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three quarters inch = one foot
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three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

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

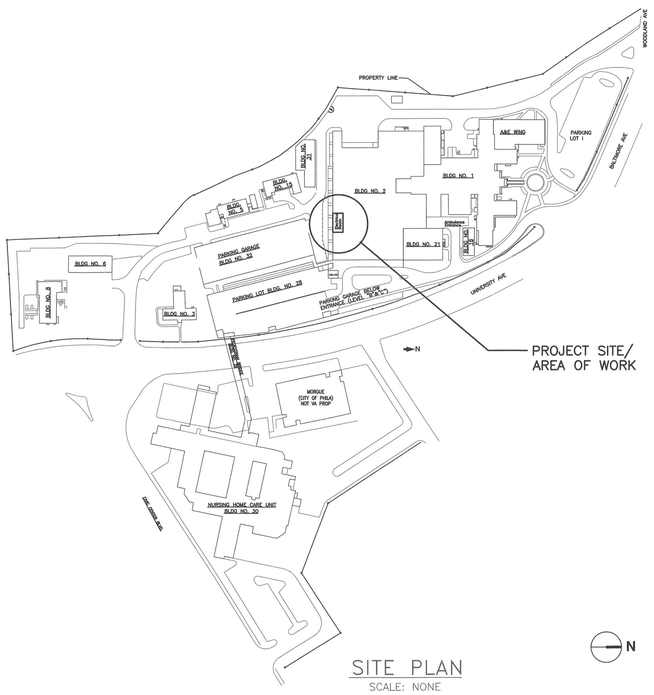
PROJECT NO: 642-22-104

PROJECT TITLE: SUBSTATION UPGRADE BUILDING 2 - PHASE 1

BID DOCUMENTS

OCTOBER 21, 2024

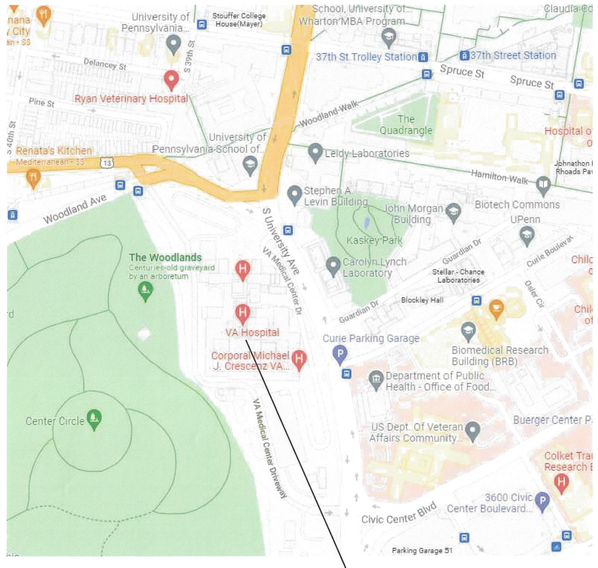
SITE MAP



SITE PLAN
SCALE: NONE

N

VICINITY MAP



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

INDEX OF DRAWINGS

SHEET NO	DWG NO	DRAWING TITLE
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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-LS-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
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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:
BID DOCUMENTS	October-21-2024			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2757 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADGIO.COM	REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA FRANK V. STURGEON NO. RA014151
DESCRIPTION	DATE				

Name Title	Drawing Title COVER SHEET	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1		Project Number 642-22-104	Office of Facility Management Service
Name Title				Building Number 2	
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER		Drawing Number CS01	
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024	Checked AR / Drawn AM	Dwg. 1 of 25	Department of Veterans Affairs

VA FORM 08-6231

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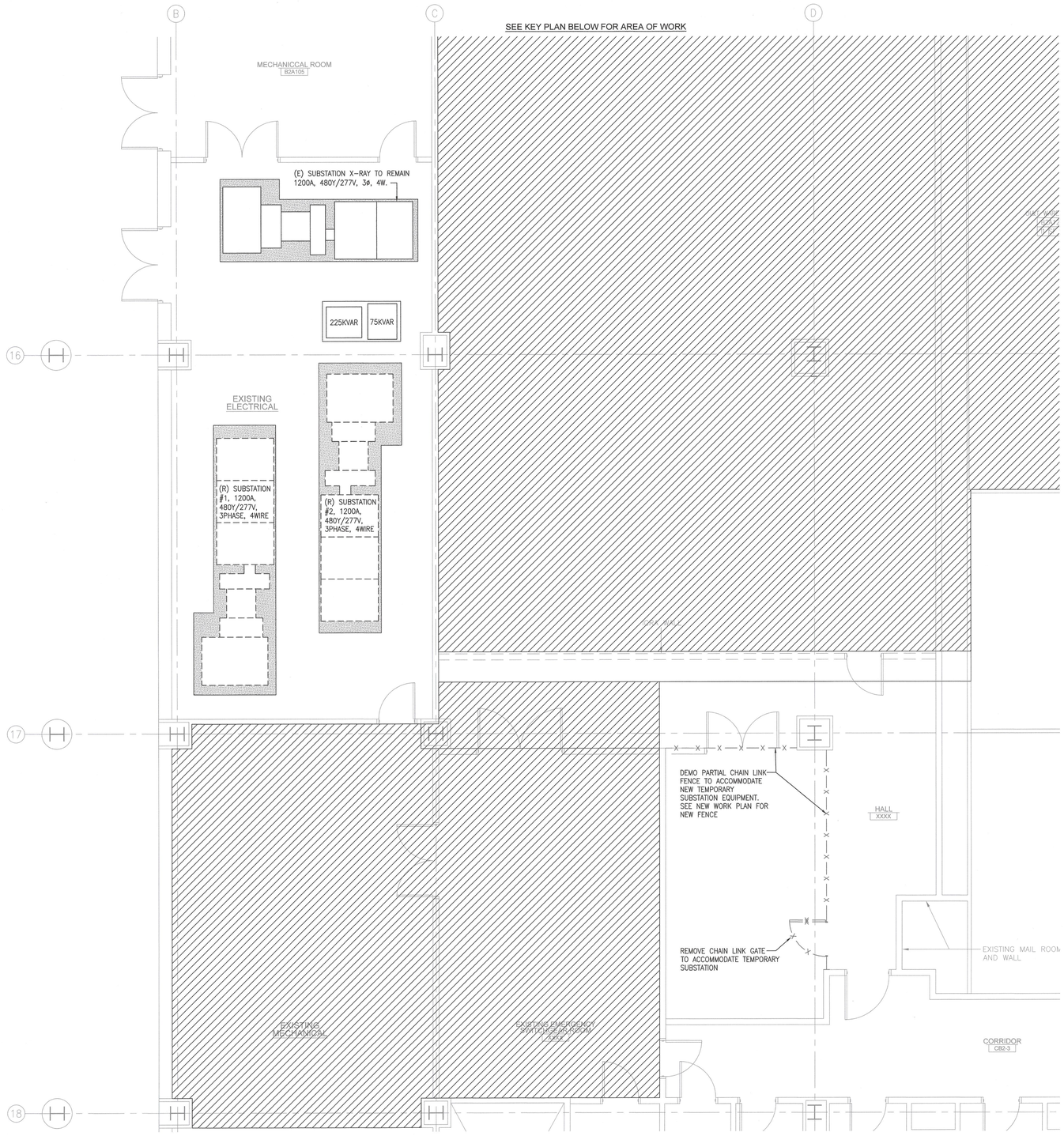
SEE KEY PLAN BELOW FOR AREA OF WORK



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

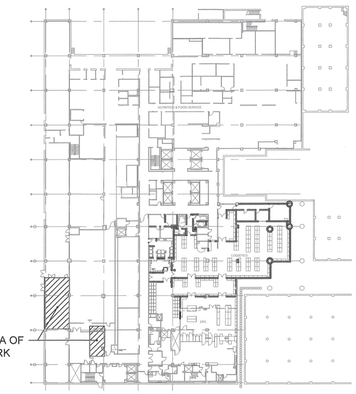
INFECTION CONTROL NOTES:

PATIENT RISK GROUP: MEDIUM
CONSTRUCTION PROJECT TYPE: D
CLASS: IV

1. 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.
2. 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.
3. THE ICRA SHALL ADDRESS, BUT NOT BE LIMITED TO, THE FOLLOWING:
   - A. WATER/PLUMBING SYSTEMS:
     - a. THE ICRA SHALL ADDRESS THE NEED FOR ANY ADDITIONAL FIXTURES BEYOND CODE MINIMUMS NECESSARY FOR INFECTION CONTROL DURING CONSTRUCTION.
     - b. THE ICRA SHALL INCLUDE AN ASSESSMENT OF THE RISK FROM TRANSMISSIBLE WATERBORNE PATHOGENS.
     - c. 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.
   - B. INTERRUPTION OF ESSENTIAL SERVICES:
     - a. HAZARDS SPECIFIC TO DIFFERENT TYPES OF ESSENTIAL SERVICE DISRUPTIONS TO PATIENTS AND EMPLOYEES SHOULD BE PROACTIVELY DETERMINED.
     - b. THE ICRA SHOULD BE DEVELOPED TO ENSURE CONTINUED PROVISION OF SERVICE IN THE EVENT OF BOTH PLANNED AND UNPLANNED DISRUPTIONS.
   - C. BARRIERS AND ISOLATION:
     - a. DURING CONSTRUCTION, CONTRACTOR SHALL ISOLATE ALL RENOVATION AREAS FROM OCCUPIED AREAS BASED ON THE ICRA.
     - b. 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.
     - c. MINIMUM REQUIREMENTS FOR TEMPORARY BARRIERS CAN BE FOUND ON THIS SHEET.
   - D. DISASTER PLANS:
     - a. THE ICRA SHALL ADDRESS POTENTIAL WATER SUPPLY, VENTILATION AND OTHER UTILITY OUTAGES, SHUTDOWNS AND EVACUATION, INCLUDING THE NEED TO PROTECT PATIENTS DURING EMERGENCIES.
     - b. THIS SHALL INCLUDE THE LOCATION OF SUPPLIES, WHO IS RESPONSIBLE FOR WHAT, AND WHO IS TO BE NOTIFIED.
   - E. PATIENT PROTECTION:
     - a. THE ICRA SHALL INCLUDE ALL NECESSARY PROTECTIONS FOR PATIENTS DURING DEMOLITION AND CONSTRUCTION ACTIVITIES THROUGHOUT THE COURSE OF THE WORK.
4. AIR HANDLING AND VENTILATION:
   - A. 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.
   - B. 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.
   - C. CONTRACTOR SHALL MAINTAIN ALL AIRFLOW INTO THE CONSTRUCTION ZONE FROM OCCUPIED SPACES BY MEANS OF A DEDICATED VENTILATION/EXHAUST SYSTEM FOR THE CONSTRUCTION AREA.
   - D. 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.
   - E. 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.
   - F. 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 PASCALS), 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).
   - G. CONTRACTOR SHALL KEEP DUCTWORK CAPPED/CLEAN DURING DEMOLITION AND DUST-GENERATING CONSTRUCTION.
   - H. CONTRACTOR SHALL MAINTAIN EXISTING AIR QUALITY REQUIREMENTS AND UTILITY REQUIREMENTS FOR OCCUPIED AREAS DURING ANY RENOVATION OR CONSTRUCTION.
5. CONSTRUCTION MATERIALS:
   - A. CONTRACTOR SHALL BRING AND/OR INSTALL ONLY CLEAN MATERIALS ON SITE.
   - B. CONTRACTOR SHALL NOT BRING TO THE SITE OR INSTALL ANY MATERIALS THAT HAVE BEEN DAMAGED BY WATER.

DRAWING NOTES

1. 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.
2. PROVIDE CLEAR CONCRETE SEALER ON THE ENTIRE ELECTRICAL ROOM FLOOR.



KEY PLAN - GROUND FLOOR
NO SCALE

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BID DOCUMENTS October-21-2024 DESCRIPTION DATE			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	REGISTERED ARCHITECT PENNSYLVANIA FRANK W. STURGEON No. RA017178

Name Title	Drawing Title PARTIAL GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION PLAN	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number 642-22-104
Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number A-100
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024 / Checked FVB / Drawn CCU	Dwg. 2 of 25

Office of Facility Management Service
Department of Veterans Affairs

VA FORM 08-6231

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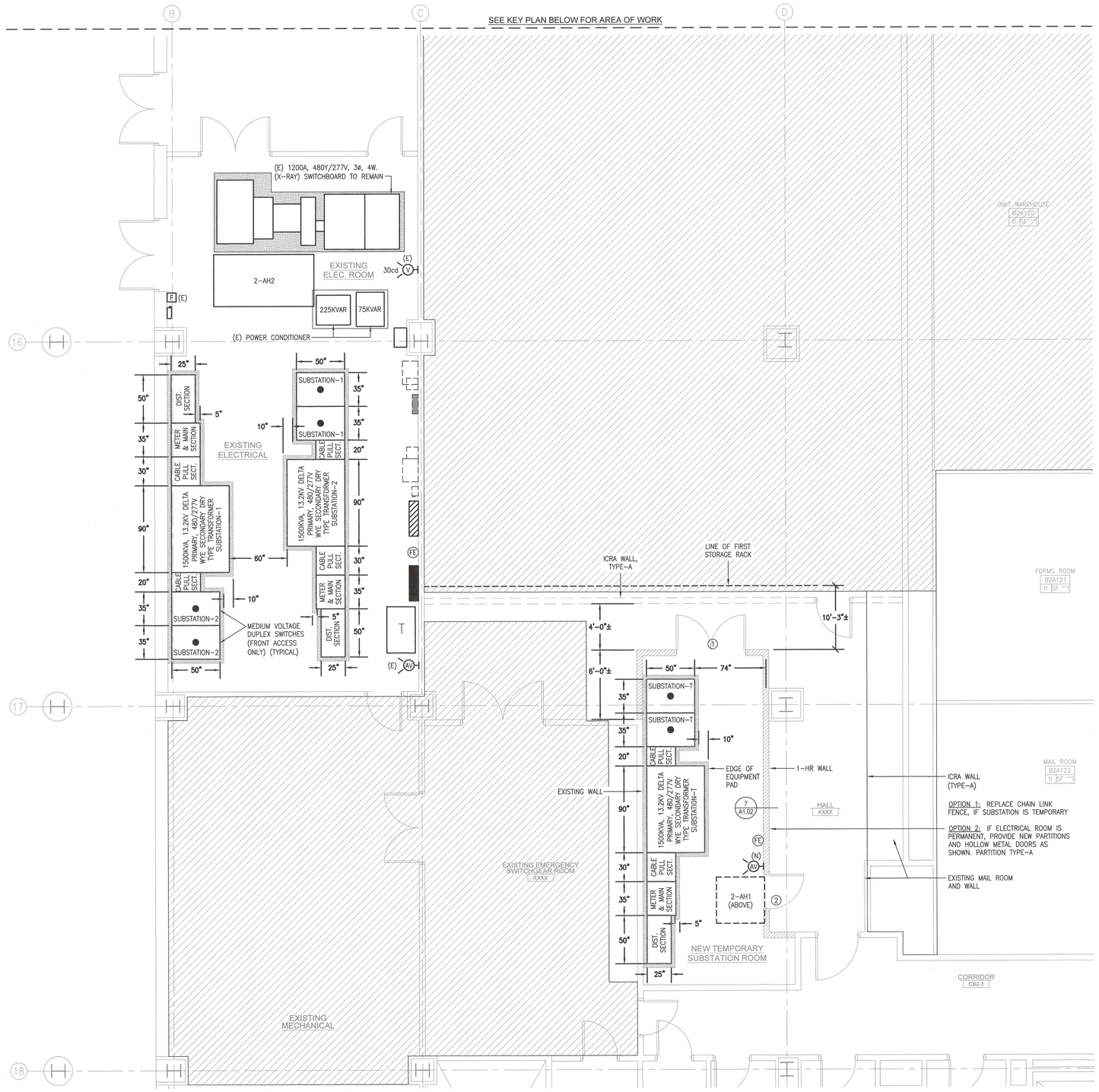
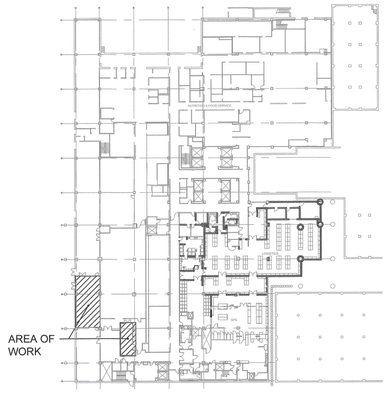


1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - NEW WORK PLAN
1/4" = 1'-0"

LEGEND:
(FE) WALL MOUNTED FIRE EXTINGUISHER



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DESCRIPTION DATE					Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Building Number 2	
					Name Title	Name, Title Prevention Coordinator	Date 10-21-2024 / Checked FVS / Drawn CCU	Drawing Number A-101 Dwg. 3 of 25	Department of Veterans Affairs

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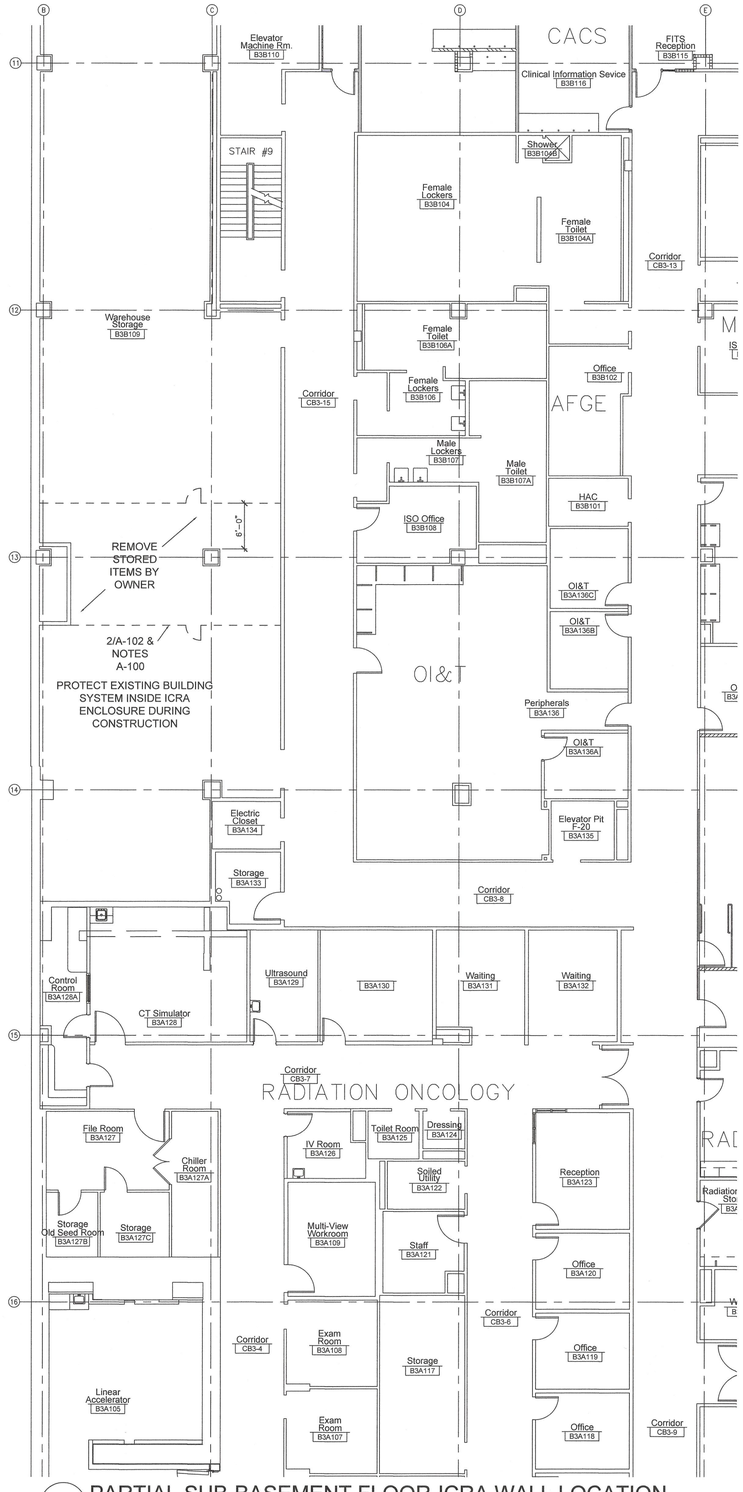
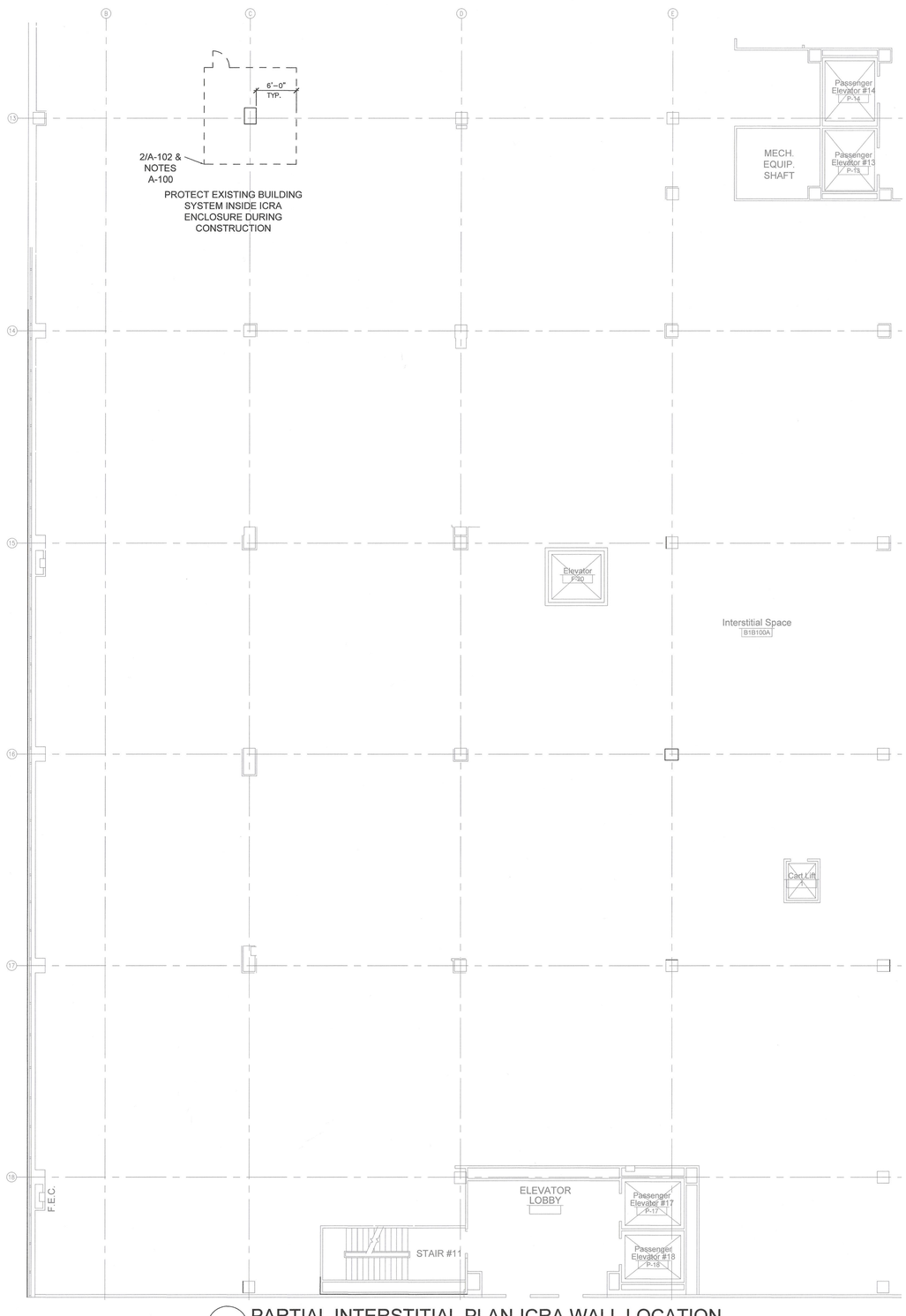
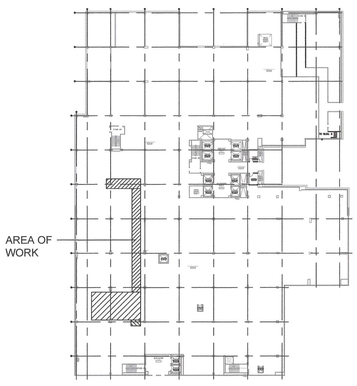


