMBINATION OF DISTRIBUTED 24V POWER AND 120V DISCONNECTS AT EACH VAV.
B. PROVIDE NECESSARY NETWORK INFRASTRUCTURE UPGRADES AND COMMUNICATIONS NETWORK.
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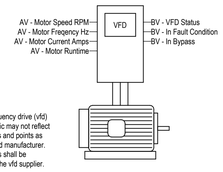
D. PER FACILITY STANDARD, FINAL APPROVED CONTROLS SUBMITTAL (PDF) SHALL BE AVAILABLE AT EACH AHU GRAPHIC (HYPERLINK).

CONTROL POINTS

TYPE	DESCRIPTION	TREND	ALARM
EXHAUST FAN			
BO	Fan Start/Stop	X	X
BI	Fan Status	X	X
AO	Speed Setpoint ECM	X	X
TERMINAL UNIT CONTROL DIAGRAM			
AI	Airflow	X	X
AI	Discharge Air Temp	X	X
BI	Fan Status	X	X
AO	Reheating Valve	X	X
AI	Zone CO2 Level (where indicated in Schedule, otherwise omit)	X	X
AO	Zone Damper	X	X
AI	Zone Setpoint Adjust	X	X
AI	Zone Temp	X	X
VARIABLE FREQUENCY DRIVE (TYP ALL)			
BV	In Bypass	X	X
BV	In Fault Condition	X	X
AV	Motor Current Amps	X	X
AV	Motor Freqency Hz	X	X
AV	Motor Runtime	X	X
AV	Motor Speed RPM	X	X
BV	VFD Status	X	X

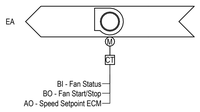


This variable frequency drive (vfd) interface schematic may not reflect the actual sensors and points as supplied by the vfd manufacturer. All interface points shall be coordinated with the vfd supplier.

Variable Frequency Drive Interface

Variable Frequency Drive (VFD) Interface Monitor:
Current VFD status and operating conditions shall be monitored through its communications interface port. The interface shall monitor and trend the points as shown on the Points List.

2 TYPICAL VFD CONTROL DIAGRAM
NTS



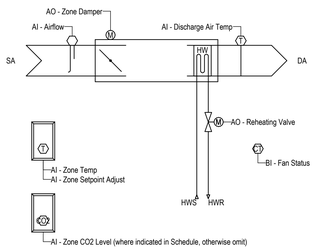
Exhaust Fan - On/Off

Run Conditions - Interlocked:
The fan(s) EF shall be interlocked to run whenever the associated Air Handling Unit runs unless shutdown on safeties. The fan shall run at programmed speed setpoint (Adj.).

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:
- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.□
-

4 GENERAL EXHAUST FAN CONTROL DIAGRAM (ECM)
NTS



1 TERMINAL UNIT CONTROL DIAGRAM1
NTS

VAV Terminal Unit
Maximum and minimum air volume settings shall be adjustable, with the initial minimum air volume being set to meet minimum ventilation requirements and provide adequate makeup air for exhaust. During heating, the reheat coil and damper shall modulate using control logic which minimizes energy usage. See ASHRAE 35 5.6.5 for control logic guidance. Limit discharge air temperature for a maximum of 95°F [VA HVAC Design Manual 3.2.3.3 (b)].

Temperature Setpoints
AHU shall maintain temperature setpoints in individual zones (except for mechanical and computer rooms):
- 75°F (adjustable) cooling setpoint in occupied mode [ASHRAE 36 3.1.1.1]
- 70°F (adjustable) heating setpoint in occupied mode [ASHRAE 36 3.1.1.1]
- 85°F (adjustable) cooling setpoint in unoccupied mode [ASHRAE 36 3.1.1.1]
- 60°F (adjustable) heating setpoint in unoccupied mode [ASHRAE 36 3.1.1.1]

The VA HVAC design manual pages 6-15 through 6-217 contains space specific guidelines for temperature setpoints. The VA HVAC design manual takes precedence in the case of a conflict between that and ASHRAE 36.
Lock outs will be put in place to prevent the following [ASHRAE 36 5.3.2.4]:
- Cooling setpoint less than 1°F above heating setpoint
- Unoccupied cooling setpoint less than occupied cooling setpoint
- Unoccupied heating setpoint greater than occupied heating setpoint

Zone Temperature Control
Consult COR to determine temperature control procedures for each zone.

For zones where occupant adjustment of temperature at thermostat is allowed:
The occupant shall be able to adjust a single point zone temperature which adjusts the heating and cooling setpoints upward or downward by the same amount within the allowable conditions [ASHRAE 36 5.3.2.5]:
- The active occupied cooling setpoint shall be limited between 72°F and 80°F (limits adjustable at BAS).
- The active occupied heating setpoint shall be limited between 65°F and 72°F (limits adjustable at BAS).

Temperature setpoints shall have the ability to be locked at the thermostat and require adjustment at the BAS.

Unoccupied Mode
When the zone temperature is between the unoccupied cooling and heating setpoints, the zone damper shall go to minimum unoccupied airflow position, and the heating coil disabled.

When the zone temperature is greater than its unoccupied cooling setpoint, the zone damper shall modulate up to the maximum cooling airflow (adjustable) until the zone is satisfied. When the temperature is less than its unoccupied heating setpoint, the controller shall enable reheat at the VAV box and modulate the reheat coil valve and the damper until the zone is satisfied. Use ASHRAE 36 5.6.5.3 for guidance.

Each VAV shall enter an unoccupied mode based on a adjustable daily and weekly schedule.

During Unoccupied Mode, minimum airflow setpoint is to values indicated in the Single-Duct Terminal Unit Schedule (adjustable).

Demand Control Ventilation (Refer to CO2 Sensor noted in Single-Duct Terminal Unit Schedule)
Demand Control Ventilation should be utilized in any area greater than 500 sq ft with a design occupancy of greater than 25 people per 1000 sq ft [VA HVAC Design Manual 2.2.3.5.1]. The control sequence should comply with the latest version of ASHRAE 62.1.
- When in the occupied mode, the controller shall measure the zone CO2 concentration and modulate the zone damper open on rising CO2 concentrations, overriding normal damper operation to maintain a CO2 setpoint of not more than 750ppm (adj.).

Exhaust Make-up Mode (Kitchen Only
While fan is activated (sensed by current status or other) the VAV shall remain at max flow setpoint to provide make-up air to space. When fan is deactivated, min flow setpoint may reset to maintain space temperature.

Alarms

Each alarm shall be displayed with the following information:
- Date and time of alarm
- Description of alarm
- Equipment tags for units involved in alarm

Alarms include but are not limited to:
- Zone is 5°F above cooling setpoint or below heating setpoint for more than 10 minutes (adjustable).
- Discharge air temperature is 5°F above maximum value for more than 10 minutes (adjustable).
- Zone concentration exceeds setpoint + 10% for more than 10 minutes
- Zone measured airflow less than 70% (adjustable) of setpoint for 10 minutes
- Damper position is 0% while airflow sensor is reading above 10% of maximum airflow setpoint

Displayed and Trended Data

VAV terminal unit box display including but not limited to:
- Room served
- Occupied heating setpoint (°F)
- Occupied cooling setpoint (°F)
- Unoccupied heating setpoint (°F)
- Unoccupied cooling setpoint (°F)
- Space temperature (°F)
- Discharge air temperature (°F)
- VAV box flow (CFM)
- VAV box flow setpoint (CFM)
- Heating coil position (%)
- Damper position (%)
- Exhaust fan status
- Zone schedule
- Alarms

Revisions:	Date:

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Location: Mann Grandstaff VA Medical Center 4815 N Assembly St, Spokane, WA 99205
Issue Date: November 17, 2025
Checked: AESUS
Drawn: AESUS
Drawing Number: M-802

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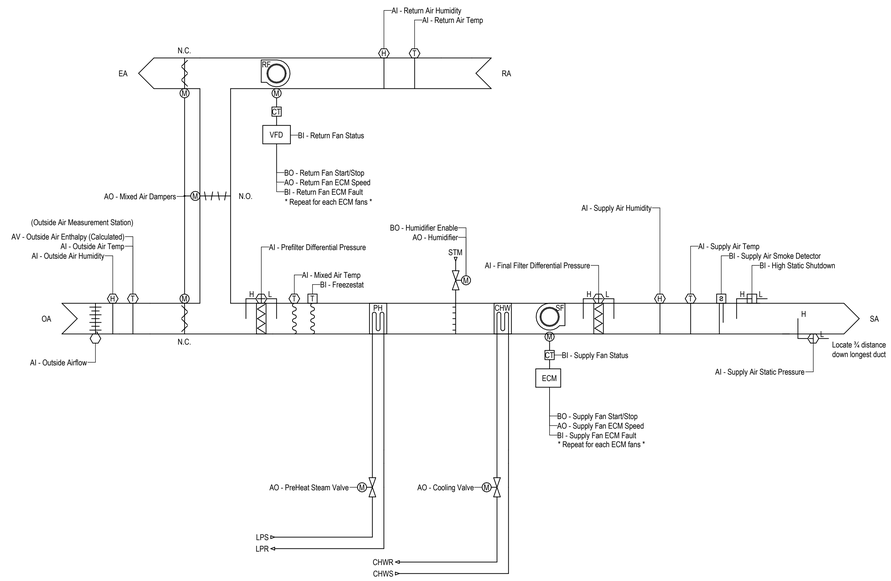

1 VAV AIR HANDLING UNIT CONTROL DIAGRAM (W/ RETURN FAN)
NTS

Air Handling Unit

Heating Coil Valve
Heating coil shall be enabled when the following are true:
- Outside air temperature is less than 65°F (adjustable)
- The economizer is disabled
- Heating is active
- Cooling is not active
- Supply fan status is on

Cooling Coil Valve
The cooling coil shall be enabled when the following are true:
- Outside air temperature is greater than 60°F
- The economizer is either disabled or fully open
- There is an active call for cooling from at least 1 (adjustable) zone(s)
- Heating is not active
- Supply fan status is on

Ventilation
Minimum ventilation requirements will comply with ASHRAE 170 for medical spaces and ASHRAE 62.1 for non-medical spaces [VA HVAC Design Manual 2.2.3.5]. Refer to equipment schedules.

Supply Air Temperature
The initial supply air temperature setpoint (adjustable) shall be determined by the engineer (55°F is common). The setpoint shall reset to a maximum value (adjustable) determined by the engineer (60°F is common), using a trim and respond algorithm based on zone heating or cooling requirements to minimize heating and cooling energy use. See ASHRAE 36 5.18.5 for control logic guidance. User shall have the ability to override the trim and respond algorithm with a set SAT value.

Duct Static Pressure
The initial duct static pressure setpoint shall be determined from testing and balancing. The setpoint shall be reset using a trim and respond algorithm based on damper position in downstream VAV boxes [VA HVAC Design Manual 3.2.3.1 (a)]. Non-critical areas that are not typically occupied for extended periods (such as restrooms) should not be included in the polled VAV boxes. The user shall be able to adjust the zones which are included in polling logic. User shall have the ability to override the trim and respond algorithm with a set static pressure value.

Supply Fan
Supply fan shall run at all times except when all zones are in unoccupied mode and no heating or cooling is called for, or if the AHU is in maintenance mode. The AHU shall provide minimum required airflow to maintain the duct static pressure setpoint while in occupied mode. Provide a ramp function to prevent changes in fan speed of more than 10% per minute [ASHRAE 36 5.18.4.3]. The fan shall run for a minimum of 5 minutes (adjustable) and be off a minimum of 5 minutes (adjustable) unless shutdown by life safety alert or manually.

Return Fan
The return fan shall run whenever the supply fan runs. The return fan VFD shall modulate to maintain return CFM equal to supply CFM less exhaust CFM. Exhaust CFM shall be calculated from the addition of design CFM values for all exhaust fans in operation.

Exhaust Fan
Exhaust fan shall run when associated zone is in occupied mode and turn off in unoccupied mode except in zones which have specific pressure requirements per the VA HVAC Design Manual that necessitate use of exhaust fan to maintain requirements.

ECM Speed Control
The minimum ECM speed % (adjustable) shall be configured to 0% equating to 0 hz and 100% corresponding to the maximum speed configured in the ECM.

Economizer
The controller shall modulate the economizer dampers in sequence to maintain a mixed air temperature setpoint that is 2°F (adjustable) lower than the supply air temperature setpoint.
The economizer shall be enabled when the following conditions are met simultaneously:
- Outside air temperature is below 65°F
- Outside air temperature is less than the return air temperature
- Enthalpy is less than 28 Btu/Lb
- Supply fan status is on

The economizer shall be disabled when any of the following conditions are met:
- Mixed air temperature drops below 40°F
- Freezestat is on
- Supply fan status is off

Once the economizer is disabled, it shall not be reenabled within 10 minutes and vice versa [ASHRAE 36 5.18.7.2]

Epidemic Mode
Upon activation at the BAS, the economizer dampers shall adjust into 100% outside air mode. This mode shall override Economizer conditions and only exit upon deactivation of mode at BAS.

Freeze Protection
From ASHRAE 36 5.18.11
Stage 1: If the supply air temperature drops below 40°F for 5 minutes, override outdoor air damper to the minimum position and modulate heating coil to 45°F or more. Disable when supply air temperature is above 45°F for 5 minutes.
Stage 2: If the supply air temperature drops below 38°F for 5 minutes, fully close both the economizer damper and the minimum outdoor air damper for one hour and generate an alarm. After one hour, outdoor air ventilation shall resume and enter previous stage.
Stage 3: If supply air temperature drops below 35°F for 5 minutes, shut down supply and return/relief fans, close outdoor air damper, and open both the heating coil valve and cooling coil valve to adjustable amounts. Generate freeze stat alarm.

Smoke Detection
Unit shall close duct mounted smoke damper(s), shut down, and generate alarm upon detecting smoke. Upon smoke detection, require manual restart of the AHU.

Occupancy Scheduling
Scheduling occurs at the VAV terminal unit box, each zone shall have separate user adjustable occupancy schedules that operate independent of other zone schedules. Refer to VAV schedule.

Partially Unoccupied Mode
When some zones are in unoccupied mode while others are in occupied mode, AHU continues to operate in occupied mode. Supply and return fan CFM differential shall be reset to a reduced minimum outside air requirement based on percent reduction at zone level.

If any zone drops below 50°F, return all zones to occupied mode.

Fully Unoccupied Mode
When all zones are in unoccupied mode, AHU supply and return fans stop. Outside air, return air, and relief air dampers go to 100% return air position. When 3 (adjustable) or more zones are calling for heating or cooling, the AHU will cycle on until all zones are 2°F (adjustable) within their unoccupied temperature setpoint range.
If any zone drops below 50°F (adjustable), return all zones to occupied mode.

Optimal Start
Each zone shall start returning to occupied temperature setpoint range prior to scheduled occupancy based on the time necessary for zones to reach their occupied setpoints. The start time shall automatically adjust based on changes in outside air temperature, occupied setpoints, zone temperatures, and mass/capacity factor. Optimal start will begin based on the zone with the longest calculated start time requirement. During optimal start, outside air will be excluded unless in economizer mode. Optimal start mode will end at the beginning of the scheduled occupied period. See ASHRAE 36 5.4.6.2 & ASHRAE 36 5.4.6.3

Humidifier Control:
The controller shall measure the return air humidity and modulate the humidifier to maintain a setpoint of 35% rh (adj.). The humidifier shall be enabled whenever the supply fan status is on.

The humidifier shall turn off whenever supply air humidity rises above 95%RH to OR on loss of supply fan status.

