

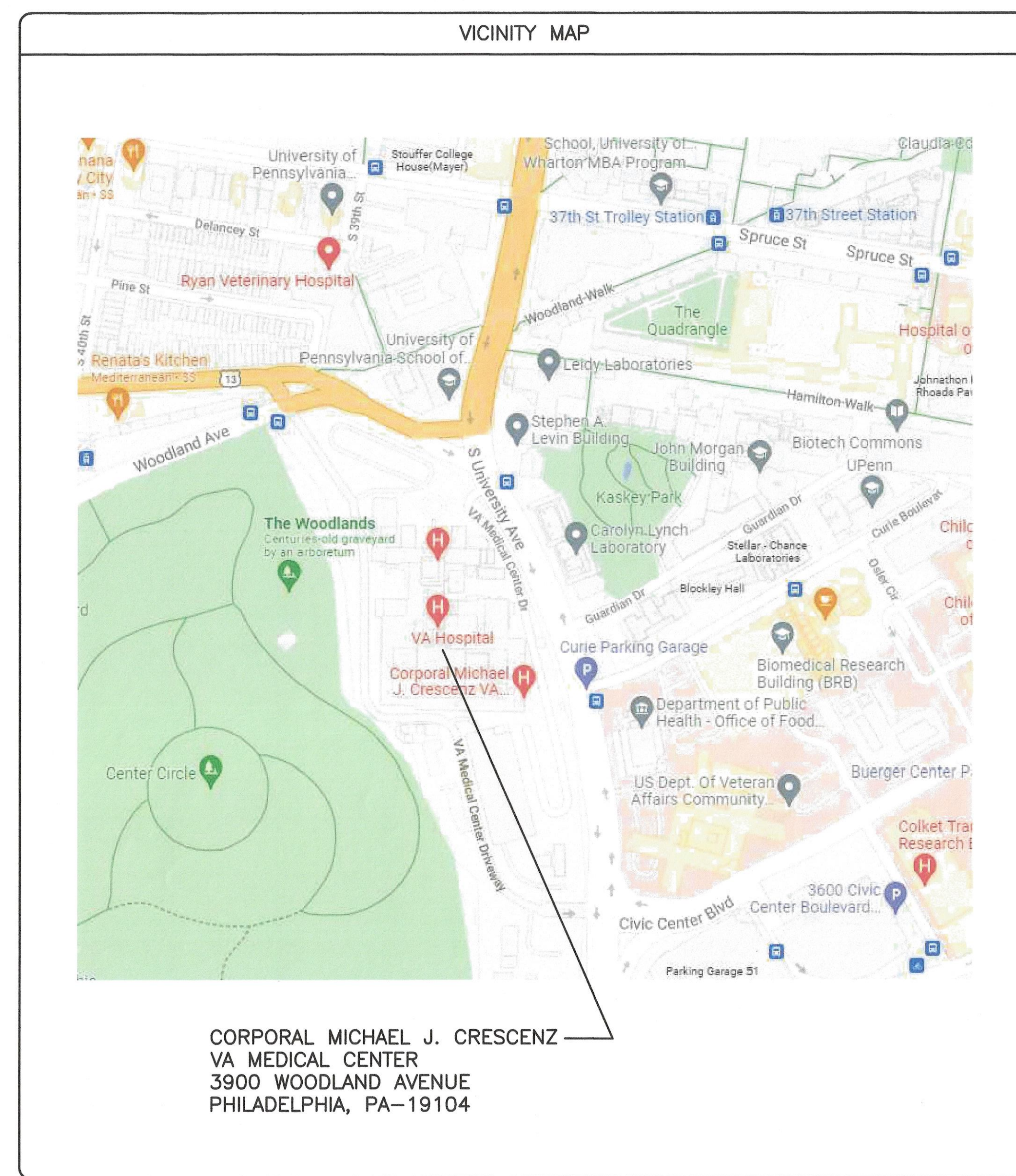
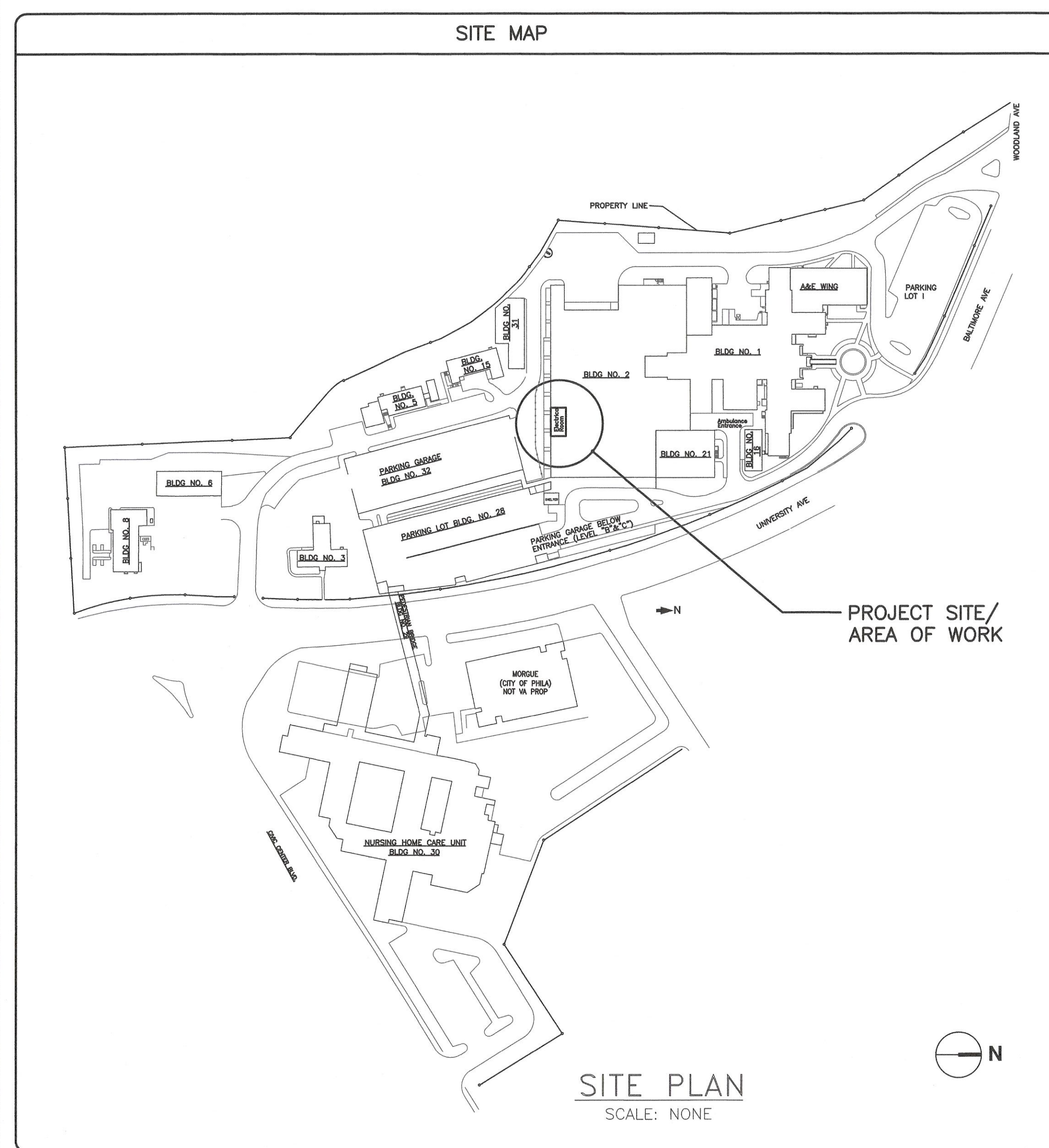
**CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER  
3900 WOODLAND AVENUE  
PHILADELPHIA, PA-19104**

**PROJECT NO: 642-22-104**

**PROJECT TITLE: SUBSTATION UPGRADE BUILDING 2 - PHASE 1**

## BID DOCUMENTS

**OCTOBER 21, 2024**



INDEX OF DRAWINGS		
SHEET NO	DWG NO	DRAWING TITLE
1 OF 25	CS01	COVER SHEET
2 OF 25	A-100	PARTIAL GROUND FLOOR-ELECTRICAL ROOM-DEMOLITION PLAN
3 OF 25	A-101	PARTIAL GROUND FLOOR-ELECTRICAL ROOM-NEW WORK PLAN
4 OF 25	A-102	PARTIAL SUB-BASEMENT AND INTERSTITIAL FLOOR PLANS -ICRA WALL LOCATION
5 OF 25	A-103	DETAILS
6 OF 25	AS-001	EGRESS AND LIFE SAFETY PLAN
7 OF 25	2-L5-00.2	BUILDING 2 BASEMENT/GROUND FLOOR-LIFE SAFETY PLAN (EXISTING DRAWING REFERENCE ONLY)
8 OF 25	M-001	MECHANICAL COVER SHEET
9 OF 25	MD-101	ELECTRICAL ROOM-DEMOLITION WORK-MECHANICAL
10 OF 25	MH-101	ELECTRICAL ROOM-NEW WORK-MECHANICAL
11 OF 25	MJ-101	MECHANICAL SCHEDULES AND CONTROLS
12 OF 25	MK-101	MECHANICAL DETAILS
13 OF 25	E-001	ELECTRICAL COVER SHEET
14 OF 25	E-100	PARTIAL GROUND FLOOR-ELECTRICAL ROOM-DEMOLITION PLAN
15 OF 25	E-101	PARTIAL SITE UTILITY PLAN
16 OF 25	E-102	PARTIAL GROUND FLOOR-ELECTRICAL ROOM-LIGHTING-NEW WORK PLAN
17 OF 25	E-103	PARTIAL GROUND FLOOR-ELECTRICAL ROOM-EQUIPMENT LAYOUT-NEW WORK PLAN
18 OF 25	E-104	PARTIAL GROUND FLOOR-ELECTRICAL ROOM-FIRE ALARM-NEW WORK PLAN
19 OF 25	E-105	PROPOSED MV CABLES ROUTING PLAN
20 OF 25	E-106	SINGLE LINE RISERS-DEMOLITION
21 OF 25	E-107	SINGLE LINE RISERS-SUBSTATIONS #1, #2 AND 'T'-NEW WORK
22 OF 25	E-108	SCHEDULES AND EQUIPMENT ELEVATIONS
23 OF 25	FP-001	FIRE PROTECTION COVER SHEET
24 OF 25	FPD-101	ELECTRICAL ROOM-DEMOLITION WORK-FIRE PROTECTION
25 OF 25	FP-101	ELECTRICAL ROOM-NEW WORK-FIRE PROTECTION

**APPLICABLE CODE**

VA DESIGN MANUAL - 12/01/2019

VA DESIGN GUIDE LINES

NFPA 101: LIFE SAFETY CODE 2021

NFPA 13: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS

NFPA 70: NATIONAL ELECTRICAL CODE

ASHRAE 62.1: VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

ASHRAE 90.1 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW RISE RESIDENTIAL BUILDINGS

NFPA NATIONAL FIRE CODES (EXCEPT NFPA 5000 & 900)

VA SEISMIC DESIGN REQUIREMENTS, H-18-8

OSHA STANDARDS

BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE AND COMMENTARY (ACI 318)

EPA 2005

VA DESIGN AND CONSTRUCTION PROCEDURES (PG-18-3)