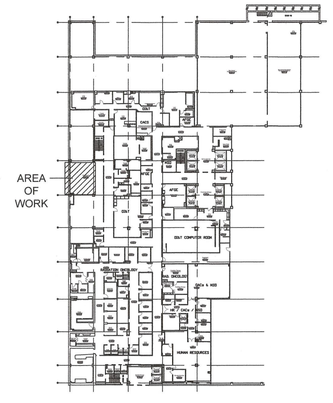
1 PARTIAL SUB-BASEMENT FLOOR-ICRA WALL LOCATION
1/8" = 1'-0"



2 PARTIAL INTERSTITIAL PLAN-ICRA WALL LOCATION
1/8" = 1'-0"



KEY PLAN - INTERSTITIAL SPACE
NO SCALE



KEY PLAN - SUB-BASEMENT
NO SCALE

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BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADGIO.COM	REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA FRANK V. STURGEON No. RA-PA-027878

Name Title	Drawing Title PARTIAL SUB-BASEMENT AND INTERSTITIAL FLOOR PLANS-ICRA WALL LOCATION	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1		Project Number 642-22-104	Office of Facility Management Service
Name Title				Building Number 2	
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER		Drawing Number A-102	
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024	Checked FVS / Drawn CCU	Dwg. 4 of 25	Department of Veterans Affairs

VA FORM 08-6231

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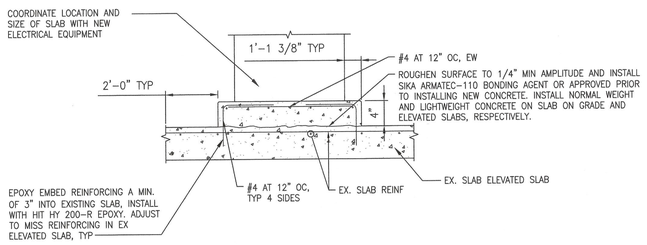
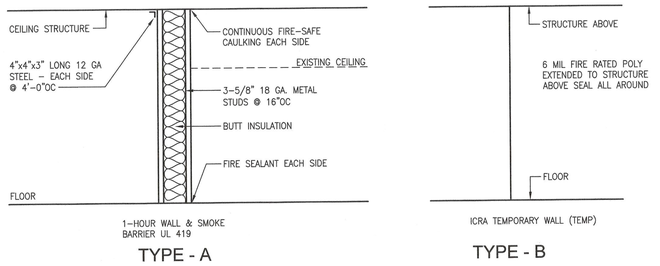
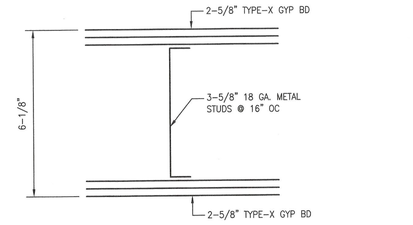


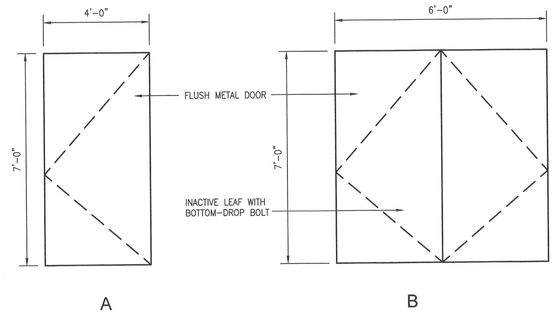
1 EQUIPMENT PAD
NOT TO SCALE



2 ICRA WALL BARRIER
DOORS IN WALL 3'x7" - 3/4 FIRE RATED
NOT TO SCALE



3 TYPICAL WALL - A
1-HOUR FIRE RATED UL-419
NOT TO SCALE

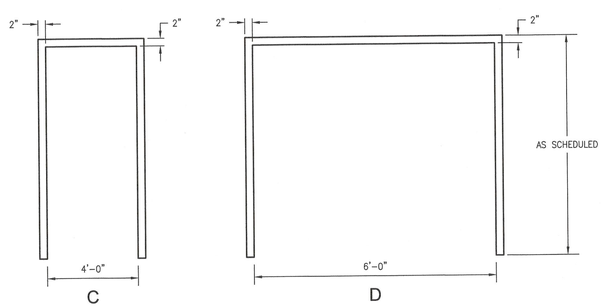


4 DOOR TYPE
(FLUSH - HOLLOW METAL)
NOT TO SCALE

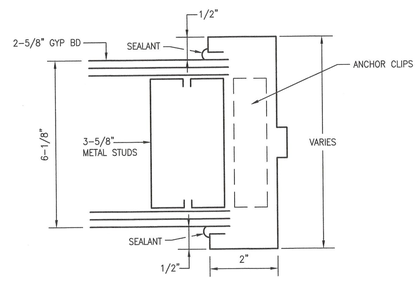
NOTES:

H-1 - 2-PAIR HINGES LEVER HANDLE CLOSURE
H-2 - 2-PAIR HINGES EACH DOOR CLOSURE IN-ACTIVE DOOR WITH BOTTOM DROP BOLT

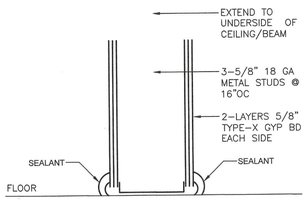
HARDWARE - STORE ROOM LOCK FUNCTION



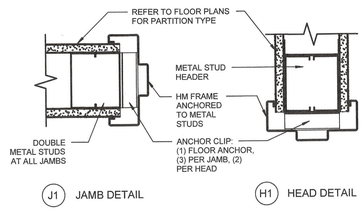
5 FRAME TYPE
(HOLLOW METAL)
NOT TO SCALE



6 FRAME DETAIL
NOT TO SCALE



7 WALL TYPE-A
FIRE RATING UL491 (ONE HOUR RATING)
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:	SEAL:	Name Title	Drawing Title: DETAILS	Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1
			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA FRANK V. STURGEON No. RA013178	Name Title	Chief Engineer Approval	Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER
BID DOCUMENTS October-21-2024					Name Title	Name, Title Prevention Coordinator	Date: 10-21-2024 Checked: FVS Drawn: CCU
DESCRIPTION DATE					Name Title		

Project Number: 642-22-104
Building Number: 2
Drawing Number: A-103
Dwg. 5 of 25

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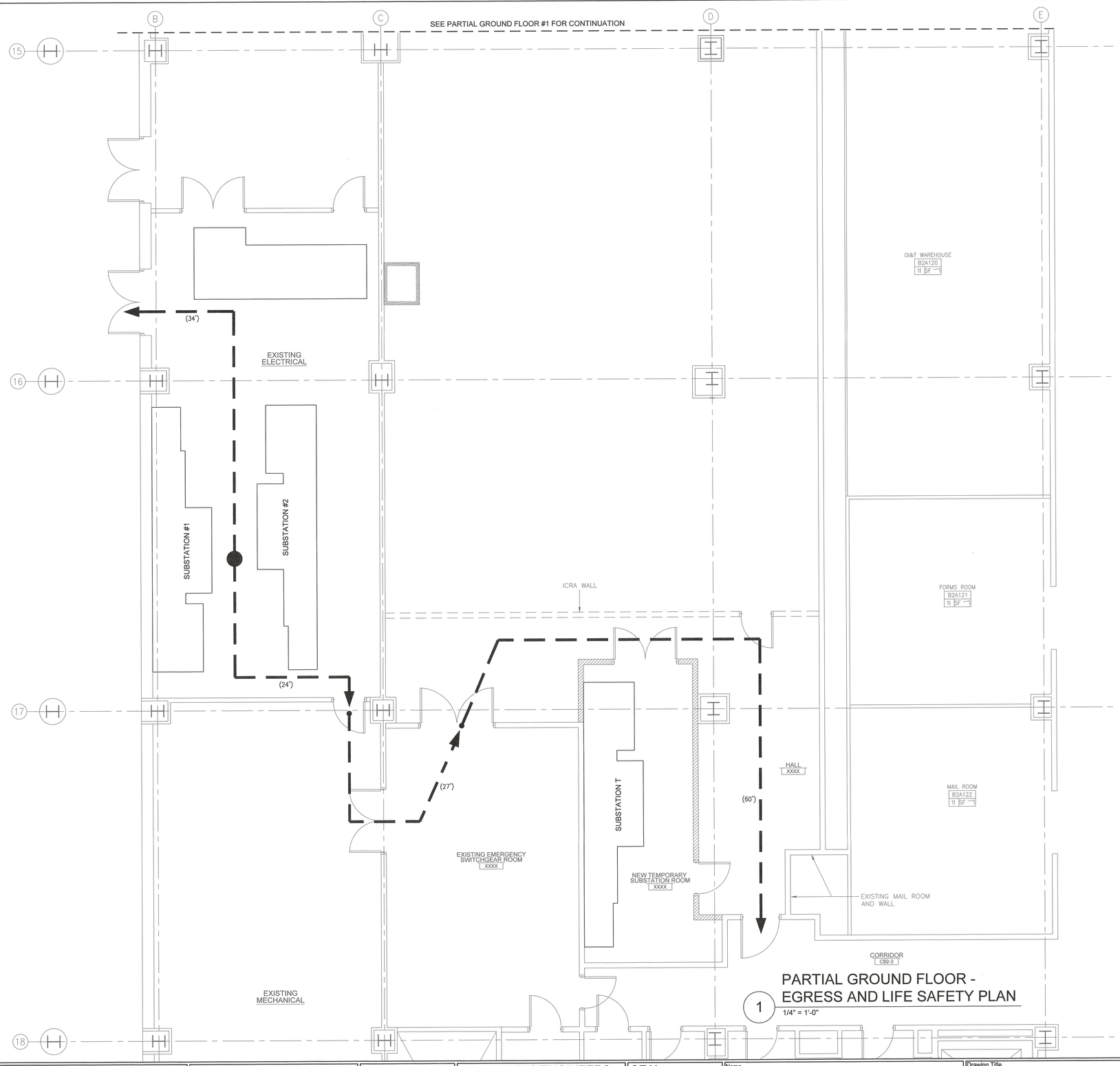
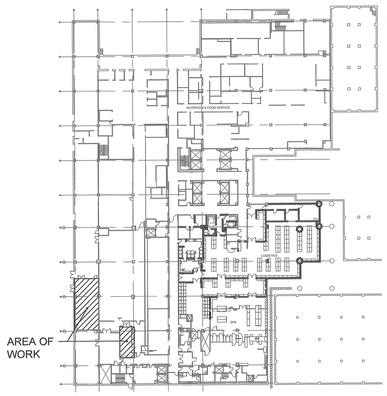


1 PARTIAL GROUND FLOOR - EGRESS AND LIFE SAFETY PLAN
1/4" = 1'-0"

OCCUPANCY

ELECTRICAL ROOM #1 -	21.5 x 46/300	=	4
ELECTRICAL ROOM #2 -	17.0 x 44/300	=	3
	TOTAL	=	7 PEOPLE



KEY PLAN
NO SCALE

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:
BID DOCUMENTS 10-21-2024			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	REGISTERED ARCHITECT PENNSYLVANIA FRANK V. STURGEON No. RA012478
DESCRIPTION DATE				

Name Title	Drawing Title: EGRESS AND LIFE SAFETY PLAN	Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number: 642-22-104
Name Title			Building Number: 2
Name Title	Chief Engineer Approval	Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number: AS-001
Name Title	Name, Title Prevention Coordinator	Date: 10-21-2024 / Checked: FVS / Drawn: CCU	Dwg. 6 of 25

Office of Facility Management Service

Department of Veterans Affairs

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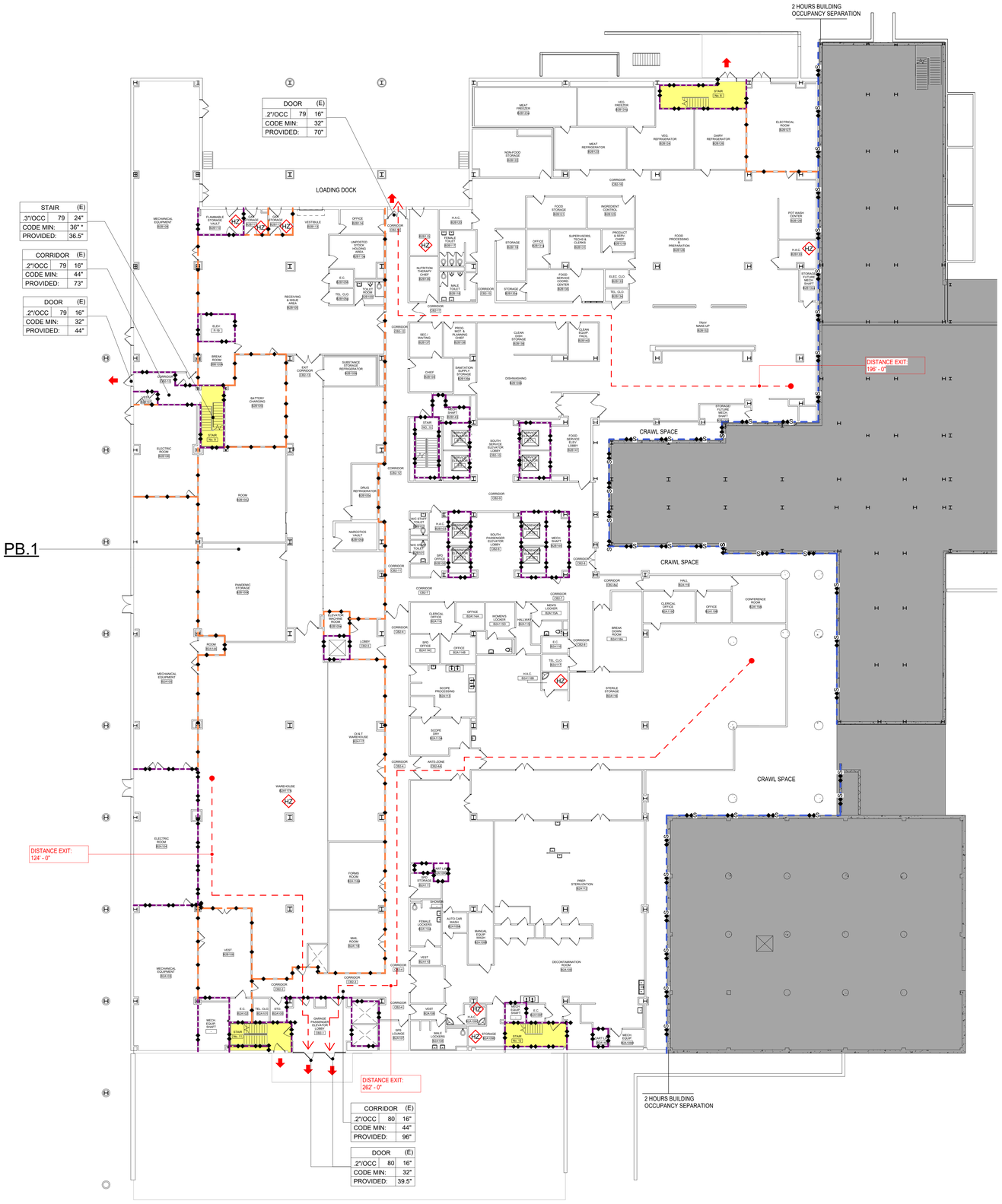
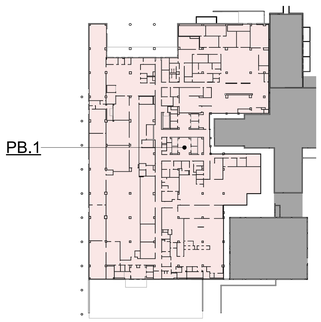


LIFE SAFETY LEGEND

- 1 HOUR SMOKE BARRIER
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE SMOKE BARRIER
- DISTANCE TO EXIT
- DISTANCE SMOKE BARRIER
- EXIT STAIRWELL
- CONSTRUCTION AREA
- X-X-X1 SUITE ID
- #-##-# COMPARTMENT ID
- LINEN/TRASH CHUTE WITH 2 HR FIRE BARRIER
- EXIT
- HZ HAZARDOUS AREA
- HZ HAZARDOUS AREA (MULTIPLE ROOMS)

COMPARTMENT SCHEDULE

BUILDING 2- PIPE BASEMENT EXISTING INDUSTRIAL OCCUPANCY						
COMPARTMENT ID	COMPARTMENT SQ. FT.	OCCUPANCY LOAD	AREA USE	DISTANCE TO SMOKE	DISTANCE TO EXIT	SPRINKLER SYSTEM
BUILDING 2						
PB.1	62840 SF	418	BUSINESS	-	VARIES	Yes
Grand total	62840 SF					



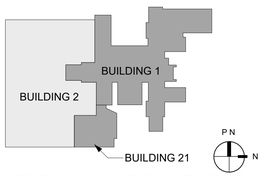
COMPARTMENT KEY PLAN

REFERENCE DRAWING ONLY

DISCLAIMER:

LIFE SAFETY PLANS DEPICT INFORMATION PERTAINING TO NFPA 101-2021 EDITION ONLY.

THIS PLAN IS SOLELY FOR THE REPRESENTATION OF THOSE FIRE PROTECTION / LIFE SAFETY FEATURES NECESSARY FOR A STATEMENT OF CONDITIONS LIFE SAFETY ASSESSMENT AS REQUIRED BY THE JOINT COMMISSION (TJC). IT SHOULD NOT BE CONSIDERED AN ACCURATE PLAN FOR ARCHITECTURE OR ANY OTHER DESIGN OR CONSTRUCTION DISCIPLINE.