Alarms

Each alarm shall be displayed with the following information:
- Date and time of alarm
- Description of alarm
- Equipment tags for units involved in alarm

Alarms include but are not limited to:
- Freeze stat
- Smoke detection
- Supply static pressure exceeds maximum value (adjustable)
- Return static pressure exceeds maximum value (adjustable)
- Supply fan commanded off, but status is on
- Supply fan commanded on, but status is off
- Return fan commanded off, but status is on
- Return fan commanded on, but status is off
- Supply static pressure is 25% (adjustable) less than setpoint
- Return static pressure is 25% (adjustable) less than setpoint
- Supply air temperature is 5°F above or below setpoint for more than 10 minutes (adjustable).
- Mixed air temperature is 5°F above or below setpoint for more than 10 minutes (adjustable).
- Discharge air temperature is 5°F above maximum value for more than 10 minutes (adjustable).
- Discharge air temperature is 5°F below minimum value for more than 10 minutes (adjustable).
- Filter differential pressure exceeds high limit setting
- High supply air humidity (>95% RH)
- Low return air humidity for more than 30 minutes (<20% RH)
- Air filter replacement reminder (1 Week, 1 Day, Overdue)

Displayed and Trended Data

AHU display including but not limited to:
- Supply air temperature (°F)
- Mixed air temperature (°F)
- Return air temperature (°F)
- Outdoor air temperature (°F)
- Outdoor air enthalpy (Btu/lb)
- Duct static pressure (in. WC)
- Supply air temperature setpoint (°F)
- Duct static pressure setpoint (in. WC)
- Heating coil valve position (%)
- Cooling coil valve position (%)
- Fan speed command (%)
- Supply fan CFM
- Return fan CFM
- Outside air CFM
- Outside air damper position (%)
- Return damper position (%)
- Relief damper position (%)
- Economizer damper position (%)
- Supply fan status
- Return fan status
- Supply fan signal (hz)
- Return fan signal (hz)
- Filter status (in. WC, Days until replacement)
- Economizer status
- Freeze stat status
- Return humidity and setpoint
- Supply humidity level
- Equipment schedule
- Alarms

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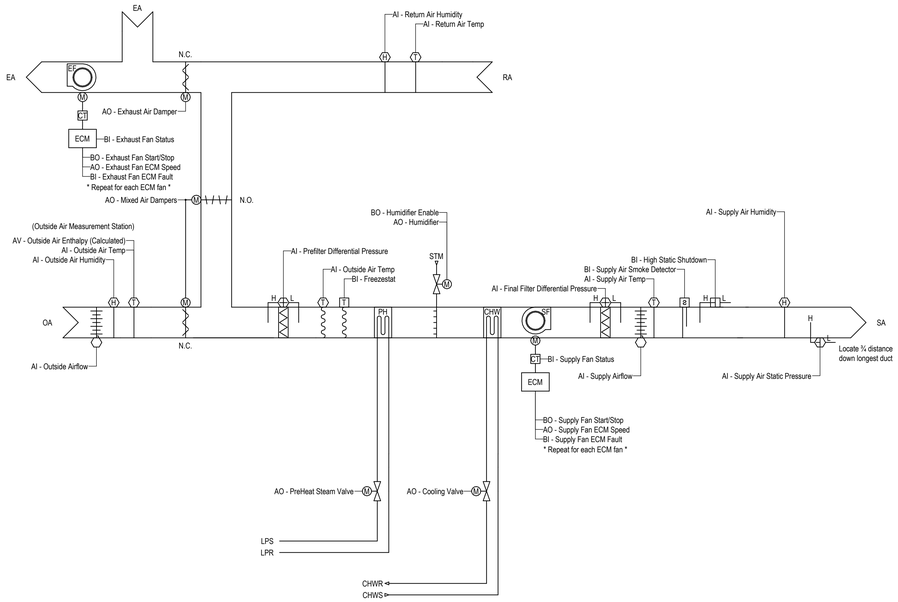
D. PER FACILITY STANDARD, FINAL APPROVED CONTROLS SUBMITTAL (PDF) SHALL BE AVAILABLE AT EACH AHU GRAPHIC (HYPERLINK).

CONTROL POINTS

TYPE	DESCRIPTION	TREND	ALARM
AIR HANDLING UNIT WITH RETURN FAN (AHU-18, 20A, 22)			
AO	Cooling Valve	X	X
AI	Final Filter Differential Pressure	X	X
BI	Freezestat	X	X
BI	High Static Shutdown	X	X
AO	Humidifier	X	X
BO	Humidifier Enable	X	X
AO	Mixed Air Dampers	X	X
AI	Mixed Air Temp	X	X
AV	Outside Air Enthalpy (Calculated)	X	X
AI	Outside Air Humidity	X	X
AI	Outside Air Temp	X	X
AI	Outside Airflow	X	X
AI	Prefilter Differential Pressure	X	X
AO	PreHeat Steam Valve	X	X
AI	Return Air Humidity	X	X
AI	Return Air Temp	X	X
BI	Return Fan ECM Fault	X	X
AO	Return Fan ECM Speed	X	X
BO	Return Fan Start/Stop	X	X
BI	Return Fan Status	X	X
AI	Supply Air Humidity	X	X
BI	Supply Air Smoke Detector	X	X
AI	Supply Air Static Pressure	X	X
AI	Supply Air Temp	X	X
BI	Supply Fan ECM Fault	X	X
AO	Supply Fan ECM Speed	X	X
BO	Supply Fan Start/Stop	X	X
BI	Supply Fan Status	X	X
VAV AHU W/ EXHAUST FAN (AHU-20K)			
AO	Cooling Valve	X	X
AO	Exhaust Air Damper	X	X
BI	Exhaust Fan ECM Fault	X	X
AO	Exhaust Fan ECM Speed	X	X
BO	Exhaust Fan Start/Stop	X	X
BI	Exhaust Fan Status	X	X
AI	Final Filter Differential Pressure	X	X
BI	Freezestat	X	X
BI	High Static Shutdown	X	X
AO	Humidifier	X	X
BO	Humidifier Enable	X	X
AO	Mixed Air Dampers	X	X
AV	Outside Air Enthalpy (Calculated)	X	X
AI	Outside Air Humidity	X	X
AI	Outside Air Temp	X	X
AI	Outside Airflow	X	X
AI	Prefilter Differential Pressure	X	X
AO	PreHeat Steam Valve	X	X
AI	Return Air Humidity	X	X
AI	Return Air Temp	X	X
AI	Supply Air Humidity	X	X
BI	Supply Air Smoke Detector	X	X
AI	Supply Air Static Pressure	X	X
AI	Supply Air Temp	X	X
AI	Supply Airflow	X	X
BI	Supply Fan ECM Fault	X	X
AO	Supply Fan ECM Speed	X	X
BO	Supply Fan Start/Stop	X	X
BI	Supply Fan Status	X	X



2 VAV AIR HANDLING UNIT CONTROL DIAGRAM WITH EXHAUST FAN (AHU-20K)
NTS

Air Handling Unit

Heating Coil Valve
Heating coil shall be enabled when the following are true:
- Outside air temperature is less than 65°F (adjustable)
- The economizer is disabled
- Heating is active
- Cooling is not active
- Supply fan status is on

Cooling Coil Valve
The cooling coil shall be enabled when the following are true:
- Outside air temperature is greater than 60°F
- The economizer is either disabled or fully open
- There is an active call for cooling from at least 1 (adjustable) zone(s)
- Heating is not active
- Supply fan status is on

Ventilation
Minimum ventilation requirements will comply with ASHRAE 170 for medical spaces and ASHRAE 62.1 for non-medical spaces [VA HVAC Design Manual 2.2.3.5]. Refer to equipment schedules.

Supply Air Temperature
The initial supply air temperature setpoint (adjustable) shall be determined by the engineer (55°F is common). The setpoint shall reset to a maximum value (adjustable) determined by the engineer (60°F is common), using a trim and respond algorithm based on zone heating or cooling requirements to minimize heating and cooling energy use. See ASHRAE 36 5.18.5 for control logic guidance. User shall have the ability to override the trim and respond algorithm with a set SAT value.

Duct Static Pressure
The initial duct static pressure setpoint shall be determined from testing and balancing. The setpoint shall be reset using a trim and respond algorithm based on damper position in downstream VAV boxes [VA HVAC Design Manual 3.2.3.1 (a)]. Non-critical areas that are not typically occupied for extended periods (such as restrooms) should not be included in the polled VAV boxes. The user shall be able to adjust the zones which are included in polling logic. User shall have the ability to override the trim and respond algorithm with a set static pressure value.

Supply Fan
Supply fan shall run at all times except when all zones are in unoccupied mode and no heating or cooling is called for, or if the AHU is in maintenance mode. The AHU shall provide minimum required airflow to maintain the duct static pressure setpoint while in occupied mode. Provide a ramp function to prevent changes in fan speed of more than 10% per minute [ASHRAE 36 5.18.4.3]. The fan shall run for a minimum of 5 minutes (adjustable) and be off a minimum of 5 minutes (adjustable) unless shutdown by life safety alert or manually.

Exhaust Fan
Exhaust fan serves constant volume areas (kitchen) and shall run at Speed 1 Setpoint (adjustable) during normal operation and Exhaust Damper shall close 100%. During economizer, the fan shall ramp up to Speed 2 Setpoint (adjustable) and the Exhaust air damper shall open 100%.

ECM Speed Control
The minimum ECM speed % (adjustable) shall be configured to 0% equating to 0 hz and 100% corresponding to the maximum speed configured in the ECM.

Economizer
The controller shall modulate the economizer dampers (Outside Air and Return) in sequence to maintain a mixed air temperature setpoint that is 2°F (adjustable) lower than the supply air temperature setpoint.
The economizer shall be enabled when the following conditions are met simultaneously:
- Outside air temperature is below 65°F
- Outside air temperature is less than the return air temperature
- Enthalpy is less than 28 Btu/Lb
- Supply fan status is on

The economizer shall be disabled when any of the following conditions are met:
- Mixed air temperature drops below 40°F
- Freezestat is on
- Supply fan status is off

Once the economizer is disabled, it shall not be reenabled within 10 minutes and vice versa [ASHRAE 36 5.18.7.2]

Freeze Protection
From ASHRAE 36 5.18.11
Stage 1: If the supply air temperature drops below 40°F for 5 minutes, override outdoor air damper to the minimum position and modulate heating coil to 45°F or more. Disable when supply air temperature is above 45°F for 5 minutes.
Stage 2: If the supply air temperature drops below 38°F for 5 minutes, fully close both the economizer damper and the minimum outdoor air damper for one hour and generate an alarm. After one hour, outdoor air ventilation shall resume and enter previous stage.
Stage 3: If supply air temperature drops below 35°F for 5 minutes, shut down the supply fan and open both the heating coil valve and cooling coil valve to adjustable amounts. Generate freeze stat alarm.

Smoke Detection
Unit shall close duct mounted smoke damper(s), shut down, and generate alarm upon detecting smoke. Upon smoke detection, require manual restart of the AHU.

Humidifier Control:
The controller shall measure the zone air humidity and modulate the humidifier to maintain a setpoint of 35% rh (adj.). The humidifier shall be enabled whenever the supply fan status is on.

The humidifier shall turn off whenever supply air humidity rises above 95%RH to OR on loss of supply fan status.

Alarms
Each alarm shall be displayed with the following information:
- Date and time of alarm
- Description of alarm
- Equipment tags for units involved in alarm

Alarms include but are not limited to:
- Freeze stat
- Smoke detection
- Supply static pressure exceeds maximum value (adjustable)
- Supply fan commanded off, but status is on
- Supply fan commanded on, but status is off
- Supply static pressure is 25% (adjustable) less than setpoint
- Supply air temperature is 5°F above or below setpoint for more than 10 minutes (adjustable).
- Discharge air temperature is 5°F above maximum value for more than 10 minutes (adjustable).
- Discharge air temperature is 5°F below minimum value for more than 10 minutes (adjustable).
- Filter differential pressure exceeds high limit setting
- Air filter replacement reminder (1 Week, 1 Day, Overdue)
- High supply air humidity (>95% RH)
- Low zone air humidity for more than 30 minutes (<20% RH)

Displayed and Trended Data

AHU display including but not limited to:
- Supply air temperature (°F)
- Outdoor air temperature (°F)
- Outdoor air enthalpy (Btu/lb)
- Duct static pressure (in. WC)
- Supply air temperature setpoint (°F)
- Duct static pressure setpoint (in. WC)
- Heating coil valve position (%)
- Cooling coil valve position (%)
- Fan speed command (%)
- Supply fan CFM
- Return fan CFM
- Outside air CFM
- Outside air damper position (%)
- Return damper position (%)
- Relief damper position (%)
- Economizer damper position (%)
- Supply fan status
- Return fan status
- Supply fan signal (hz)
- Return fan signal (hz)
- Filter status (in. WC, Days until replacement)
- Economizer status
- Freeze stat status
- Zone humidity and setpoint
- Supply duct humidity level
- Equipment schedule
- Alarms

Revisions:	Date:

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

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GENERAL

- KEY NOTE REFERENCE SYMBOL.
- FOOT ON DEVICE INDICATES WALL MOUNTED
- XXX-XXX — MARK NUMBER FOR MECHANICAL EQUIPMENT

CIRCUIT DESIGNATIONS

- 1LN1-1,3,5 — BRANCH CIRCUIT HOMERUN. PROVIDE #12 PHASE, #12 NEUTRAL AND #12 GROUND CONDUCTORS FOR EACH INDICATED CIRCUIT UNLESS NOTED OTHERWISE. SEE GENERAL NOTE #2 AND #3.
- PANEL NAME / CIRCUIT NUMBER(S) — NO MULTI-WIRE BRANCH CIRCUITS PERMITTED. NO SHARED NEUTRAL.
- CONDUIT RUN CONCEALED IN CEILING OR WALL
- CONDUIT RUN BELOW GRADE, UNDER OR CONCEALED IN FLOOR SLAB, UNDER RAISED FLOOR
- CONDUIT RISER UP
- CONDUIT RISER DOWN
- INDICATES CIRCUIT CONTINUATION
- STUB INTO ACCESSIBLE CORRIDOR CEILING SPACE UNLESS OTHERWISE NOTED
- CAP END OF CONDUIT
- CONDUIT SLEEVE

POWER CONDUIT FILL EXAMPLE

(2) 4"C, 4 #500, 1#10G

- GROUND CONDUCTOR SIZE (AWG/KCMIL)
- QUANTITY OF GROUND CONDUCTORS (ASSUME QTY 1 IF NOT INDICATED)
- CONDUCTOR SIZE (AWG/KCMIL)
- QUANTITY OF PHASE AND NEUTRAL CONDUCTORS.
- NEUTRAL CONDUCTOR MAY BE SPECIFIED SEPARATELY WITH 'N' SUFFIX
- CONDUIT SIZE (SEE SPECIFICATIONS FOR ALLOWED TYPES)
- TOTAL QUANTITY OF IDENTICAL CONDUIT/WIRE RUNS AS SPECIFIED (AS APPLICABLE)

LIGHTING

GENERAL LIGHTING FIXTURE DESIGNATIONS (TYPICAL FOR ALL FIXTURES)

23 L3

- CIRCUIT NUMBER
- LUMINAIRE TYPE.
  - DENOTED BY UPPER CASE ALPHANUMERIC DESIGNATION. REFER TO LIGHTING FIXTURE SCHEDULE.
  - '(R)' DENOTES EXISTING RELOCATED FIXTURE. REFER TO DEMOLITION DRAWINGS FOR EXISTING TO BE RELOCATED FIXTURES
- SWITCHING CONTROL ZONE (WHERE APPLICABLE)
  - LOWER CASE ALPHANUMERIC SUBSCRIPT MATCHES DESIGNATION OF CORRESPONDING SWITCHING CONTROL DEVICE (USED ONLY WHERE NECESSARY FOR CLARIFICATION).
  - 'NL' INDICATES NIGHT LIGHT. CONNECT TO HOT LEG (NON-SWITCHED)

GENERAL LIGHTING FIXTURE NORMAL/EMERGENCY BRANCH CIRCUIT DESIGNATIONS (TYPICAL FOR ALL LIGHTING FIXTURES)

- LUMINAIRE CONNECTED TO NORMAL BRANCH
- LIFE SAFTEY LUMINAIRE. REFER TO FIXTURE SCHEDULE. WHERE FURNISHED WITH EMERGENCY SELF-DIAGNOSTIC BATTERY/ INVERTER BALLAST/DRIVER PROVIDE BATTERY SHALL BE CAPABLE OF 100% OUTPUT FOR 90 MINUTES. WHERE NOT FURNISHED WITH INTEGRAL BATTERY BACKUP FIXTURE SHALL BE FED FROM GENERATOR BACKED LIFE SAFTEY BRANCH CIRCUIT.

DEMOLITION AND REMODEL

NOTES:
THE FOLLOWING SYMBOLS ARE EXAMPLES INTENDED TO SHOW METHODOLOGY FOR DEMOLITION. THIS APPROACH IS APPLICABLE TO ALL SYMBOLS INDICATED ON THIS SHEET.