PHYSICAL SECURITY DESIGN MANUAL FOR VA FACILITIES - JULY 2021

VA FIRE PROTECTION DESIGN MANUAL 2021

INTERNATIONAL BUILDING CODE 2021

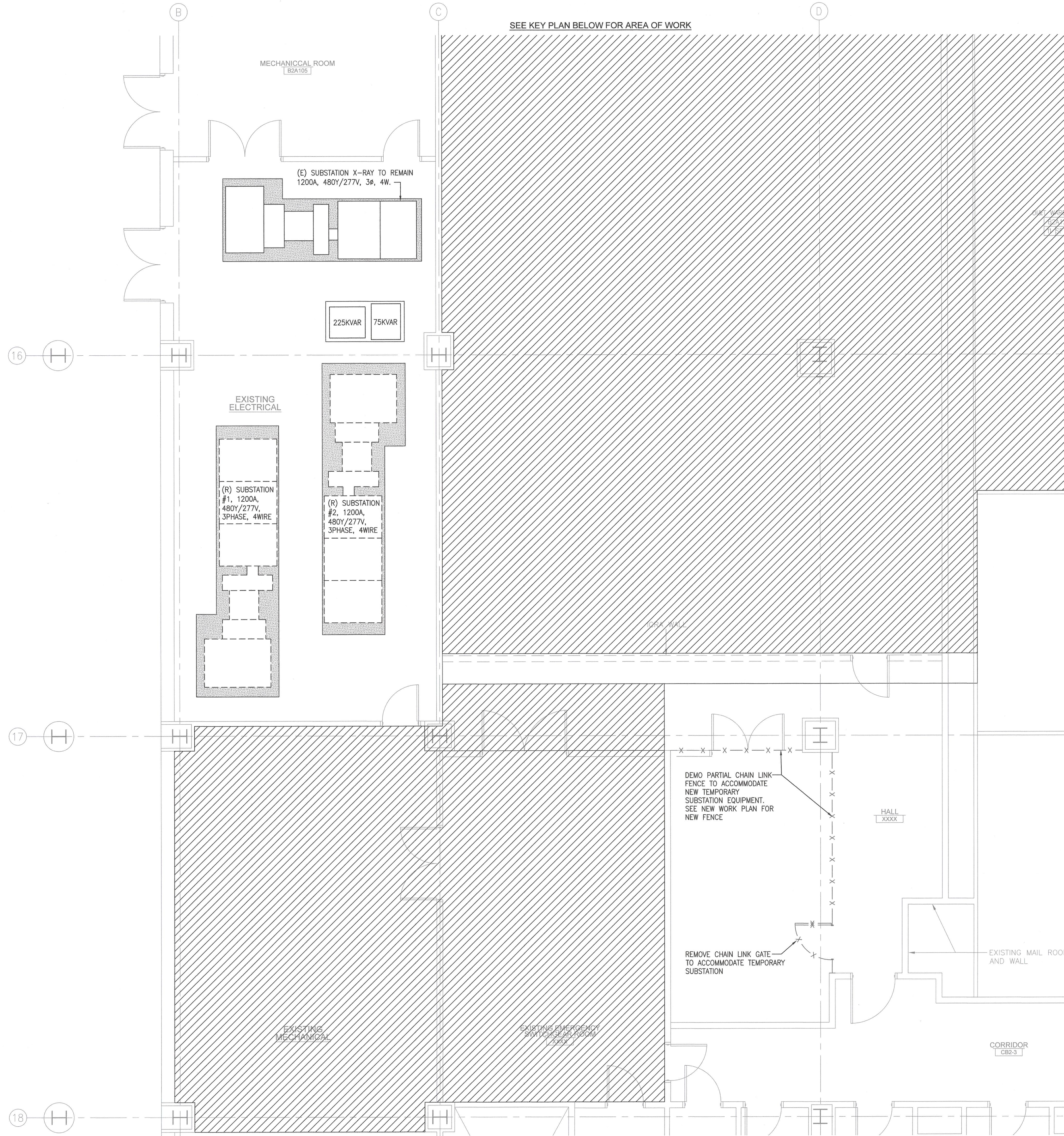
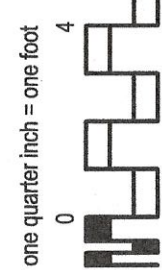
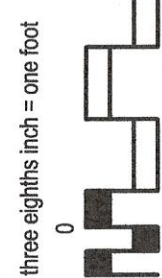
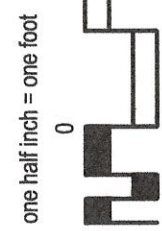
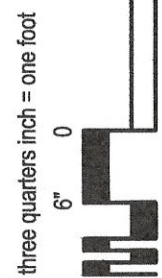
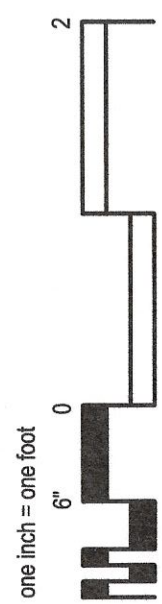
**ELECTRICAL SYSTEMS REQUIREMENTS:**

NFPA 70 - NATIONAL ELECTRIC CODE 2020.

DESIGN CHANGE APPROVED		CONSULTANT FIRM:		SEAL:	ARCHITECTS/ENGINEERS:		SEAL:	Name Title		Drawing Title		Project Title		Project Number		Office of Facility Management Service										
					 <p>A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181</p> <p>FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE</p> <p>703.938.5226 FRANK@ADG10.COM</p>				COVER SHEET		SUBSTANTIATION UPGRADE BUILDING 2 - PHASE 1		642-22-104		Building Number 2											
BID DOCUMENTS		October-21-2024						Name Title		Chief Engineer Approval		Location		Drawing Number		 <p>Department of Veterans Affairs</p>										
DESCRIPTION		DATE						Name, Title Prevention Coordinator				Date 10-21-2024		Checked AR			Drawn AM									
														CS01		Dwg. 1 of 25										



IF THIS SHEET IS NOT 30" X 42"  
FULL SIZE, USE GRAPHIC SCALES



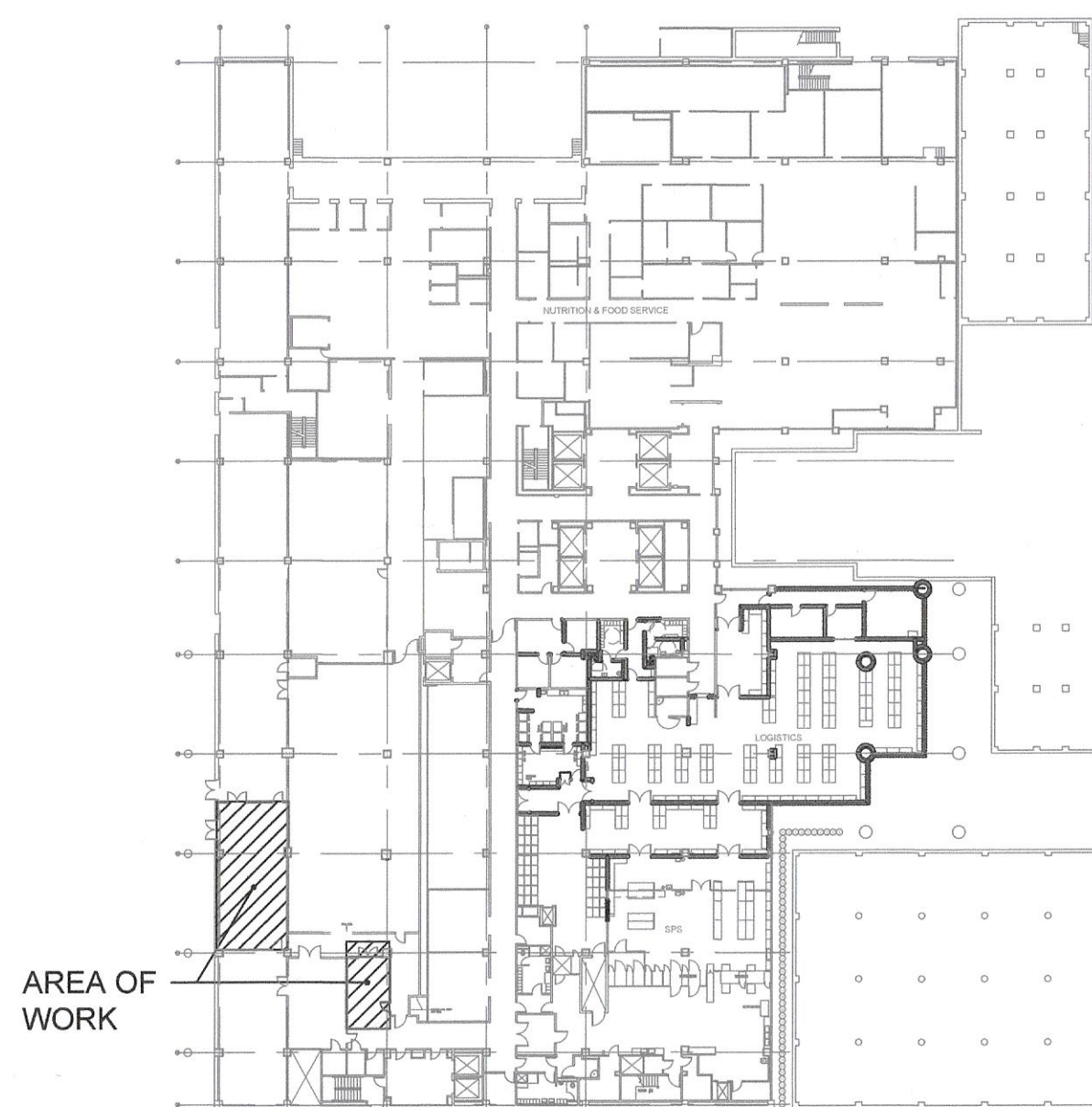
1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION  
1/4" = 1'-0"

### INFECTION CONTROL NOTES:

- PATIENT RISK GROUP: MEDIUM  
CONSTRUCTION PROJECT TYPE: D  
CLASS: IV
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH HOSPITAL INFECTION CONTROL REPRESENTATIVES AND SHALL CONFIRM ALL INFECTION CONTROL MEASURES OUTLINED IN THE OWNER'S INFECTION CONTROL RISK ASSESSMENT (ICRA). REFER TO SPECIFICATION SECTION 011500, INFECTION CONTROL POLICIES AND PROCEDURES, FOR ADDITIONAL INFORMATION.
  - THE OWNER SHALL PROVIDE AN INFECTION CONTROL RISK ASSESSMENT (ICRA). AN ICRA IS A DETERMINATION OF THE POTENTIAL RISK OF TRANSMISSION OF VARIOUS AGENTS IN THE FACILITY. THIS CONTINUOUS PROCESS IS AN ESSENTIAL COMPONENT OF A FACILITY FUNCTIONAL OR MASTER PROGRAM TO PROVIDE A SAFE ENVIRONMENT OF CARE. THE ICRA SHALL BE CONDUCTED BY A PANEL WITH EXPERTISE IN INFECTION CONTROL, RISK MANAGEMENT, FACILITY DESIGN, CONSTRUCTION, VENTILATION, SAFETY, AND EPIDEMIOLOGY. THE PANEL SHALL PROVIDE UPDATED DOCUMENTATION OF THE RISK ASSESSMENT THROUGHOUT CONSTRUCTION. THE ICRA SHALL ONLY ADDRESS BUILDING AREAS ANTICIPATED TO BE AFFECTED BY CONSTRUCTION.
  - THE ICRA SHALL ADDRESS, BUT NOT BE LIMITED TO, THE FOLLOWING:
    - WATER/PLUMBING SYSTEMS:
      - THE ICRA SHALL ADDRESS THE NEED FOR ANY ADDITIONAL FIXTURES BEYOND CODE MINIMUMS NECESSARY FOR INFECTION CONTROL DURING CONSTRUCTION.
      - THE ICRA SHALL INCLUDE AN ASSESSMENT OF THE RISK FROM TRANSMISSIBLE WATERBORNE PATHOGENS.
      - THE ICRA SHALL ESTABLISH STRATEGIES TO MITIGATE THE RISK FROM TRANSMISSIBLE WATERBORNE PATHOGENS DURING CONSTRUCTION, AS WELL AS DURING COMMISSIONING, WHEN PLUMBING SYSTEMS AND EQUIPMENT (E.G., ICE MACHINES, STEAM STERILIZATION SYSTEMS) ARE STARTED/RE-STARTED.
    - INTERRUPTION OF ESSENTIAL SERVICES:
      - HAZARDS SPECIFIC TO DIFFERENT TYPES OF ESSENTIAL SERVICE DISRUPTIONS TO PATIENTS AND EMPLOYEES SHOULD BE PROACTIVELY DETERMINED.
      - THE ICRA SHOULD BE DEVELOPED TO ENSURE CONTINUED PROVISION OF SERVICE IN THE EVENT OF BOTH PLANNED AND UNPLANNED DISRUPTIONS.
    - BARRIERS AND ISOLATION:
      - DURING CONSTRUCTION, CONTRACTOR SHALL ISOLATE ALL RENOVATION AREAS FROM OCCUPIED AREAS BASED ON THE ICRA.
      - THE ICRA SHALL ESTABLISH STANDARDS FOR BARRIERS AND OTHER PROTECTIVE MEASURES REQUIRED TO PROTECT ADJACENT AREAS AND SUSCEPTIBLE PATIENTS FROM AIRBORNE AND ALL OTHER CONTAMINANTS.
      - MINIMUM REQUIREMENTS FOR TEMPORARY BARRIERS CAN BE FOUND ON THIS SHEET.
    - DISASTER PLANS:
      - THE ICRA SHALL ADDRESS POTENTIAL WATER SUPPLY, VENTILATION AND OTHER UTILITY OUTAGES, SHUTDOWNS AND EVACUATION, INCLUDING THE NEED TO PROTECT PATIENTS DURING EMERGENCIES.
      - THIS SHALL INCLUDE THE LOCATION OF SUPPLIES, WHO IS RESPONSIBLE FOR WHAT, AND WHO IS TO BE NOTIFIED.
    - PATIENT PROTECTION:
      - THE ICRA SHALL INCLUDE ALL NECESSARY PROTECTIONS FOR PATIENTS DURING DEMOLITION AND CONSTRUCTION ACTIVITIES THROUGHOUT THE COURSE OF THE WORK.
  - AIR HANDLING AND VENTILATION:
    - PRIOR TO BEGINNING MODIFICATIONS OR REMODELING OF HVAC SYSTEMS IN AN EXISTING FACILITY, THE ICRA SHALL ESTABLISH THOSE PROCEDURES REQUIRED TO MINIMIZE THE DISRUPTION OF FACILITY OPERATION AND THE DISTRIBUTION OF DUST, ODORS, AND PARTICULATES.
    - THE ICRA SHALL ESTABLISH STRATEGIES TO MITIGATE THE RISK FROM TRANSMISSIBLE AIRBORNE PATHOGENS DURING CONSTRUCTION, AS WELL AS DURING COMMISSIONING, WHEN EQUIPMENT IS STARTED/RE-STARTED.
    - CONTRACTOR SHALL MAINTAIN ALL AIRFLOW INTO THE CONSTRUCTION ZONE FROM OCCUPIED SPACES BY MEANS OF A DEDICATED VENTILATION/EXHAUST SYSTEM FOR THE CONSTRUCTION AREA.
    - LOCATIONS OF EXHAUST DISCHARGE RELATIVE TO EXISTING FRESH AIR INTAKES AND FILTERS, AS WELL AS THE DISCONNECTION AND SEALING OF EXISTING AIR DUCTS, SHOULD BE REVIEWED AS REQUIRED BY THE ICRA.
    - IF THE EXISTING BUILDING SYSTEM OR A PORTION THEREOF IS USED TO ACHIEVE THIS REQUIREMENT, THE SYSTEM SHOULD BE THOROUGHLY CLEANED PRIOR TO OCCUPANCY OF THE CONSTRUCTION AREA.
    - HOSPITAL CONSTRUCTION BARRIERS FOR PROJECTS IN HIGH-RISK AREAS SHALL BE MAINTAINED BY THE CONTRACTOR AT A PRESSURE DIFFERENTIAL AS DETERMINED BY THE ICRA (AS HIGH AS 0.03-INCH WATER GAUGE (7.0 PASCALES), AT HIGH RISK AREAS) WITH AIRFLOW FROM HOSPITAL CLEAN AREAS TO CONSTRUCTION DIRTY AREAS. CONSTRUCTION BARRIERS IN HIGH-RISK AREAS SHOULD HAVE VISUAL DISPLAY OF AIRFLOW DIRECTION. (HIGH-RISK AREAS INCLUDE CRITICAL CARE UNITS; EMERGENCY DEPARTMENTS; LABOR AND DELIVERY FACILITIES; INCLUDING CESAREAN DELIVERY ROOMS; NEWBORN NURSERIES; AREAS SERVING PEDIATRIC PATIENTS; PHARMACIES; SURGICAL UNITS; POST-ANESTHETIC CARE UNITS; AREAS SERVING IMMUNOCOMPROMISED PATIENTS; BURN UNITS; STERILE PROCESSING; AIRBORNE INFECTION ISOLATION ROOMS AND PROTECTIVE ENVIRONMENT ROOMS; ONCOLOGY UNITS; CLASS 2 AND CLASS 3 IMAGING ROOMS; AND OPERATING ROOMS).
    - CONTRACTOR SHALL KEEP DUCTWORK CAPPED/CLEAN DURING DEMOLITION AND DUST-GENERATING CONSTRUCTION.
    - CONTRACTOR SHALL MAINTAIN EXISTING AIR QUALITY REQUIREMENTS AND UTILITY REQUIREMENTS FOR OCCUPIED AREAS DURING ANY RENOVATION OR CONSTRUCTION.
  - CONSTRUCTION MATERIALS:
    - CONTRACTOR SHALL BRING AND/OR INSTALL ONLY CLEAN MATERIALS ON SITE.
    - CONTRACTOR SHALL NOT BRING TO THE SITE OR INSTALL ANY MATERIALS THAT HAVE BEEN DAMAGED BY WATER.