KEYPLAN: PIPE BASEMENT

Revisions:	Date:

CONSULTANTS

marKey Life Safety Healthcare Consulting

ARCHITECT/ENGINEER OF RECORD

acela architects + engineers

acela architects + engineers, pc
2633 Moravian Ave.
Allentown, PA 18103
office: 610.365.4023
website: www.acela-ae.com
email: info@acela-ae.com

STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 2 PIPE BASEMENT/ GROUND FLOOR- LIFE SAFETY PLAN

Approved:

Phase

Project Title: LIFE SAFETY ASSESSMENT

Location: Corporal Michael J. Crescenz VA Medical Center Philadelphia

Issue Date: 10-21-2024

Checked: JLH

Drawn: ACELA 22-USDVA-09

Project Number: 642-22-124

Building Number: 2

Drawing Number: 2-LS-00.2

VA FORM 08 - 6231

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

GENERAL NOTES

1. 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.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CERTIFICATES, INSPECTIONS, ETC., FOR ALL WORK DONE UNDER THIS CONTRACT.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. DEMONSTRATE SYSTEM OPERATION TO COR.
13. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
14. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
15. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, UNITS, FILTERS, COILS, ETC.
16. FOR TYPICAL WATER AND HYDRONIC PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
17. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
18. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
19. 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.
20. COORDINATION DRAWINGS:
    - A. 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.
    - B. 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.
    - C. 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.
    - D. THIS WORK SHALL BE CARRIED OUT WITH MINIMUM DISRUPTION OF SERVICES. ALL WORK MUST BE COORDINATED WITH BUILDING MAINTENANCE GROUP AND USERS.

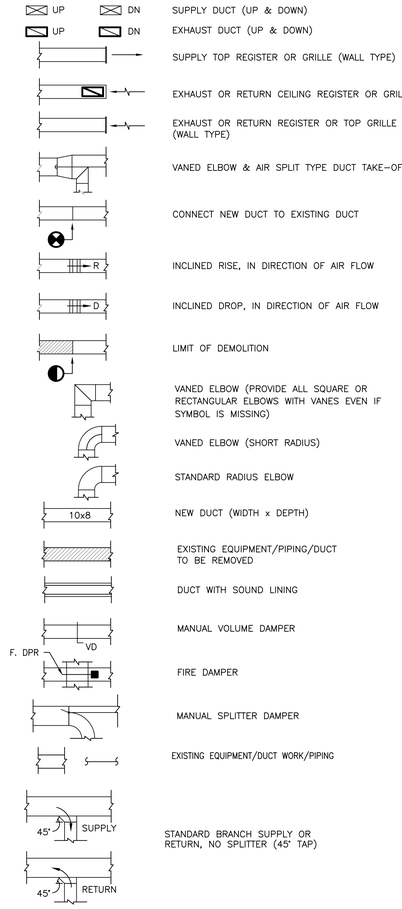
ABBREVIATIONS

(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

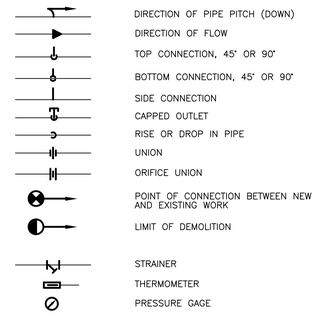
DUCTWORK SYMBOLS

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

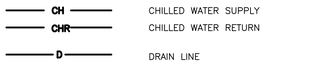


GENERAL SYMBOLS

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

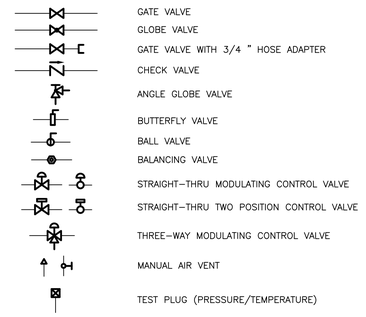


AIR CONDITIONING



VALVE SYMBOLS

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

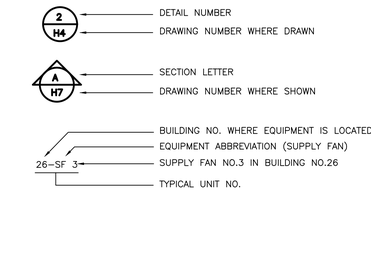


CONTROLS SYMBOLS

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

DRAWING SYMBOLS

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



GENERAL NOTES-DEMOLITION AND NEW WORK:

1. UNDER NO CIRCUMSTANCE SHALL THE WORK PERFORMED UNDER THIS CONTRACT ADVERSELY AFFECT ADJACENT AREAS, WHICH ARE NOT PART OF THIS CONTRACT.
2. 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.
3. 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.
4. CAP OR PLUG ALL ACTIVE REMAINING SYSTEMS WHERE RECONNECTIONS ARE NOT PLANNED AT POINTS WHERE EXISTING SYSTEM IS RETAINED.
5. MAINTAIN EXISTING SYSTEMS AS NECESSARY TO CONTINUE NORMAL OPERATIONS. ALL SERVICE INTERRUPTIONS SHALL BE AT OWNER'S CONVENIENCE.
6. 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.
7. 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.
8. 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:

1. 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.
2. COMMISSIONING SHALL BE IN ACCORDANCE WITH ASHRAE "GUIDELINE 1", LATEST VERSION.
3. 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.
4. 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:
BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER

Name Title	Drawing Title MECHANICAL COVER SHEET	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1		Project Number 642-22-104	Office of Facility Management Service
Name Title				Building Number 2	
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER		Drawing Number M-001 Dwg. 8 of 25	
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024	Checked AR	Drawn AM	Department of Veterans Affairs

VA FORM 08-6231

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

one inch = one foot
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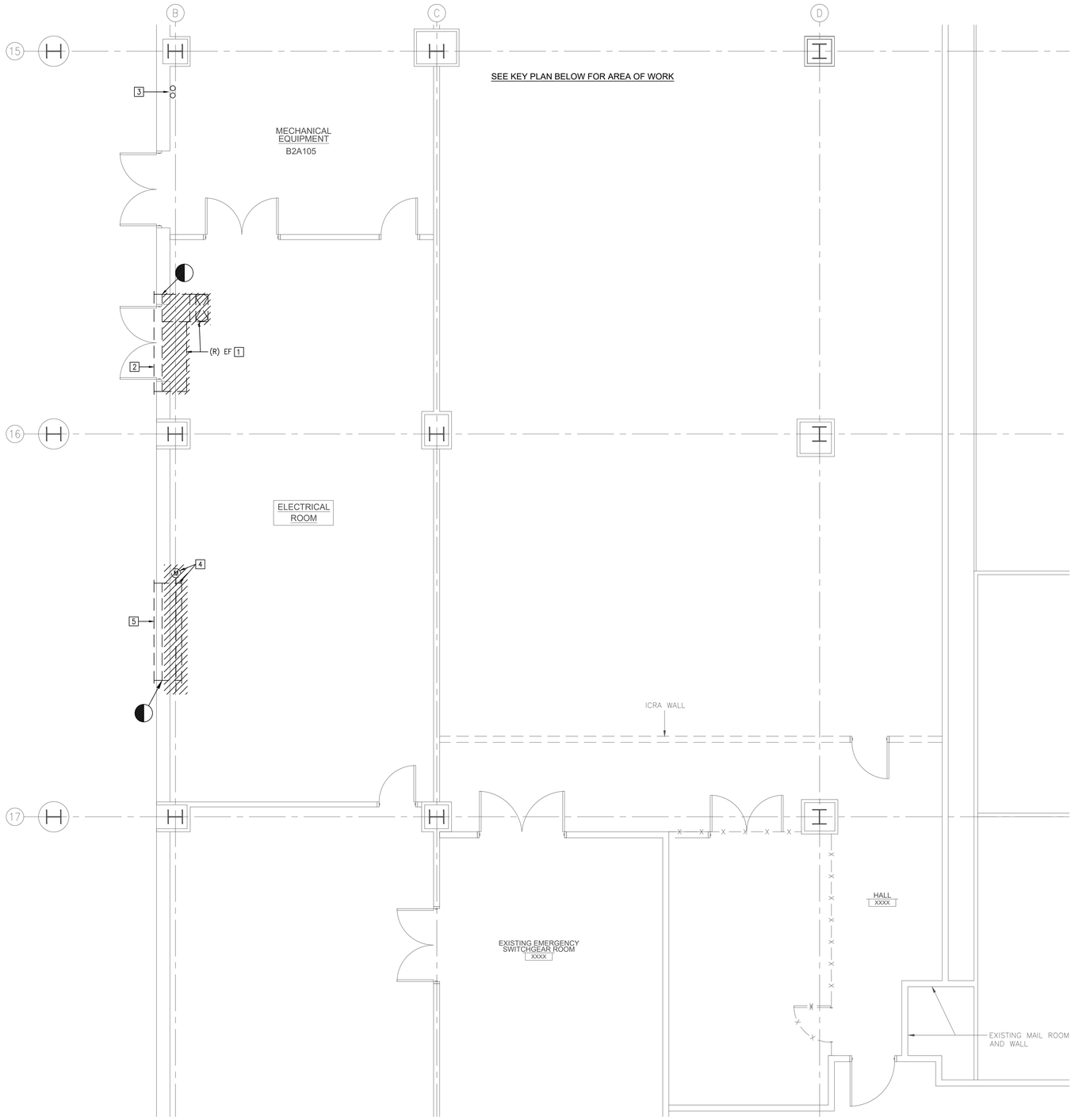


1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION WORK - MECHANICAL
1/4" = 1'-0"

scale: 3/4"= 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.

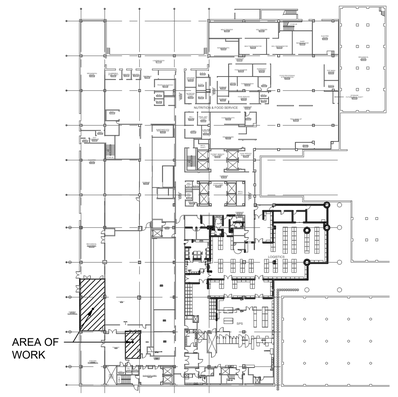
MECHANICAL COMPONENTS:
COORDINATE REMOVAL OF MECHANICAL SYSTEMS AND COMPONENTS WITH MECHANICAL DRAWINGS.

GENERAL NOTES - DEMOLITION WORK

1. 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.
2. UNDER NO CIRCUMSTANCE SHALL THE WORK PERFORMED UNDER THIS CONTRACT ADVERSELY AFFECT ADJACENT AREAS, NOT PART OF THIS CONTRACT.
3. 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.
4. 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.
5. ALL DEMOLISHED EQUIPMENT AND RUBBISH SHALL BE CLEARED, TRANSPORTED AND DISPOSED OF IN A LAWFUL AND RESPONSIBLE MANNER.

KEYED NOTES - DEMOLITION WORK

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



KEY PLAN-GROUND FLOOR
NO SCALE

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BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2767 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER PE-0510021

Name Title	Drawing Title ELECTRICAL ROOM-DEMOLITION WORK - MECHANICAL	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number 642-22-104
Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number MD-101 Dwg. 9 of 25
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024 / Checked AR / Drawn AM	Office of Facility Management Service Department of Veterans Affairs

VA FORM 08-6231

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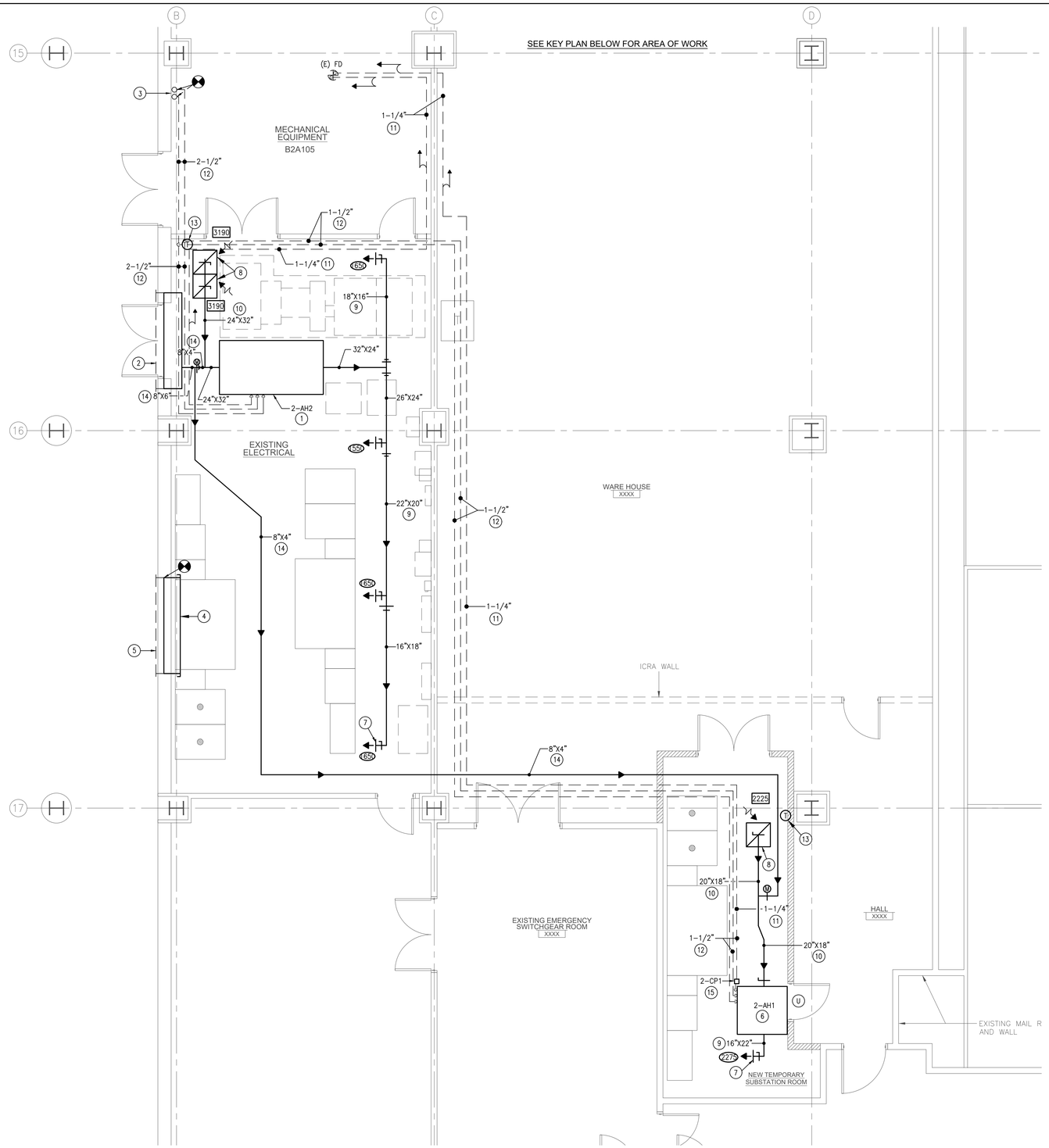
SEE KEY PLAN BELOW FOR AREA OF WORK

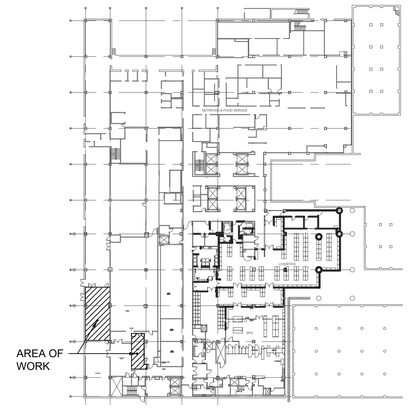


GENERAL - NEW WORK

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/L 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.

KEYED NOTES - NEW WORK

1. NEW AIR HANDLING UNIT, 2-AH2, 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 PERFORM BALANCING 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-AH1, 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-CP1, CEILING MOUNTED UNIT, PROVIDE PUMP SUPPORTS. INSTALL THE PUMP IN FULL COMPLIANCE WITH MANUFACTURER RECOMMENDATIONS.



KEY PLAN-GROUND FLOOR
NO SCALE

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

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

DESIGN CHANGE APPROVED BID DOCUMENTS October-21-2024 DESCRIPTION DATE	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS: A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2767 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG1O.COM	SEAL:	Name Title Name Title Name Title Name Title	Drawing Title ELECTRICAL ROOM-NEW WORK -MECHANICAL Chief Engineer Approval Name, Title Prevention Coordinator	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1 Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER Date 10-21-2024 Checked AR Drawn AM	Project Number 642-22-104 Building Number 2 Drawing Number MH-101 Dwg. 10 of 25	Office of Facility Management Service Department of Veterans Affairs

VA FORM 08-6231

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

one inch = one foot; three quarters inch = one foot; one half inch = one foot; three eighths inch = one foot; one quarter inch = one foot; one eighth inch = one foot

AIR HANDLING UNIT SCHEDULE

UNIT NO.	LOCATION	AREA SERVED	SUPPLY FAN NO.	CFM SUPPLY	CFM O.A.	EXTERNAL STATIC PRESSURE (NOTE 1) IN	FAN TOTAL S.P. (NOTE 4) IN	TYPE SYSTEM
2–AH1	ELECTRICAL ROOM	ELECTRICAL ROOM	2–SF1	2275	50	1.0	–	CAV
2–AH2	ELECTRICAL ROOM	ELECTRICAL ROOM	2–SF2	6500	120	1.0	–	CAV

NOTES:

1. EXTERNAL STATIC PRESSURE REQUIRED AT DUCT CONNECTIONS TO INLET & OUTLET OF AHU. MEASUREMENTS SHALL BE TAKEN WITHIN 3 FT. OF INLET AND OUTLET AT A POINT OF MAX. ACCURACY.
2. TOTAL OF MAX. PRESSURE DROPS OF COMPONENTS WHICH ARE SPECIFIED SEPARATELY, IE., FILTER, COOLING COIL.
3. INTERNAL LOSS ALLOWANCE SHALL INCLUDE LOSSES DUE TO ENTRANCE & EXIT OF AHU, INCLUDING LOSSES DUE TO FAILURE TO PROPERLY CONVERT FAN DISCHARGE VELOCITY PRESSURE TO STATIC PRESSURE, FAN INLET CONDITIONS, CASINGS, DAMPERS, ETC.
4. TOTAL FAN S.P. = EXTERNAL STATIC PRESSURE + SPECIFIED INTERNAL LOSSES + UNSPECIFIED INTERNAL LOSSES. MANUFACTURER SHALL PROVIDE SUBMITTAL SHOWING ACTUAL LOSSES OF ALL EQUIPMENT PROVIDED. REFER TO FAN SCHEDULE FOR ADDITIONAL FAN SELECTION INFORMATION.

SUPPLY FAN SCHEDULE

FAN NO	LOCATION	CFM	E.S.P. IN	FAN TYPE	WHEEL TYPE	WHEEL MIN. DIA. IN	MAX. RPM	DRIVE	MAX. BHP	MOTOR NOM. HP	MOTOR PHASE VOLT.
2–SF1	BUILT–IN 2–AH1	2275	1.0	CF	AF–PLN	–	1425	BELT	1.2	3	3/460
2–SF2	BUILT–IN 2–AH2	6500	1.0	CF	AF–PLN	–	1798	BELT	4.5	2X6.63	3/460

1. PROVIDE CONTROLS SYSTEMS TO INTERLOCK BUILDING AUTOMATION SYSTEMS.
2. 2–SF1: MCA = 4.7 A, MOCP = 15 A & 2–SF2: MCA = 15.6 A, MOCP = 20 A

CHILLED WATER COOLING COIL SCHEDULE

COIL NO.	SYSTEM	CFM	MAX. FACE VEL. FPM	ENT. AIR °F Db	ENT. AIR °F Wb	LVG. AIR °F Db	LVG. AIR °F Wb	CIRCULATING FLUID GPM	TEMP. IN °F	TEMP. OUT °F	MAX. LOSS FT. FLUID	MIN. BTUH
2–CC1	2–AH1	2275	377	90.9	62.2	54.3	48.0	18.2	45	55	5.9	90,973
2–CC1	2–AH2	6500	538	90.9	66.4	57.3	54.8	47.3	45	55	9.33	238,862

NOTE:

1. COOLING COIL DATA SHOWN IN THE SCHEDULE REPRESENT THE VALVE SETTINGS.

AIR FILTER SCHEDULE

FILTER NO.	CFM	SYSTEM	VA GRADE	DEPTH IN	TYPE	RATED EFF %	MAX. S.P. DROP FINAL IN	HOUSING TYPE	NO.	ARRANGEMENT
2–AF1	2275	2–AH1	D	4	PLEATED	85%	0.56	SIDE SERVICE	8	SIZE AND ARRANGEMENT SHALL BE DETERMINED BY AHU MANUFACTURER
2–AF2	6500	2–AH2	D	4	PLEATED	85%	0.56	SIDE SERVICE	8	SIZE AND ARRANGEMENT SHALL BE DETERMINED BY AHU MANUFACTURER

AIR HANDLING UNIT PERFORMANCE DATA INDICATED BASIS OF DESIGN:
2–AH1: DAIKIN MFR'S CO–MODEL NO. BCHD0301 (OR) APPROVED EQUAL
2–AH2: DAIKIN MFR'S CO–MODEL NO. BCHE0601 (OR) APPROVED EQUAL

AIR DEVICE SCHEDULE

SYMBOL	TYPE	CFM RANGE	FACE SIZE (INCH)	NOISE CRITERIA	PRESSURE DROP (IN WG)
←⊢	SUPPLY AIR GRILLE	1200–1500	30"X16"	22	0.05
←⊢	SUPPLY AIR GRILLE	1501–1750	36"X16"	22	0.05
←⊢	SUPPLY AIR GRILLE	1751–2300	36"X20"	23	0.05
⍁	RETURN AIR GRILLE	2000–2500	36"X28"	18	0.04
⍁	RETURN AIR GRILLE	2501–3250	36"X34"	19	0.04

GENERAL NOTES:

1. ALL FINISH SELECTIONS SHALL BE BY ARCHITECT.

THE AIR DEVICE PERFORMANCE DATA INDICATED BASIS OF DESIGN:
TITUS MFR'S CO–MODEL NO. 301RS SERIES (OR) APPROVED EQUAL

DUCT LEAKAGE CLASSIFICATION AND ALLOWABLE LEAKAGE TABLE

DUCT PRESSURE CLASS, W.G. IN[mm]	SEAL CLASS	APPLICABLE SEALING	SMACNA LEAKAGE CLASS RECTANGULAR DUCT	SMACNA LEAKAGE CLASS ROUND DUCT
1/2", 1", 2"	C	TRAVERSE JOINTS ONLY	24	12
3"	B	TRAVERSE JOINTS AND SEAMS	12	6
4", 6"	A	JOINTS, SEAMS AND ALL WALL PENETRATIONS	6	

ENERGY EFFICIENT MOTOR SCHEDULE

HP	NOM. EFF.	HP	NOM. EFF.	HP	NOM. EFF.
1.0	82.5	10	89.5	50	93.0
1.5	84.0	15	91.0	60	93.6
2.0	84.0	20	91.0	75	94.1
3.0	86.5	25	91.7	100	94.1
5.0	87.5	30	92.4	125	94.5
7.5	88.5	40	93.0	150	95.0

NOTE:

REFER TO SECTION 16150, MOTORS SECTION OF THE SPECIFICATIONS.