- NEW - SHOWN HERE FOR REFERENCE AS A COMPARISON AGAINST EXISTING AND DEMO ITEMS
- EXISTING ELECTRICAL ITEM TO BE REMOVED (BOLD AND DASHED)
- (R) (R) EXISTING ELECTRICAL ITEM TO BE RELOCATED. HALFTONE (R) INDICATES NEW LOCATION
- EXISTING ELECTRICAL ITEM TO REMAIN. HALFTONE.

LIGHTING FIXTURE DESCRIPTIONS

- RECESSED OR SURFACE MOUNTED LUMINAIRE
- RECESSED OR SURFACE MOUNTED ROUND DOWNLIGHT LUMINAIRE
- STRIP LIGHT, SURFACE MOUNTED (LENGTH AS SHOWN ON PLANS)
- LINEAR LUMINAIRE, SURFACE OR RECESSED (SOLID) OR PENDANT (DASHED) MOUNTED (LENGTHTYPE AS SHOWN ON PLANS)
- LINEAR LUMINAIRE, WALL MOUNTED (LENGTH AS SHOWN ON PLANS)
- WALL SCONCE LUMINAIRE
- SUSPENDED TRACK LIGHT, TRACK HEAD QUANTITY AS SHOWN ON PLANS
- COVE LIGHT. PLACE IN ARCHITECTURAL COVE. COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- DENOTES DIRECTION OF LIGHT DISTRIBUTION. PROVIDE DIRECTIONAL LIGHT THROW (WALL WASH EFFECT) WHERE SHOWN.
- EXIT SIGN CEILING OR WALL MOUNTED AS INDICATED
- INDICATES DIRECTIONAL CHEVRON FOR EXIT SIGNS.
- DENOTES LOCATION(S) OF ILLUMINATED EXIT FACE
- EMERGENCY TWIN HEAD FLOOD LIGHTING 'BUG EYE' UNIT WITH INTEGRAL BATTERY PACK

LIGHTING CONTROLS DEVICES

WD02 **WALL MOUNTED CONTROL DEVICE**

- INDICATES NUMBER OF LIGHTING CONTROL ZONES(POLES) - (AS APPLICABLE) PROVIDE INDEPENDENT CONTROLS FOR EACH ZONE
- SWITCH TYPE DESIGNATION
  - NO SUBSCRIPT - SINGLE POLE TOGGLE SWITCH WITH ON/OFF CONTROL.
  - D - DIMMING CONTROL
  - OW - WALL MOUNTED PIR OCCUPANCY SENSOR, WITH MANUAL ON/OFF CONTROL
  - OD - WALL MOUNTED PIR OCCUPANCY SENSOR, WITH MANUAL DIMMING CONTROL
  - OWD - WALL MOUNTED DT OCCUPANCY SENSOR, WITH MANUAL ON/OFF CONTROL
  - ODD - WALL MOUNTED DT OCCUPANCY SENSOR, WITH MANUAL DIMMING CONTROLS
  - LCD - INTERACTIVE LCD DISPLAY SCREEN FOR LIGHTING CONTROLS
  - WP - WEATHER PROOF ENCLOSURE
  - XP - EXPLOSION PROOF (SEE PLANS FOR CLASSIFICATION REQUIREMENTS)
  - K - KEYED SWITCH
- WHERE DIMMING IS SPECIFIED PROVIDE 0-10V DIMMING CONTROL. SUPPLIER TO CONFIRM DIMMING COMPATIBILITY BETWEEN FIXTURES AND CONTROLS
- ALPHANUMERIC CODE INDICATING LIGHTING CONTROL ZONE DESIGNATION. WHERE MULTIPLE CONTROL ZONES ARE INDICATED LIGHTING CONTROL DEVICE SHALL BE CAPABLE OF CONTROLLING EACH ZONE INDEPENDENTLY. MULTIPLE ZONES SHALL BE SEPARATED BY A COMMA (I.E. a,af,b,d...)

LIGHTING CONTROL SENSORS/DEVICES

- **CEILING MOUNTED SENSOR**
- **WALL MOUNTED SENSOR**
- SENSOR TYPE DESIGNATION
  - OC - NORMAL RANGE OCCUPANCY SENSOR, PIR, 12FT RADIUS COVERAGE AT 9FT AFF
  - OCX - EXTENDED RANGE OCCUPANCY SENSOR, PIR, 28FT RADIUS COVERAGE AT 9FT AFF
  - OCD - NORMAL RANGE OCCUPANCY SENSOR, DUAL TECHNOLOGY, 12FT RADIUS COVERAGE AT 9FT AFF.
  - OCDX - EXTENDED RANGE OCCUPANCY SENSOR, DUAL TECHNOLOGY, 28FT RADIUS COVERAGE AT 9FT AFF
  - OCH - HIGH MOUNT OCCUPANCY SENSOR, PIR, 20FT RADIUS COVERAGE AT 15FT AFF, 30FT RADIUS AT 45FT AFF.
  - DC - DAYLIGHT HARVESTING PHOTOCELL. PROVIDE DIMMING WHEN USED WITH DIMMING CONTROLS. WHERE MOUNTED OUTSIDE, INSTALL ON ROOF AND POINT NORTH.

POWER DISTRIBUTION

- 480/277V OR 480V PANEL — 208/120V OR 120/240V PANEL
- INDICATES REQUIRED CLEARANCE
- TABS INDICATE FLUSH MOUNTED PANEL
- 30A/3P — HEAVY DUTY DISCONNECT SWITCH
- 30A/3P, 20AF — FUSED DISCONNECT SWITCH
- 30A/3P — ENCLOSED CIRCUIT BREAKER
- 5HP, M — MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTION.
- C — CONTACTOR
- VFD — VARIABLE FREQUENCY DRIVE
- 1 — MOTOR - WITH DISCONNECT (WHERE SHOWN IN PLANS) MOTOR DESIGNATION SHOWN IN BOX
- 30A/3P, 1 — CONTROL PANEL FURNISHED BY OTHERS, INSTALLED BY DIVISION 26, UNLESS NOTED OTHERWISE
- 1 — REDUCED VOLTAGE MOTOR STARTER NUMBER REFERS TO NEMA STARTER SIZE
- 30A/3P, 1 — COMBINATION REDUCED VOLTAGE MOTOR STARTER/DISCONNECT NUMBER REFERS TO NEMA STARTER SIZE
- 30A/3P, 1 — COMBINATION 2 SPEED MOTOR STARTER/DISCONNECT
- 1HP, M — MOTOR - WITH DISCONNECT (FUSED WHERE SHOWN IN PLANS) MOTOR DESIGNATION SHOWN IN BOX
- CP — CONTROL PANEL FURNISHED BY OTHERS, PROVIDED AND INSTALLED BY DIVISION 26, UNLESS NOTED OTHERWISE
- PUSHBUTTON STATIONS. ONE, TWO, OR THREE AS INDICATED
- EMERGENCY POWER OFF' BREAK GLASS STATION.
- BUS DUCT, FEEDER OR PLUG-IN TYPE AS INDICATED
- 12c3 — CABLE TRAY - WIDTH x HEIGHT AS INDICATED, OR KEY NOTED
- UNDER FLOOR DUCT SYSTEM
- 2 2 2 T — JUNCTION BOX, ABOVE CEILING (NO FOOT) OR FLUSH WALL MOUNTED (WITH FOOT) T = JUNCTION BOX FOR VOICE/DATA
- JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT INDICATED AND REQUIRED
- LADDER STYLE CABLE TRAY
- CONDUIT - SEE SPECIFICATIONS ON E002 FOR TYPE

MOUNTING HEIGHT NOTES

- 10'-0" — BATTERY LIGHTING UNITS AND REMOTE WALL MOUNTED LIGHT HEADS (OR 1'-0" BELOW FINISHED CEILING AT TOP OF UNIT)
- WARNING AND SIGNALING FIXTURES/SIGNS (CENTERED 6IN. ABOVE DOOR/WINDOW)
- 7'-0" — CLOCK RECEPTACLES
- 6'-8" — BOTTOM LENS FOR WALL MOUNTED FIRE ALARM STROBES SPEAKERS, HORNS AND COMBINATION HORNSTROBES
- 6'-0" — TOP OF FLUSH AND SURFACE MOUNTED PANELBOARDS AND TELEPHONE CABINETS. TOP OF HIGHEST DISCONNECT SWITCHES, MAGNETIC STARTERS, CONTACTORS, ATS.
- 5'-6" — GENERATOR REMOTE ANNUNCIATOR
- 3'-10" — WALL MOUNTED LIGHTING SWITCHES, MANUAL MOTOR STARTERS, FIRE ALARM PULL STATIONS, WALL MOUNTED TELEPHONES.
- 24" — GARAGE RECEPTACLES
- 18" — ELECTRICAL RECEPTACLES, VOICE/DATA OUTLETS, DATA OUTLETS, UNO
- 0.0" — FINISHED FLOOR

MOUNTING HEIGHT NOTES: MOUNTING HEIGHTS TO FINISHED FLOOR TO CENTER OF OUTLETS, UNLESS OTHERWISE NOTED.

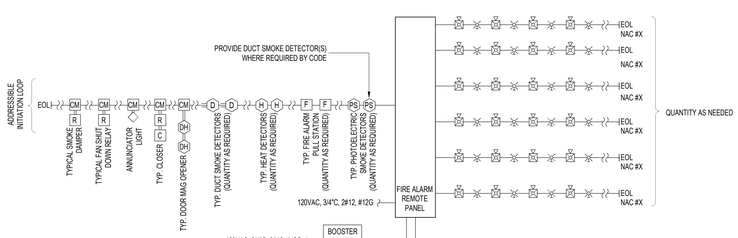
FIRE ALARM SYMBOLS AND ABBREVIATIONS

- CONTROL PANEL
  - FACP - FIRE ALARM CONTROL PANEL
  - FAAP - FIRE ALARM ANNUCIATOR PANEL
  - FARA - FIRE ALARM REMOTE ANNUNCIATOR
  - FABP - FIRE ALARM BOOSTER POWER PANEL
  - DACT - DIGITAL ALARM COMMUNICTOR
  - FACU - FIRE ALARM CONTROL UNIT
  - FANA - FIRE ALARM NOTIFICATION APPLIANCE
  - FATC - FIRE ALARM TERMINAL CABINET
  - FSCP - FIRE SUPPRESSION CONTROL PANEL
  - ERCP - ELEVATOR RECALL CONTROL PANEL

DETECTION DEVICES

- F — SPRINKLER WATER FLOW SWITCH
- T — SPRINKLER TAMPER SWITCH
- D — DUCT SMOKE DETECTOR
- CO CO — CARBON MONOXIDE DETECTOR
- H H — HEAT DETECTOR
- H2 HY — HYDROGEN DETECTOR
- S S — SMOKE DETECTOR
- PS PS — PHOTOELECTRIC SMOKE DETECTOR
- DH — DOOR HOLDER
- WALL MOUNTED
- CEILING MOUNTED
- SPEAKER/HORN
- SPEAKER/STROBE
- STROBE
- CM — CONTROL MODULE
- R — RELAY
- F — FIRE ALARM PULL STATION

NOTE:
SYMBOLS SHOWN ARE FOR REFERENCE ONLY AND DO NOT CONSTITUTE A CHECK LIST OF DEVICES REQUIRED BY THE CONTRACT



DIAGRAMMATIC FIRE ALARM RISER

POWER ONE-LINE DIAGRAM

- 200AT, 200AF, N.C. 100% — CIRCUIT BREAKER. AMP TRIP, FRAME AND OPTIONS AS INDICATED, 3P U.O.N.
- 200AT/3P — FUSE. AMP RATING (AT) AS INDICATED. 3-POLES, (1) FUSE PER POLE U.O.N.
- 200AF/3P — DISCONNECT SWITCH. SIZE (AF) AS INDICATED. 3-POLE U.O.N.
- 100AT/200AF — FUSIBLE DISCONNECT SWITCH. AMP FUSE (AT) AND SWITCH RATING (AF) AS INDICATED. 3-POLES WITH (1) FUSE PER POLE U.O.N.
- 480V/100A, 20MAT, 20MAF, 120/240VA WCR, 3P — AUTOMATIC TRANSFER SWITCH AMPACITY, VOLTAGE, NUMBER OF POLES, WITHSTAND RATING AS INDICATED
- 800AT/800AF — LOW VOLTAGE DRAW-OUT CIRCUIT BREAKER. AMP TRIP (AT), AMP FRAME (AF)AND OPTIONS AS INDICATED. 3-POLES U.O.N.
- 800AT/800AF/3P — MEDIUM VOLTAGE DRAW-OUT CIRCUIT BREAKER. AMP TRIP, AMP FRAME AND POLES AS INDICATED.
- T-XXXX, 600AT, 1000AF, 3ø277/120V, 112.5 KVA — TRANSFORMER PRIMARY (DELTA U.O.N) AND SECONDARY (WYE U.O.N). VOLTAGES AS SHOWN KVA RATING AND IMPEDANCE AS SHOWN SEE TRANSFORMER SCHEDULE FOR ADDITIONAL REQUIREMENTS
- XXX — 3 LAS — LIGHTNING ARRESTERS
- PNL A — PANELBOARD/ DISTRIBUTION BOARDS
- CP — CONTROL PANEL
- VFD — VARIABLE FREQUENCY DRIVE
- HEAVY DUTY DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- ENCLOSED CIRCUIT BREAKER
- FULL VOLTAGE MOTOR STARTER
- COMBINATION FULL VOLTAGE MOTOR STARTER / DISCONNECT
- REDUCED VOLTAGE MOTOR STARTER
- COMBINATION REDUCED VOLTAGE MOTOR STARTER/DISCONNECT
- COMBINATION 2 SPEED MOTOR STARTER/DISCONNECT
- MOTOR, HP AS SHOWN
- CONNECTION TO GROUND BARE # 4/OCU U.N.O
- M — METER WITH CURRENT TRANSFORMER
  - M - UTILITY OR OWNER METER
  - AM- A.C. AMMETER
  - VM- A.C. VOLTMETER
  - FM- FREQUENCY METER
  - WM- WATTMETER
- AS — SELECTOR SWITCHES
  - AS - AMMETER PHASE
  - VS - VOLTMETER PHASE
  - WS - WATTMETER
- DM — DIGITAL METERING
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- SERVICE ENTRANCE SECTION OR OTHER LARGE SWITCHBOARD OR DISTRIBUTION BOARD. RATINGS, BREAKER QTY AND SIZE, NAMES ETC. AS INDICATED ON PLANS
- EXISTING SERVICE ENTRANCE SECTION OR OTHER LARGE SWITCHBOARD/DISTRIBUTION BOARD. RATINGS, BREAKER QTY AND SIZE, NAMES ETC. AS INDICATED ON PLANS. ANY NEW WORK WITHIN EXISTING EQUIPMENT WILL BE BOLD AND NOTATED AS NEW.

GENERAL NOTES (DEMO)

A. SEE DRAWING EP.000 FOR SYMBOLS AND ABBREVIATIONS AND ADDITIONAL REQUIREMENTS

B. REFER TO SHEET EP.601 FOR ELECTRICAL ONE LINE DIAGRAM FOR ADDITIONAL DEMOLITION INFORMATION.

C. ANY AND ALL POTENTIAL UTILITY OR SYSTEM SHUTDOWNS/OUTAGES SHALL BE COORDINATED WITH THE COR. NO SHUTDOWNS CAN OCCUR WITHOUT PRIOR PERMISSION FROM THE COR. ANY REQUIRED SHUT DOWNS/ELECTRICAL OUTAGES AND/OR DEMOLITION SHALL BE PHASED AND COORDINATED WITH NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE SHUT DOWNS AND AND ALL DEMOLITION WORK WITH COR. COORDINATE ALL PHASING REQUIREMENTS WITH COR.

D. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY COR IMMEDIATELY FOR CLARIFICATION IF INCONSISTENCIES, CONTRADICTIONS OR OMISSIONS ARE DISCOVERED.

E. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. PROVIDE CURTAINS, AS REQUIRED, TO CORDON OFF THE CONSTRUCTION AREA AND TO MINIMIZE DISRUPTIONS TO THE BUILDING OPERATIONS.