### DRAWING NOTES

- PATCH AND REPAIR CONCRETE SLAB WHERE EQUIPMENT PADS WERE REMOVED. PATCHING SHALL MATCH THE TEXTURE OF THE EXISTING FLOOR. PROVIDE NEW CONCRETE SLAB FOR NEW ELECTRICAL EQUIPMENT.
- PROVIDE CLEAR CONCRETE SEALER ON THE ENTIRE ELECTRICAL ROOM FLOOR.

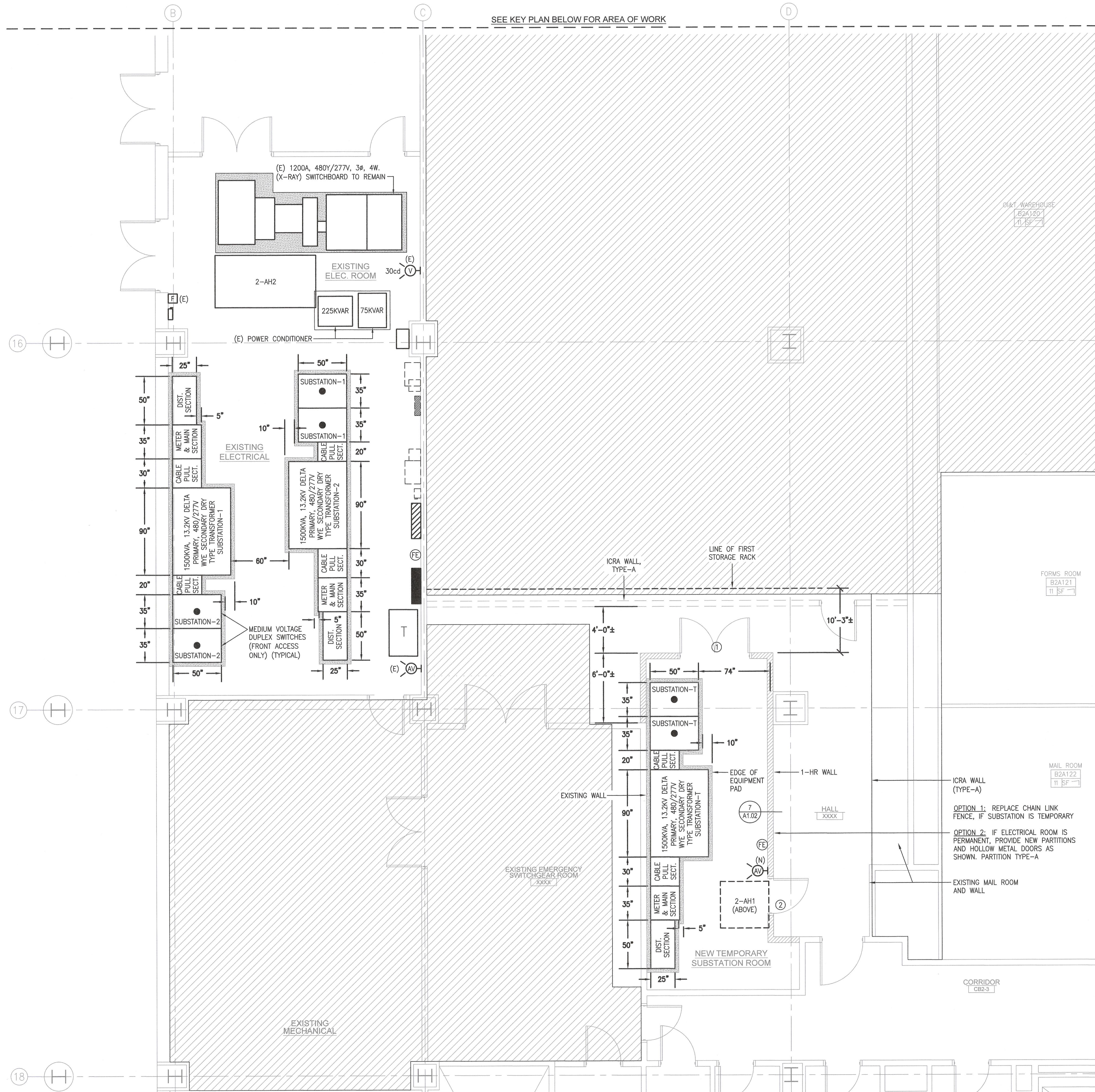
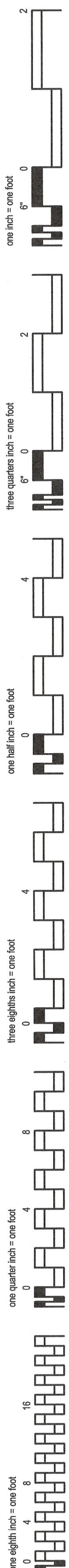


KEY PLAN - GROUND FLOOR  
NO SCALE

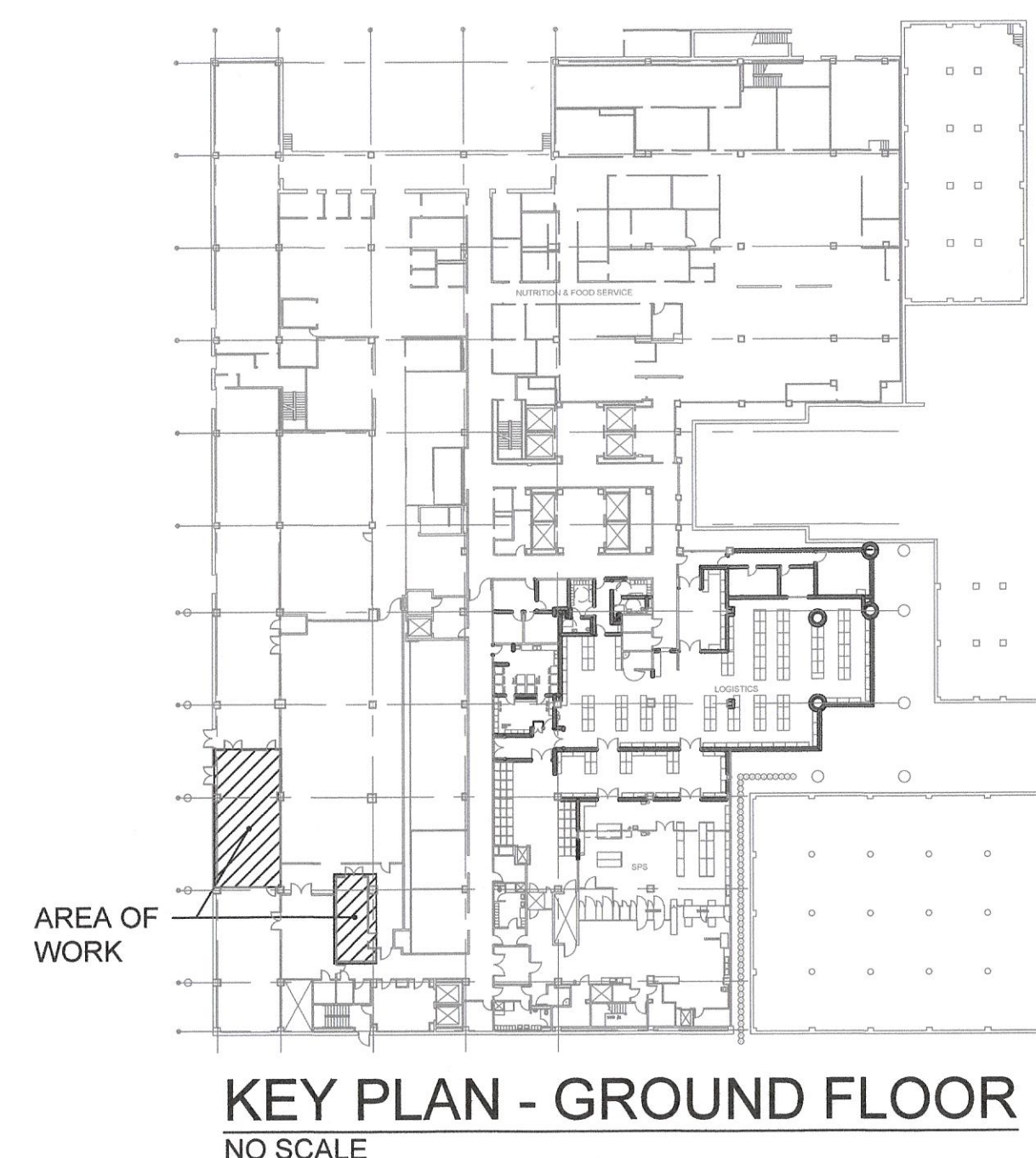
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				FRANK V. STURGEON, AIA		Name Title	Chief Engineer Approval	Location	CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Building Number	
				AMBRISH RASTOGI, PE		Name Title		Date	10-21-2024	Drawing Number	
				703.938.5226 FRANK@ADG10.COM		Name Title	Name, Title Prevention Coordinator	Checked	PH	OCU	
BID DOCUMENTS DESCRIPTION		October-21-2024 DATE								A-100 Dwg. 2 of 25	Department of Veterans Affairs





IF THIS SHEET IS NOT 30" X 42"  
FULL SIZE, USE GRAPHIC SCALES



**1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - NEW WORK PLAN**  
1/4" = 1'-0"  
LEGEND:  
FE WALL MOUNTED FIRE EXTINGUISHER