CONDENSATE PUMP SCHEDULE

UNIT NO	PUMP DESCRIPTION	CAPACITY (GPM)	HEAD (FT.)	HP	AMPS	WATTS	VOLTS	PHASE	CYCLE	LITTLE GIANT MODEL #
2–CP1	HEAVY DUTY	0.24	9	1/5	3.5	185	115	1	60	VCL–45S

(HP, AMPS, WATTS, VOLTS, PHASE, CYCLE under ELECTRICAL DATA; VOLTS, PHASE, CYCLE under CONNECTION)

NOTES:

1. PROVIDE COMPLETE ACCESSORIES FOR PROPER OPERATION AND INSTALLATION OF THE PUMP.
2. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.

AIR HANDLING UNIT, 2–AH1 AND 2–AH2 (CONSTANT AIR VOLUME)

NOT TO SCALE

SEQUENCE OF OPERATION:

1. GENERAL

   UNIT IS NORMALLY STARTED AND STOPPED REMOTELY AT THE ECC. H–O–A SWITCH SHALL BE KEPT IN THE "AUTO" POSITION. "HAND" AND "OFF" POSITIONS SHALL BE USED ONLY FOR MAINTENANCE.

2. TEMPERATURE CONTROL

   FAN SHALL RUN CONTINUOUSLY IN OCCUPIED MODE. FAN STATUS SHALL BE MONITORED AND AN ALARM MESSAGE SHALL BE GENERATED IN THE EVENT THE UNIT FAILS TO RUN BETWEEN THE RANGE OF 70°–80° SPACE TEMPERATURE V–1 SHALL BE CLOSED.

   UPON RISE IN TEMPERATURE ABOVE 80° (ADJUSTABLE) V–1 SHALL MODULATE OPEN TO MAINTAIN 80° F (ADJUSTABLE). OUTDOOR AIR DAMPER, (D–1), (MOTORIZED) SHALL OPEN TO MINIMUM DURING OCCUPIED MODE.

3. FREEZE PROTECTION

   IF THE AIR TEMPERATURE AS SENSED BY TT–3 FALLS BELOW 45°F [7°C], AN ALARM SIGNAL SHALL INDICATE AT THE DCP AND ECC. IF THIS TEMPERATURE FALLS BELOW 40°F [4.4°C], AS SENSED BY THE TSL THE SUPPLY SHALL SHUT DOWN AND A CRITICAL ALARM SHALL INDICATE AT THE DIGITAL CONTROL PANEL AND ECC. TSL SHALL BE HARDWIRED TO THE SUPPLY FAN AND UNIT SHALL BE SHUTDOWN IN HAND, AUTO. TSL WILL REQUIRE MANUAL RESET AT THE DEVICE.

1 / MJ101 AIR HANDLING UNIT (2-AH1 AND 2-AH2)-SCHEMATIC CONTROL DIAGRAM

NTS

SYSTEM COMPONENT	POINT ID	OUTPUTS BINARY ELECTRIC	OUTPUTS BINARY PNEUMATIC	OUTPUTS ANALOG ELECTRIC	OUTPUTS ANALOG PNEUMATIC	INPUTS BINARY STATUS	INPUTS BINARY	INPUTS ANALOG TEMPERATURE	PRESSURE	DIFFERENTIAL PRESSURE	LEVEL	HUMDITIY	FLOW	CURRENT	PERCENT	DATA	ALARM PROCESSING EQUIPMENT STATUS	LOW LIMIT	HIGH LIMIT	APPLICATION/FUNCTION LEAD/LAG	START/STOP	
AIR HANDLING SYSTEMS (2–AH1) & (2–AH2)																						
AIR HANDLING SYSTEMS (2–AH1) & (2–AH2)																						
SUPPLY FANS (2–SF1 & 1–SF–2)																						
ON/OFF						X								X			X					
START/STOP		X																			X	
DAMPER END SWITCH		X																				
OUTSIDE AIR TEMPERATURE																						
MIXED AIR TEMPERATURE								X										X	X			
CHILLED WATER COIL TEMPERATURE								X										X	X			
SUPPLY AIR TEMPERATURE								X										X	X			
SPACE TEMPERATURE								X										X	X			
FILTER STATUS						X											X					
FREEZSTAT STATUS						X											X					
RETURN AIR DAMPER POSITION															X							
OUTSIDE AIR DAMPER POSITION															X							
AUXILIARY DRAIN PAN SENSOR											X					X	X					
CONDENSATE DRAIN PUMP (2–CP1)																						
ON/OFF						X								X			X					

NOTES:

1. ALL POINTS SHALL BE TRENDED. TRENDING TYPE SHALL BE EITHER INTERVAL OR CHANGE–OF–VALUE AS APPROPRIATE FOR THE POINT TYPE. DATA SHALL BE PERIODICALLY UPLOADED TO A CENTRAL SERVER AND MAINTAINED FOR A MINIMUM OF 180 DAYS BEFORE BEING DELETED.
2. ALL ANALOG INPUTS AND DIGITAL INPUTS SHALL BE CONFIGURED TO BE ALARMABLE. OPERATORS SHALL HAVE THE OPTION TO SELECT AND CONFIGURE THE POINTS THEY WANT TO ALARM.
3. THE CONTRACTOR SHALL PROVIDE ENTIRE CONTROL COMPONENTS AND DDC CONTROL POINTS FOR A FULLY OPERATIONAL SYSTEM.
4. THE CONTRACTOR SHALL COORDINATE WITH EXISTING BUILDING CENTRAL MONITORING DDC SYSTEMS. THE NEW DDC SYSTEMS SHALL BE COMPATIBLE AND FULLY OPERATIONAL WITH EXISTING CENTRAL DDC SYSTEMS.
4. ALL LOW VOLTAGE WIRING SHALL BE FURNISHED BY CONTROL CONTRACTOR AND MEDIUM VOLTAGE WIRING SHALL BE FURNISHED BY ELECTRICAL CONTRACTOR.

DDC POINT SCHEDULE

- (T) ROOM THERMOSTAT/TEMPERATURE SENSOR/TRANSMITTER–WALL MOUNT
- (TT) TEMPERATURE TRANSMITTER
- (TT) TEMPERATURE TRANSMITTER, AVERAGING ELEMENT
- (SD) SMOKE DETECTOR
- (HS) HAND SWITCH (HAND–OFF–AUTO SWITCH)
- (ZC) VALVE OR DAMPER POSITION CONTROLLER
- [HVAC] HVAC CONTROL PANEL
- (ECC) INTEGRATE CONTROL POINT ON REMOTE GRAPHICS WORKSTATION AT ENERGY CONTROL CENTER
- (TC) TEMPERATURE CONTROLLER. SEE SEQUENCE OF OPERATION
- TEMPERATURE SENSING ELEMENT FOR TRANSMITTING TEMPERATURE TO EMCS (PROVIDE 12 INCHES [200mm] MINIMUM LENGTH IN DUCT WHEN SPACE PERMITS.)
- (M) [M] ELECTRIC OPERATED CONTROL DAMPER/OR VALVE

CONTROL SYMBOLS

DESIGN CHANGE APPROVED	
BID DOCUMENTS	October-21-2024
DESCRIPTION	DATE

CONSULTANT FIRM:

SEAL:

ARCHITECTS/ENGINEERS:

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SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER # PE-051867-E

Name / Title
Name / Title
Name / Title
Name / Title

Drawing Title: MECHANICAL SCHEDULES AND CONTROLS

Chief Engineer Approval

Name, Title: Prevention Coordinator

Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1

Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER

Date: 10-21-2024 | Checked: AR | Drawn: AM

Project Number: 642-22-104

Building Number: 2

Drawing Number: MJ-101

Dwg. 11 of 25

Office of Facility Management Service

Department of Veterans Affairs

VA FORM 08-6231

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

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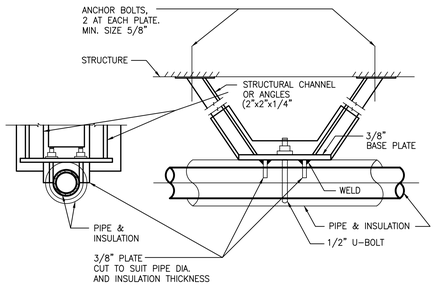
one eighth inch = one foot

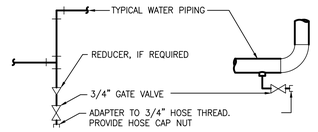


NOTE:

INSULATE ANCHOR FOR COLD PIPING.

1 MK-101 HORIZONTAL PIPE ANCHOR DETAIL

NOT TO SCALE

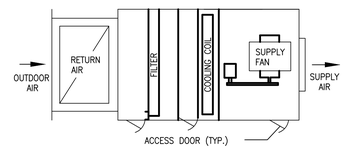


NOTES:

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.

2 MK-101 TYPICAL CHILLED PIPING DRAIN VALVE CONNECTIONS

NOT TO SCALE

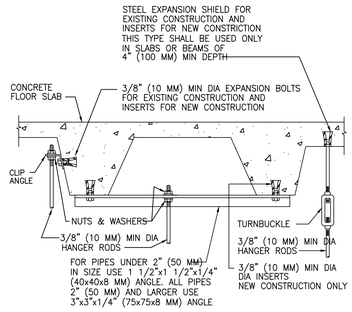


NOTE:

1. ACCESS DOORS SHALL BE GASKETED AND HINGED TO OPEN AGAINST FAN OPERATING PRESSURE TO PREVENT AIR LEAKAGE.
2. MINIMUM ACCESS DOOR.
3. ACCESS DOORS ON FAN SECTION SHALL OPEN OUTWARD.
4. ACCESS DOORS ON FAN DISCHARGE SIZE SHALL OPEN INWARD.

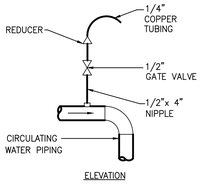
3 MK-101 AIR HANDLING UNIT (2-AH1/2-AH2) DETAIL

NOT TO SCALE



4 MK-101 TYPICAL METHOD OF SECURING HANGER RODS IN CONCRETE SLABS AND BEAMS

NOT TO SCALE

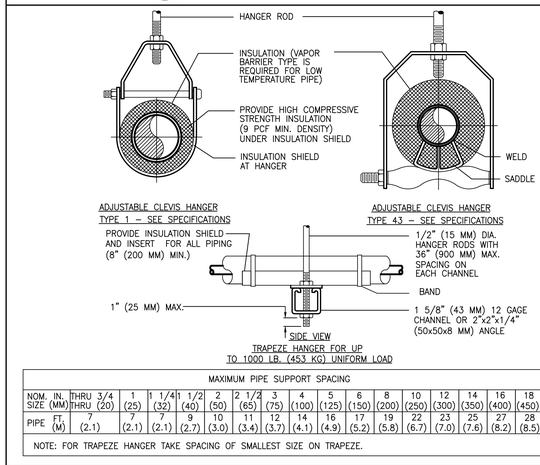


NOTES:

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

5 MK-101 TYPICAL AIR VENT DETAIL

NOT TO SCALE



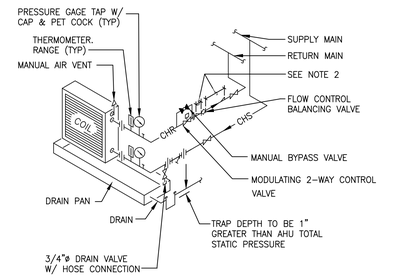
TRAPEZE HANGER FOR UP TO 1000 LB. (453 KG) UNIFORM LOAD

MAXIMUM PIPE SUPPORT SPACING																			
NOM. IN. SIZE (MM)		THRU 3/4 (20)	THRU (25)	1 (32)	1 1/4 (40)	1 1/2 (50)	2 (65)	2 1/2 (75)	3 (100)	4 (125)	5 (150)	6 (200)	8 (250)	10 (300)	12 (350)	14 (400)	16 (450)	18 (500)	20 (600)	24 (600)
PIPE	FT.	7	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32
	(M)	(2.1)	(2.1)	(2.1)	(2.1)	(2.7)	(3.0)	(3.4)	(3.7)	(4.1)	(4.9)	(5.2)	(5.8)	(6.7)	(7.0)	(7.6)	(8.2)	(8.5)	(9.1)	(9.6)

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

6 MK-101 TYPICAL PIPE HANGERS

NOT TO SCALE

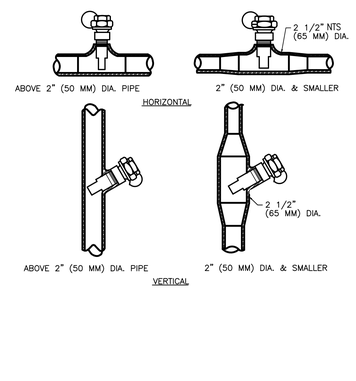


NOTE:

1. ARRANGE PIPING TO PERMIT REMOVAL OF COIL.
2. THE FLOW CONTROL BALANCING VALVES SHALL BE INSTALLED BY THE CONTRACTOR IN CONFORMANCE WITH VALVE MFGR'S RECOMMENDED SPACING UP/ DOWNSTREAM FORM PIPE CHANGES IN DIRECTION AND/OR OTHER VALVES/COMPONENTS IN THE PIPING.

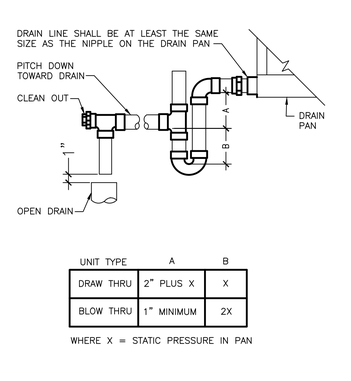
7 MK-101 CHILLED WATER COOLING COIL DETAIL

NOT TO SCALE



8 MK-101 INSTALLATION OF THERMOMETER WELLS

NOT TO SCALE

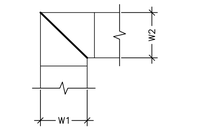


UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

9 MK-101 AIR HANDLING UNIT DRAIN TRAP DETAIL

NOT TO SCALE

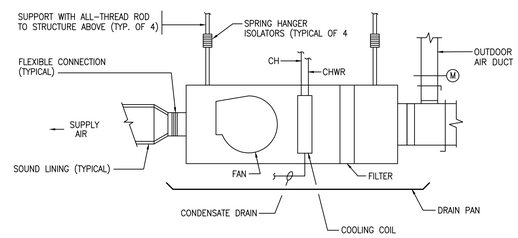


NOTE:

1. ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.

10 MK-101 DUCTWORK SQUARE VANED ELBOWS

NOT TO SCALE



NOTE:

THE CONTRACTOR SHALL PROVIDE DRAIN PAN AND SHALL BE EQUIPPED WITH WATER LEVEL DETECTION SENSOR THAT WILL SHUT OFF THE UNIT PRIOR TO OVERFLOW, AND SEND ALARM TO BUILDING ENGINEER. THE DRAIN SHALL BE 6" LARGER THAN UNIT ON ALL SIDES.

11 MK-101 HORIZONTAL AIR HANDLING UNIT DETAIL

NOT TO SCALE

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:
BID DOCUMENTS October-21-2024			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2767 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG1O.COM	COMMONWEALTH OF VIRGINIA PROFESSIONAL AMBRISH K RASTOGI ENGINEER PE-0810024
DESCRIPTION DATE				

Name Title	Drawing Title: MECHANICAL DETAILS	Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number: 642-22-104	Office of Facility Management Service
Name Title			Building Number: 2	
Name Title	Chief Engineer Approval	Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number: MK-101	
Name Title	Name, Title Prevention Coordinator	Date: 10-21-2024 / Checked: AR / Drawn: AM	Dwg. 12 of 25	Department of Veterans Affairs