F. THE EXISTING CONDITIONS ARE BASED ON "AS-BUILT" DRAWINGS AND LIMITED FIELD VERIFICATIONS. THE CONTRACTOR SHALL ADJUST TO ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE PROJECT. NO ADDITION COMPENSATION WILL BE PROVIDED FOR ANY EXTRAS DUE TO THE CONTRACTOR'S FAILURE TO VISIT THE PROJECT SITE OR PREDETERMINATION OF EXISTING CONDITIONS PRIOR TO SUBMITTING THE BID. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE COR FOR RESOLUTION.

G. CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILINGS, FLOOR SPACES, ETC. ANY EXISTING CONDUITS, WIRES, BOXES, FITTINGS, FIXTURES OR OTHER ELECTRICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK. PROVIDE CIRCUIT CONTINUATION FOR ALL EXISTING RECEPTACLES, LUMINAIRES AND ALL ELECTRICAL DEVICES SCHEDULED TO REMAIN.

H. NOTIFY THE COR IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON "AS-BUILT" DRAWINGS OR BURIED UNDERGROUND OR EMBEDDED INSTRUCTOR WALLS.

I. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE SMALLER AREA IF POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.

J. CONTRACTOR TO CONFIRM ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK. NOTIFY COR OF ANY DISCOVERIES OR DISCREPANCIES THAT ARE NOT SHOWN PRIOR TO COMMENCING WORK ". OR "ANY ELECTRICAL DEVICE OR EQUIPMENT NOT NOTED TO BE REMOVED OR RELOCATED SHALL REMAIN UNCHANGED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT THE COR REGARDING ANY ITEM IN QUESTION"

K. WHERE ITEMS ARE NOTED TO BE REMOVED, ELECTRICAL CONTRACTOR SHALL:
  A. REMOVE INDICATED ITEM
  B. REMOVE ANY ASSOCIATED CONDUIT AND WIRING WHERE SURFACE MOUNTED OR ABOVE AN ACCESSIBLE CEILING
  C. PULL OUT ASSOCIATED WIRING, CUT OFF, CAP, AND ABANDON CONDUIT WHERE CONCEALED IN WALLS OR PARTITIONS WHICH ARE REMAINING, PATCH AND REPAIR WALLS AS REQUIRED.
  D. REMOVE ALL REMOVED EQUIPMENT TO COR WITH COR OR DISPOSE OF AS DIRECTED BY COR WITH COR.

L. CONTRACTOR SHALL PERFORM ALL DRILLING, CUTTING, ETC. REQUIRED TO DEMOLISH ELECTRICAL WORK AS INDICATED.

M. WHERE ELECTRICAL CONTRACTOR REMOVES AN ITEM AND CIRCUITING TO OTHER ITEMS WILL BE INTERRUPTED, ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CONDUIT, WIRE, BOXES, ETC. AS REQUIRED AND RE-CONNECT REMAINING ITEMS SO THEY WILL NOT BE INTERRUPTED. PROVIDE BLANK COVER PLATE ON ALL OUTLETS EXPOSED BY REMOVAL OF FIXTURE OR DEVICES.

N. RESEAL ALL PENETRATIONS OR OPENINGS THROUGH WALL AND CEILING, FLOORS, ETC IN SUCH A WAY AS TO MAINTAIN THE FIRE RATING OF THE STRUCTURE.

O. WHERE AN ITEM IS SHOWN TO BE RELOCATED, ELECTRICAL CONTRACTOR SHALL EXTEND WIRING AND CONDUIT TO THE APPROPRIATED NEW LOCATION AND PROVIDE ALL NECESSARY CONDUIT, WIRE, BOXES, ETC. AS REQUIRED. RECONNECT TO EXISTING CIRCUIT OR RE-CIRCUIT AS SHOWN. IF DEVICE IS NOT SALVAGEABLE, ELECTRICAL CONTRACTOR SHALL PROVIDE A NEW DEVICE. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS UNLESS OTHERWISE NOTED.

P. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LEGALLY DISPOSED OF ALL REMOVED ITEMS OFF THE SITE. COORDINATE WITH COR AND DIVISION 1 REQUIREMENTS AND LIMITS WITH REGARDS TO THE USE OF ON-SITE DUMPSTERS. USE OF GOVERNMENT TRASH DUMPSTERS FOR DISPOSAL OF DEMOLISHED IS NOT PERMITTED.

GENERAL NOTES

1. ALL DEVICE MOUNTING HEIGHTS INDICATED ON THIS LEGEND ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX.
2. PROVIDE #10 WIRE (FOR PHASE, NEUTRAL AND GROUND) FOR ALL 20A 120V CIRCUITS EXCEEDING 75 FEET AND FOR 20A 277V CIRCUITS THAT EXCEED 150 FEET. PROVIDE #8 WIRE (FOR PHASE, NEUTRAL AND GROUND) FOR ALL 20A 120V CIRCUITS EXCEEDING 150 FEET AND FOR ALL 20A 277V CIRCUITS EXCEEDING 250 FEET.
3. CONTRACTOR MAY COMBINE UP TO (3) 20A (SINGLE POLE) RECEPTACLE CIRCUITS WITHIN A SINGLE CONDUIT. CONDUIT SHALL NOT BE LESS THAN 3/4". WIRING CONFIGURATIONS SHALL BE AS FOLLOWS: (FOLLOW WIRE UPSIZING TO ACCOMMODATE VOLTAGE DROP DUE TO LENGTH AS INDICATED IN NOTE #2.)
   - FOR 3 CIRCUITS, 20A, HOMERUNS TO PANELS SHALL BE 3#12 PHASE CONDUCTORS, 3# 12 NEUTRAL CONDUCTORS AND 1#12 GROUND. (WHEN UPSIZING FOR VOLTAGE DROP AS INDICATED IN NOTE #2 REQUIRES 3#8 PHASE CONDUCTORS, 3#8 NEUTRAL CONDUCTORS AND 1#8 GROUND UTILIZE 1" IN LIEU OF 3/4"C).
   - FOR 2 CIRCUITS, 20A, HOMERUNS TO PANELS SHALL BE 2#12 PHASE CONDUCTORS, 2# 12 NEUTRAL CONDUCTORS, AND 1 #12 GROUND.
   - 1 CIRCUIT, 20A, HOMERUNS TO PANEL SHALL BE 1#12 PHASE CONDUCTOR, 1#12 NEUTRAL CONDUCTOR AND 1#12 GROUND.
4. VERIFY LOCATION AND CONNECTION REQUIREMENTS FOR EQUIPMENT PROVIDED BY OTHER TRADES PRIOR TO ROUGH-IN.
5. COORDINATE CEILING MOUNTED LIGHTS AND DEVICES WITH CEILING CONTRACTOR AND INSTALL AS SHOWN ON THE REFLECTED CEILING/LIGHTING PLANS.
6. ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT (SWITCHGEAR, SWITCHBOARDS, FREE STANDING PANELBOARDS, DISTRIBUTION BOARDS, TRANSFORMERS, ETC.) SHALL BE INSTALLED ON 4" HIGH CONCRETE PAD. CONCRETE PAD SHALL EXTEND PAST EDGE OF EQUIPMENT 3" ON EACH SIDE U.N.O.
7. COORDINATE ALL DIMENSIONS, ELECTRICAL POINT OF CONNECTIONS, AND WIRING REQUIREMENTS ON ALL PRE-PURCHASED EQUIPMENT WITH FINAL APPROVED SHOP DRAWINGS.
8. FIRE SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND SLABS. FIRE RATING SEAL SHALL BE EQUAL TO OR GREATER THAN THE FIRE RATING OF THE WALL OR SLAB THROUGH WHICH THE CONDUIT PASSES.
9. COORDINATE THE LOCATION AND MOUNTING HEIGHTS OF OUTLETS AND MULTI-OUTLET ASSEMBLIES WITH ARCHITECTURAL FLOOR PLANS AND ELEVATION DRAWINGS..
10. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING SWITCH/LIGHTING CONTROL BOXES. DO NOT PLACE SWITCH OR LIGHTING CONTROL DEVICE BEHIND DOOR SWING.
11. FOR MOUNTING HEIGHT OF UNDER-SHELF/CABINET LIGHTING FIXTURES REFER TO ARCHITECTURAL DRAWINGS.
12. COORDINATE EXACT LOCATION OF SUSPENDED LIGHTING FIXTURES IN MECHANICAL AND STORAGE AREAS WITH OTHER TRADES. DO NOT PLACE LIGHTING FIXTURE DIRECTION ABOVE MECHANICAL EQUIPMENT OR DUCTS.
13. RACEWAYS, SLEEVES, AND BOXES FOR IT CABLING SHALL COMPLY WITH COMMERCIAL BUILDING STANDARD FOR TELECOMMUNICATION PATHWAYS AND SPACES, ANSI/TIA/EIA-569-A.
14. BOND FLAMMABLE LIQUID STORAGE CABINETS WITH #10 AWG WIRE TO THE NEAREST STEEL COLUMN. INSTALL WIRE IN CONDUIT.

ELECTRICAL SHEET LIST

Sheet Number	Sheet Name
ELECTRICAL	
EP.000	SYMBOLS AND ABBREVIATIONS
ED.101	ELECTRICAL POWER PLAN DEMO - 1ST FLOOR
ED.102	ELECTRICAL POWER PLAN DEMO - 3RD FLOOR
ED.103	ENLARGED ELECTRICAL DEMOLITION POWER PLANS
EP.101	ELECTRICAL POWER PLAN - 1ST FLOOR
EP.102	ELECTRICAL POWER PLAN - 3RD FLOOR
EP.103	ENLARGED ELECTRICAL POWER PLANS
EP.201	LIGHTING PLANS
EP.601	ELECTRICAL ONE-LINE DIAGRAM
EP.701	PANEL SCHEDULES & ELECTRICAL DETAILS
Grand total: 10	

POWER OUTLETS

TYPICAL OUTLET SYMBOL CIRCUITING NOTES

CIRCUIT NUMBER → 2 ø/G → TYPE; → +30" → ELEVATION AFF

TYPICAL OUTLET SYMBOL NOTES

- ··· — STAR SYMBOL INDICATES DEVICE IS MOUNTED 4" ABOVE COUNTER. CASEWORK, BACKSPLASH OR 46" IF NOTHING BELOW.
- "+84" — INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR.
- "IG" — ISOLATED GROUND
- "WP" — WEATHER PROOF
- "XP" — EXPLOSION PROOF

NOTES:

1. OUTLETS LOCATED AT COUNTERS SHALL BE LOCATED 18" AFF IN KNEE SPACE IF PROVIDED OR 4" ABOVE COUNTER OR BACK SPLASH AS APPLICABLE IF NO KNEE SPACE IS PROVIDED UNLESS NOTED OTHERWISE.

- 20A, 125V, 2 POLE, 3 WIRE GROUNDING DUPLEX RECEPTACLE
- 20A, 125V, 2 POLE, 3 WIRE GROUNDING DOUBLE DUPLEX RECEPTACLE
- 20A, 125V, 2 POLE 3 WIRE GROUNDING DUPLEX RECEPTACLE WITH (2) INTEGRAL USB CHARGING PORTS
- S — HALF SWITCHED RECEPTACLE - LOWER OUTLET SWITCHED VIA CONTROL ZONE INDICATED OR NEAREST OCCUPANCY SENSOR. UPPER OUTLET IS UNSWITCHED - ALWAYS HOT
- 20A, 125V, 2 POLE, 3 WIRE GROUNDING GFCI DUPLEX RECEPTACLE
- 20A, 125V, 2 POLE, 3 WIRE GROUNDING GFCI RECEPTACLE WITH WHILE IN USE WEATHERPROOF ENCLOSURE.
- SPECIAL OUTLET. REFER TO SCHEDULE FOR REQUIREMENTS.
- CEILING MOUNTED RECEPTACLE, TYPE AS INDICATED ABOVE.
- PEDESTAL MOUNTED DUPLEX OR DOUBLE DUPLEX CONVENIENCE RECEPTACLE.
- FLOOR BOX - WITH DUPLEX OR DOUBLE DUPLEX RECEPTACLE
- FLOOR BOX WITH POWER AND DATA FURNITURE FEED CONNECTIONS. FURNITURE FEED CIRCUIT QUANTITY AS INDICATED ON PLANS.
- 5M — ELECTRICAL POWER SWITCH
  - M - MOTOR RATED WITH INTEGRAL THERMAL OVERLOADS U.O.N.
- (18"/18") — SURFACE MOUNTED ENCLOSED DIVIDED RACEWAY FOR POWER AND DATA.
  - DUPLEX SPACING (20A, 125V, 2 POLE, 3 WIRE GROUNDING DUPLEX RECEPTACLE U.O.N)
  - DATA OUTLET SPACING (PROVISIONS FOR NOT LESS THAN 4 PORTS U.O.N)
- POWER / TELECOM. POLE. PROVIDE JUNCTION BOX ABOVE CEILING FOR POWER CONNECTION (CIRCUIT QUANTITY AS NOTED ON PLANS) FOR FOR TELECOM/DATA CONNECTIONS (1 PER ASSOCIATED WORKSTATION) CONNECT TO WIRING IN POWER POLE.
- EXTENSION CORD REEL.
- UNISTRUT RACK

GENERAL NOTES (NEW)

A. REFER TO SHEET EP.000 SYMBOLS, ABBREVIATIONS, AND ADDITIONAL REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, CODE REQUIREMENTS, EQUIPMENT AND MATERIAL SPECIFICATIONS AND INSTALLATION REQUIREMENTS, DEVICE MOUNTING HEIGHTS, EQUIPMENT IDENTIFICATION, ETC.

B. ALL EQUIPMENT AND FIXTURES ARE NEW UNLESS NOTED OTHERWISE.

C. CONDUIT AND WIRE IS SHOWN DIAGRAMMATICALLY. ACTUAL ROUTING AND REQUIRED NUMBER OF SUPPORTS SHALL BE DETERMINED BY THE CONTRACTOR.

D. UNLESS CONDUIT ROUTING CLEARLY INDICATES AS SUCH, DO NOT ROUTE CONDUIT ON OR ABOVE ROOFTOPS WITHOUT CONSULTING ENGINEER TO DETERMINE ANY POTENTIAL IMPACT TO RACEWAY OR CONDUCTOR SIZE DUE TO ADDITIONAL AMBIENT DERATING FOR ROOFTOP INSTALLATION.

E. CONCEAL CONDUITS IN ALL FINISHED AREAS INCLUDING CONCEALMENT WITHIN MASONRY WALLS WHEN PRESENT. (EXCEPTION: ELECTRICAL, MECHANICAL, AND JANITOR ROOMS).

F. FLOOR AND FIRE WALL PENETRATIONS MUST BE SEALED WITH AN APPROVED DESIGN TESTED FIRE STOPPING SYSTEM APPROPRIATE TO THE PENETRATED WALL TYPE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. ALL FIRE-STOPPING MATERIAL SHALL BE MANUFACTURED BY HILTI, PER SPOKANE VAMC DESIGN REQUIREMENTS.

G. WHEN OVERHEAD EL

1 ELECTRICAL POWER PLAN DEMO - LEVEL 1

3/32" = 1'-0"

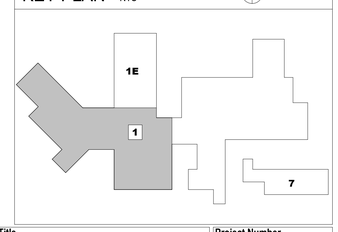
KEYNOTES:

1. ALL EXISTING LIGHTING FIXTURES WITHIN INDICATED BOUNDARY SHALL BE REMOVED AND STORED. EXISTING LIGHTING FIXTURES SHALL BE REINSTALLED AT SAME LOCATION IN NEW ACT CEILING. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND REQUIREMENTS.

2. REMOVE VAV BOXES WITHIN INDICATED BOUNDARY. PRESERVE EXISTING CONNECTION TO (X) VAV FOR NEW CONNECTION. REFER TO MECHANICAL SHEETS FOR EXACT LOCATIONS AND REQUIREMENTS.