**KEY PLAN - GROUND FLOOR**  
NO SCALE

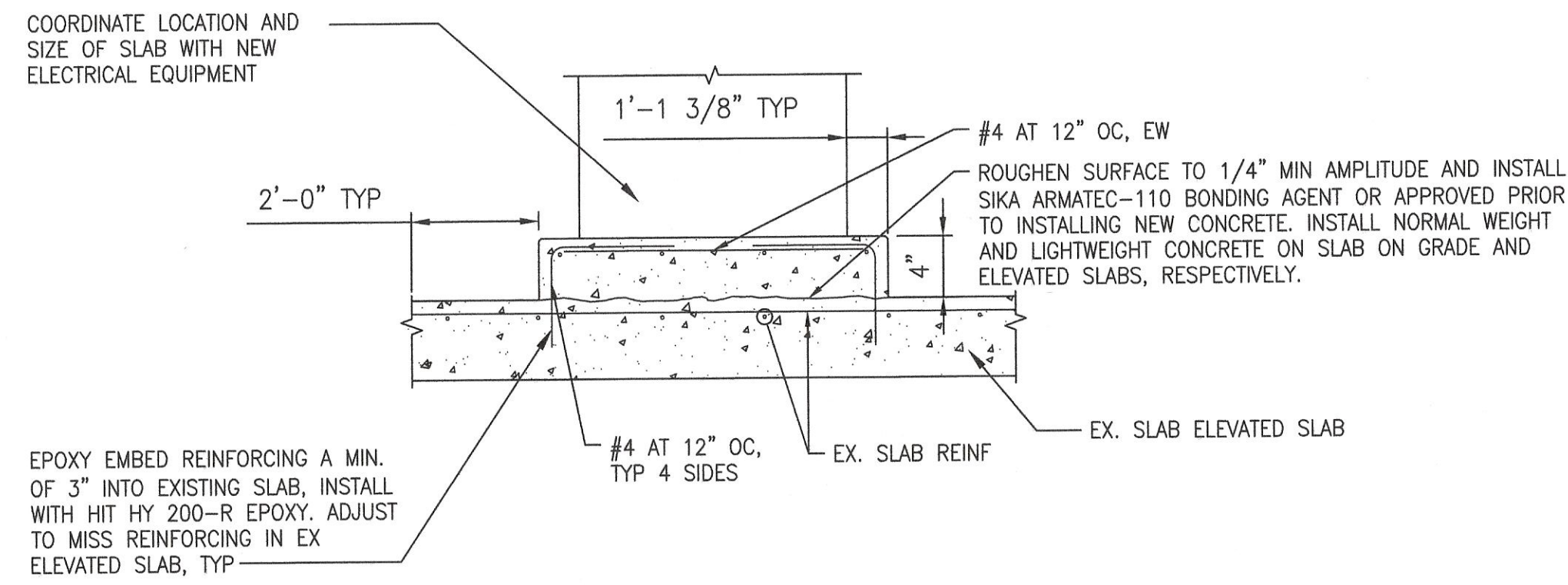
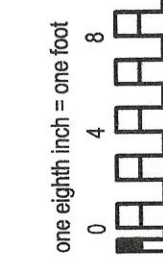
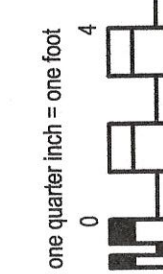
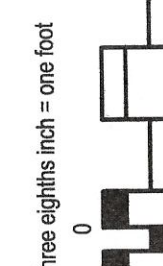
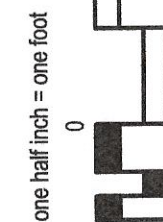
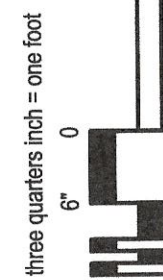
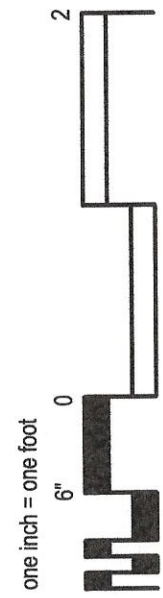
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						Name Title		Chief Engineer Approval		Location		Building Number				
						Name Title		Name, Title Prevention Coordinator		Date		Checked			Drawn	
BID DOCUMENTS DESCRIPTION DATE						October-21-2024 DATE				CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER		A-101 Dwg. 3 of 25			Department of Veterans Affairs	



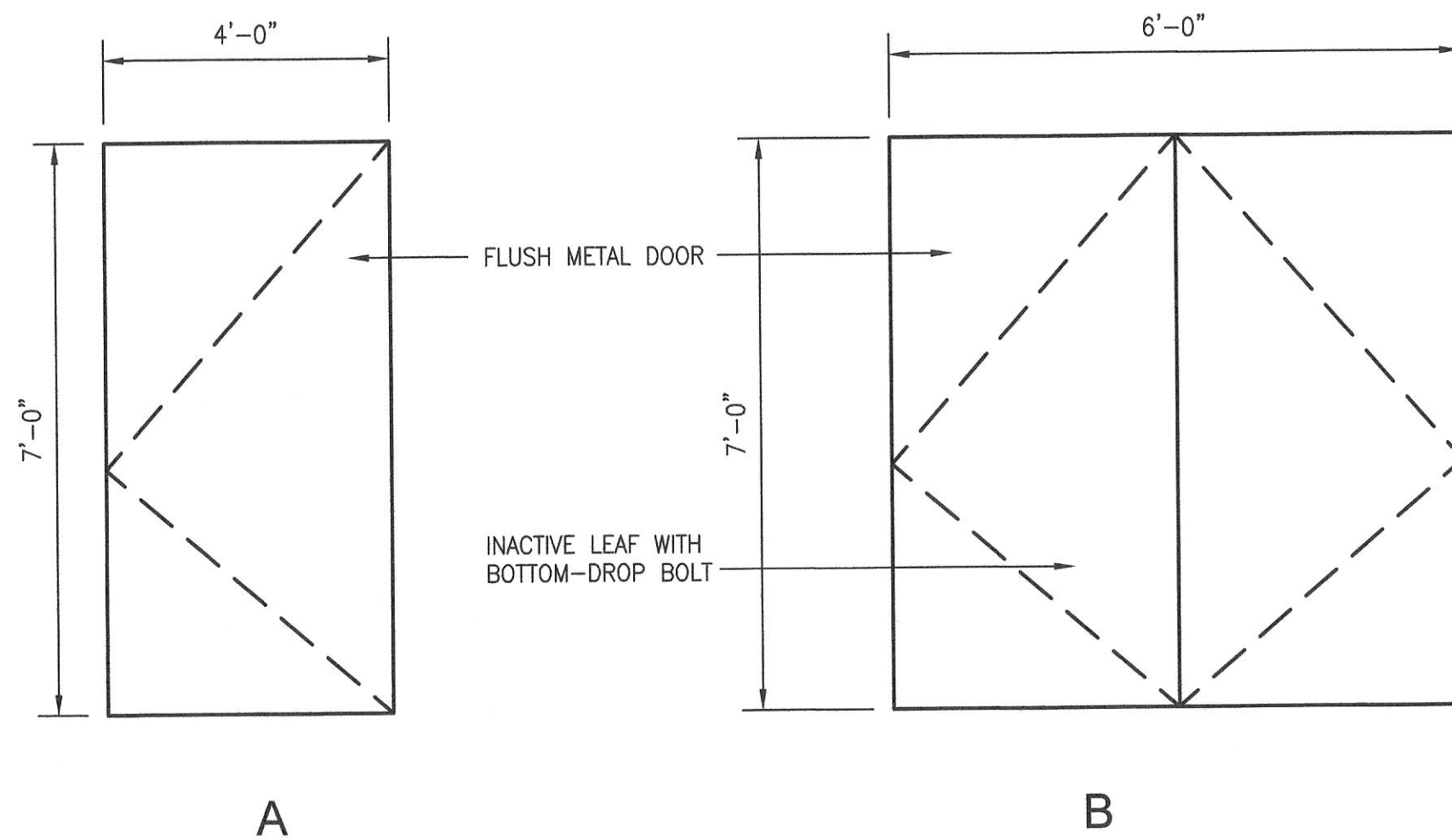
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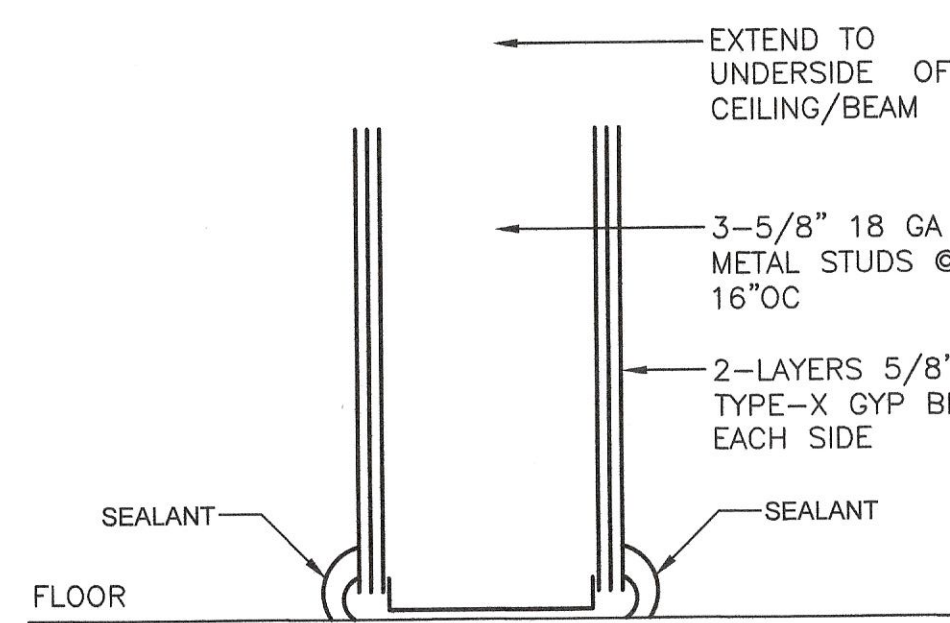


1 EQUIPMENT PAD  
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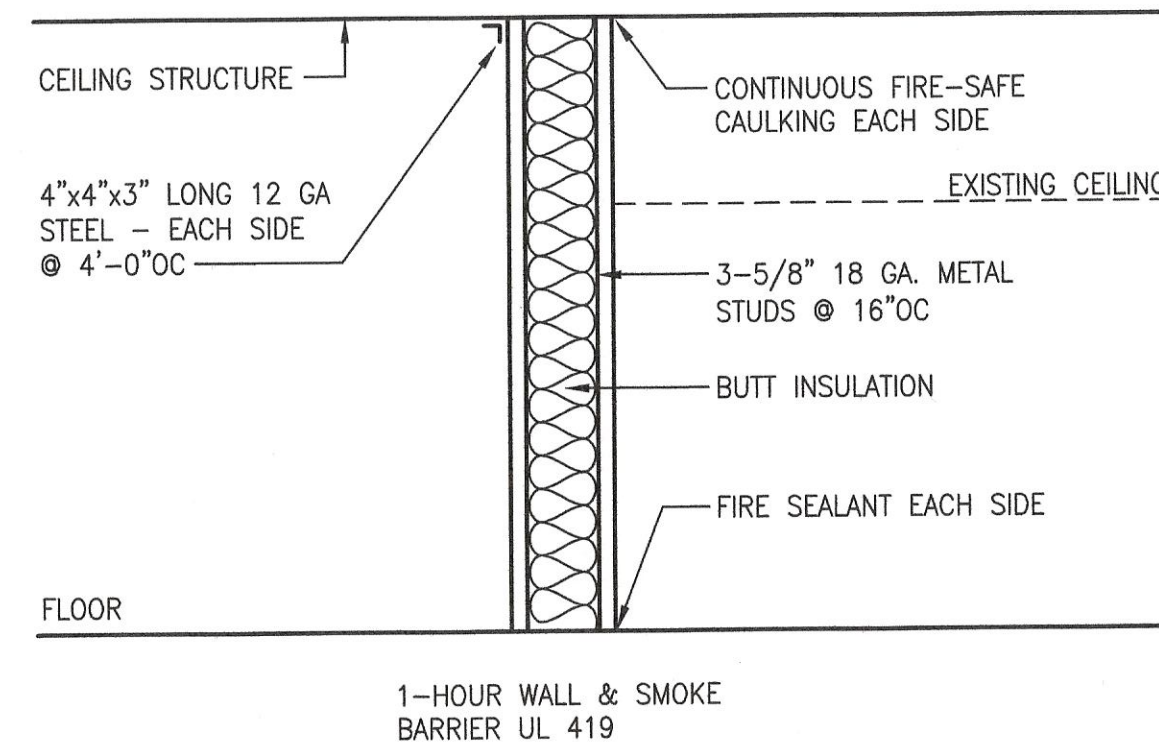


4 DOOR TYPE  
(FLUSH - HOLLOW METAL)  
NOT TO SCALE

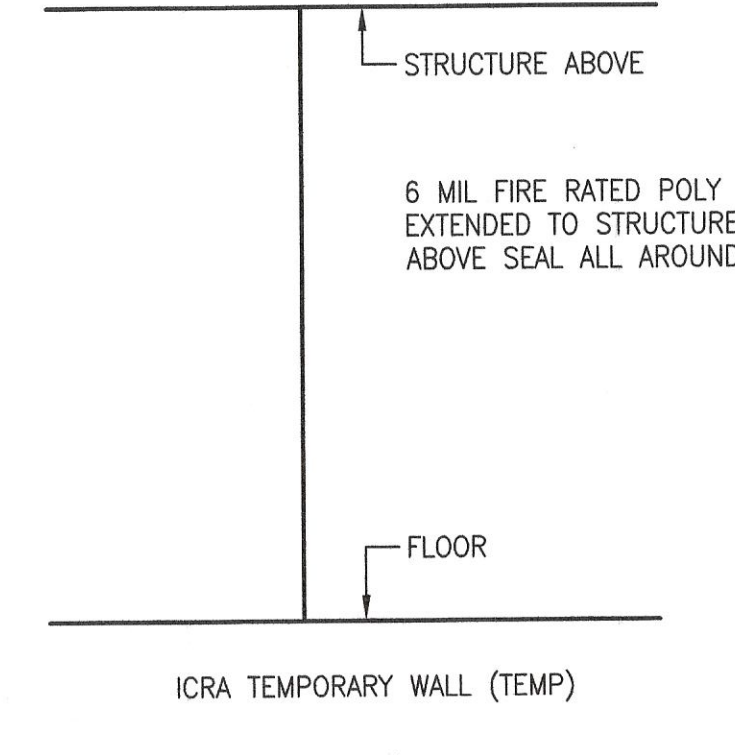
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H-1 - 2-PAIR HINGES LEVER HANDLE CLOSURE  
H-2 - 2-PAIR HINGES EACH DOOR CLOSURE  
IN-ACTIVE DOOR WITH BOTTOM DROP BOLT  
HARDWARE - STORE ROOM LOCK FUNCTION