VA FORM 08-6231

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

one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

ELECTRICAL NOTES

1. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TESTS, AND OTHER SERVICES AS MAY BE NECESSARY TO ACHIEVE THIS PRODUCT. THE CONTRACTOR SHALL ACKNOWLEDGE ACCEPTANCE OF THE PLANS AS AN ADEQUATE DEFINITION OF THE SCOPE OF WORK AND EXTRA COST CLAIMS BASED ON DISCREPANCIES ON THE PLANS WILL NOT BE CONSIDERED.
2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL CODES HAVING JURISDICTION. ALL EQUIPMENT, DEVICES, AND MATERIAL SHALL BE LISTED WITH UNDERWRITERS LABORATORIES FOR ITS APPLICATION AS INSTALLED AND SHALL BEAR THE UL LABEL.
3. THE ELECTRICAL CONTRACTOR SHALL PAY SUCH FEES AS MAY BE NECESSARY FOR INSPECTIONS, TESTS, AND OTHER SERVICES WHICH ARE REQUIRED FOR THE COMPLETION OF HIS WORK.
4. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE CONDITIONS OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS. ANY DIFFICULTIES IN COMPLYING WITH THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT/ENGINEERS BEFORE BIDDING.
5. ELECTRICAL PLANS ARE DIAGRAMMATIC. DO NOT SCALE DRAWINGS.
6. CONSULT PLANS OF ALL OTHER TRADES FOR COORDINATION AND FOR RELATED AND ADJOINING WORK.
7. CONSULT ARCHITECTURAL PLANS AND DETAILS FOR CONSTRUCTION HEADROOM, ROOM FINISHES, CEILINGS, ETC.
8. SHOP DRAWINGS FOR ALL ELECTRICAL EQUIPMENT, FIXTURES, DEVICES AND MATERIALS SHALL BE SUBMITTED TO THE COR FOR APPROVAL BEFORE DELIVERY TO THE JOB SITE. EQUIPMENT, FIXTURES, DEVICES, AND MATERIAL DELIVERED TO THE JOB SITE OR INSTALLED PRIOR TO APPROVAL OF THE SHOP DRAWINGS, AND FOR WHICH THE SHOP DRAWINGS ARE SUBSEQUENTLY REJECTED, SHALL BE REPLACED WITH AN APPROVED ITEM AT NO ADDITIONAL COST TO THE COR.
9. CONTRACTOR SHALL VERIFY WIRE SIZES, C/B AND FUSE RATINGS FOR ALL HVAC EQUIPMENT, AND BRING TO THE ATTENTION OF THE COR AND ENGINEERS ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER AS WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. ALL POWER OUTAGES, FIRE ALARM SHUT DOWNS, ETC SHALL BE COORDINATED WITH COR.
11. CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL MOTOR OVERLOAD DEVICES (HEATERS) IN STARTERS BASED ON ACTUAL NAMEPLATE RATINGS ON THE EQUIPMENT BEING INSTALLED.
13. HORSEPOWER RATINGS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.
14. CONTRACTOR SHALL NOTE U.L. LABELS ON PACKAGED TYPE MECHANICAL EQUIPMENT. IF U.L. LABEL ON MECHANICAL EQUIPMENT TO ACTUALLY BE INSTALLED CALLS FOR THE OVER CURRENT PROTECTIVE DEVICE TO BE FUSES, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A FUSED DISCONNECT SWITCH WITH PROPER SIZE FUSES AT THE SWITCH LOCATION INDICATED ON DRAWINGS AT NO ADDITIONAL CHARGE TO THE COR.
15. PENDANT MOUNTED LIGHTING FIXTURES SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE.
16. THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON THE DRAWINGS OR NOT.
17. ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FT. SHALL BE PROVIDED WITH A PULL WIRE OF FISH TAPE/CORD.
18. ALL CONDUCTORS, RACEWAYS AND CABLES SHALL BE CONCEALED IN CEILING OR WALL UNLESS INDICATED OTHERWISE.
19. OPENINGS IN EXISTING BUILDING STRUCTURE FOR PASSAGE OF CONDUITS/CABLES SHALL NOT BE CUT UNTIL THE CONTRACTOR HAS ASKED FOR AND RECEIVED WRITTEN APPROVAL FROM THE ARCHITECT.
20. THE LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETE WITH ALL ACCESSORIES (INCLUDING LAMPS) BY THE ELECTRICAL CONTRACTOR.
21. SYMBOLS SHOWN ON THIS SHEET ARE STANDARD SYMBOLS AND MAY NOT NECESSARILY ALL BE APPLICABLE TO THIS PROJECT.
22. THE CONTRACTOR SHALL GUARANTEE ALL HIS WORK AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.
23. ALL PENETRATIONS OF FLOOR AND WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH IBC, NEC AND NFPA.
24. CONDUCTORS SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6" LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.
25. ELECTRICAL CONTRACTOR SHALL PROVIDE AS BUILT DRAWINGS AND ALL MANUFACTURERS DATA AND WARRANTY LITERATURE AT THE COMPLETION OF THE CONTRACT.
26. STARTERS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR, AND INSTALLED BY ELECTRICAL CONTRACTOR AS PER MANUFACTURER'S RECOMMENDATION. COORDINATE EXACT LOCATIONS AND REQUIREMENTS.
27. EXCEPT AS NOTED, ALL WIRE AND CABLES SHALL BE STALLED IN CONDUIT, MINIMUM SIZE OF CONDUIT SHALL BE 3/4 INCH TRADE SIZE. 1/2 INCH CONDUIT CAN ONLY BE INSTALLED WHERE CALLED FOR ON THE DRAWINGS OR FOR CONNECTION TO EQUIPMENT THAT WILL NOT ACCEPT 3/4 INCH CONDUIT.
28. (SHARED)" UNDER THIS CONTRACT IS DEFINED AS SPLIT CIRCUIT; CONTRACTOR SHALL SPLICE THE CIRCUIT AT THE SOURCE PANELBOARD AND RUN SEPARATE WIRING TO THE LOADS INDICATED
29. CONDUIT LAYOUT ARE DIAGRAMMATIC. EXACT LOCATIONS, ROUTING AND MOUNTING HEIGHT FOR CONDUIT INSTALLATION SHALL BE COORDINATED IN THE FIELD BY THE CONTRACTOR AND ARE SUBJECT TO APPROVAL BY COR. COORDINATE CONDUIT RUNS BY OTHER TRADES, THE CONTRACTOR AND THE EXISTING CONDITIONS. HOMERUN PER DRAWING.
30. CONTRACTOR SHALL PROVIDE NAMEPLATES ON ALL EQUIPMENT, PANELS AND DEVICES IN ACCORDANCE WITH THE SPECIFICATIONS. NAME PLATES SHALL SHOW THE APPLICABLE FEEDER OR BRANCH CIRCUIT NUMBER AND THE SOURCE WHICH FEEDS THE EQUIPMENT OR DEVICES. NAMEPLATES SHALL CONFORM TO THE VA STANDARDS.
31. ALL CONDUITS SHALL CONTAIN A GREEN INSULATED EQUIPMENT GROUND WIRE SIZE AS INDICATED OR IN ACCORDANCE WITH TABLE 250, 122 IN NFPA 70, AND AS REQUIRED BY THE EQUIPMENT INSTALLATION MANUALS.
32. CONDUITS SHALL BE PROVIDED WITH EXPANSION JOINTS WHERE SHOWN ON THE DRAWINGS OR AS REQUIRED BY SPECIFICATION SECTION 26 05 33 RACEWAY AND BOXES FOR ELECTRICAL SYSTEM.
33. FINAL CONNECTION TO MOTORS TRANSFORMERS AND ALL EQUIPMENT SUBJECT TO VIBRATION, SHALL BE MADE USING LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
34. EXPOSED INTERIOR JUNCTION BOXES, EQUIPMENT, AND DEVICES SHALL HAVE NEMA TYPE 12/13 ENCLOSURES.
35. CONDUIT CONNECTIONS TO NEMA TYPE 3R, 4, AND 12/13 ENCLOSURES SHALL BE MADE WITH MYERS TYPE CONDUIT HUBS.
36. SPLICE THE CABLES AND WIRES ONLY IN MANHOLES AND ACCESSIBLE JUNCTION BOXES. IN MANHOLES, INSTALL THE CABLES ON A SUITABLE PORCELAIN INSULATORS WITH STEEL CAGE RACKS. GROUND SHIELDS AND CABLE RACKS IN ACCORDANCE WITH VA SPEC SECTION 26 05 26, "GROUND AND BONDING FOR ELECTRICAL SYSTEMS".
37. SPLICES AND TERMINATION MATERIALS SHALL BE COMPATIBLE WITH THE CONDUCTORS, INSULATORS AND PROTECTIVE JACKETS ON THE THE CABLES AND WIRES. THE SPLICES SHALL INSULATE AND PROTECT THE CONDUCTORS NOT LESS THAN THE INSULATION AND PROTECTIVE JACKETS ON THE CABLES AND WIRES THAT PROTECT THE CONDUCTORS. IN LOCATIONS WHERE MOISTURE MIGHT BE PRESENT, THE SPLICES SHALL BE WATERTIGHT. IN MANHOLES AND HANDHOLES, THE SPLICES SHALL BE SUBMERSIBLE.
38. CONTRACTOR SHALL WEATHERPROOF ALL PENETRATIONS THROUGH FLOORS, EXTERIOR AND WALLS TO MAKE THEM WEATHER TIGHT AS SPECIFIED BY THE VA SPEC 07 92 00 JOINT SEALANTS.
39. CONTRACTOR SHALL FIRE STOP ALL PENETRATIONS THROUGH RATED CONSTRUCTION AND SMOKE WALLS USING U.L. LISTED TROUGH PENETRATION FIRE STOPS, AS SPECIFIED BY VA SPEC 07 84 00 FIRESTOPPING.
40. FOLLOWING COMPLETION OF THE WORK AND PRIOR TO FINAL PAYMENT. THE CONTRACTOR SHALL PROVIDE COMPLETE LEGIBLE AS-BUILT DRAWINGS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
41. FOLLOWING COMPLETION OF THE WORK AND PRIOR TO FINAL PAYMENT. THE CONTRACTOR SHALL PROVIDE UPDATED CIRCUIT DIRECTORY CARDS FOR ALL PANELBOARDS AFFECTED BY THE THE WORK. THIS INCLUDES NEW AND EXISTING PANELBOARDS, NEW DIRECTORY CARDS SHALL BE TYPED AND SHALL BE INDICATE BOTH EXISTING AND NEW REVISED CIRCUITS. CONTRACTOR SHALL UPDATE VA FILES TO REFLECT AS-BUILT STATUS.

ELECTRICAL DEMOLITION NOTES

1. CONTRACTOR SHALL REMOVE ALL EXISTING WORK THAT WILL NOT BE REUSED DURING NEW CONSTRUCTION. LEAVING THE BUILDING FREE AND CLEAN OF OLD SYSTEMS.
2. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING, AND WATERPROOFING INTEGRITY IN ALL CASES.
4. ALL REMOVED ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL UNLESS OTHERWISE DIRECTED. CONTRACTOR SHALL COORDINATE FOR ITEMS THAT SHALL BE RETURNED TO COR. OTHER ITEMS THAT ARE NOT REQUIRED TO BE TURNED IN SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL.
5. DEMOLITION SHALL BE WELL COORDINATED TO MINIMIZE DOWN TIME OF SYSTEMS THAT WILL REMAIN IN OPERATION.
6. PROVIDE CAP OFF CONNECTIONS FOR ALL REMOVED OR CUT OFF WORK THAT WILL NOT BE RECONNECTED DURING THE NEW WORK PHASE.
7. REMOVE ALL EXPOSED, ELECTRICAL SERVICES THAT ARE NOT GOING TO BE REUSED IN NEW WORK BACK TO SOURCE.
8. WHEN DEMOLITION WORK IS AFFECTING EXISTING UTILITIES SERVING BASE BUILDING, CONTRACTOR SHALL RELOCATE, REROUTE, OFFSET IN CEILING SPACE, OR UNDER FLOOR SLAB, (SAW CUT SLAB WHEN REQUIRED) AND RELOCATE ALL SERVICES IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND GOOD PRACTICE OF TRADES. COORDINATE WITH BUILDING OWNER REPRESENTATIVE, AND MAKE PROVISIONS FOR TEMPORARY SERVICES AS REQUIRED. CONTRACTOR SHALL COORDINATE AND GIVE ADEQUATE NOTICE TO COR PRIOR TO WORK IN ANY BASE BUILDING UTILITIES.
9. ALL ELECTRICAL DEVICES IN WALLS TO BE DEMOLISHED SHALL BE REMOVED UNLESS OTHERWISE NOTED. MAINTAIN CIRCUIT CONTINUITY FOR DEVICES THAT REMAIN.
10. SUPPORT ALL CEILING MOUNTED DEVICES INDEPENDENT OF CEILING GRIDS & TILES, WHICH WILL BE REMOVED & REINSTALLED WHEN NEW WALLS ARE CONSTRUCTED.

NEW WORK GENERAL NOTES

1. ALL RECEPTACLES (DUPLEX OR OTHERWISE) AND TELECOMUNICATION OUTLETS SHALL BE CAST-TYPE, FLUSH MOUNTED WITH GASKETED COVERPLATES. SURFACE MOUNTED PORTION OF RECEPTACLE/OUTLET BOXES ARE TO BE SEALED AND CAULKED VAPOR TIGHT. ALL CONDUITS AND WIRING SERVING RECEPTACLE/OUTLET BOXES SHALL BE SEALED AND CAULKED VAPOR TIGHT COMING INTO BOX, INSIDE BOX, AND AT FINISHED CEILING PENETRATION. SEAL AT INSIDE SUPPORT PENETRATIONS.
2. ALL PENETRATIONS IN WALL, CEILING, AND FLOOR MUST BE SEALED/CAULKED VAPOR TIGHT. THIS INCLUDES, BUT ARE NOT LIMITED TO THOSE PENETRATIONS MADE BY CONDUITS, JUNCTION BOXES, AND EQUIPMENT/CONDUIT/CAST BOX SUPPORTS.
3. PROVIDE VAPOR TIGHT SEALANT AROUND THE SURFACE MOUNTED PORTIONS OF ALL LIGHTING FIXTURES, LIGHT SWITCHES, RECEPTACLES, TELECOMMUNICATION OUTLETS, SECURITY EQUIPMENT, ALARM DEVICES, AND FIRE ALARM EQUIPMENT.
4. ALL JUNCTION BOXES SHALL BE CAST TYPE WITH WEATHERPROOF, GASKETED COVERS. ALL CONDUITS AND WIRING SERVING JUNCTION BOXES SHALL BE SEALED AND CAULKED VAPOR TIGHT COMING INTO BOX, INSIDE BOX, AND AT FINISHED CEILING PENETRATION. SEAL AT INSIDE SUPPORT PENETRATIONS.
5. DO NOT EXPOSE CONDUITS IF POSSIBLE UNLESS NOTED OTHERWISE. ALL EXPOSED CONDUITS SHALL BE RGS CONDUIT WITH THREADED FITTINGS. ALL ALARM, SECURITY, TELECOMMUNICATIONS, FIRE ALARM, AND ELECTRICAL WIRING MUST BE IN RGS CONDUIT. SEAL AT CONDUIT SUPPORTS.
6. ALL CONDUITS AND WIRING SERVING LIGHTING FIXTURES SHALL BE SEALED AND CAULKED VAPOR TIGHT COMING INTO FIXTURE AND AT FINISHED CEILING PENETRATION. SEAL AT INSIDE SUPPORT PENETRATIONS.
7. ALL WORK DONE BY ELECTRICAL CONTRACTOR MUST NOT ADVERSELY IMPACT THE VAPOR TIGHT ENVIRONMENT OF THE PROJECT AREA. ENSURE THAT ALL DEVICES TO WHICH ELECTRICAL POWER IS FED ARE PROPERLY SEALED INSIDE AND WHERE ATTACHED TO WALL.

ELECTRICAL ABBREVIATIONS

NOTE: THESE ABBREVIATIONS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS PROJECT.

A	AMP	IG	ISOLATED GROUND
AFF	ABOVE FINISHED FLOOR	KVA	KILOVOLT AMPS
AIC	AMPS INTERRUPTING CAPACITY	KW	KILOWATTS
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AV	AUDIO VIDEO	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC
CB	CIRCUIT BREAKER	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CKT	CIRCUIT	NFSS	NON FUSED SAFETY SWITCH
COR	CONTRACTING OFFICER REPRESENTATIVE	OCP	OVER CURRENT PROTECTION
CU	COPPER	P	POLE
DN	DOWN	SWBD	SWITCHBOARD
EC	EMPTY CONDUIT	TR	TAMPER RESISTANT
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TRB	TERMINAL REHEAT BOX
FACP	FIRE ALARM CONTROL PANEL	UL	UNDERWRITERS LABORATORY
FSS	FUSED SAFETY SWITCH	UON	UNLESS OTHERWISE NOTED
GFI	GROUND FAULT INTERRUPTER	V	VOLTS
GND	GROUND	VA	VOLT AMPS
GPR	GROUND PENETRATING RADAR	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSE POWER	W	WATTS
HWRC	HOT WATER RECIRCULATING PUMP	WP	WEATHERPROOF
IBC	INTERNATIONAL BUILDING CODE	XFMR	TRANSFORMER

DEMO/NEW WORK LEGEND

(E) DENOTES EXISTING TO REMAIN.

(R) DENOTES EXISTING TO BE REMOVED.

(RE) DENOTES EXISTING TO BE RELOCATED.

(ER) DENOTES NEW LOCATION OF EXISTING REOCATED ITEM.(*)

(N) DENOTES NEW TO MATCH EXISTING. (*)

(*) EXTEND AND RECONNECT TO EXISTING BRANCH CIRCUIT WIRING AS REQUIRED.

(X) REMOVE WITH ALL CIRCUITRY THERETO.

ELECTRICAL SYMBOLS

NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS JOB. ALL MOUNTING HEIGHTS ARE STANDARD UNLESS NOTED OTHERWISE ON THE DRAWINGS.

Symbol	Description
	FLUORESCENT OR LED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE.
	LIGHTING FIXTURE ON EMERGENCY CIRCUIT OR WITH EMERGENCY BATTERY BACK-UP.
	EXIT SIGN. CONNECT TO UNSWITCHED HOT-LEG OF CIRCUIT INDICATED.
	BRANCH CIRCUIT WIRING CONCEALED IN WALLS OR CEILING. NUMBER OF HASHES INDICATES NUMBER OF WIRES AND SHOWN ONLY WHERE REQUIRED FOR CLARITY.
	BRANCH CIRCUIT WIRING RUN UNDER GROUND OR UNDER SLAB.
	HOME RUN TO PANELBOARD. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS IN HOME RUN.
$	FLUSH MOUNTED SWITCH, +48" AFF.
$\$_3, \$_4$	3 WAY OR 4 WAY FLUSH MOUNTED SWITCH, +48" AFF.
$\$_m$	MOTOR RATED SWITCH WITH THERMAL OVERLOAD PROTECTION.
$\$_V$	FLUSH MOUNTED SWITCH WITH VACANCY SENSOR (DUAL TECHNOLOGY), +48" AFF.
$\$_O$	FLUSH MOUNTED SWITCH WITH OCCUPANCY SENSOR (DUAL TECHNOLOGY), +48" AFF.
$\$_P$	FLUSH MOUNTED SWITCH WITH PILOT LIGHT, +48" AFF.
OS	CEILING MOUNTED OCCUPANCY SENSOR.
PP	LOW VOLTAGE POWER PACK UNIT FOR CONNECTING CEILING MOUNTED SENSORS.
J	JUNCTION BOX, SIZE AS REQUIRED.
A	DUPLEX RECEPTACLE, NEMA 5-20R, +18" AFF, U.O.N. (A) DENOTES 3" ABOVE COUNTER TOP/BACK SPLASH. (WP) DENOTES WEATHERPROOF WHILE IN USE WITH GROUND FAULT INTERRUPTER (GFI).
	DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER (GFI), NEMA 5-20R, +18" AFF, U.O.N.
A	DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER (GFI), NEMA 5-20R, +18" AFF, U.O.N. (A) DENOTES 3" ABOVE COUNTER TOP/BACK SPLASH.
	DUPLEX RECEPTACLE ON EMERGENCY POWER, NEMA 5-20R, +18" AFF, U.O.N.
	DOUBLE DUPLEX (QUAD) RECEPTACLE, NEMA 5-20R, +18" AFF.
	DOUBLE DUPLEX (QUAD) RECEPTACLE ON EMERGENCY POWER, NEMA 5-20R, +18" AFF.
	DUPLEX RECEPTACLE WITH USB, NEMA 5-20R, +46" AFF.
	COMMUNICATIONS OUTLET, +18" AFF, UON. PROVIDE PLASTER RING WITH PULL STRING TO ACCESSIBLE CEILING SPACE. CABLING BY TENANTS/OWNERS VENDOR.
W	WALL MOUNTED TELEPHONE OUTLET, 54" AFF, UON. PROVIDE PLASTER RING WITH PULL STRING TO ACCESSIBLE CEILING SPACE. CABLING BY TENANTS/OWNERS VENDOR.
	120/208 VOLT ELECTRICAL PANELBOARD, SURFACE/RECESSED MOUNTED, +6'-0" TO TOP.
T	LOW VOLTAGE DRY TYPE TRANSFORMER, KVA AS NOTED ON DRAWING, 480 VOLT DELTA PRIMARY, TO 208Y/120 VOLT SECONDARY, 3ø. U.O.N.
	277/480 VOLT PANELBOARD, SURFACE/RECESSED MOUNTED +6'-0" TO TOP.
	MOTOR CONNECTION.
	NON-FUSED DISCONNECT SWITCH. 600V, OR 240V, #/# INDICATE AMPS/POLE.
	FUSE DISCONNECT SWITCH 600V, OR 240V, POLES, AMPS AND FUSING TO MATCH CIRCUIT BREAKER.
	MOTOR STARTER.
	ENCLOSED CIRCUIT BREAKER.
F	FIRE ALARM MANUAL PULL STATION, 48" AFF.
AV 15cd	WALL MOUNTED FIRE ALARM AUDIO/VISUAL INDICATING DEVICE, 80" AFF. CANDELA RATING AS NOTED.
V 15cd	WALL MOUNTED FIRE ALARM VISUAL ONLY INDICATING DEVICE, 80" AFF. CANDELA RATING AS NOTED.
AV 15cd	CEILING MOUNTED FIRE ALARM AUDIO/VISUAL INDICATING DEVICE, 80" AFF. CANDELA RATING AS NOTED.
V 15cd	CEILING MOUNTED FIRE ALARM VISUAL ONLY INDICATING DEVICE, 80" AFF. CANDELA RATING AS NOTED.
SD	SMOKE DETECTOR.
SD_D	DUCT MOUNTED SMOKE DETECTOR. REFER TO MECHANICAL DRAWING FOR EXACT LOCATION.
I	DUCT MOUNTED SMOKE DETECTOR ALARM INDICATING DEVICE. WALL MOUNT +60" A.F.F.
HD	HEAT DETECTOR.
	GROUND PER NEC ARTICLE 250.
	MEDIUM VOLTAGE DRY TYPE TRANSFORMER, KVA AS NOTED ON DRAWING, 13200 VOLT DELTA PRIMARY, TO 480Y/277 VOLT SECONDARY, 3ø. U.O.N.
52	REMOVABLE DRAWOUT CIRCUIT BREAKER, MEDIUM VOLTAGE.
	REMOVABLE DRAWOUT CIRCUIT BREAKER. LOW VOLTAGE.
	FUSE
	NON-DRAWOUT CIRCUIT BREAKER. LOW VOLTAGE.
	CURRENT TRANSFORMER
	FUSED DISCONNECT SWITCH
M	AMMETER
50 51	INSTANTANEOUS OVERCURRENT PROTECTIVE RELAY
K	KEY INTERLOCK SWITCH
SPD	SURGE PROTECTIVE DEVICE