3. DEMOLISH AHU AND ASSOCIATED CONNECTIONS BACK TO POINT OF ORIGINATION. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

KEY PLAN NTS



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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL POWER PLAN DEMO - 1ST FLOOR	Phase: 100% Submittal	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
			Building Number: 1
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Drawing Number: ED.101
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	

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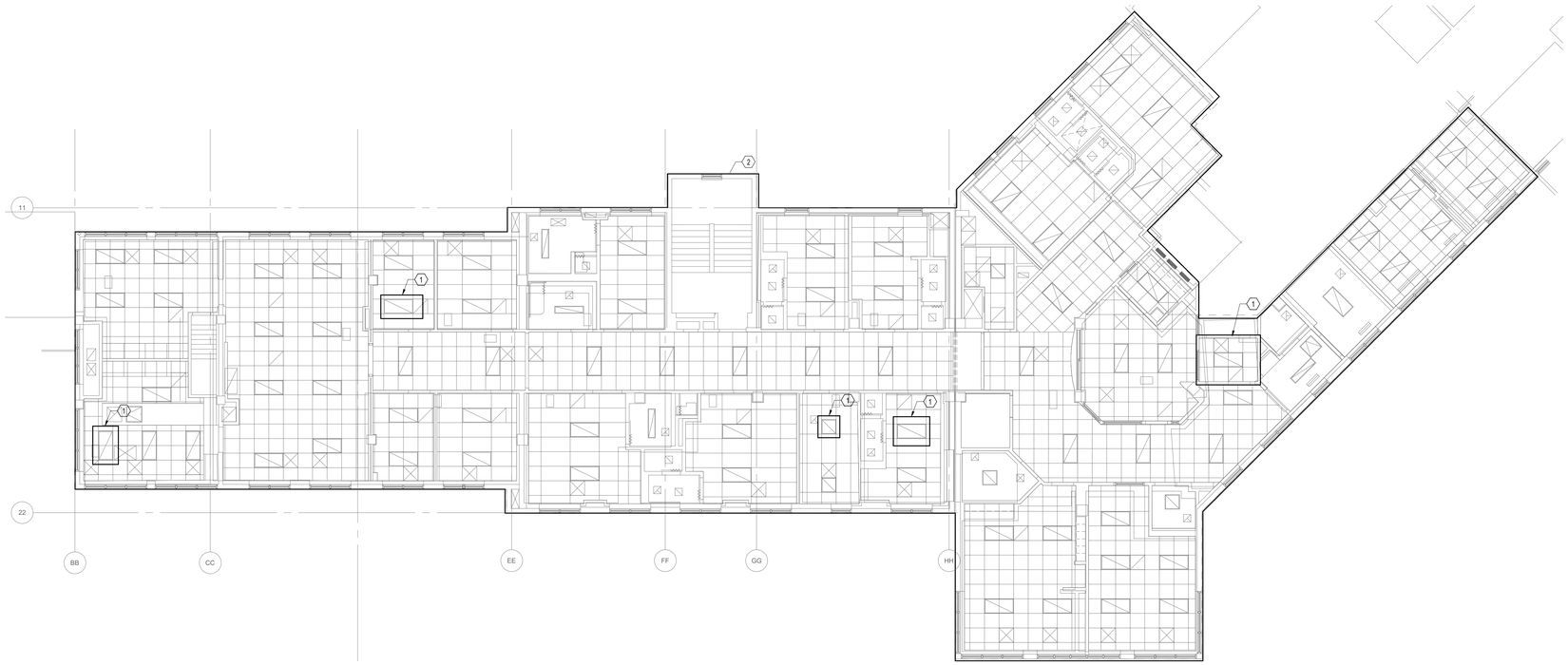


1 ELECTRICAL POWER PLAN DEMO - LEVEL 3

1/8" = 1'-0"

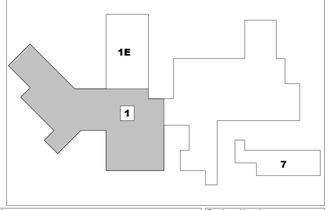
KEYNOTES:

1. EXISTING LIGHTING FIXTURES WITHIN INDICATED BOUNDARY SHALL BE REMOVED AND STORED. EXISTING LIGHTING FIXTURES SHALL BE REINSTALLED AT SAME LOCATION IN NEW ACT CEILING. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND REQUIREMENTS.

2. REMOVE VAV BOXES WITHIN INDICATED BOUNDARY. PRESERVE EXISTING CONNECTION TO (X) VAV FOR NEW CONNECTION. REFER TO MECHANICAL SHEETS FOR EXACT LOCATIONS AND REQUIREMENTS.

KEY PLAN NTS

NORTH



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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ELECTRICAL POWER PLAN DEMO - 3RD FLOOR	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	Drawing Number ED.102

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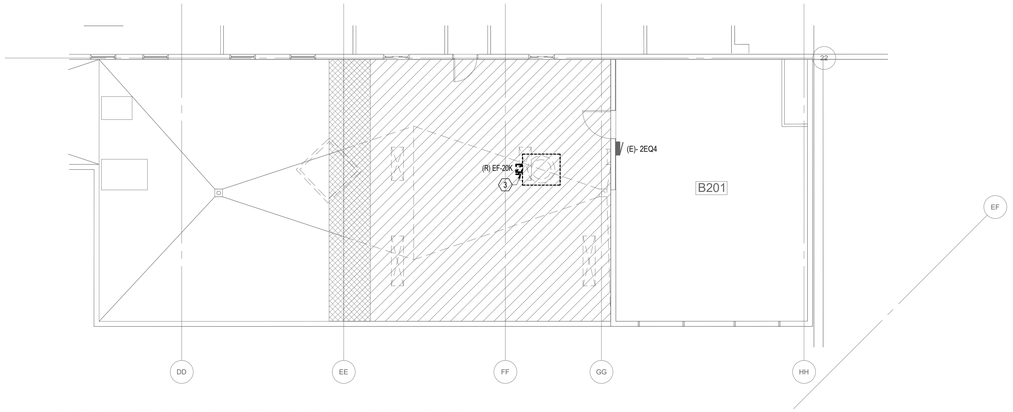
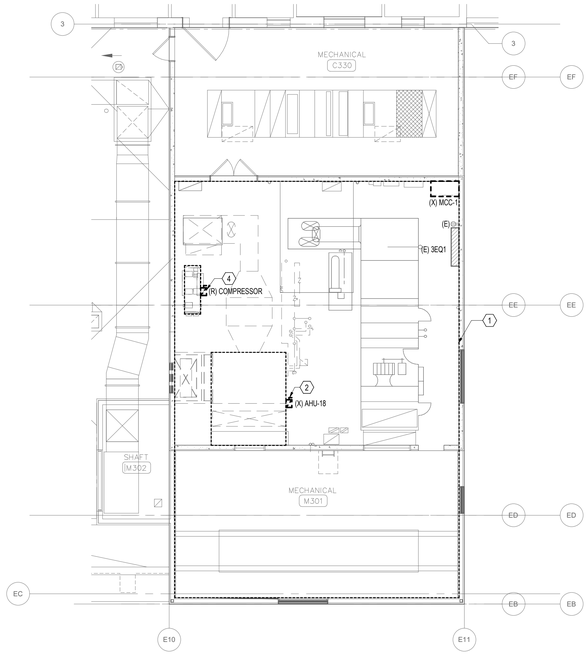
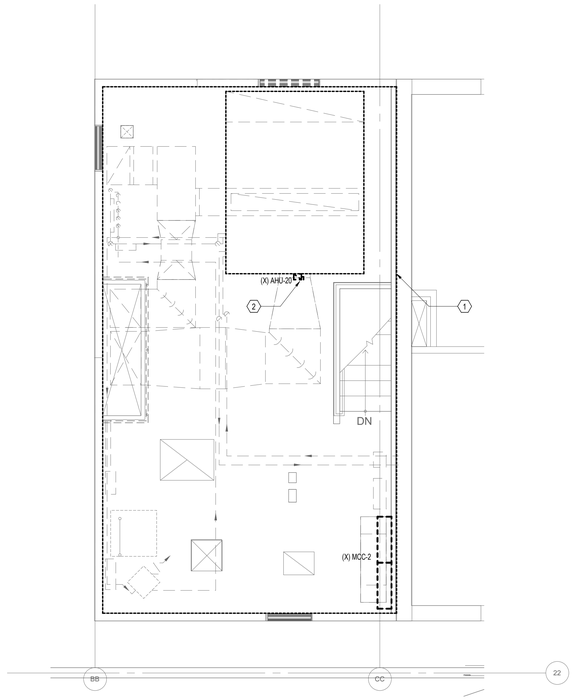


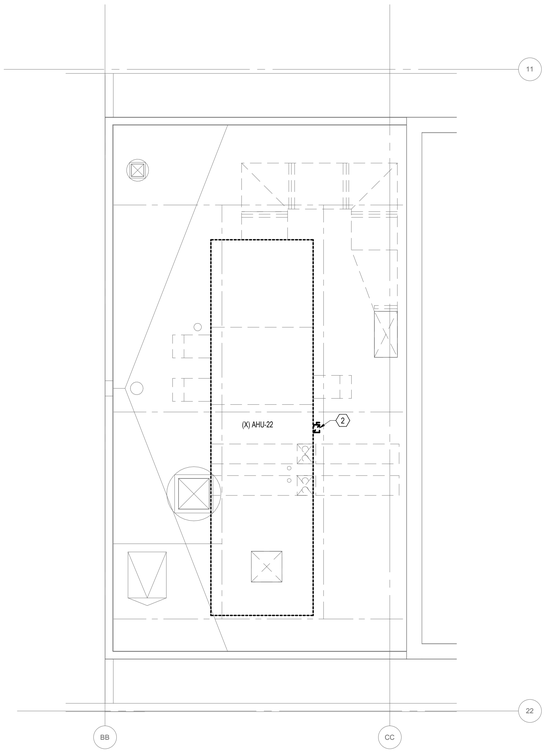
1 ENLARGED DEMO ELECTRICAL PLAN - LEVEL 2 ROOF
1/8" = 1'-0"



4 AHU-18 ENLARGED DEMO PLAN - LEVEL 3
1/8" = 1'-0"



3 AHU-20 ENLARGED DEMO ELECTRICAL PLAN - LEVEL 4
1/4" = 1'-0"

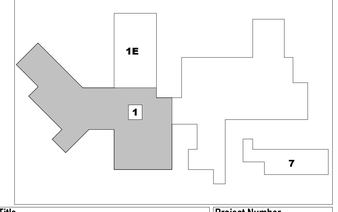


2 AHU-22 ENLARGED DEMO PLAN - LEVEL 5
1/4" = 1'-0"

KEYNOTES

1. DEMOLISH ALL LIGHTING FIXTURES AND ASSOCIATED CONTROLS INSIDE INDICATED BOUNDARY. UNLESS NOTED OTHERWISE, DEMOLISH ALL FIXTURES BACK TO POINT OR ORIGINATION.
2. DEMOLISH ALL ELECTRICAL CONNECTIONS ASSOCIATED WITH (X) AHU BACK TO POINT OF ORIGINATION. DEMOLISH ANY EXISTING DUCT SMOKE DETECTORS ASSOCIATED WITH (X) AHU.
3. EXHAUST FAN TO BE RELOCATED TO PENTHOUSE ROOF. DEMOLISH EXISTING ELECTRICAL CONNECTION BACK TO POINT OF ORIGINATION.
4. PRESERVE EXISTING DISCONNECT FOR (R) COMPRESSOR. REMOVE CONDUIT/CONDUCTORS BACK TO POINT OF ORIGINATION.

KEY PLAN NTS



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SAMUEL ZIMMERMAN ARCHITECT STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ENLARGED ELECTRICAL DEMOLITION POWER PLANS	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	Drawing Number ED.103

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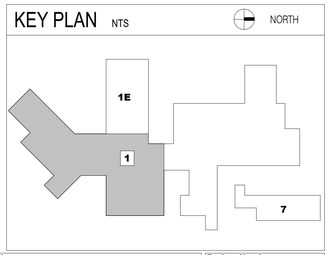
1 ELECTRICAL POWER PLAN - LEVEL 1
3/32" = 1'-0"

KEYNOTES:

1. REINSTALL ALL EXISTING LIGHTING FIXTURES REMOVED DURING DEMOLITION PHASE AT SAME LOCATION IN NEW ACT CEILING. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.

2. PROVIDE 120V JUNCTION BOX AND MOTOR RATED SWITCH AT ALL VAV LOCATIONS IN THIS AREA. COORDINATE EXACT LOCATION AND QUANTITY WITH MECHANICAL DRAWINGS. RE-USE EXISTING 120V CIRCUIT IN AREA MADE AVAILABLE FROM DEMOLITION OF VAVS. EXTEND CONDUIT AND CONDUCTORS AS NEEDED TO REACH NEW LOCATION.

KEY PLAN NTS



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Drawing Title	Phase	Project Title	Project Number
ELECTRICAL POWER PLAN - 1ST FLOOR	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	Drawing Number EP.101

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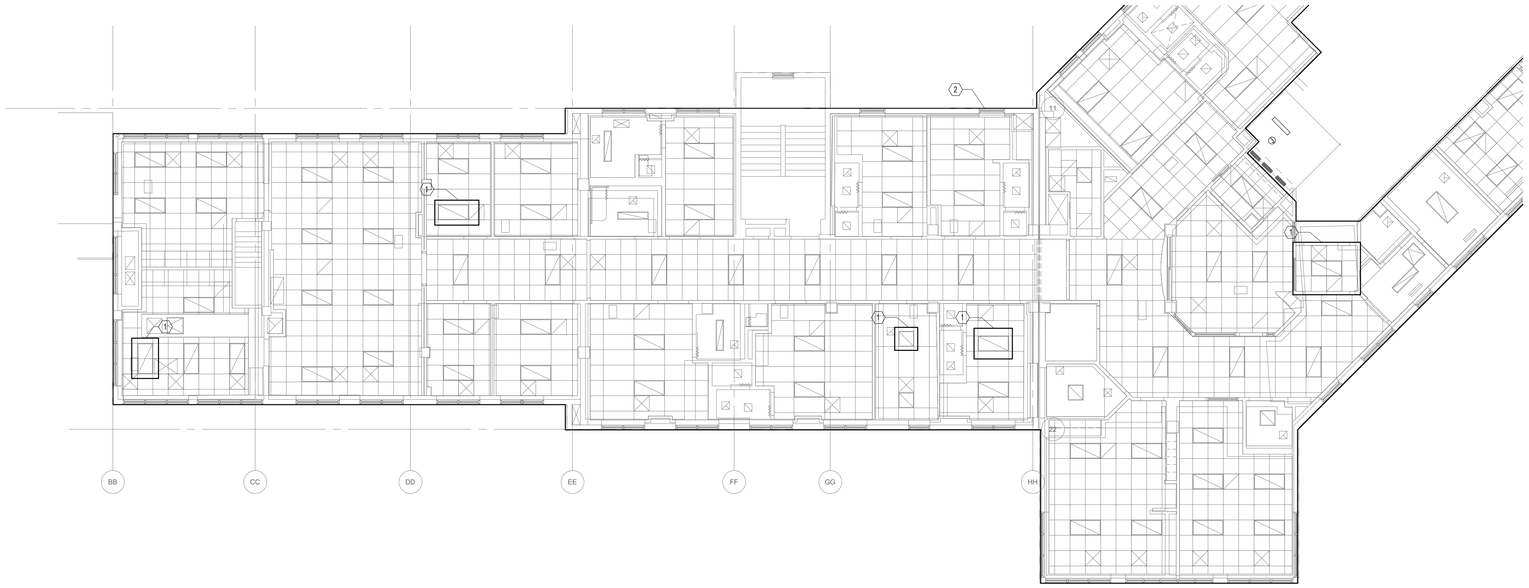


1 ELECTRICAL POWER PLAN - LEVEL 3

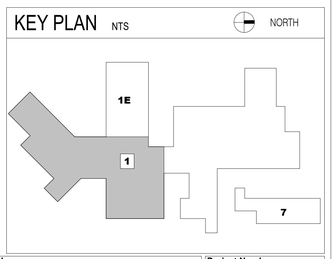
1/8" = 1'-0"

KEYNOTES:

1. REINSTALL ALL EXISTING LIGHTING FIXTURES REMOVED DURING DEMOLITION PHASE AT SAME LOCATION IN NEW ACT CEILING. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.

2. PROVIDE 120V JUNCTION BOX AND MOTOR RATED SWITCH AT ALL VAV LOCATIONS IN THIS AREA. COORDINATE EXACT LOCATION AND QUANTITY WITH MECHANICAL DRAWINGS. RE-USE EXISTING 120V CIRCUIT IN AREA MADE AVAILABLE FROM DEMOLITION OF VAVS. EXTEND CONDUIT AND CONDUCTORS AS NEEDED TO REACH NEW LOCATION.