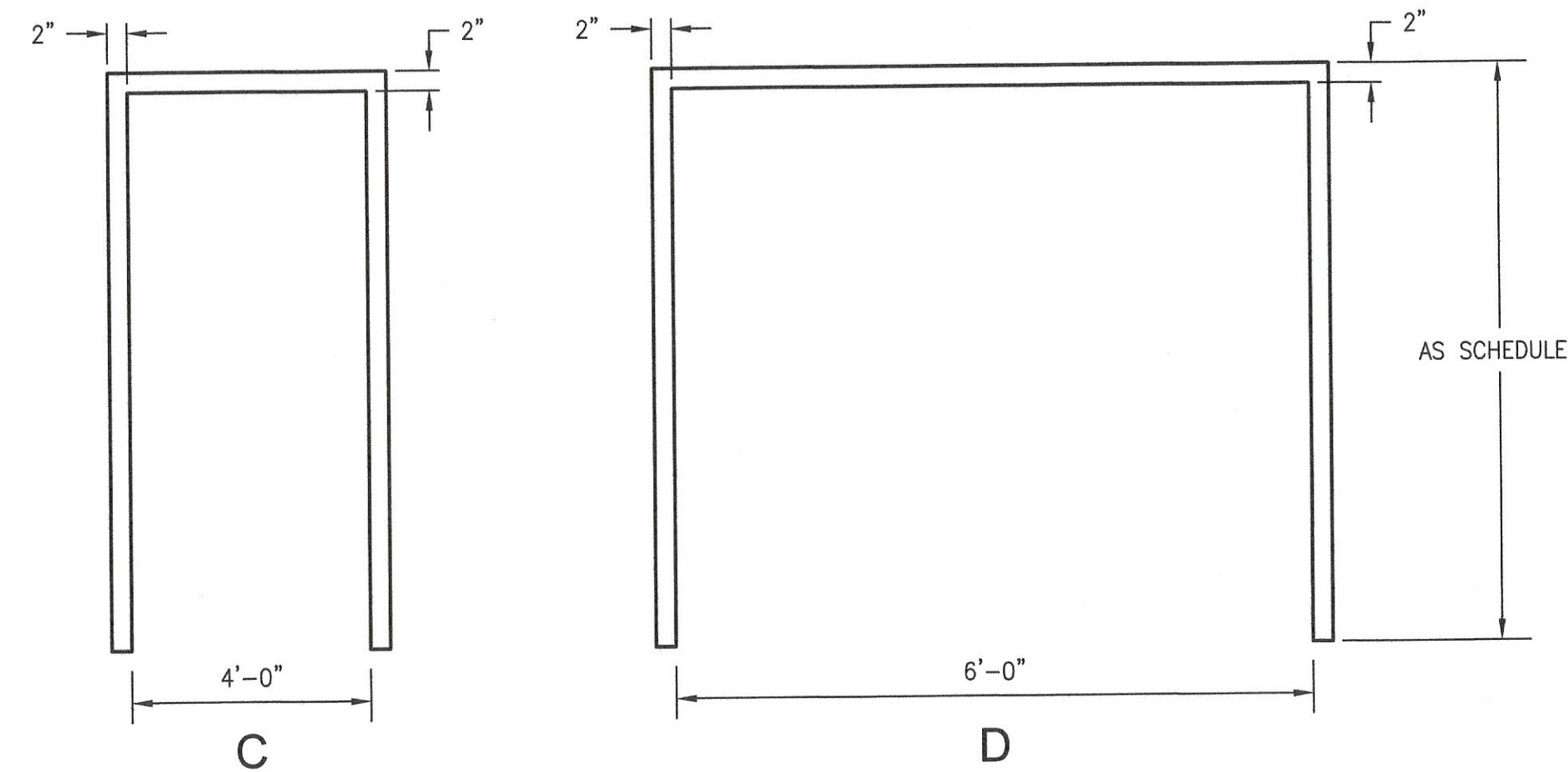
7 WALL TYPE-A  
FIRE RATING UL491 (ONE HOUR RATING)  
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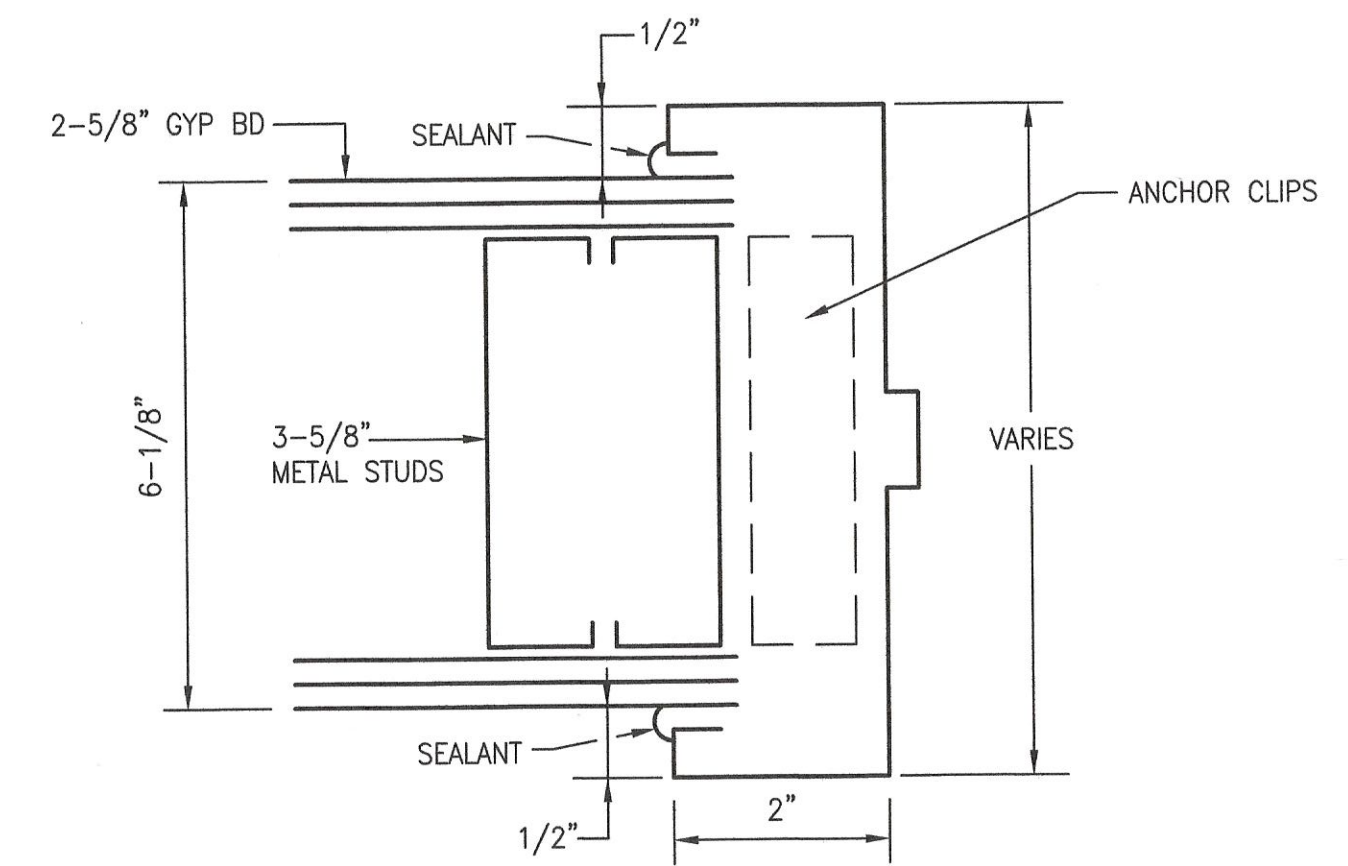
2 ICRA WALL BARRIER  
DOORS IN WALL 3'x7' - 3/4 FIRE RATED  
NOT TO SCALE



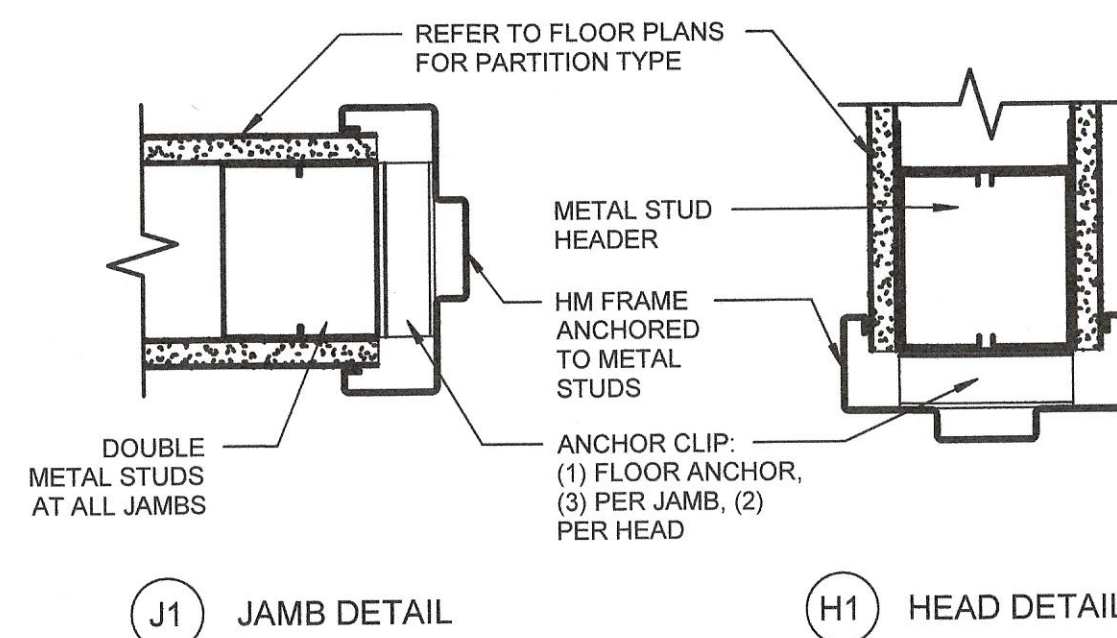
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1-HOUR FIRE RATED UL-419  
NOT TO SCALE



5 FRAME TYPE  
(HOLLOW METAL)  
NOT TO SCALE



6 FRAME DETAIL  
NOT TO SCALE



8 FRAME HEAD/JAMB DETAIL TYPE 1  
NOT TO SCALE

DOOR SCHEDULE								
DOORS	SIZE	MATERIAL	FRAME	TYPE	FIRE RATED	REMARKS	HARDWARE	CLOSURE
1	PAIR-3'x7'x1-3/4	HM	HM	B	1 HR		H-2	1
2	4'x7'x1-3/4	HM	HM	A	1 HR		H-1	1

DESIGN CHANGE APPROVED

CONSULTANT FIRM:

SEAL:

ARCHITECTS/ENGINEERS:

A DESIGN GROUP, LLC  
ART - ARCHITECTURE - ENGINEERING  
2757 HILL ROAD  
VIENNA, VA 22181  
FRANK V. STURGEON, AIA  
AMBRISH RASTOGI, PE  
703.936.5226  
FRANK@ADG10.COM