DESIGN CHANGE APPROVED	
BID DOCUMENTS	October-21-2024
DESCRIPTION	DATE

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Name
Title

Name
Title

Drawing Title
ELECTRICAL COVER SHEET

Chief Engineer Approval

Name, Title
Prevention Coordinator

Project Title
SUBSTATION UPGRADE BUILDING 2 - PHASE 1

Location
CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER

Date	Checked	Drawn
10-21-2024	AR	NN

Project Number
642-22-104

Building Number
2

Drawing Number
E-001

Dwg. 13 of 25

Office of Facility Management Service

Department of Veterans Affairs

VA FORM 08-6231

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

one inch = one foot
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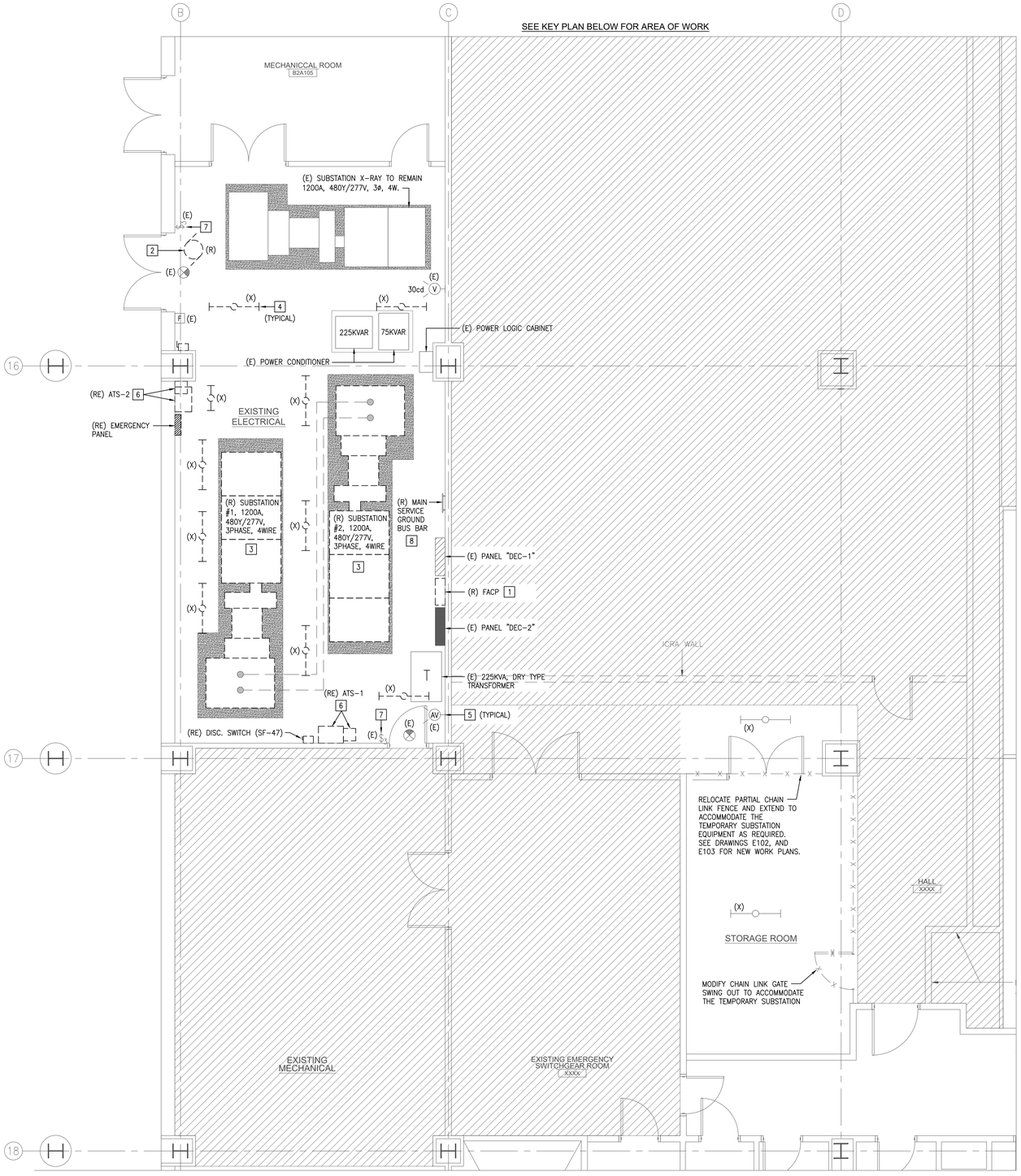
SEE KEY PLAN BELOW FOR AREA OF WORK



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

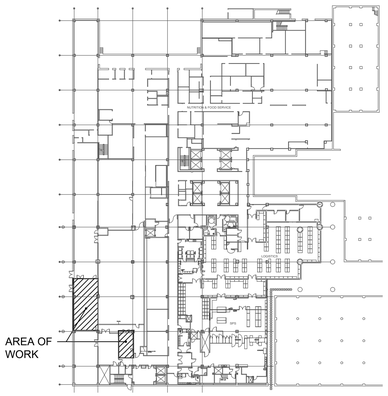
scale: 1/4"= 1'-0"

GENERAL NOTES - DEMOLITION PLAN

1. REFER TO THE ELECTRICAL COVER SHEET FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF DEMOLISHED EQUIPMENT.
3. PROTECT EXISTING EMERGENCY LIGHTS, EXIT SIGNS, AND FIRE ALARM DEVICES EXCEPT WHERE DEMOLITION IS NEEDED.
4. DEMOLITION WORK INDICATED IS DIAGRAMMATIC AND IS NOT SHOWN INCLUSIVELY. THE DEMOLITION DRAWING IS INTENDED TO DEMONSTRATE MAJOR ITEMS ONLY. THE CONTRACTOR IS REQUIRED TO PERFORM SELECTIVE DEMOLITION AS NEEDED TO ACCOMPLISH THE PROJECT INTENT. IF DEMOLITION WORK IS UNCLEAR FOR ANY ITEM, THE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE COR FOR RESOLUTION BEFORE PROCEEDING.
5. REMOVE ALL ABANDON WIRING AND CONDUITS BACK TO THE PANEL/SOURCE AS APPLICABLE.
6. COORDINATE WITH COR PRIOR TO SCHEDULING ANY SHUTDOWN REQUIRED DURING CONSTRUCTION.
7. FOR PHASING CONSTRUCTION NOTES REFER TO DRAWING E-101.

KEYED NOTES - DEMOLITION

1. DISCONNECT AND REMOVE ABANDONED FIRE ALARM CONTROL PANEL AND ASSOCIATED WIRES/CONDUIT.
2. DISCONNECT AND REMOVE REMOVE EXISTING OVERHEAD EXHAUST FAN AND ASSOCIATED DISCONNECT SWITCH, WIRES/CONDUIT.
3. DISCONNECT AND REMOVE EXISTING 1200A, 480V, 3-PHASE 4 WIRE SUBSTATION #1 AND #2 WITH PARTIAL 15kV CABLES AND CONDUIT CONNECTING FROM SUBSTATION #1 TO #2. REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION.
4. DISCONNECT POWER AND CONNECTION TO PENDANT MOUNTED LIGHTING FIXTURE. REMOVE FIXTURE AND ASSOCIATED WIRES FROM FIXTURE/DEVICE LOCATION BACK TO THE NEXT ACTIVE OUTLET OR BACK TO THE SOURCE PANEL. THE EXISTING PENDANT LIGHT SUPPORTS AND CONDUIT CAN BE REUSED IF APPLICABLE.
5. EXISTING FIRE ALARM DEVICE SHALL BE PROTECTED AND REMAIN FUNCTIONAL AT ALL TIME DURING CONSTRUCTION.
6. RELOCATE EXISTING ATS WITH ASSOCIATED DISCONNECT. EXTEND WIRING AND CONDUITS AS REQUIRED. REFER TO NEW WORK PLAN FOR LOCATION.
7. EXISTING 3-WAY SWITCHES INDICATED, WITH ASSOCIATED WIRING, CONDUITS TO REMAIN AND REUSE.
8. DISCONNECT AND REMOVE AFTER THE SUBSTATION #1 AND #2 ARE INSTALLED AND OPERATION.



KEY PLAN - GROUND FLOOR
NO SCALE

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:
BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG1O.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL ENGINEER AMBRISH K RASTOGI 0402018004

Name Title	Drawing Title PARTIAL GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION PLAN	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number 642-22-104
Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number E-100
Name Title	Name, Title Prevention Coordinator	Date: 10-21-2024 / Checked: AR / Drawn: MK	Dwg. 14 of 25

Office of Facility Management Service
Department of Veterans Affairs

VA FORM 08-6231

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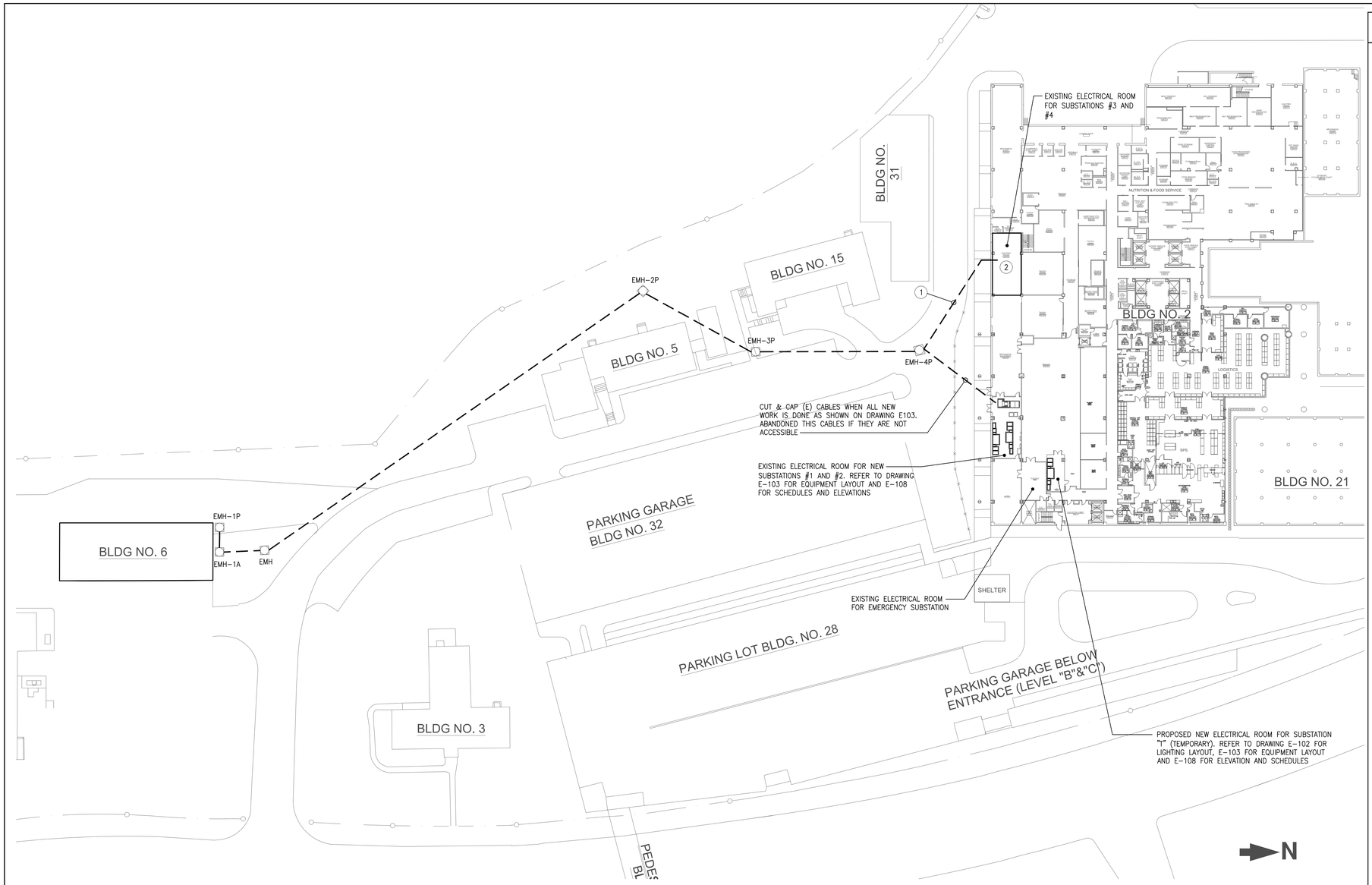

1 PARTIAL SITE UTILITY PLAN

SCALE: 1/32" = 1'-0"

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scale: 1/2"= 1'-0"

GENERAL INSTALLATION NOTES

PROVIDE ALL NEW EQUIPMENT, WIRING, AND CONDUIT FIRST TO MAKE THEM READY FOR SEQUENTIALLY SWITCHING OVER. TEMPORARY FEEDERS CAN BE USED TO PROVIDE POWER TO TRANSFERRED LOADS.

- MAINTAIN EXISTING SUBSTATIONS #1 AND #2 IN OPERATION.
- PROVIDE A TEMPORARY SUBSTATION IN EXISTING STORAGE ROOM WITHIN BUILDING 2 TO USE FOR TRANSFERRING LOADS FROM EXISTING SUBSTATIONS #1 AND #2 TO TEMPORARY SUBSTATION, AND FROM TEMPORARY SUBSTATION TO NEW SUBSTATIONS #1 AND #2, AFTER THEY ARE INSTALLED IN EXISTING ELECTRICAL ROOM IN BUILDING 2. PROVIDE 15KV DUPLEX SWITCHES WITH FRONT ACCESS ONLY. THE WORKING DISTANCE REQUIRED AT 6'(72") MINIMUM. 30" MINIMUM CLEARANCES ARE REQUIRED ON MEDIUM VOLTAGE SELECTOR SWITCHES FOR SIDE ACCESS. EGRESS DOORS ARE REQUIRED TO SWING OUT WITH PUSH TO OPEN PANIC HARDWARE ON BOTH ENDS OF THE ROOM.
- RECONNECT EXISTING PANELS, LOW VOLTAGE TRANSFORMER, AUXILIARY EQUIPMENT, AND GROUNDING.
- MINIMIZES THE DISRUPTION TO THE HOSPITAL OPERATION.

STAGE-1:

1. PROVIDE COPIES OF OSHA CERTIFICATION OF GC'S TRAINED STAFF TO ENTER AND WORK IN THE CONFINED SPACES, MANHOLES, MEDIUM VOLTAGE SYSTEM AND CABLING.
2. COORDINATE WITH COR FOR THE REMOVAL OF ALL ITEMS FROM THE SPACE TO BE USED AS TEMPORARY SUBSTATION.
3. CONSTRUCT ACRA ENCLOSURES.
4. PREPARE A LAYOUT OF THE AREA AND PROVIDE THE TEMPORARY SUBSTATION AS SHOWN ON DRAWING E-103 AND SWITCHBOARD SCHEDULE ON E-108.
5. MAKE PROVISIONS FOR CONNECTION TO SUBSTATIONS #1 AND #2. PROVIDE, PULL BOXES, SPLICES AND INSTALL MV CABLES AS DESCRIBE PER DRAWING E-105 FOR BOTH TEMPORARY AND SUBSTATION #1.
6. ALL THE SPLICES IN MEDIUM VOLTAGE CABLES SHALL BE TESTED AND CERTIFIED BY A MEDIUM VOLTAGE ELECTRICAL INSPECTOR APPROVED BY COR. ALL THE WORK DESCRIBED IN NOTES #4 AND #5 SHALL BE PERFORMED AFTER RECEIVING A WRITTEN PERMISSION FOR A POWER SHUT-OFF.
7. PROVIDE CONNECTION TO SUBSTATION "T" TEMPORARY.
8. GET TEMPORARY SUBSTATION INSPECTED AND TESTED BEFORE ENERGIZATION.

STAGE 2:

9. TRANSFER 480V LOADS FROM EXISTING SUBSTATION #1 TO TEMPORARY SUBSTATION AND RELOCATE ALL EXISTING EQUIPMENT FEEDERS AND CONDUITS AS DESCRIBED IN DEMOLITION DRAWING E-100. PROVIDE ALL NECESSARY, EXTEND FEEDERS AND CONDUITS AS REQUIRED. THE TRANSFERRING LOADS SHALL BE DONE
   a. ONE AT A TIME.
   b. AFTER APPROVED SHUT-DOWN OF THE AREA SERVED BY THAT BREAKER.
10. WHEN ALL LOADS HAVE BEEN TRANSFERRED. DISCONNECT AND REMOVE SUBSTATION #1. DEMO EXISTING CONCRETE PAD, PREPARE THE FLOOR AND AREA TO CONSTRUCT THE NEW CONCRETE PADS FOR NEW SUBSTATION #1 WITH CONDUITS AND MEDIUM VOLTAGE CABLES THROUGH THE FLOOR OF THE INTERSTITIAL SPACE FOR INCOMING POWER FEEDS FROM CABLES FEEDING TEMPORARY SUBSTATION. CONDUITS/SLEEVES SHALL BE DRILLED THRU THE FLOOR SLAB AFTER THE GPR SCANNING.
11. PROVIDE GROUNDING CONNECTION FOR NEW SUBSTATION #1.
12. TEST EACH COMPONENT OF THE SUBSTATION #1 INDEPENDENTLY, AND THEN TEST EACH ASSEMBLY AS RECOMMENDED BY THEIR MANUFACTURERS AND ENERGIZE SUBSTATION #1
13. ONE BY ONE TRANSFER 480V LOADS FROM TEMPORARY SUBSTATION "T" TO NEW SUBSTATION #1 AND RECONNECT ALL EXISTING EQUIPMENT, FEEDERS AND CONDUITS PER SWITCHBOARD SCHEDULE ON DRAWING E-108. PROVIDE ALL NECESSARY, EXTEND FEEDERS AND CONDUITS AS REQUIRED.
14. FOR EACH TRANSFERRING LOAD:
    a. COORDINATE WITH COR FOR THE SHUT-DOWN OF THE DISCONNECT SWITCH.
    b. DISCONNECT POWER FROM EXISTING SUBSTATION AND FEED THE LOAD FROM THE NEW SUBSTATION.
15. AT THE END OF STAGE-2, CONFIRM THAT ALL THE 480 V LOADS ARE FED FROM NEW SUBSTATION #1.
16. PROVIDE THE COMMISSIONING SERVICES.

STAGE-3:

17. TRANSFER LOADS FROM EXISTING SUBSTATION #2 TO TEMPORARY SUBSTATION "T" AND RELOCATE ALL EXISTING EQUIPMENT FEEDERS AND CONDUITS AS DESCRIBED IN DEMOLITION DRAWING E-100. PROVIDE ALL NECESSARY, EXTEND FEEDERS AND CONDUITS AS REQUIRED.
18. REPEAT THE SAME PROCESS AS DESCRIBED ON NOTES #7, #8, #9, #10 AND #11 (STAGE-2) FOR SUBSTATION #2.
19. PROVIDE GROUNDING CONNECTIONS.
20. PROVIDE COMMISSIONING SERVICES.

STAGE-4:

21. COMPLETE COMMISSIONING OF THE ENTIRE PROJECT INCLUDING;
    a. POWER MONITORING AND CONTROL SYSTEM.
    b. IDENTIFICATION AND PLACEMENT OF MASTER U.L. LABELS.
    c. UPDATE THE SKM MODEL FOR NORMAL POWER DISTRIBUTION, AND PROVIDE A REPORT WITH IMPEDANCE DIAGRAMS.
    d. COMPLETION OF POWER SYSTEM STUDIES INCLUDING SHORT CIRCUIT AND ARC FLASH STUDIES.
    e. CREATE TCC CURVES.
    f. PLACEMENT OF ARC FLASH LABELS ON NEW AND EXISTING EQUIPMENT.
    g. COMPETE TESTING OF POWER SYSTEM RELAYS AND INTERLOCKS.
    h. ALL CLOSE-OUT DOCUMENTS INCLUDING COPIES OF THE TRAINING SESSIONS.

OPTIONS:

#1. PROVIDE TEMPORARY SUBSTATION WITH 2 NARROW 15KV, DUPLEX SWITCHES FOR TRANSFERRING LOADS. REMOVE TEMPORARY SUBSTATION AFTER STAGE-4 IS COMPLETED AND OPERATIONAL.

#2. PROVIDE TEMPORARY SUBSTATION WITH 2 15KV, DUPLEX SWITCHES SIMILAR TO SUBSTATION #1 AND #2. THE TEMPORARY SUBSTATION SHALL REMAIN FOR FUTURE USE.

KEYED NOTES - NEW WORK PLAN

1. EXISTING 2 SETS OF 3 #1/0 15KV, 1 #6 GROUND CABLES FROM MV SWITCHGEAR CIRCUITS #12 & #19 IN BUILDING #6, ENTER THE SUB-BASEMENT WITH 4" CONDUITS PENETRATE THRU SUB-BASEMENT LEVEL FEEDING EXISTING SUBSTATIONS #3 AND #4 .
2. CONTRACTOR SHALL MODIFY AND SPLICE EXISTING MV CABLES USING 15KV TERMINATIONS KITS. PROVIDE 2 SETS OF 3 #1/0 15KV, 1 #6 GROUND CABLES IN 4" CONDUIT USING 15KV TERMINATION KITS CONDUIT TO CONNECT NEW TEMPORARY SUBSTATION. REFER TO DRAWING E-103 FOR EQUIPMENT ROOM LAYOUT AND E-105 FOR CONDUITS ROUTING AND CONNECTIONS.