KEY PLAN NTS



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VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL POWER PLAN - 3RD FLOOR	Phase: 100% Submittal	Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	Project Number: 668-21-100
Approved:			Building Number: 1
		Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St. Spokane, WA 99205	Drawing Number: EP.102
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	

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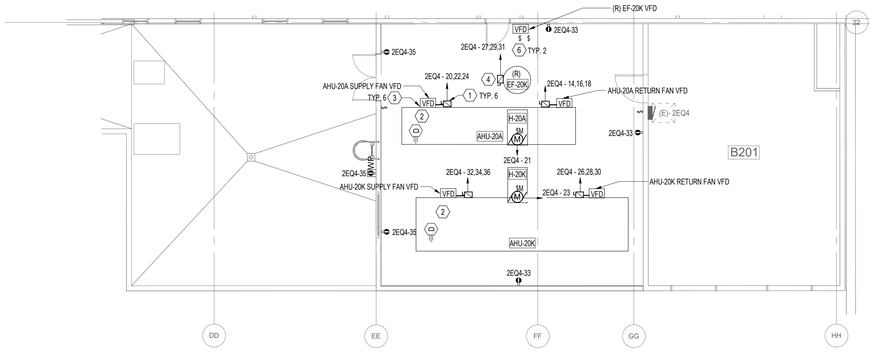
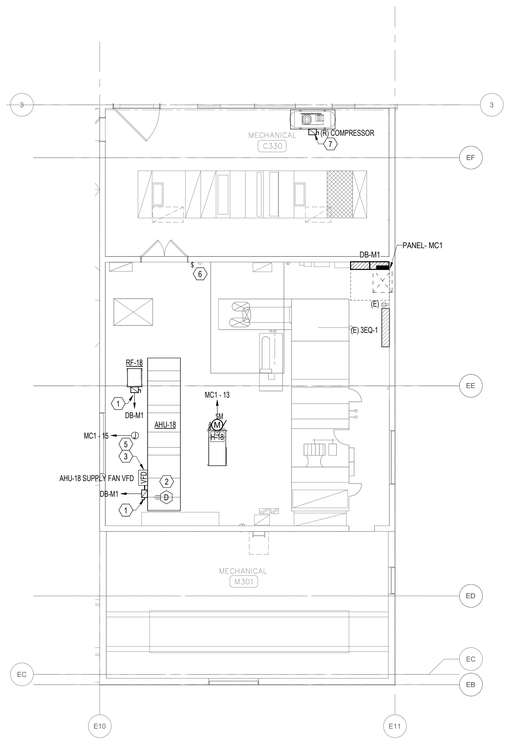


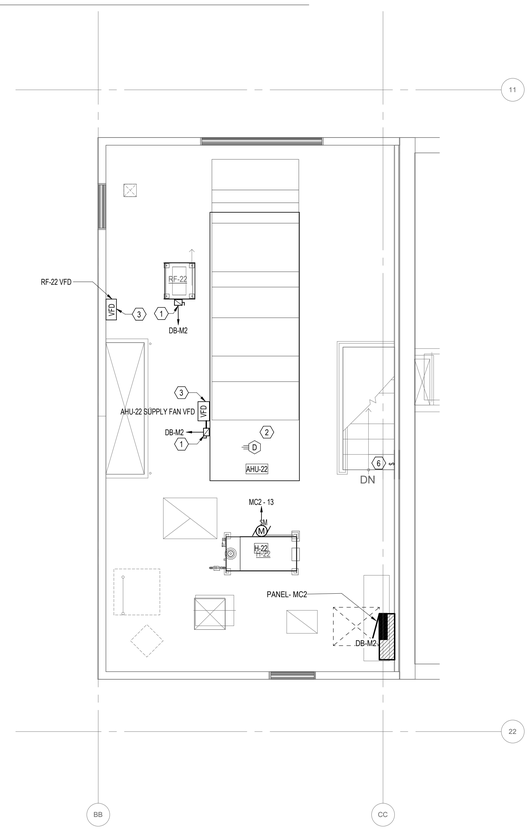
1 AHU-20A&K ENLARGED POWER PLAN - LEVEL 2

1/8" = 1'-0"



3 AHU-18 ENLARGED POWER PLAN - LEVEL 3

1/8" = 1'-0"



2 AHU-22 ENLARGED POWER PLAN - LEVEL 4

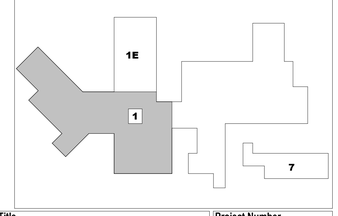
1/4" = 1'-0"

KEYNOTES

1. REFER TO ONE-LINE FOR DISCONNECT SIZING INFORMATION AND WIRE SIZES. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
2. PROVIDE DUCT SMOKE DETECTOR IN AHU SUPPLY DUCT. CONNECT TO EXISTING FIRE ALARM SYSTEM. CONTRACTOR SHALL CONFIRM DEVICE COMPATIBILITY PRIOR TO PURCHASE AND INSTALLATION. CONTRACTOR TO INTEGRATE DUCT SMOKE DETECTOR WITH MECHANICAL CONTROLS FOR AHU SHUTDOWN UPON SMOKE DETECTION. REFER TO MECHANICAL CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.
3. VFDS TO BE PROVIDED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
4. EXHAUST FAN LOCATED ON PENTHOUSE ROOF.
5. PROVIDE JUNCTION BOX FOR DAMPER CONNECTIONS IN AREA. COORDINATE EXACT QUANTITY AND LOCATION WITH MECHANICAL DRAWINGS.
6. PROVIDE REMOTE TEST SWITCH FOR DUCT SMOKE DETECTORS. LOCATE SWITCH 6' AFF ABOVE LIGHT SWITCH. CONNECT TO DUCT SMOKE DETECTOR PER MANUFACTURER'S SPECIFICATIONS.
7. REUSE EXISTING DISCONNECT FOR (R) COMPRESSOR. CONNECT TO EXISTING CIRCUIT IN (E) DB-1 VIA NEW FEEDERS. REFER TO ONE-LINE FOR ADDITIONAL REQUIREMENTS.

KEY PLAN NTS

NORTH



Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ENLARGED ELECTRICAL POWER PLANS

Phase: 100% Submittal

Approved:

Project Title: UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM

Project Number: 668-21-100

Building Number: 1

Location: Mann Grandstaff VA Medical Center, 4815 N Assembly St. Spokane, WA 99205

Issue Date: November 17, 2025

Checked: ZONA

Drawn: ZONA

Drawing Number: EP.103

VA FORM 08 - 6231

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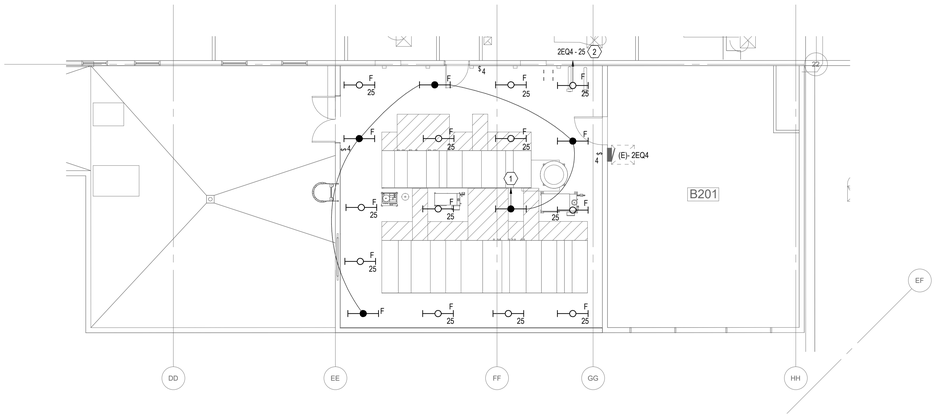
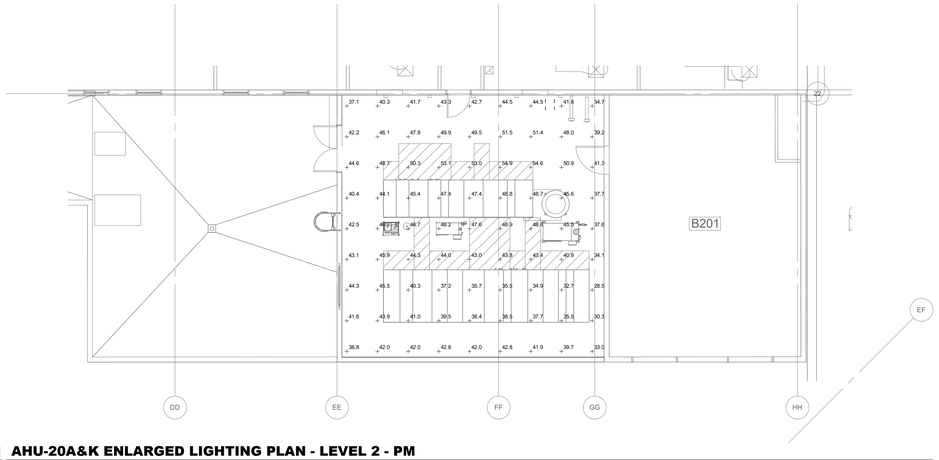
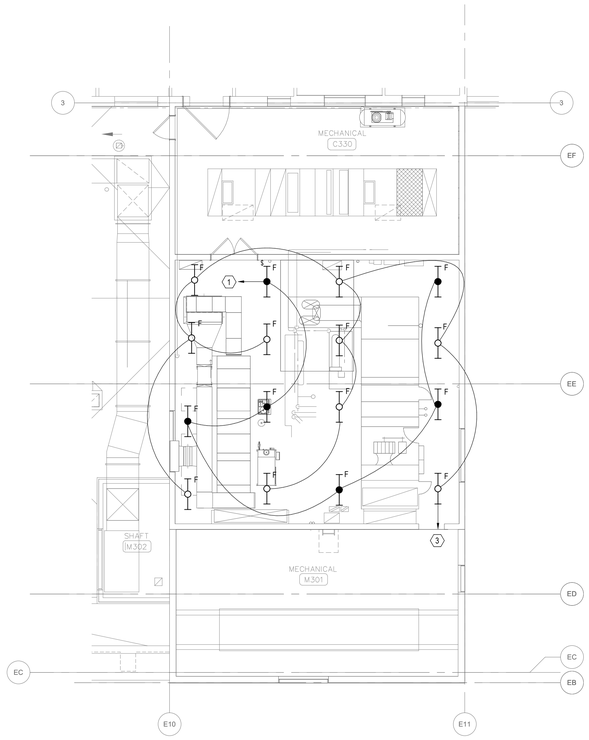
Autodesk Docs://AESUS Projects/22025_VA_Upgrade_AHU-18_20_22_ELEC.rvt



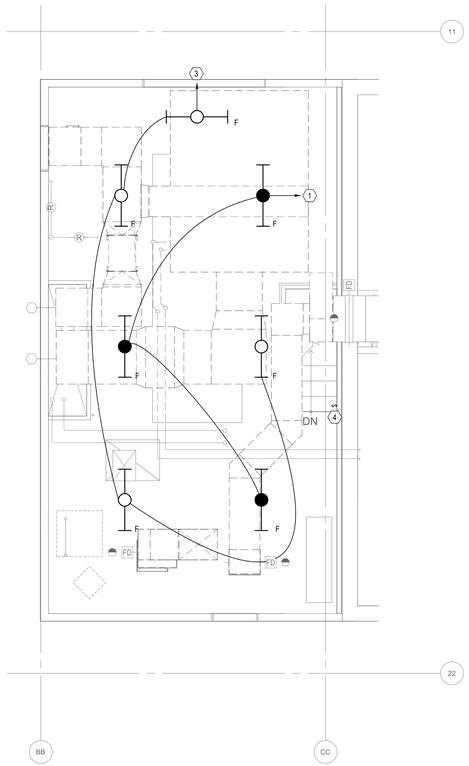
1 AHU-20A&K ENLARGED LIGHTING PLAN - LEVEL 2
1/8" = 1'-0"



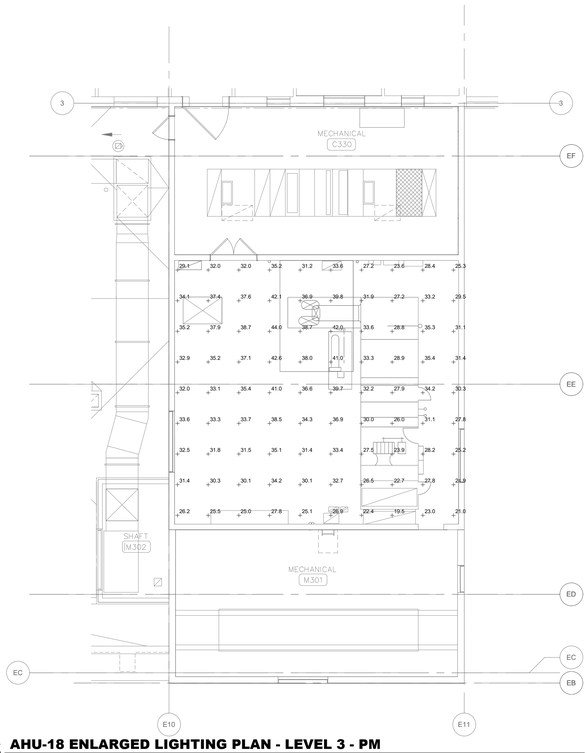
4 AHU-20A&K ENLARGED LIGHTING PLAN - LEVEL 2 - PM
1/8" = 1'-0"



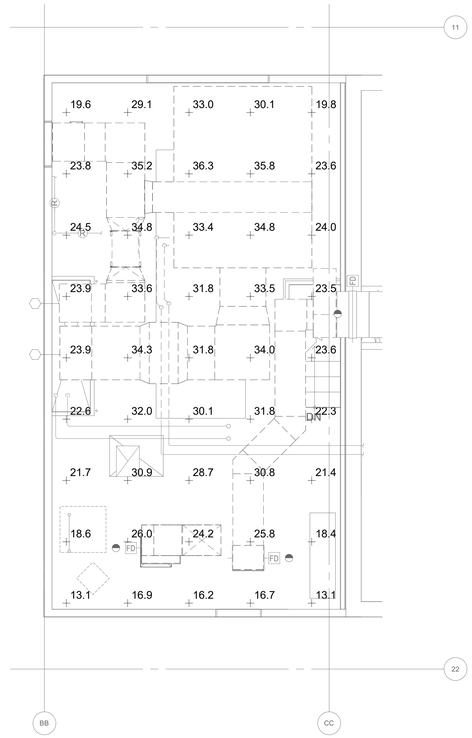
3 AHU-18 ENLARGED LIGHTING PLAN - LEVEL 3
1/8" = 1'-0"



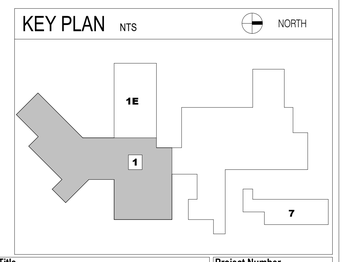
2 AHU-22 ENLARGED LIGHTING PLAN - LEVEL 4
1/4" = 1'-0"



6 AHU-18 ENLARGED LIGHTING PLAN - LEVEL 3 - PM
1/8" = 1'-0"



5 AHU-22 ENLARGED LIGHTING PLAN - LEVEL 4 - PM
1/4" = 1'-0"



KEYNOTES

1. CONNECT TO EXISTING LIFE SAFETY CIRCUIT IN AREA MADE AVAILABLE FROM DEMOLITION OF PREVIOUS FIXTURES.
2. EXTEND AND CONNECT CIRCUITING TO FIXTURES IN AREA WITH THE SAME CIRCUIT NUMBER.
3. CONNECT TO EXISTING NORMAL CIRCUIT IN AREA MADE AVAILABLE FROM DEMOLITION OF PREVIOUS FIXTURES.
4. LOCATE LIGHTING SWITCH AT BOTTOM OF STAIRCASE.

Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
LIGHTING PLANS	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	Drawing Number EP.201

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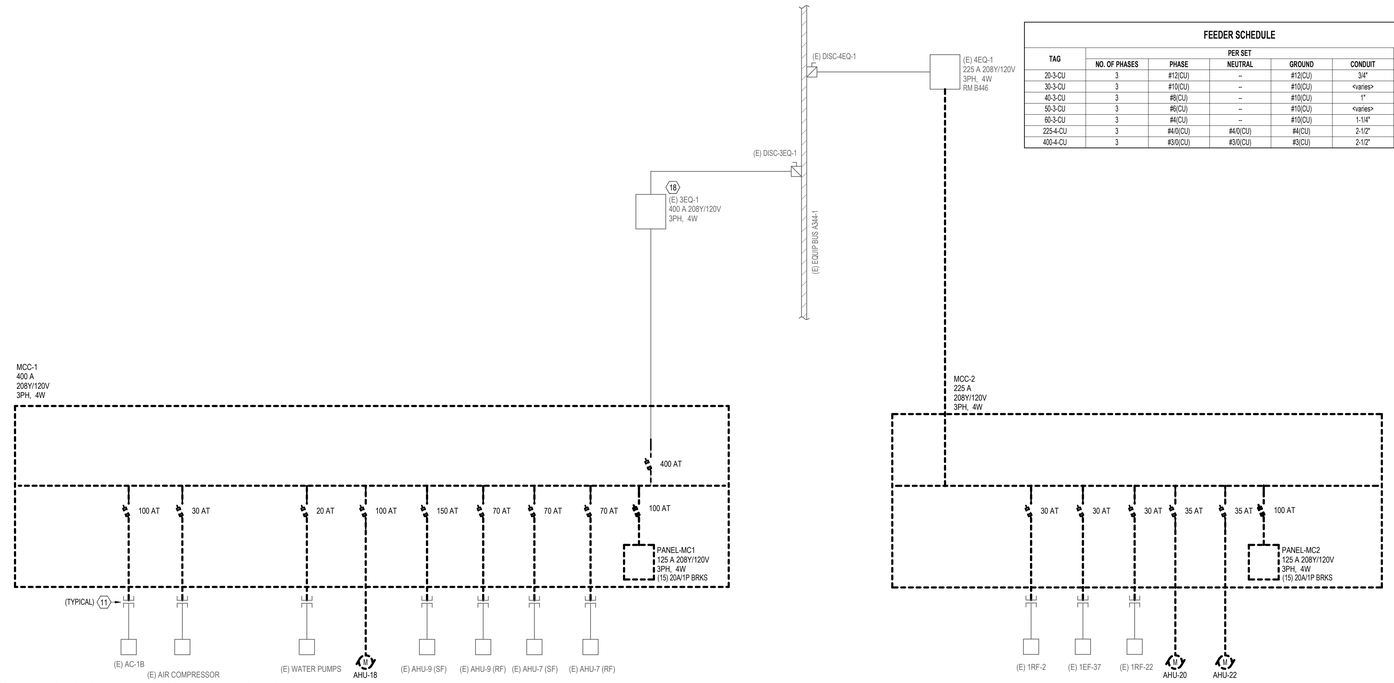
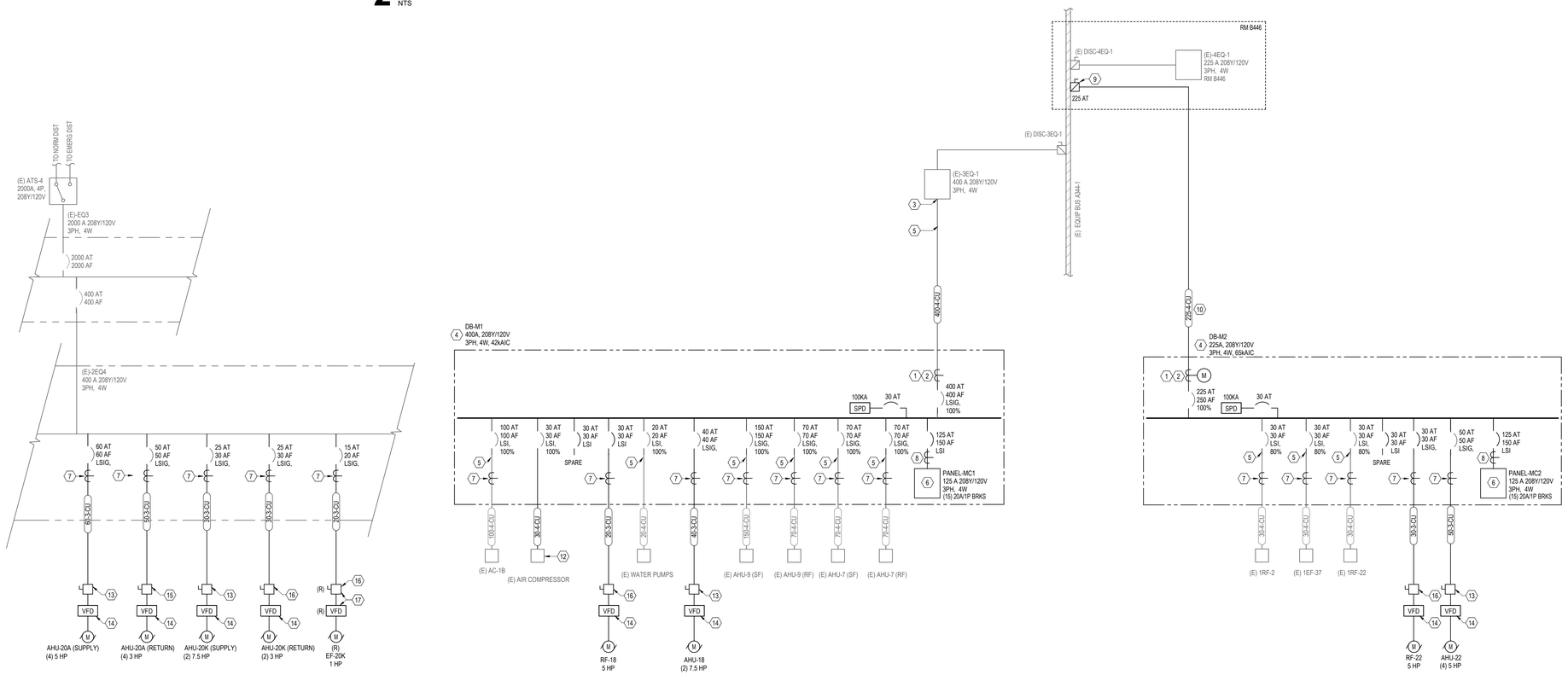
FEEDER SCHEDULE						
TAG	PER SET					CONDUCTOR MATERIAL
	NO. OF PHASES	PHASE	NEUTRAL	GROUND	CONDUIT	
20-3-CU	3	#12(CU)	--	#12(CU)	3/4"	CU
30-3-CU	3	#10(CU)	--	#10(CU)	<varies>	CU
40-3-CU	3	#8(CU)	--	#10(CU)	1"	CU
50-3-CU	3	#6(CU)	--	#10(CU)	<varies>	CU
60-3-CU	3	#4(CU)	--	#10(CU)	1-1/4"	CU
225-4-CU	3	#4/0(CU)	#4/0(CU)	#4(CU)	2-1/2"	CU
400-4-CU	3	#3/0(CU)	#3/0(CU)	#3(CU)	2-1/2"	CU



2 ELECTRICAL DEMO ONE-LINE DIAGRAM
NTS



1 ELECTRICAL ONE-LINE DIAGRAM
NTS

KEYNOTES

1. PROVIDE (3) CENTRICA PANORAMIC PAN-14 SENSORS AND (3) 400A 0.5 CTS PER HOSPITAL SPECIFICATIONS. COORDINATE EXACT LOCATION WITH HOSPITAL FACILITIES PRIOR TO INSTALLATION.
2. LOCATE METER AND CTS WITHIN PANELBOARD OR PROVIDE EXTERNAL ENCLOSURE IF NEEDED.
3. PROVIDE NEW 400A CIRCUIT BREAKER IN SPACE MADE AVAILABLE FROM DEMOLITION.
4. PROVIDE NEW PANELBOARD TO REPLACE MOTOR CONTROL CENTER. ALL LOADS NOT INDICATED AS (X) SHALL BE RECIRCUITED TO NEW PANELBOARD. REFER TO EP.700 AND KEYNOTE 5 FOR ADDITIONAL RELOCATED LOAD INFORMATION. VERIFY EXACT REQUIREMENTS WITH FIELD CONDITIONS.
5. EXTEND EXISTING FEEDER TO NEW DISTRIBUTION BOARD BREAKER. MATCH EXISTING FEEDER SIZE. FEEDER SIZE SHOWN IS FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY EXISTING FEEDER SIZES PRIOR TO PURCHASE AND MATCH TYPE AND SIZE WHERE FEEDER EXTENSION IS REQUIRED. CONTRACTOR TO PROVIDE INSULATION RESISTANCE TEST ON EXISTING TO REMAIN CONDUCTORS TO CONFIRM IF THEY ARE IN WORKING CONDITION. CONTACT COR AND ENGINEER IF TEST RESULTS COME BACK NEGATIVE.
6. PROVIDE 18-POLE 125A, 208Y/120V PANELBOARD WITHIN DISTRIBUTION BOARD. EXTEND SINGLE POLE BRANCH CIRCUITS FROM DEMOLISHED MCC PANELBOARD TO PANELBOARD.
7. PROVIDE (3) CENTRICA PANORAMIC PAN-12 SENSORS PER HOSPITAL SPECIFICATION ON BRANCH CIRCUITS FEEDING HVAC SUPPLY AND RETURN FANS.
8. PROVIDE (3) CENTRICA PANORAMIC PAN-12 SENSORS PER HOSPITAL SPECIFICATION
9. PROVIDE AND INSTALL BUSWAY DISCONNECT TO FEED DISTRIBUTION BOARD. LOCATE DISCONNECT AS TO NOT IMPEDE NEC REQUIRED CLEARANCE.
10. PROVIDE NEW FEEDER TO RM 446.
11. DISCONNECT FEEDER FROM MCC. PROTECT FEEDER. FEEDER TO BE RE-TERMINATED TO NEW DISTRIBUTION BOARD DURING NEW CONSTRUCTION PHASE.
12. PROVIDE NEW FEEDER FOR AIR COMPRESSOR TO RELOCATED LOCATION. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION. ALL ELECTRICAL CONNECTIONS BY ELECTRICAL CONTRACTOR.
13. PROVIDE 100A/3P NON-FUSED SHUNTABLE DISCONNECT. REFER TO EP.101 FOR ADDITIONAL INFORMATION.
14. VFD PROVIDED BY MECHANICAL CONTRACTOR. REFER TO EP.101 FOR ADDITIONAL INFORMATION.
15. PROVIDE 60A/3P NON-FUSED SHUNTABLE DISCONNECT. REFER TO EP.101 FOR ADDITIONAL INFORMATION.
16. PROVIDE 30A/3P NON-FUSED SHUNTABLE DISCONNECT. REFER TO EP.101 FOR ADDITIONAL INFORMATION.
17. RELOCATED EQUIPMENT. COORDINATE EXACT CONFIGURATION/REQUIREMENTS WITH EXISTING INFRASTRUCTURE. VERIFY PROTECTION MEETS INDICATED REQUIREMENTS.
18. DEMOLISH EXISTING 400A BREAKER IN (E) 3EQ-1.

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ELECTRICAL ONE-LINE DIAGRAM	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	Drawing Number EP.601

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LOAD SUMMARY
DB-M1

LOAD NAME	CONNECTED LOAD
AHU-18	9.45 kVA
EXISTING METERED LOADS (30 DAY) (SEE NOTE 1)	17.29 kVA
RF-18	6.02 kVA
MC1 (INTEGRAL PANEL)	13.29 kVA

LOAD CLASSIFICATION	CONNECTED	DEMAND	PANEL TOTALS	
Motor	15.76 kVA	18.12 kVA	CONNECTED CURRENT (PH A)	127 A
Other	1 kVA	1 kVA	CONNECTED CURRENT (PH B)	133 A
Existing	29.29 kVA	36.62 kVA	CONNECTED CURRENT (PH C)	124 A
			LOAD BALANCE	93.46%
			TOTAL CONNECTED (KVA)	46.05 kVA
			TOTAL DEMAND (KVA)	55.74 kVA
			TOTA (AVERAGE) CONNECTED (AMPS)	128 A
			TOTAL (AVERAGE) DEMAND (AMPS)	155 A
			PEAK PHASE DEMAND 'PH B' (AMPS)	161 A

NOTES:

NOTES:
1. LOAD STUDY OF (E) 3EQ-1 PROVIDED ON 12/20/2023. WITH NEC 1.25X FACTOR APPLIED, PEAK LOAD IS 108A. ESTIMATED LOAD FOR (X) AHU-18 IS 60A. TOTAL REMAINING EXISTING LOAD ON ENTIRE SYSTEM IS 48A.

LOAD SUMMARY
DB-M2

LOAD NAME	CONNECTED LOAD
MC2 (INTEGRAL PANEL)	13.01 kVA
EXISTING 30 DAY METERED LOAD (SEE NOTE 1)	5.8 kVA
AHU-22	12.36 kVA
RF-22	6.12 kVA

LOAD CLASSIFICATION	CONNECTED	DEMAND	PANEL TOTALS	
Motor	18.78 kVA	21.87 kVA	CONNECTED CURRENT (PH A)	104 A
Existing	17.8 kVA	22.25 kVA	CONNECTED CURRENT (PH B)	107 A
Receptacles	0.72 kVA	0.72 kVA	CONNECTED CURRENT (PH C)	101 A
			LOAD BALANCE	94.06%
			TOTAL CONNECTED (KVA)	37.3 kVA
			TOTAL DEMAND (KVA)	44.84 kVA
			TOTA (AVERAGE) CONNECTED (AMPS)	104 A
			TOTAL (AVERAGE) DEMAND (AMPS)	124 A
		/ 400A	PEAK PHASE DEMAND 'PH B' (AMPS)	129 A / 225A

NOTES:

NOTES:
1. LOAD STUDY OF (E) 4EQ-1 PROVIDED ON 12/20/2023. WITH NEC 1.25X FACTOR APPLIED, PEAK LOAD IS 52.1A. ESTIMATED LOAD FOR (X) AHU-18 IS 36A. TOTAL REMAINING EXISTING LOAD ON ENTIRE SYSTEM IS 16.1A.