SEAL:

REGISTERED ARCHITECT  
FRANK V. STURGEON, AIA  
NO. 0000000000

Name

Title

Drawing Title

DETAILS

Project Title  
SUBSTATION UPGRADE  
BUILDING 2 - PHASE 1

Location  
CORPORAL MICHAEL J. CRESCENZ  
VA MEDICAL CENTER

Date  
10-21-2024

Checked  
FVS

Drawn  
CCU

Project Number  
642-22-104

Building Number  
2

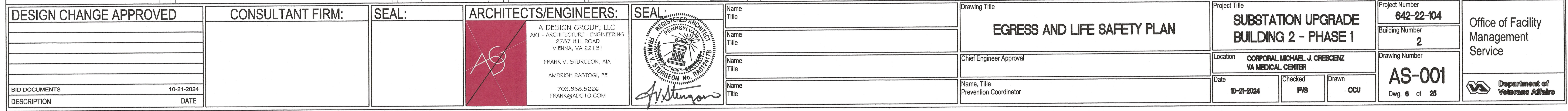
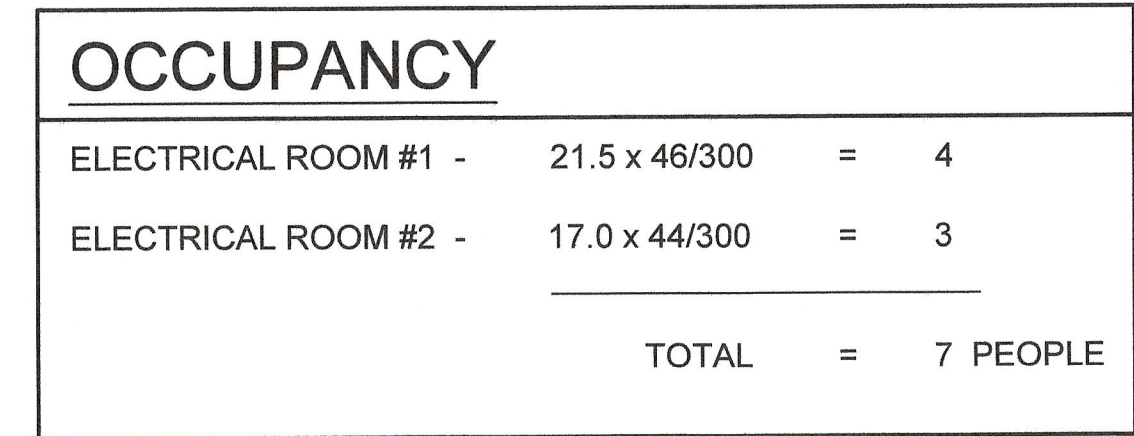
Drawing Number  
A-103

Dwg. 5 of 25

Office of Facility  
Management  
Service

Department of  
Veterans Affairs



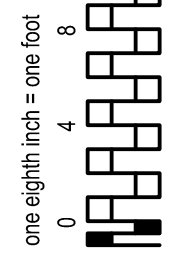
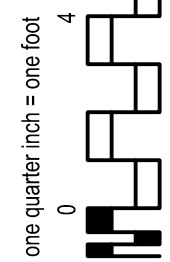
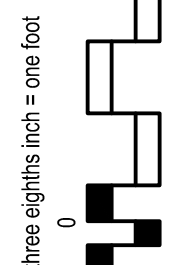
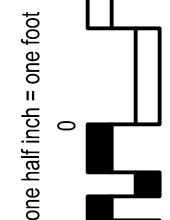
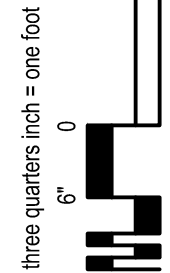
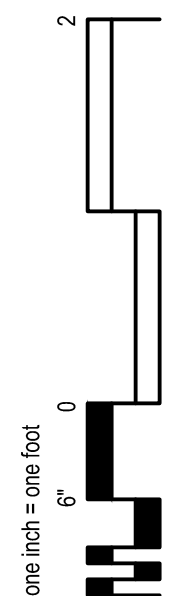








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FULL SIZE, USE GRAPHIC SCALES



## GENERAL NOTES

- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTS, HANGERS, EQUIPMENT, DUCT WORK, PIPING, WIRING, PANELS ETC., AS REQUIRED BY TRADE, AND SHALL PERFORM DEMOLITION AND MODIFICATION WORK, AS REQUIRED FOR COMPLETE AND OPERABLE SYSTEMS WITHOUT ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CERTIFICATES, INSPECTIONS, ETC., FOR ALL WORK DONE UNDER THIS CONTRACT.
- ALL WORK SHALL BE DONE IN COMPLIANCE WITH ALL LAWS, ORDINANCES, CODES, ETC. OF ANY GOVERNING BODY HAVING JURISDICTION AND IN FULL COMPLIANCE WITH VAMC REGULATIONS AND REQUIREMENTS.
- ALL APPLICABLE ITEMS SHALL BEAR THE UNDERWRITERS LABORATORIES (UL) LABEL AND SHALL BE FACTORY MUTUAL APPROVED. ALL EQUIPMENT SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
- ALL WORK SHALL BE CAREFULLY COORDINATED WITH ALL TRADES INVOLVED, AND THE CONTRACTOR SHALL PROVIDE PROPER CONNECTIONS, FITTINGS, VALVES, PIPING, ETC., FOR ALL EQUIPMENT FURNISHED BY THE OWNER OR THE TRADES INVOLVED IN THIS CONTRACT.
- DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE THE ACTUAL LOCATION OR ROUTING OF EQUIPMENT, PIPING, OR DUCTWORK. DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS, OFFSETS, ELBOWS OR RESIZING OF DUCTS (WHILE MAINTAINING EQUIVALENT FREE AREA) AS REQUIRED BY ACTUAL FIELD CONDITIONS. THE RIGHT IS RESERVED BY THE ENGINEER TO MAKE MINOR CHANGES IN LOCATIONS AND ARRANGEMENTS, WHEN REQUIRED BY JOB DEVELOPMENT, WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR THE LOCATION OF LIGHT FIXTURES AND OTHER CEILING MOUNTED ITEMS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MANUFACTURED ITEMS REQUIRED ON THIS PROJECT, AS REQUIRED BY THE SPECIFICATION. A MINIMUM OF 8 COPIES SHALL BE SUBMITTED. SHEET METAL SHOP DRAWINGS SHALL BE SUBMITTED AT MINIMUM 1/4" SCALE. SHEET METAL SHOP DRAWINGS SHALL INCLUDE ONE ELECTRONIC COPY (CD), AND TWO HARD COPIES (REPRODUCIBLE BLACKLINE PRINTS). ENGINEER'S APPROVAL OF SHOP OR SETTING DRAWINGS SHALL ONLY BE CONSTRUED TO APPLY TO GENERAL LAYOUT AND CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR COMPLIANCE WITH THE GENERAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE RESPONSIBILITY OF ANY DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL REMAIN THE CONTRACTOR'S, UNLESS CONTRACTOR HAS, IN WRITING, SPECIFICALLY CALLED THE ENGINEER'S ATTENTION TO SUCH DEVIATIONS AT THE TIME OF SUBMISSION AND HAS RECEIVED THE ENGINEER'S WRITTEN APPROVAL OF SUCH DEVIATIONS.
- GENERAL CONTRACTOR TO PROVIDE ALL REQUIRED TEMPORARY UTILITIES AND PAY FOR ALL TEMPORARY AND PERMANENT UTILITIES UP TO SUBSTANTIAL COMPLETION, WHEN INSTALLED WORK IS READY FOR START-UP AND PRE- FUNCTIONAL TESTS.
- THE HVAC CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THEIR RESPECTIVE WORK, EXCEPT THAT STRUCTURALLY FRAMED OPENINGS SHALL BE CUT AND FRAMED BY THE GENERAL CONTRACTOR. ALL HOLES IN MASONRY, FLOORS, AND WALLS SHALL BE CORE DRILLED. EDGES OF TRENCHES IN EXISTING CONCRETE FLOORS SHALL BE SAW CUT. MAINTAIN FIRE RATING OF FLOORS AND WALLS.
- MANUFACTURER'S NAMES GIVEN FOR EQUIPMENT ARE USED FOR THE BASIS OF SELECTION, NOT WITH INTENT TO LIMIT COMPETITION, UNLESS NOTED OTHERWISE. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS WILL BE CONSIDERED FOR ACCEPTANCE AND INSTALLATION.
- LOCATE AND IDENTIFY ALL CONCEALED BUILDING SYSTEMS PRIOR TO EXECUTION OF THIS WORK INCLUDING CUTTING, EXCAVATING, AND/OR REMOVING ANY PART OF THE SYSTEM COMPONENTS FOR THE BUILDING CONSTRUCTION. CAREFULLY PERFORM ALL WORK TO PREVENT DAMAGE TO THE CONCEALED SYSTEMS OR STRUCTURE. ANY SUCH DAMAGE OR INJURIES RESULTING FROM PERFORMANCE OF THE WORK OF THIS CONTRACT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- DEMONSTRATE SYSTEM OPERATION TO COR.
- ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
- THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
- TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, UNITS, FILTERS, COILS, ETC.
- FOR TYPICAL WATER AND HYDRONIC PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
- DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
- WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
- PROVIDE SEISMIC-RESTRAINT HANGERS AND SUPPORT FOR ALL HVAC SYSTEMS, DUCT WORK, EQUIPMENT, PIPING, ETC. AS PER SEISMIC DESIGN OF BUILDINGS, VA DESIGN GUIDES LINES AND UNIFIED FACILITIES CRITERIA (UFC), UFC 3-310-04, 1 JUNE 2013 (OR) LATEST EDITION.
- COORDINATION DRAWINGS:
  - SUBMIT COORDINATION DRAWINGS, AT A MINIMUM OF 1/4" SCALE, OF ALL TRADES INCLUDING BUT NOT LIMITED TO EQUIPMENT, ARCHITECTURAL ITEMS, STRUCTURAL MEMBERS, SHEET METAL DUCTWORK, PIPING, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, FIRE PROTECTION AND ALARM SYSTEMS, SECURITY DEVICES, ETC.
  - THE COORDINATION DRAWINGS SHALL BE BASED ON THE ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL ENSURE THAT WORK IN EACH PHASE IS CARRIED OUT WITHOUT ANY DISRUPTION OF UTILITIES TO AREA IN OTHER PHASES.
  - CONTRACTOR SHALL FIELD COORDINATE TO PROVIDE TEMPORARY ALTERNATIVE FEED OF UTILITIES TO AREAS THAT ARE IN OPERATION BEFORE PERFORMING THE DEMOLITION/RELOCATION/ RAISING OF UTILITIES.
  - THIS WORK SHALL BE CARRIED OUT WITH MINIMUM DISRUPTION OF SERVICES. ALL WORK MUST BE COORDINATED WITH BUILDING MAINTENANCE GROUP AND USERS.

## ABBREVIATIONS

(NOTE: THESE ABBREVIATIONS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT)	
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BIW	BACKWARD INCLINED WHEEL
CC	COOLING COIL
CDP	CONDENSATE PUMP
COR	CONTRACTING OFFICER REPRESENTATIVE
Db	DRY BULB TEMPERATURE
dB	DECIBELS
Dp	DEWPOINT TEMPERATURE
(ER)	EXISTING TO BE RELOCATED
E/A	EXHAUST AIR
ECC	ENGINEERING CONTROL CENTER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EX, //(E)	EXISTING
FLR	FLOOR
F,DPR	FIRE DAMPER
HC	HEATING COIL
HP	HORSEPOWER
MER	MECHANICAL ROOM
MAX.	MAXIMUM
MIN.	MINIMUM
NOM.	NOMINAL
(N)	NEW
O/A	OUTDOOR AIR
P	PUMP
PD	PRESSURE DROP
(R)	REMOVE
(RE)	RELOCATED EXISTING
R/A	RETURN AIR
Rh	RELATIVE HUMIDITY
S/A	SUPPLY AIR
SP	STATIC PRESSURE
(TYP.)	TYPICAL
V	VALVE
VAMC	VA MEDICAL CENTER
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VIF	VERIFY IN FIELD
Wb	WET BULB TEMPERATURE

## DUCTWORK SYMBOLS

(NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT)	
	SUPPLY DUCT (UP & DOWN)
	EXHAUST DUCT (UP & DOWN)
	SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN CEILING REGISTER OR GRILLE
	EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
	VANED ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF
	CONNECT NEW DUCT TO EXISTING DUCT
	INCLINED RISE, IN DIRECTION OF AIR FLOW
	INCLINED DROP, IN DIRECTION OF AIR FLOW
	LIMIT OF DEMOLITION
	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
	VANED ELBOW (SHORT RADIUS)
	STANDARD RADIUS ELBOW
	NEW DUCT (WIDTH x DEPTH)
	EXISTING EQUIPMENT/PIPING/DUCT TO BE REMOVED
	DUCT WITH SOUND LINING
	MANUAL VOLUME DAMPER
	FIRE DAMPER
	MANUAL SPLITTER DAMPER
	EXISTING EQUIPMENT/DUCT WORK/PIPING
	STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)

## GENERAL SYMBOLS

(NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT)	
	DIRECTION OF PIPE PITCH (DOWN)
	DIRECTION OF FLOW
	TOP CONNECTION, 45° OR 90°
	BOTTOM CONNECTION, 45° OR 90°
	SIDE CONNECTION
	CAPPED OUTLET
	RISE OR DROP IN PIPE
	UNION
	ORIFICE UNION
	POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
	LIMIT OF DEMOLITION
	STRAINER
	THERMOMETER
	PRESSURE GAGE
AIR CONDITIONING	
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	DRAIN LINE

## VALVE SYMBOLS

(NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT)	
	GATE VALVE
	GLOBE VALVE
	GATE VALVE WITH 3/4" HOSE ADAPTER
	CHECK VALVE
	ANGLE GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	BALANCING VALVE
	STRAIGHT-THRU MODULATING CONTROL VALVE
	STRAIGHT-THRU TWO POSITION CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	MANUAL AIR VENT
	TEST PLUG (PRESSURE/TEMPERATURE)

## CONTROLS SYMBOLS

(NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT)	
	THERMOSTAT
	MOTORIZED DAMPER

## DRAWING SYMBOLS

(NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT)	
	DETAIL NUMBER
	DRAWING NUMBER WHERE DRAWN
	SECTION LETTER
	DRAWING NUMBER WHERE SHOWN
	BUILDING NO. WHERE EQUIPMENT IS LOCATED.
	EQUIPMENT ABBREVIATION (SUPPLY FAN)
	SUPPLY FAN NO.3 IN BUILDING NO.26
	TYPICAL UNIT NO.