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Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number E-101
Name Title	Name, Title Prevention Coordinator	Date: 10-21-2024 / Checked: AR / Drawn: MK	Dwg. 15 of 25

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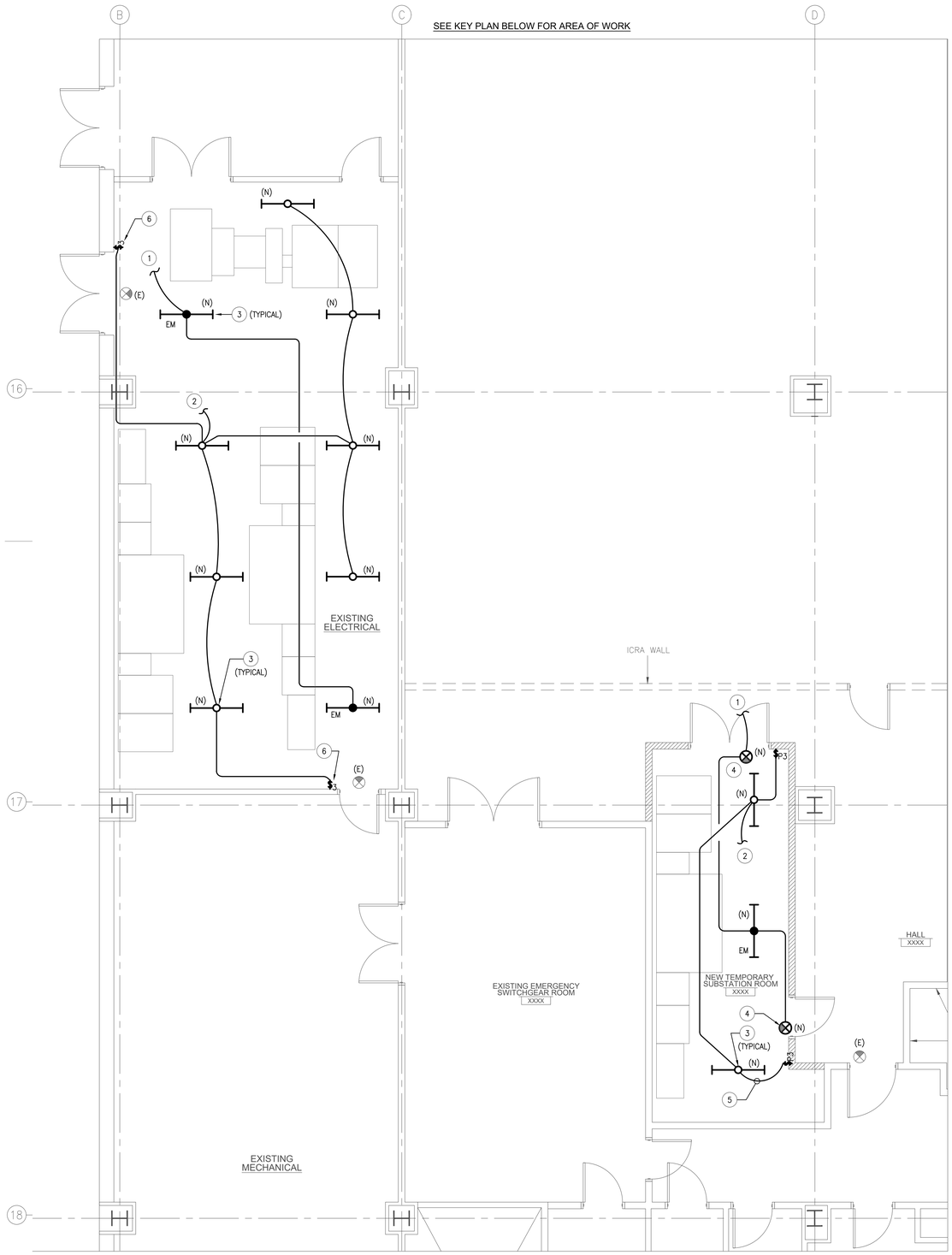


1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - LIGHTING NEW WORK PLAN
SCALE: 1/4" = 1'-0"

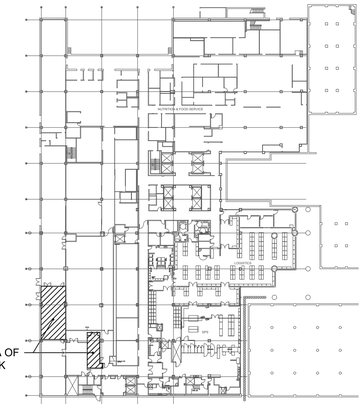
scale: 1/4" = 1'-0"

GENERAL NOTES - LIGHTING PLAN - NEW WORK

1. REFER TO THE ELECTRICAL COVER SHEET FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF NEW EQUIPMENT.
3. REFER TO DRAWING E-108 FOR SCHEDULES AND DETAILS.

KEYED NOTES - LIGHTING PLAN NEW WORK

1. CONNECT TO 277V EMERGENCY LIGHTING CIRCUIT PREVIOUSLY SERVING THIS AREA WITH 2 #12 AWG + 1 #12 GROUND IN 3/4"C.
2. CONNECT TO 277V NORMAL LIGHTING CIRCUIT PREVIOUSLY SERVING THIS AREA WITH 2 #12 AWG + 1 #12 GROUND IN 3/4"C.
3. PROVIDE PENDANT MOUNTED LED LIGHTING FIXTURE. MODEL NO. (80-4-L53-8-50-WG-8011 DRV) MANUFACTURED BY H.E WILLIAMS.
4. PROVIDE LED EXIT SIGN, TYPE TO MATCH EXISTING BUILDING STANDARD.
5. CONNECT NEW LIGHTING FIXTURES IN THIS AREA TO NEW 3-WAY PILOT LIGHT SWITCHES AND EXISTING CIRCUIT PREVIOUSLY SERVING THIS AREA. EXTEND WIRING AND CONDUITS AS REQUIRED.
6. CONNECT NEW LIGHTING FIXTURES IN THIS AREA REUSING EXISTING 3-WAY SWITCHES. EXTEND WIRING AND CONDUIT AS REQUIRED.



KEY PLAN -GROUND FLOOR
NO SCALE

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DESCRIPTION DATE				

Name Title
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Name Title

Drawing Title: PARTIAL GROUND FLOOR - ELECTRICAL ROOM - LIGHTING - NEW WORK PLAN
Chief Engineer Approval
Name, Title: Prevention Coordinator

Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1
Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER
Date: 10-21-2024 | Checked: AR | Drawn: MK

Project Number: 642-22-104
Building Number: 2
Drawing Number: E-102
Dwg. 16 of 25

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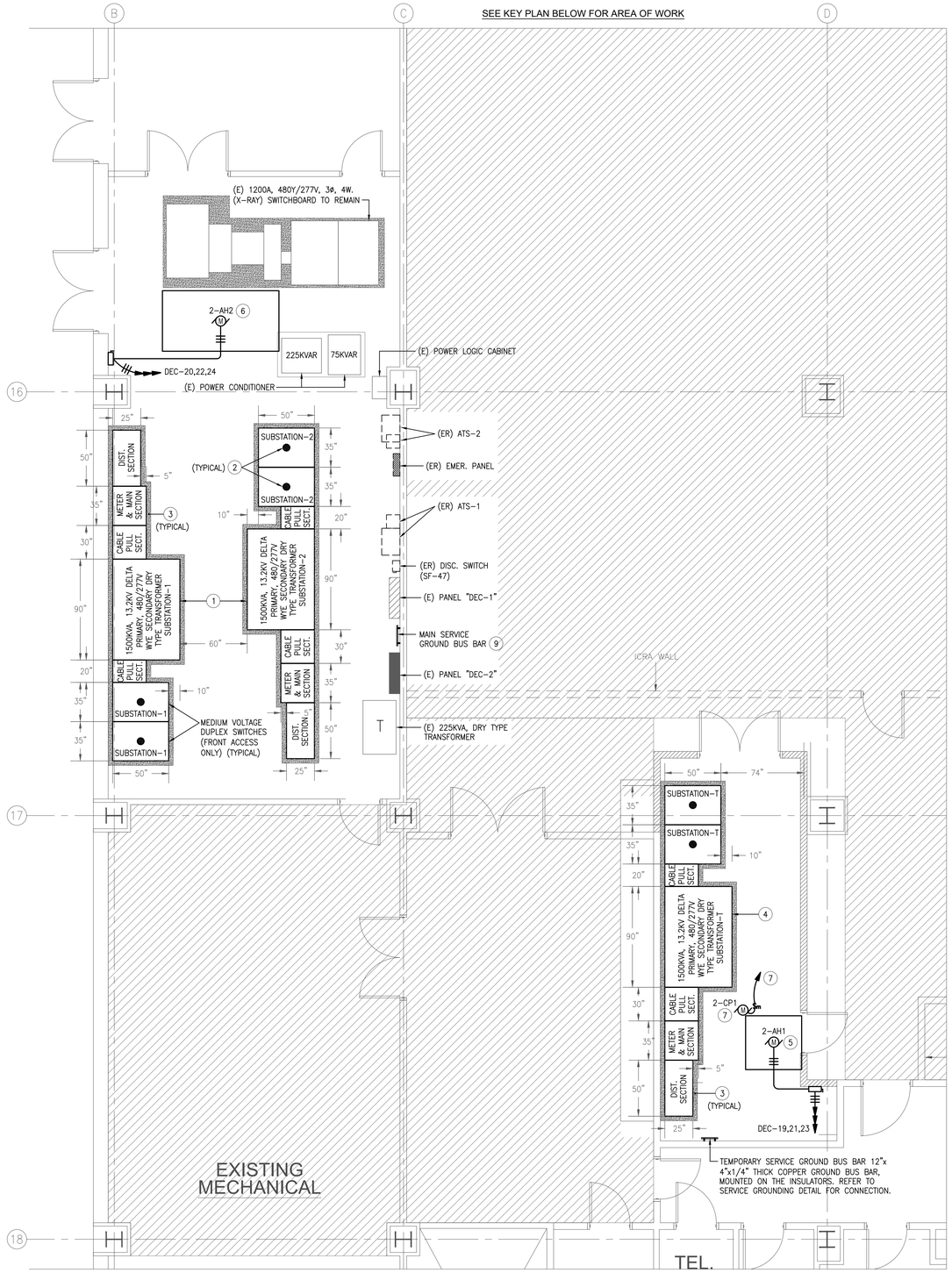
SEE KEY PLAN BELOW FOR AREA OF WORK



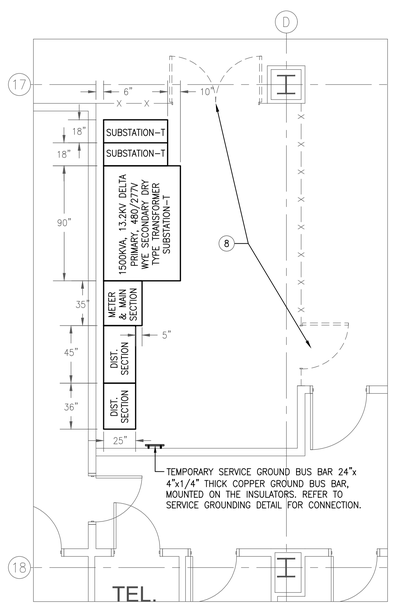
1 PARTIAL GROUND FLOOR - ELEC. ROOM - POWER NEW WORK
1/4" = 1'-0"

GENERAL NOTES - NEW WORK

1. REFER TO THE ELECTRICAL COVER SHEET FOR SPECIFICATIONS, GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF DEMOLISHED EQUIPMENT.
3. FOR PHASING AND INSTALLATION NOTES REFER TO DRAWING E-101.
4. ALL WORK IS NEW UNLESS OTHERWISE NOTED.

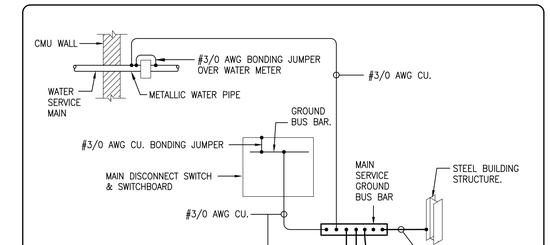
KEYED NOTES - NEW WORK

1. PROVIDE SUBSTATION #1 AND #2 AS INDICATED ON CONCRETE PAD. COORDINATE IN FIELD FOR EXACT LOCATION PRIOR TO INSTALLATION. REFER TO DRAWING E-108 FOR ELEVATIONS AND SCHEDULES.
2. NEW MEDIUM VOLTAGE FEEDERS FROM INTERSTITIAL SPACE ABOVE GROUND LEVEL. FIELD VERIFY FOR EXACT LOCATION.
3. CONCRETE PAD FOR ELECTRICAL EQUIPMENT SHALL BE 4" LARGER ON ALL SIDE. REFER TO DETAIL #1 ON DRAWING A-103 FOR DETAILS.
4. PROVIDE SUBSTATION "T" AS INDICATED ON CONCRETE PAD. COORDINATE IN FIELD FOR EXACT LOCATION PRIOR TO INSTALLATION. SEE OPTIONS ON THIS DRAWING FOR ADDITIONAL INFORMATION. REFER TO DRAWING E-108 FOR ELEVATION AND SCHEDULE.
5. AIR HANDLING UNIT 2-AH1: 3HP, 460V, 3 PHASE. REFER TO MECHANICAL DRAWING FOR EXACT LOCATION.
6. AIR HANDLING UNIT 2-AH2: (2) 6.63HP, 460V, 3 PHASE. REFER TO MECHANICAL DRAWING FOR EXACT LOCATION.
7. CONDENSATE PUMP 2-CP1: 1/5HP, 115V, 1 PHASE. CONNECT TO THE NEAREST 120V CIRCUIT SERVING THIS AREA, WITH 2 #12 + 1 #12 GROUND IN 3/4" CONDUIT.
8. MODIFY EXISTING WIRE FENCE AND DOOR. ADDING NEW DOUBLE DOORS TO ACCOMMODATE THE TEMPORARY SUBSTATION SPACE.
9. PROVIDE 24"x 4"x 1/4" THICK COPPER GROUND BUS BAR. REFER TO GROUNDING DETAIL FOR GROUNDING CONNECTIONS.



2 TEMPORARY SUBSTATION TO REMAIN (OPTION #2)
1/4" = 1'-0"

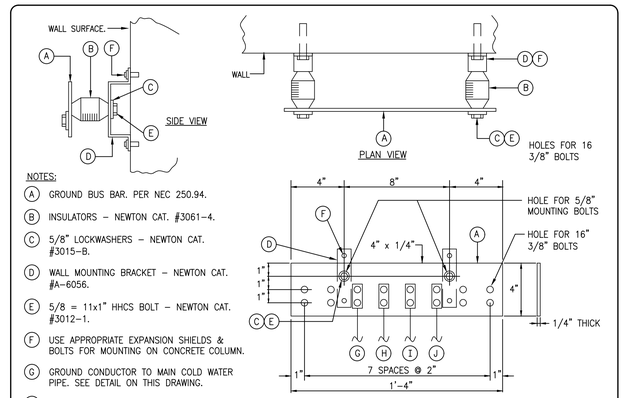
3 TEMPORARY SUBSTATION TO BE REMOVED (OPTION #1)
1/4" = 1'-0"



SERVICE GROUNDING DIAGRAM
NOT TO SCALE

GROUNDING NOTE:

GROUNDING OF SERVICE SHALL MEET ALL REQUIREMENTS OF NEC ARTICLE 250, AND AS A MINIMUM INCLUDE, BONDING TO BUILDING STEEL FRAMING, WATER MAIN AHEAD OF THE METER. BONDING SHALL BE MIN #3/0 AWG CU CONDUCTORS.



NOTES:

A. GROUND BUS BAR. PER NEC 250.94.
B. INSULATORS – NEWTON CAT. #3061-4.
C. 5/8" LOCKWASHERS – NEWTON CAT. #3015-B.
D. WALL MOUNTING BRACKET – NEWTON CAT. #A-6056.
E. 5/8 = 11x1" HHCS BOLT – NEWTON CAT. #3012-1.
F. USE APPROPRIATE EXPANSION SHIELDS & BOLTS FOR MOUNTING ON CONCRETE COLUMN.
G. GROUND CONDUCTOR TO MAIN COLD WATER PIPE. SEE DETAIL ON THIS DRAWING.
H. GROUND CONDUCTOR TO GROUND BUS IN SWITCHBOARD. SEE DETAIL ON THIS DRAWING.
I. TO STEEL BUILDING STRUCTURE.
J. TO BUILDING CONCRETE ENCASED ELECTRODE.

GROUND BAR DETAIL
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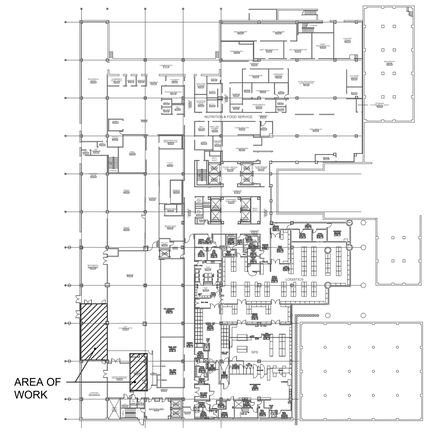

KEY PLAN - GROUND FLOOR
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Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number E-103
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024 / Checked AR / Drawn MK	Dwg. 17 of 25

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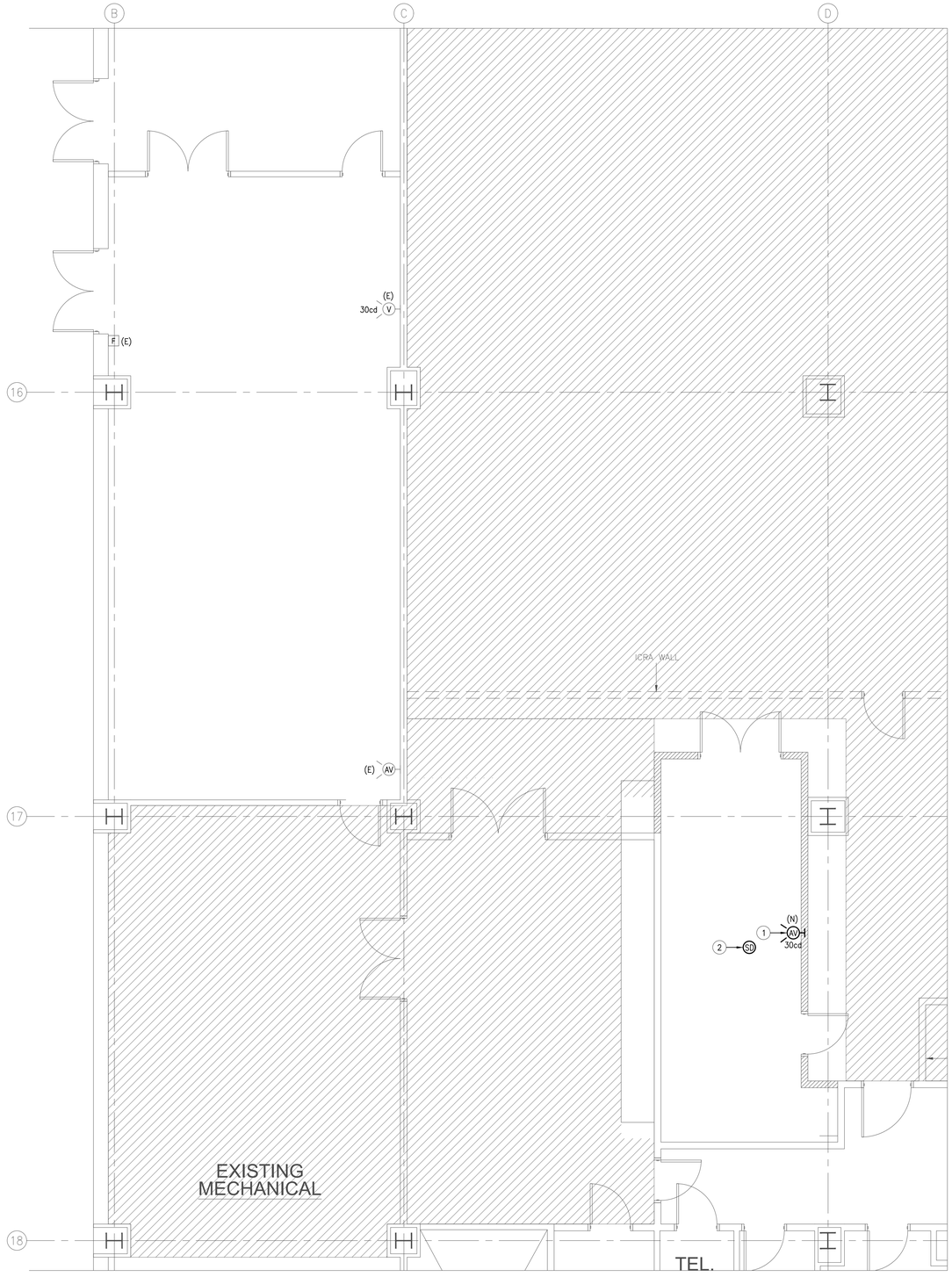