PANEL: MC1

LOCATION: | FED FROM: DB-M1 | MOUNTING: SURFACE
VOLTAGE: 208Y/120 | ENCLOSURE: NEMA 1
MAIN RATING / TYPE: 150 A / MLO | PHASE / WIRE: 3PH / 4W | OPTIONS:
NEUTRAL BUS 150 A | SCCR: 65 kA | BUS MATERIAL: COPPER

#	Circuit Description	Conduit and Wire	LC	S	Trip	P	A (KVA)		B (KVA)		C (KVA)		P	Trip	S	LC	Conduit and Wire	Circuit Description	#
1	EXISTING LOAD	3/4"C, 3#12, #12G			20 A	1	1	1					1	20 A			3/4"C, 3#12, #12G	EXISTING LOAD	2
3	EXISTING LOAD	3/4"C, 3#12, #12G			20 A	1			1	1			1	20 A			3/4"C, 3#12, #12G	EXISTING LOAD	4
5	EXISTING LOAD	3/4"C, 3#12, #12G			20 A	1					1	1	1	20 A			3/4"C, 3#12, #12G	EXISTING LOAD	6
7	EXISTING LOAD	3/4"C, 3#12, #12G			20 A	1	1	1					1	20 A			3/4"C, 3#12, #12G	EXISTING LOAD	8
9	EXISTING LOAD	3/4"C, 3#12, #12G			20 A	1			1	1			1	20 A			3/4"C, 3#12, #12G	EXISTING LOAD	10
11	EXISTING LOAD	3/4"C, 3#12, #12G			20 A	1					1	1	1	20 A			3/4"C, 3#12, #12G	EXISTING LOAD	12
13	H-18	3/4"C, 2#12, #12G			20 A	1	0.29	0					1	20 A	--	--	--	SPARE BREAKER	14
15	AHU-18 DAMPERS	3/4"C, 2#12, #12G			20 A	1			1	0			1	20 A	--	--	--	SPARE BREAKER	16
17	SPARE BREAKER	--	--	--	20 A	1					0	0	1	20 A	--	--	--	SPARE BREAKER	18
19	SPARE BREAKER	--	--	--	20 A	1	0	0					1	20 A	--	--	--	SPARE BREAKER	20
21	SPARE BREAKER	--	--	--	20 A	1			0	0			1	20 A	--	--	--	SPARE BREAKER	22
23	SPARE BREAKER	--	--	--	20 A	1					0	0	1	20 A	--	--	--	SPARE BREAKER	24

BRANCH CIRCUIT LOAD (KVA):	4.29 kVA	5 kVA	4 kVA
FEED THROUGH LUGS LOAD (KVA):	0 kVA	0 kVA	0 kVA
TOTAL PANEL LOAD (KVA):	4.29 kVA	5 kVA	4 kVA
TOTAL LOAD (AMPS):	36 A	42 A	33 A
LOAD BALANCE:	79.30%		

CIRCUIT SCOPE
- BLANK = NEW CIRCUIT, WIRE AND CIRCUIT BREAKER
- R = UTILIZE EXISTING CIRCUIT BREAKER FOR NEW CIRCUIT
- 'E' OR '-' = EXISTING TO REMAIN - SHOWN FOR REFERENCE
- WHERE '-' IS SHOWN WITH SPARE BREAKER, PROVIDE BREAKER

LEGEND

LOAD CLASSIFICATION	CONNECTED LOAD	ESTIMATED DEMAND	PANEL TOTALS	
Existing	12 kVA	15 kVA	TOTAL CONNECTED LOAD (AMPS):	37 A
Motor	0.29 kVA	0.36 kVA	TOTAL CODE LOAD (AMPS):	45 A
Other	1 kVA	1 kVA	PERCENT LOADED:	30.27%
TOTAL KVA	13.29 kVA	16.36 kVA		

LC = CIRCUIT LOAD CLASSIFICATION (DEMAND FACTOR) LEGEND = R - RECEPTACLE, L - LIGHTING, K - KITCHEN, M - MOTORS/HVAC, H - HEATERS, O - OTHER, E - EXISTING, X-IMAGING EQUIPMENT

NOTES:
1. 1. RECONNECT ALL EXISTING CIRCUITS FED FROM DEMOLISHED PANEL MC-1 FROM NEW PANEL MC1. PROVIDE ACCURATE PANEL SCHEDULE INDICATING EACH LOAD. PROVIDE CIRCUIT TRACING WHERE REQUIRED TO DETERMINE LOAD FED.
2. ALL CIRCUITS ARE 20A AND 3/4"C, 2#12, #12G UNLESS OTHERWISE NOTED.

PANEL: MC2

LOCATION: | FED FROM: DB-M2 | MOUNTING: SURFACE
VOLTAGE: 208Y/120 | ENCLOSURE: NEMA 1
MAIN RATING / TYPE: 150 A / MLO | PHASE / WIRE: 3PH / 4W | OPTIONS:
NEUTRAL BUS 150 A | SCCR: 65 kA | BUS MATERIAL: COPPER

#	Circuit Description	Conduit and Wire	LC	S	Trip	P	A (KVA)		B (KVA)		C (KVA)		P	Trip	S	LC	Conduit and Wire	Circuit Description	#
1	EXISTING	3/4"C, 3#12, #12G			20 A	1	1	1					1	20 A			3/4"C, 3#12, #12G	EXISTING	2
3	EXISTING	3/4"C, 3#12, #12G			20 A	1			1	1			1	20 A			3/4"C, 3#12, #12G	EXISTING	4
5	EXISTING	3/4"C, 3#12, #12G			20 A	1					1	1	1	20 A			3/4"C, 3#12, #12G	EXISTING	6
7	EXISTING	3/4"C, 3#12, #12G			20 A	1	1	1					1	20 A			3/4"C, 3#12, #12G	EXISTING	8
9	EXISTING	3/4"C, 3#12, #12G			20 A	1			1	1			1	20 A			3/4"C, 3#12, #12G	EXISTING	10
11	EXISTING	3/4"C, 3#12, #12G			20 A	1					1	1	1	20 A			3/4"C, 3#12, #12G	EXISTING	12
13	H-22	3/4"C, 3#12, #12G			20 A	1	0.29	0					1	20 A	--	--	--	SPARE BREAKER	14
15	EQUIPMENT MAINTENANCE RECEPT	3/4"C, 3#12, #12G			20 A	1			0.72	0			1	20 A	--	--	--	SPARE BREAKER	16
17												0	1	20 A	--	--	--	SPARE BREAKER	18
19							0						1	20 A	--	--	--	SPARE BREAKER	20
21									0				1	20 A	--	--	--	SPARE BREAKER	22
23												0	1	20 A	--	--	--	SPARE BREAKER	24

BRANCH CIRCUIT LOAD (KVA):	4.29 kVA	4.72 kVA	4 kVA
FEED THROUGH LUGS LOAD (KVA):	0 kVA	0 kVA	0 kVA
TOTAL PANEL LOAD (KVA):	4.29 kVA	4.72 kVA	4 kVA
TOTAL LOAD (AMPS):	36 A	40 A	33 A
LOAD BALANCE:	83.96%		

CIRCUIT SCOPE
- BLANK = NEW CIRCUIT, WIRE AND CIRCUIT BREAKER
- R = UTILIZE EXISTING CIRCUIT BREAKER FOR NEW CIRCUIT
- 'E' OR '-' = EXISTING TO REMAIN - SHOWN FOR REFERENCE
- WHERE '-' IS SHOWN WITH SPARE BREAKER, PROVIDE BREAKER

LEGEND

LOAD CLASSIFICATION	CONNECTED LOAD	ESTIMATED DEMAND	PANEL TOTALS	
Existing	12 kVA	15 kVA	TOTAL CONNECTED LOAD (AMPS):	36 A
Motor	0.29 kVA	0.36 kVA	TOTAL CODE LOAD (AMPS):	45 A
Receptacles	0.72 kVA	0.72 kVA	PERCENT LOADED:	29.78%
TOTAL KVA	13.01 kVA	16.08 kVA		

LC = CIRCUIT LOAD CLASSIFICATION (DEMAND FACTOR) LEGEND = R - RECEPTACLE, L - LIGHTING, K - KITCHEN, M - MOTORS/HVAC, H - HEATERS, O - OTHER, E - EXISTING, X-IMAGING EQUIPMENT

NOTES:
1. 1. RECONNECT ALL EXISTING CIRCUITS FED FROM DEMOLISHED PANEL MC-1 FROM NEW PANEL MC1. PROVIDE ACCURATE PANEL SCHEDULE INDICATING EACH LOAD. PROVIDE CIRCUIT TRACING WHERE REQUIRED TO DETERMINE LOAD FED.
2. ALL CIRCUITS ARE 20A AND 3/4"C, 2#12, #12G UNLESS OTHERWISE NOTED.

LIGHTING FIXTURE SCHEDULE

TAG	DESCRIPTION	VOLT-AMPS	VOLTAGE	LAMP TYPE	LAMP TEMP	CRI	CONTROL	FIXTURE COLOR	FIXTURE MOUNTING	MANUFACTURER	CATALOG NUMBER	NOTES
F	4FT STRIP LIGHT, LED, WITH WIRE GUARD	45 W	120 V	LED	3500K	80	0-10V DIMMING	WHITE	SURFACE	LITHONIA	ZL1N-L48-5000-FST-MVOLT-35-80CRI-WH-WGZ48 (OR APPROVED EQUAL)	

NOTES:
1. PROVIDE UL924 LISTED EMERGENCY RELAY FOR FIXTURES MARKED AS LIFE SAFTEY. FIXTURES TO BE SWITCHED WITH LOCAL AREA SWITCH. UPON POWER LOSS FIXTURES SHALL TURN ON TO 100% REGARDLESS OF SWITCH POSITION.

(E): 2EQ4

LOCATION: | FED FROM: | MOUNTING: SURFACE
VOLTAGE: 208Y/120 | ENCLOSURE: NEMA 1
MAIN RATING / TYPE: 400 A / MLO | PHASE / WIRE: 3PH / 4W | OPTIONS:
NEUTRAL BUS 400 A | SCCR: 42 kA | BUS MATERIAL: COPPER

#	Circuit Description	Conduit and Wire	LC	S	Trip	P	A (KVA)		B (KVA)		C (KVA)		P	Trip	S	LC	Conduit and Wire	Circuit Description	#
1					100 A	3	0	0					3	200 A					2
3	(E) LOADS	-							0	0							-	(E) LOADS	4
5											0	0							6
7	(E) LOADS	-			20 A	1	1.3	0					3	40 A			-	(E) LOADS	8
9	(E) LOADS	-			20 A	1			1.3	0									10
11	(E) LOADS	-			20 A	1					0.72	0							12
13	(E) LOADS	-			20 A	1	0.72	4.12					3	50 A			SEE ONE-LINE (EP.601)	AHU-20A RETURN FAN	14
15	(E) LOADS	-			20 A	1			0.72	4.12									16
17												4.12							18
19							4.83												20
21	H-20A	3/4"C, 2#12, #12G			20 A	1			0.29	4.83			3	60 A			SEE ONE-LINE(EP.601)	AHU-20A SUPPLY FAN	22
23	H-20K	3/4"C, 2#12, #12G			20 A	1					0.29	4.83							24
25	PENTHOUSE LIGHTING	3/4"C, 2#12, #12G			20 A	1	0.54	1.95					3	25 A			SEE ONE-LINE(EP.601)	AHU-20K RETURN FAN	26
27									1.27	1.95									28
29	EF-20K	SEE ONE-LINE(EP.601)			15 A	3					1.27	1.95							30
31							1.27	1.95											32
33	AHU ROOM E RCPTS				20 A	1			0.54	1.95			3	25 A			SEE ONE-LINE(EP.601)	AHU-20K SUPPLY FAN	34
35	AHU ROOM W RCPTS				20 A	1					0.54	1.95							36
37	SPARE BREAKER	--	--	--	20 A	1	0	0					1	20 A	--	--	--	SPARE BREAKER	38
39	SPARE BREAKER	--	--	--	20 A	1			0	0			1	20 A	--	--	--	SPARE BREAKER	40
41	SPARE BREAKER	--	--	--	20 A	1					0	0	1	20 A	--	--	--	SPARE BREAKER	42

BRANCH CIRCUIT LOAD (KVA):	16.69 kVA	16.98 kVA	15.68 kVA
EXISTING PEAK LOAD (30 DAYS) (KVA):	6.32 kVA	6.32 kVA	6.32 kVA
TOTAL PANEL LOAD (KVA):	23.01 kVA	23.3 kVA	22 kVA
TOTAL LOAD (AMPS):	193 A	195 A	183 A
LOAD BALANCE:	93.79%		

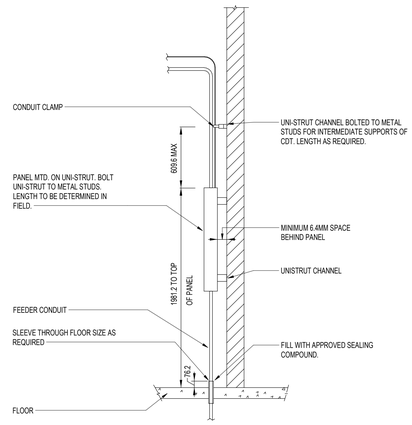
CIRCUIT SCOPE
- BLANK = NEW CIRCUIT, WIRE AND CIRCUIT BREAKER
- R = UTILIZE EXISTING CIRCUIT BREAKER FOR NEW CIRCUIT
- 'E' OR '-' = EXISTING TO REMAIN - SHOWN FOR REFERENCE
- WHERE '-' IS SHOWN WITH SPARE BREAKER, PROVIDE BREAKER

LEGEND

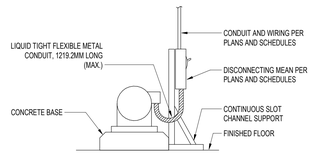
LOAD CLASSIFICATION	CONNECTED LOAD	ESTIMATED DEMAND	PANEL TOTALS	
Existing (SEE NOTE 1)	23.73 kVA	29.66 kVA	TOTAL CONNECTED LOAD (AMPS):	190 A
Lighting	0.54 kVA	0.68 kVA	TOTAL CODE LOAD (AMPS):	216 A
Motor	42.96 kVA	46.98 kVA	PERCENT LOADED:	54.12%
Receptacles	1.08 kVA	1.08 kVA		
TOTAL KVA	68.31 kVA	78 kVA		

LC = CIRCUIT LOAD CLASSIFICATION (DEMAND FACTOR) LEGEND = R - RECEPTACLE, L - LIGHTING, K - KITCHEN, M - MOTORS/HVAC, H - HEATERS, O - OTHER, E - EXISTING, X-IMAGING EQUIPMENT

NOTES:
1. LOAD STUDY OF (E) PANEL 2EQ4 PROVIDED ON 12/20/2023. WITH NEC 1.25X FACTOR APPLIED, PEAK LOAD IS 66A.



1 PANEL MOUNTING DETAILS
N.T.S.



2 MOTOR EQUIPMENT CONNECTION DETAIL
N.T.S.

COM*check* Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 22025 VA Upgrade AHU
Project Type: Alteration

Construction Site: | Owner/Agent: | Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Health Care-Clinic	11261	0.81	9121
		Total Allowed Watts =	9121

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Health Care-Clinic (11261 sq.ft.)				
LED: F: 4' STRIP LIGHT, LED, WITH WIRE : LED Other Fixture Unit 46W:	1	40	45	1800
			Total Proposed Watts =	1800

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Abril Torres, Electrical Intern | Signature | 08/01/2025
Name - Title | | Date

Project Title: 22025 VA Upgrade AHU | Report date: 08/01/25
Data filename: | Page 2 of 8

COM*check* Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 0.0% were addressed directly in the COM*check* software

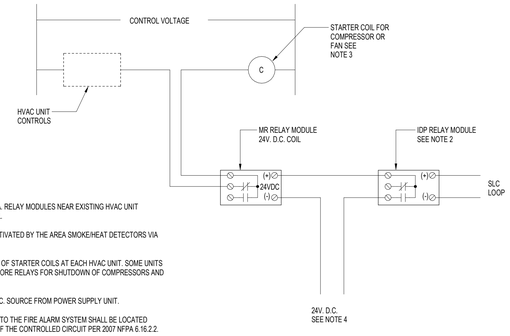
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]"	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☒Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: 22025 VA Upgrade AHU | Report date: 08/01/25
Data filename: | Page 5 of 8



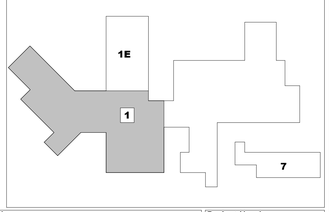
NOTES:

1. LOCATE NEW F.A. RELAY MODULES NEAR EXISTING HVAC UNIT CONTROL PANEL
2. IDP RELAY IS ACTIVATED BY THE AREA SMOKE/HEAT DETECTORS VIA SLC LOOP.
3. VERIFY NUMBER OF STARTER COILS AT EACH HVAC UNIT. SOME UNITS REQUIRE 2 OR MORE RELAYS FOR SHUTDOWN OF COMPRESSORS AND FANS.
4. PROVIDE 24V. D.C. SOURCE FROM POWER SUPPLY UNIT.
5. A LISTED RELAY TO THE FIRE ALARM SYSTEM SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT PER 2007 NFPA 6.16.2.2.

TYPICAL HVAC SHUTDOWN FOR UNITS 2000 CFM OR LARGER

3 TYPICAL HVAC SHUTDOWN FOR UNITS 2000 CFM OR LARGER
N.T.S.

KEY PLAN NTS | NORTH



Revisions:	Date:

CONSULTANT

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STAMP
ANTHONY J. ZIMMERMAN — STATE OF WASHINGTON — 19019180 — REGISTERED PROFESSIONAL ENGINEER

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

Drawing Title	Phase	Project Title	Project Number
PANEL SCHEDULES & ELECTRICAL DETAILS	100% Submittal	UPGRADE AHU(S) 18, 20, & 22 MECHANICAL SYSTEM	668-21-100
Approved:		Location: Mann Grandstaff VA Medical Center 4815 N Assembly St. Spokane, WA 99205	Building Number 1
		Issue Date: November 17, 2025 / Checked: ZONA / Drawn: ZONA	Drawing Number EP.701

VA FORM 08 - 6231

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Autodesk Docs://AESUS Projects/22025_VA_Upgrade_AHU-18_20_22_ELEC.rvt