## GENERAL NOTES-DEMOLITION AND NEW WORK:

- UNDER NO CIRCUMSTANCE SHALL THE WORK PERFORMED UNDER THIS CONTRACT ADVERSELY AFFECT ADJACENT AREAS, WHICH ARE NOT PART OF THIS CONTRACT.
- ALL DEMOLISHED EQUIPMENT AND RUBBISH SHALL BE CLEARED, TRANSPORTED AND DISPOSED OF IN A LAWFUL AND RESPONSIBLE MANNER DAILY. THE PREMISES-INTERIOR AND EXTERIOR SHALL BE MAINTAINED IN A REASONABLY CLEAN AND ORDERED STATE FOLLOWING EACH DAY'S CONSTRUCTION PROCESS. UNDER NO CIRCUMSTANCES SHALL CONSTRUCTION DEBRIS BE LEFT EXPOSED TO ACCESS BY THE PUBLIC.
- ALL OPENINGS IN WALLS REMAINING AFTER THE REMOVAL OF EXISTING PIPING, DUCTWORK, EQUIPMENT ETC. SHALL BE SEALED AND PATCHED TO MATCH EXISTING CONSTRUCTION CONDITIONS, AND SHALL MAINTAIN FIRE RATING REQUIREMENTS.
- CAP OR PLUG ALL ACTIVE REMAINING SYSTEMS WHERE RECONNECTIONS ARE NOT PLANNED AT POINTS WHERE EXISTING SYSTEM IS RETAINED.
- MAINTAIN EXISTING SYSTEMS AS NECESSARY TO CONTINUE NORMAL OPERATIONS. ALL SERVICE INTERRUPTIONS SHALL BE AT OWNER'S CONVENIENCE.
- DURING THE CONSTRUCTION PHASE, IT IS REQUIRED TO MAINTAIN UNINTERRUPTED SERVICE TO OTHER AREA. CONTRACTOR SHALL ENSURE THAT THE OTHER PHASES ARE NOT AFFECTED AND PROVIDE TEMPORARY DUCT, CONDUITS, PIPES ETC. AS NECESSARY TO MAINTAIN CONTINUITY. ALL THIS SHALL BE PART OF THE INITIAL BID COST. ANY CHANGE ORDER ADDITIONAL CHARGES FROM THE CONTRACTOR DURING CONSTRUCTION WILL STRICTLY NOT BE ENTERTAINED.
- CONTRACTOR IS FULLY RESPONSIBLE TO PRODUCE COORDINATION DRAWINGS BASED ON THE ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL ENSURE THAT WORK CARRIED OUT WITHOUT ANY DISRUPTION OF UTILITIES TO OTHER AREAS WHICH ARE NOT IN CONTRACT.
- CONTRACTOR SHALL FIELD COORDINATE TO PROVIDE TEMPORARY/PERMANENT ALTERNATIVE FEED OF UTILITIES TO AREAS THAT ARE IN OPERATION BEFORE PERFORMING THE DEMOLITION/RELOCATION/RAISING OF UTILITIES (INCLUDING BUT NOT LIMITED TO DUCTWORK, MECHANICAL AND PLUMBING PIPING, CONDUITS, LIGHTS, CABLES, CABLE TRAY, EQUIPMENT ETC.). THIS WORK SHALL BE CARRIED OUT WITH MINIMUM DISRUPTION OF SERVICES. ALL WORK MUST BE COORDINATED WITH COR.

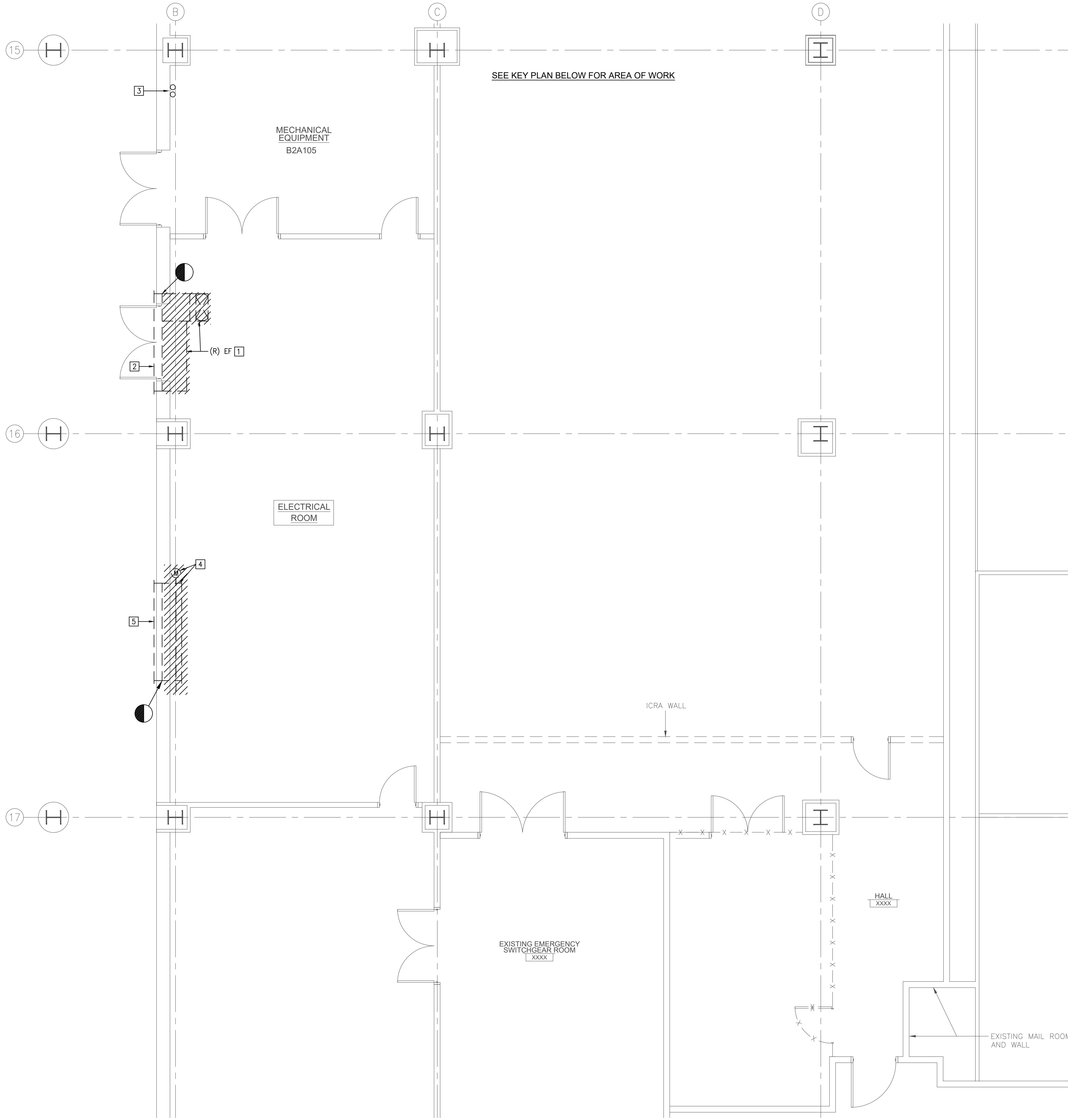
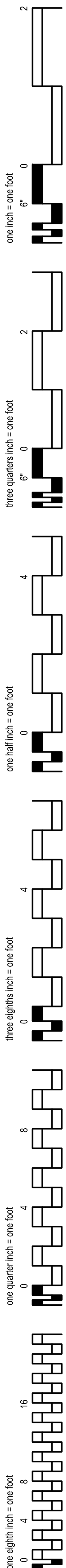
## NOTE-COMMISSIONING WORK:

- COMMISSIONING EFFORTS SHOULD BE COORDINATED BY THE GENERAL CONTRACTOR WITH COR. SHALL INCLUDE (AT A MINIMUM) THE CONTROLS CONTRACTOR, BALANCING CONTRACTOR, FACTORY REPRESENTATIVES FOR THE EQUIPMENT MANUFACTURERS, AND THE MECHANICAL CONTRACTOR.
- COMMISSIONING SHALL BE IN ACCORDANCE WITH ASHRAE "GUIDELINE 1", LATEST VERSION.
- COMMISSIONING EFFORTS SHALL BE COORDINATED WITH VAMC COR AND BUILDING OPERATING PERSONNEL WHO SHALL BE FULL PARTICIPANTS IN ALL OPERATIONS. AS PART OF THIS PROCESS, PROVIDE INSTRUCTION PERIOD TO OWNER DESIGNATED PERSONNEL, DEMONSTRATING TYPICAL SERVICE, MAINTENANCE AND TROUBLE-SHOOTING PROCEDURES FOR THE VARIOUS SYSTEMS. INSTRUCTION PERIOD SHALL BE NO LESS THAN EIGHT (8) HOURS, SCHEDULED AT OWNER'S CONVENIENCE.
- COMMISSIONING SHALL INCLUDE BUT NOT BE LIMITED TO AIR HANDLING UNITS, CONTROLS, AIR & WATER DISTRIBUTION SYSTEMS, ETC.

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:	Name Title	Drawing Title	Project Title	Project Number	Office of Facility Management Service
					Name Title	MECHANICAL COVER SHEET	SUBSTATION UPGRADE BUILDING 2 - PHASE 1	642-22-104	
					Name Title	Chief Engineer Approval	Location	Building Number	
					Name Title	Name, Title Prevention Coordinator	CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	2	
BID DOCUMENTS	October-21-2024					Date	Checked	Drawn	
DESCRIPTION	DATE					10-21-2024	AR	AM	
								M-001	
								Dwg. 8 of 25	

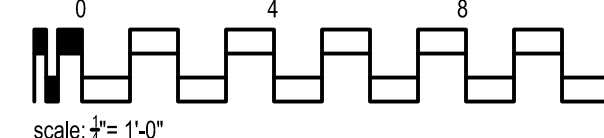


IF THIS SHEET IS NOT 30" X 42"  
FULL SIZE, USE GRAPHIC SCALES



SEE KEY PLAN BELOW FOR AREA OF WORK

1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION WORK - MECHANICAL  
1/4" = 1'-0"



### TYPICAL DEMOLITION NOTES

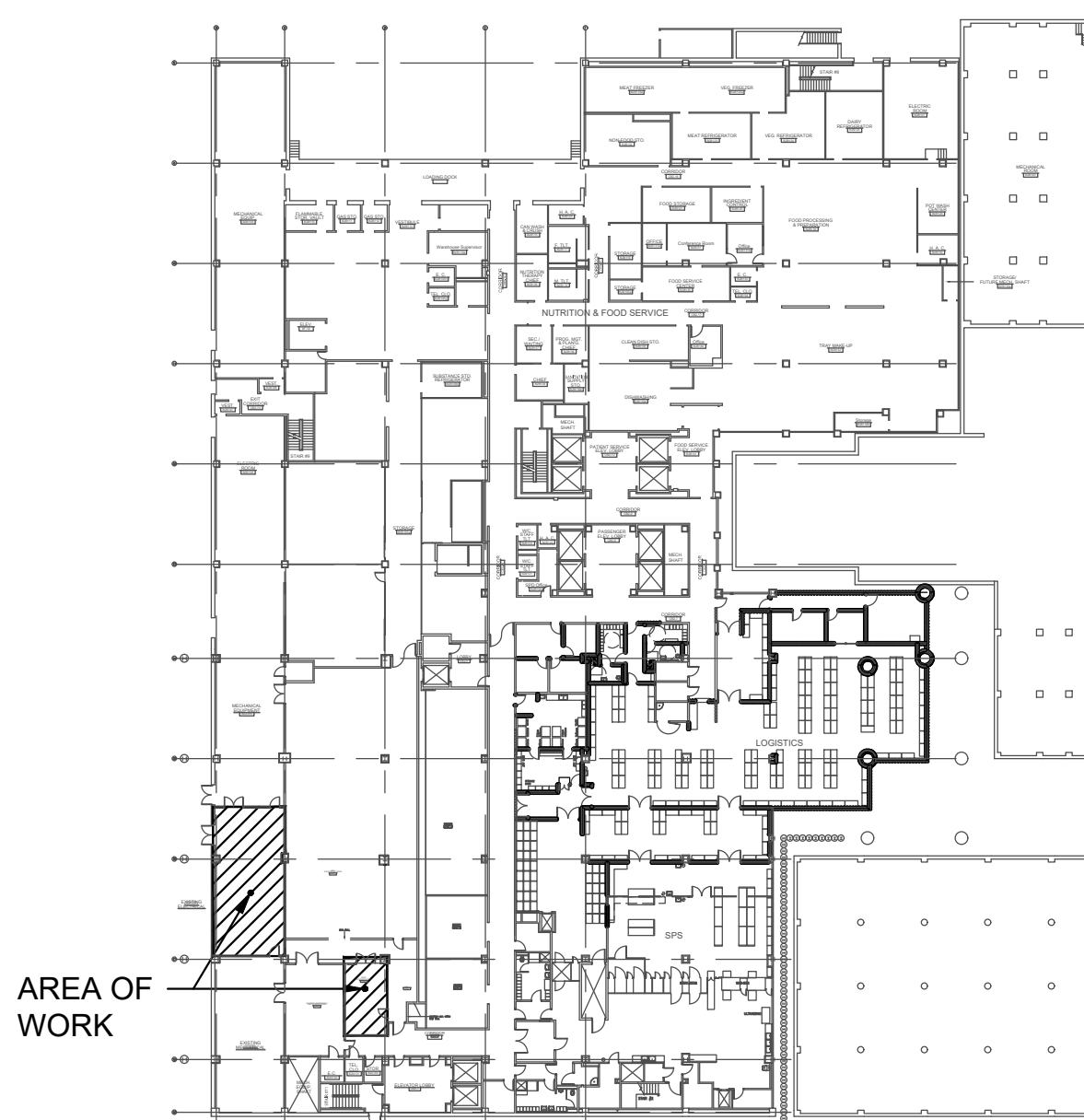
FOR ALL ITEMS SCHEDULED FOR DEMOLITION:  
COORDINATE WITH COR REGARDING WHICH ITEMS ARE TO BE PROTECTED,  
SALVAGED, AND/OR DISCARDED.  
SCHEDULING & SEQUENCING OF THE WORK:  
PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT, THE CONTRACTOR SHALL  
MEET WITH THE COR & A REPRESENTATIVE OF THE "END USER" TO DISCUSS &  
FORMULATE A SCHEDULING & SEQUENCING OF THE WORK PLAN IN AN EFFORT TO  
MINIMIZE THE DISRUPTION OF ONGOING SERVICES & ACTIVITIES WITHIN THE AREAS OF  
THE WORK. BEFORE COMMENCEMENT OF THE WORK THE CONTRACTOR SHALL  
DEVELOP A WRITTEN PLAN OF SCHEDULING & SEQUENCING INDICATING TARGET DATES  
FOR CERTAIN PHASES ON THE WORK & ASSOCIATED SELECTIVE DEMOLITION PROVIDE  
COPIES TO COR.  
ELECTRICAL COMPONENTS:  
COORDINATE REMOVAL OF ELECTRICAL SYSTEMS AND COMPONENTS WITH  
ELECTRICAL DRAWINGS.  
MECHANICAL COMPONENTS:  
COORDINATE REMOVAL OF MECHANICAL SYSTEMS AND COMPONENTS WITH  
MECHANICAL DRAWINGS.

### GENERAL NOTES - DEMOLITION WORK

- CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS AFTER THE DEMOLITION WORK.  
PROVIDE ALL SYSTEMS IN COORDINATION WITH THE SITE CONDITIONS AS PART OF THIS  
CONTRACT. MAINTAIN CONTINUITY OF HVAC, PLUMBING AND ELECTRICAL SYSTEMS ETC.
- UNDER NO CIRCUMSTANCE SHALL THE WORK PERFORMED UNDER THIS CONTRACT ADVERSELY  
AFFECT ADJACENT AREAS, NOT PART OF THIS CONTRACT.
- MAINTAIN EXISTING SYSTEMS AS NECESSARY TO CONTINUE NORMAL OPERATIONS. ALL SERVICE  
INTERRUPTIONS SHALL BE AT OWNER'S CONVENIENCE. REQUESTS FOR SERVICE  
INTERRUPTIONS SHALL BE MADE A MINIMUM OF 14 DAYS PRIOR TO ANTICIPATED DATE.
- IF SUSPECTED ASBESTOS-CONTAINING MATERIALS ARE ENCOUNTERED IN THE COURSE OF THE  
WORK, THE CONTRACTOR SHALL CEASE WORK WITH THE SUSPECT MATERIAL AND AWAIT  
DIRECTION FROM THE COR.
- ALL DEMOLISHED EQUIPMENT AND RUBBISH SHALL BE CLEARED, TRANSPORTED AND DISPOSED  
OF IN A LAWFUL AND RESPONSIBLE MANNER.

### KEYED NOTES - DEMOLITION WORK

- REMOVE EXISTING EXHAUST FAN, ACCESSORIES, SUPPORTS, CONTROL WIRING,  
MOTORIZED DAMPER, ETC.
- EXISTING LOUVER TO REMAIN.
- EXISTING CHILLED WATER SUPPLY AND RETURN PIPING RISER TO REMAIN (TYPICAL).
- REMOVE EXISTING MOTORIZED DAMPER. MODIFY EXISTING DUCT PLENUM.
- EXISTING OUTDOOR AIR INTAKE LOUVER TO REMAIN.



KEY PLAN-GROUND FLOOR  
NO SCALE

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:	Name Title	Drawing Title <b>ELECTRICAL ROOM-DEMOLITION WORK - MECHANICAL</b>	Project Title <b>SUBSTATION UPGRADE BUILDING 2 - PHASE 1</b>	Project Number <b>642-22-104</b>	Office of Facility Management Service  Department of Veterans Affairs
			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2757 HILL ROAD VIENNA, VA 22181	AMBRISH K RASTOGI REGISTERED PROFESSIONAL ENGINEER	Name Title	Chief Engineer Approval	Location <b>CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER</b>	Building Number <b>2</b>	
			FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE		Name Title		Date <b>10-21-2024</b>	Drawing Number <b>MD-101</b>	
BID DOCUMENTS DESCRIPTION	October-21-2024 DATE		703.930.5226 FRANK@ADG10.COM		Name Title	Name, Title Prevention Coordinator	Checked <b>AR</b>	Drawn <b>AM</b>	



Figure 1 displays 12 plots showing the evolution of the number of nodes in different states over time for a 1000-node network. The states are: one node, one edge, one triangle, one 4-cycle, one 5-cycle, one 6-cycle, one 7-cycle, one 8-cycle, one 9-cycle, one 10-cycle, one 11-cycle, and one 12-cycle. Each plot has 'Time' on the x-axis (0 to 1000) and 'Nodes' on the y-axis (0 to 16). The plots show a sharp initial increase followed by a plateau. The plateau height increases with the cycle length.






1. PROVIDE COORDINATION DRAWINGS AFTER THE DEMOLITION WORK. PROVIDE ALL SYSTEMS IN COORDINATION WITH THE SITE CONDITIONS AS PART OF THIS CONTRACT. MAINTAIN CONTINUITY OF HVAC AND ELECTRICAL SYSTEMS ETC. WHICH IS NOT PART OF SCOPE OF WORK.
2. ALL EXISTING, NEW WALL PENETRATIONS WILL BE COMPLETELY SEALED WITH APPROVED U/V LISTED FIRE STOPPING MATERIALS. CONTRACTOR SHALL PROVIDE FIRE STOPPING SUBMITTALS FOR APPROVAL.
3. CONTRACTOR SHALL PERFORM AIR BALANCE.
4. ALL NEW HVAC SYSTEM SHALL BE INTERLOCKED WITH EXISTING BUILDING AUTOMATION SYSTEMS.
5. PROVIDE A DDC SENSOR TO MONITOR THE SPACE TEMPERATURE AND INITIATE LOCAL AND REMOTE ALARMS IN THE EVENT SPACE TEMPERATURE EXCEEDS 95° F (ADJUSTABLE). PROVIDE A DDC SENSOR FOR MONITORING AND ALARM LOCAL CONTROL LOOP.

1. NEW AIR HANDLING UNIT, 2-AH12, CEILING MOUNTED UNIT, PROVIDE UNIT SUPPORTS. INSTALL DRAIN PAN BELOW AIR HANDLING UNIT. INSTALL WATER DETECTION SENSOR IN THE DRAIN PAN. INSTALL THE UNIT IN FULL COMPLIANCE WITH MANUFACTURER RECOMMENDATIONS. PROVIDE ADEQUATE SERVICE CLEARANCE AROUND THE UNIT.
2. EXISTING LOUVER. THE CONTRACTOR SHALL REUSE THE EXISTING LOUVER FOR OUTDOOR AIR INTAKE AND COORDINATE WITH MANUFACTURER FOR PROPER OPERATION. MODIFY EXISTING DUCT PLENUM AS REQUIRED. VERIFY IN FIELD.
3. EXISTING CHILLED WATER SUPPLY AND RETURN PIPING RISERS. THE CONTRACTOR SHALL BALANCE OF EXISTING CHILLED WATER PUMPS TO PROVIDE ADDITIONAL 65.5 GPM FOR NEW AHU UNITS (2-AH1 & 2-AH2). VERIFY IN FIELD (TYPICAL).
4. COVER EXISTING LOUVER WITH SHEET METAL, SEAL OPENING AIR AND WATER TIGHT.
5. EXISTING LOUVER.
6. NEW AIR HANDLING UNIT, 2-AH11, CEILING MOUNTED UNIT, PROVIDE UNIT SUPPORTS. INSTALL DRAIN PAN BELOW AIR HANDLING UNIT. INSTALL WATER DETECTION SENSOR IN THE DRAIN PAN. INSTALL THE UNIT IN FULL COMPLIANCE WITH MANUFACTURER RECOMMENDATIONS. PROVIDE ADEQUATE SERVICE CLEARANCE AROUND THE UNIT.
7. SUPPLY AIR GRILLE (TYPICAL).
8. RETURN AIR GRILLE (TYPICAL).
9. SUPPLY AIR DUCT. PROVIDE DUCT SUPPORTS. COORDINATE WITH ELECTRICAL CONDUITS (TYPICAL).
10. RETURN AIR DUCT. PROVIDE DUCT SUPPORTS. COORDINATE WITH ELECTRICAL CONDUITS (TYPICAL).
11. CONDENSATE DRAIN PIPING. PROVIDE PIPING SUPPORTS. PROVIDE PIPING INSULATIONS. MAINTAIN PROPER PIPING SLOPE (TYPICAL).
12. CHILLED WATER SUPPLY AND RETURN PIPING. PROVIDE PIPING INSULATIONS. PROVIDE PIPING SUPPORTS. THE CONTRACTOR SHALL COORDINATE WITH EXISTING PIPING (TYPICAL).
13. ROOM TEMPERATURE SENSOR.
14. OUTDOOR AIR DUCT. PROVIDE DUCT SUPPORTS (TYPICAL).
15. NEW CONDENSATE DRAIN PUMP, 1-GP1, CEILING MOUNTED UNIT, PROVIDE PUMP SUPPORTS. INSTALL THE PUMP IN FULL COMPLIANCE WITH MANUFACTURER RECOMMENDATIONS.



## KEY PLAN-GROUND FLOOR

1/4" = 1'-0"

DESIGN CHANGE APPROVED		CONSULTANT FIRM:		SEAL:		ARCHITECTS/ENGINEERS:		SEAL:		Name Title		Drawing Title		Project Title		Project Number		Office of Facility Management Service							
						 <p>A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2707 HILL ROAD VIENNA, VA 22181</p> <p>FRANK V. STURGEON, AIA</p> <p>AMBRISH RASTOGI, PE</p> <p>703.938.5226 FRANK@ADG10.COM</p>				<p><b>ELECTRICAL ROOM-NEW WORK -MECHANICAL</b></p>		<p><b>SUBSTATION UPGRADE BUILDING 2 - PHASE 1</b></p>		<p><b>642-22-104</b></p>											
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DESCRIPTION		DATE												CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER		10-21-2024		AR		AM					
																Dwg. 10 of 25		 Department of Veterans Affairs							