1 PARTIAL GROUND FLOOR - ELEC. ROOM - FIRE ALARM - NEW WORK PLAN
1/4" = 1'-0"

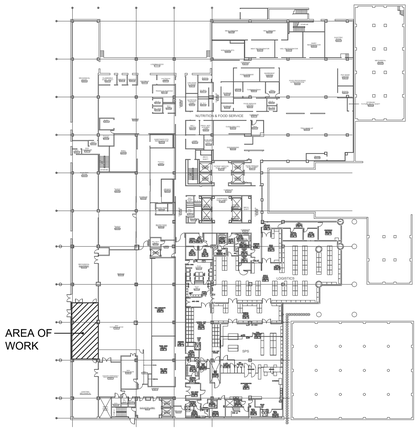
scale: $\frac{1}{4}$"= 1'-0"

GENERAL NOTES - FIRE ALARM

1. REFER TO THE ELECTRICAL COVER SHEET FOR SPECIFICATIONS, GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. MODIFY FIRE ALARM SYSTEM ON DESIGN–BUILD BASIS. PROVIDE ADDITIONAL DEVICES, IF REQUIRED, BY THE VAMC EITHER DURING SHOP DRAWINGS REVIEW PHASE, OR DURING CONSTRUCTION PHASE WITHOUT ANY ADDITIONAL COST TO THE VAMC.
3. ALL DEVICES AND EQUIPMENT FOR THIS SYSTEM SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. (U.L.), BEAR THE U.L. LABEL AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 72 AND 90A.
4. THE INSTALLATION SHALL BE IN ACCORDANCE WITH ALL REQUIREMENTS OF NFPA 72, NFPA 90A, THE NATIONAL ELECTRICAL CODE (NEC).
5. UPON COMPLETION, THE SYSTEM SHALL BE THOROUGHLY TESTED BY THE CONTRACTOR TO ASSURE PROPER INTERFACING OF ALL COMPONENTS.
6. ALL WIRING FOR THE FIRE DETECTION AND ALARM SYSTEM SHALL BE RUN IN CONDUIT BY THE CONTRACTOR. ALL FIRE ALARM JUNCTION BOX COVERS SHALL BE PAINTED RED BY THE CONTRACTOR OR STENCILED FOR DISTINCT IDENTIFICATION. ALL CONDUIT, DEVICE MOUNTING BOXES, JUNCTION BOXES, AND PANELS SHALL BE SECURELY FASTENED BY THE CONTRACTOR WITH APPROPRIATE FITTINGS TO INSURE A POSITIVE GROUND THROUGHOUT THE ENTIRE SYSTEM.
7. ALL CONNECTIONS TO PANELS, DEVICES, AND DETECTORS SHALL BE MADE WITH CRIMP TYPE SPADE TERMINAL CONNECTORS. SPLICES IN STATION CIRCUITS SHALL BE MADE ONLY IN JUNCTION BOXES AND SHALL BE CRIMP CONNECTED.
8. ALL WIRING SHALL BE CHECKED AND TESTED BY THE CONTRACTOR TO INSURE THE SYSTEM IS FREE FROM GROUNDS, OPENS, AND SHORTS.
9. THE INSTALLATION AND FINAL CONNECTIONS BY THE CONTRACTOR OF ALL COMPONENTS AND DEVICES SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF THE SYSTEM MANUFACTURER'S TECHNICAL STAFF.
10. CONTRACTOR SHALL MODIFY EXISTING SYSTEM AS REQUIRED, PROVIDE ALL NECESSARY SUB–PANELS, AUXILIARY PANEL TO CONVERT 110 VOLT TO 24 VOLT SYSTEM, POWER SUPPLIES, SUPPLIES, BATTERIES, ETC. IN ORDER TO ACCEPT NEW DEVICES AND OPERATE THE SYSTEM AS ONE INTEGRAL SYSTEM COMPLYING WITH ALL APPLICABLE REQUIREMENTS. ALL NEW DEVICES SHALL MATCH EXISTING.
11. CONTRACTOR SHALL VERIFY TYPE OF EXISTING FIRE ALARM SYSTEM BEFORE SUBMITTING THE BID. ALL MODIFICATIONS TO EXISTING SYSTEM IN ORDER TO ACCEPT NEW DEVICES. SHALL BE INCLUDED IN THE BID. EXISTING SYSTEM IS MANUFACTURED BY SIMPLEX.
12. BASE ON SCOPE OF WORK THE FIRE ALARM SYSTEM RESPONSE WILL REMAIN UNCHANGED.

KEYED NOTES - FIRE ALARM - NEW WORK

1. PROVIDE VISUAL/AUDIBLE DEVICES (SPEAKER) COLOR TO MATCH WITH BUILDING DEVICES UNLESS OTHERWISE NOTED. CONNECT NEW FIRE ALARM DEVICES TO EXISTING FIRE ALARM CIRCUIT IN THIS AREA AND SYSTEM PROGRAM MODIFICATION AS REQUIRED.
2. PROVIDE SMOKE DETECTOR TYPE TO MATCH WITH BUILDING. CONNECT NEW SMOKE DETECTOR TO EXISTING FIRE ALARM CIRCUIT IN THIS AREA AND SYSTEM PROGRAM MODIFICATION AS REQUIRED.



KEY PLAN - GROUND FLOOR
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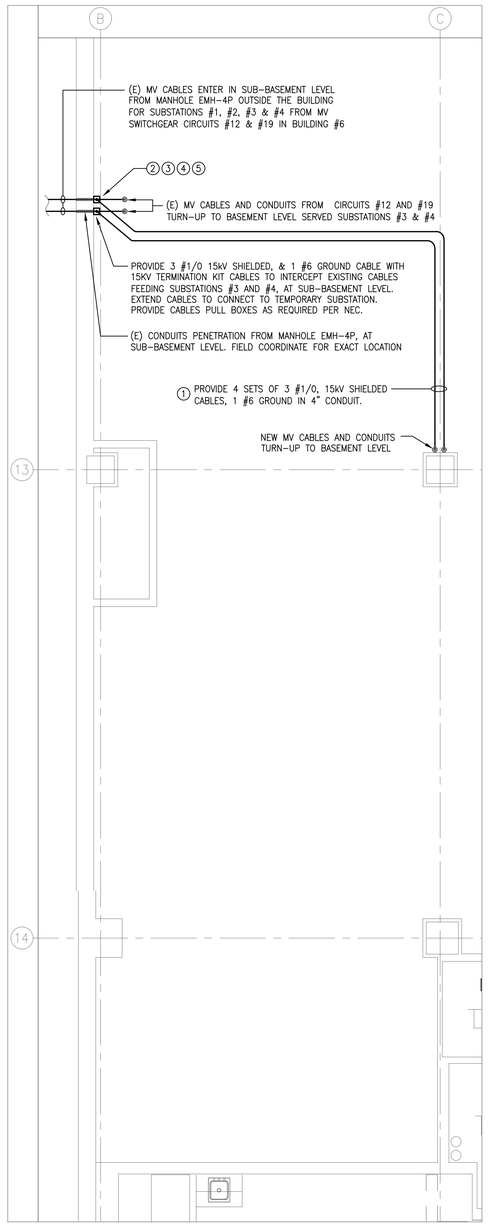

1 PARTIAL SUB-BASEMENT PLAN
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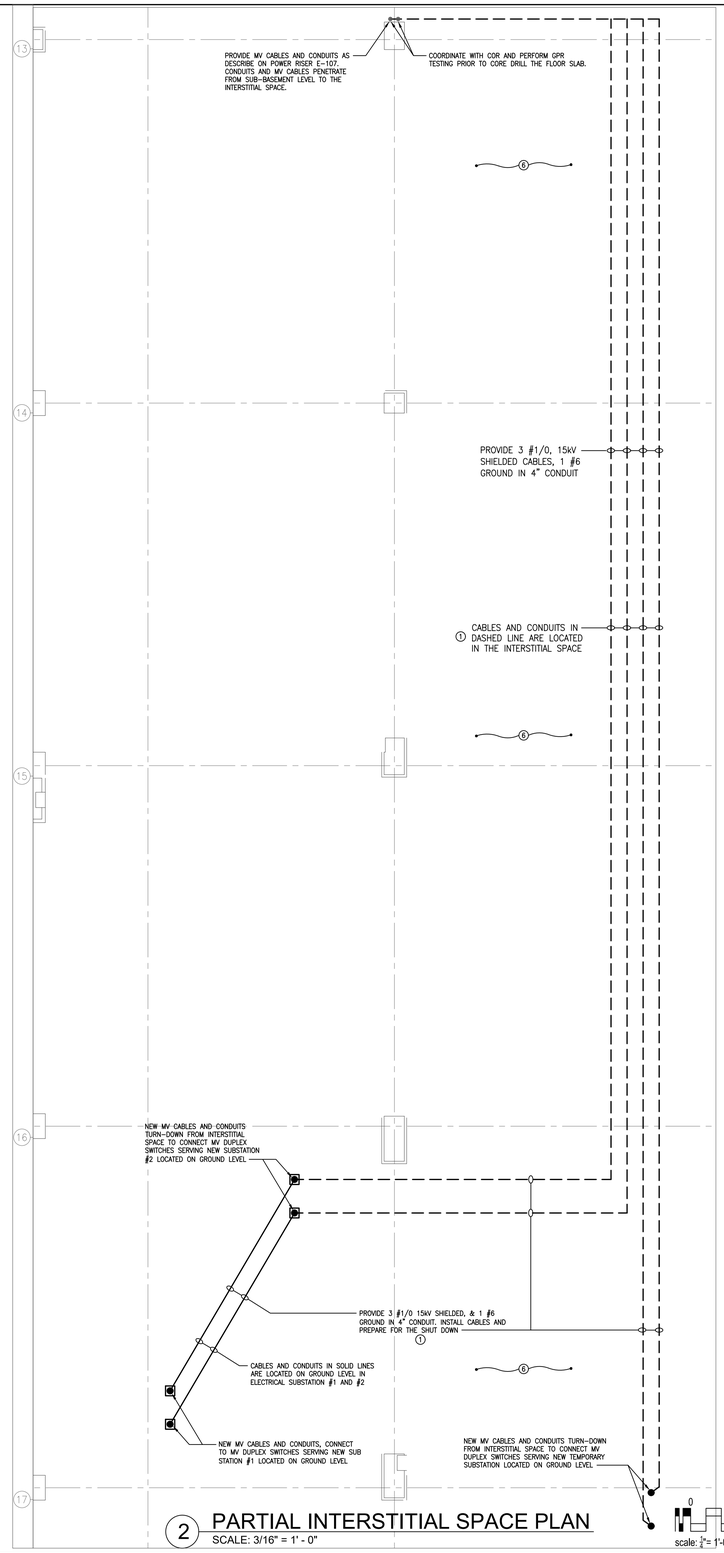
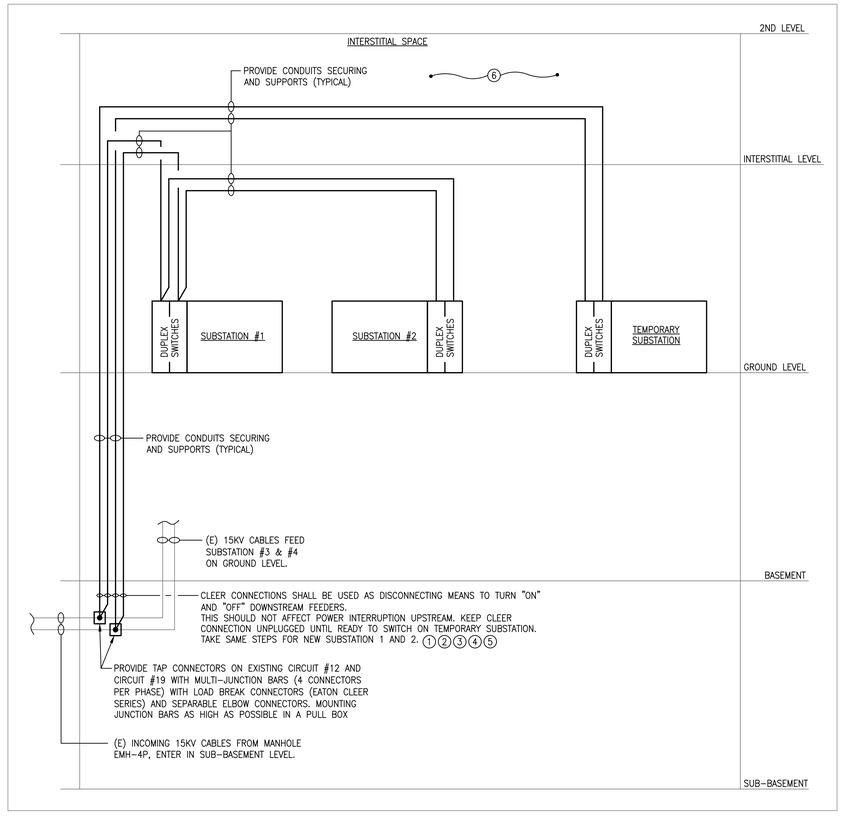


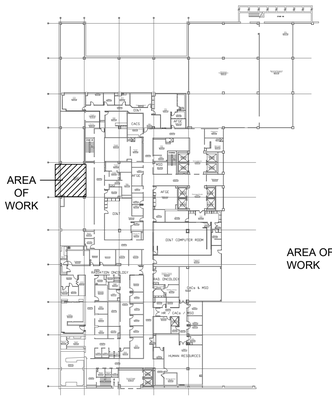
2 PARTIAL INTERSTITIAL SPACE PLAN
SCALE: 3/16" = 1' - 0"



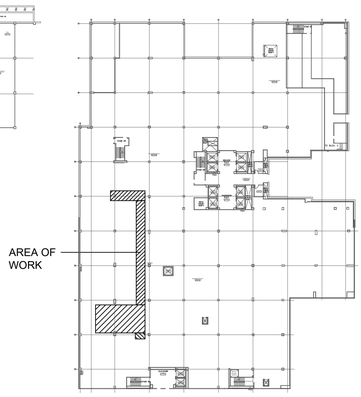
3 PARTIAL CONDUITS ROUTING PLAN
SCALE: NOT TO SCALE

KEYED NOTES

1. INSTALL NEW CONDUITS AND CABLE FIRST. GET INSPECTED BEFORE ENERGIZED.
2. SWITCH SUBSTATIONS 1, 2, 3 AND 4 TO BE ON FEEDER 12 OR 19.
3. DE-ENERGIZE FEEDER THAT IS NOT USE. TEST THIS CABLE TO MAKE SURE NO VOLTAGE LEFT BEFORE INTERCEPTING.
4. INTERCEPT DE-ENERGIZED FEEDER. PROVIDE BOX WITH LOCKABLE DOOR, SEPARATE CONNECTIONS, AND CLEER CONNECTIONS TO TAP EXISTING FEEDER. WHEN DONE, GET INSPECTED BY A CERTIFIED INDEPENDENT FIRM BEFORE ENERGIZE FOR EACH STAGE AND SUBSTATION.
5. REPEAT STEPS 2 TO 4 THE SAME FOR THE OTHER FEEDER.
6. THE INTERSTITIAL FLOOR IS A CONFINED SPACE. COORDINATE WITH COR AND PROVIDE PERSONNEL CERTIFIED AND TRAINNED TO WORK IN THE CONFINED SPACE.



KEY PLAN - SUB-BASEMENT
NO SCALE



KEY PLAN - INTERSTITIAL SPACE
NO SCALE

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:
BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER PE-001902-E

Name Title	Drawing Title **PROPOSED MV CABLES ROUTING PLAN**	Project Title **SUBSTATION UPGRADE BUILDING 2 - PHASE 1**	Project Number **642-22-104**
Name Title			Building Number **2**
Name Title	Chief Engineer Approval	Location **CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER**	Drawing Number **E-105** Dwg. 19 of 25
Name Title	Name, Title Prevention Coordinator	Date **10-21-2024** / Checked **AR** / Drawn **NN**	Office of Facility Management Service Department of Veterans Affairs

VA FORM 08-6231

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

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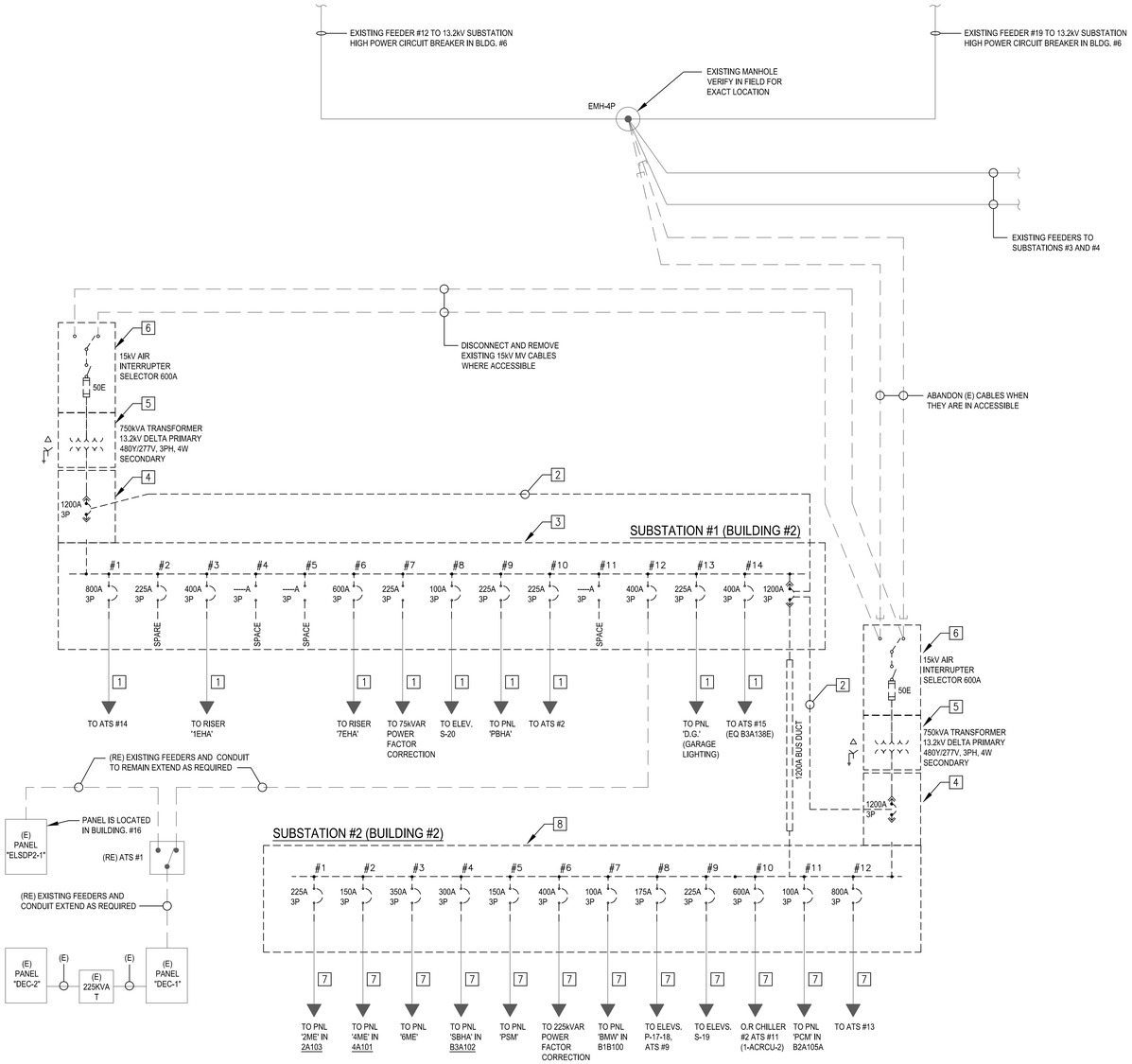
one eighth inch = one foot



1 SINGLE LINE RISER - DEMOLITION

SCALE: None

GENERAL NOTES - DEMOLITION PLAN

1. REFER TO THE ELECTRICAL COVER SHEET FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF DEMOLISHED EQUIPMENT.
3. PROTECT EXISTING EMERGENCY LIGHTS, EXIT SIGNS, AND FIRE ALARM DEVICES EXCEPT WHERE DEMOLITION IS NEEDED.
4. DEMOLITION WORK INDICATED IS DIAGRAMMATIC AND IS NOT SHOWN INCLUSIVELY. THE DEMOLITION DRAWING IS INTENDED TO DEMONSTRATE MAJOR ITEMS ONLY. THE CONTRACTOR IS REQUIRED TO PERFORM SELECTIVE DEMOLITION AS NEEDED TO ACCOMPLISH THE PROJECT INTENT. IF DEMOLITION WORK IS UNCLEAR FOR ANY ITEM, THE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE COR FOR RESOLUTION BEFORE PROCEEDING.
5. REMOVE ALL ABANDONED WIRING AND CONDUITS BACK TO THE PANEL/SOURCE AS APPLICABLE.
6. COORDINATE WITH COR, AND BUILDING ENGINEERS PRIOR TO SCHEDULING ANY SHUTDOWN REQUIRED DURING CONSTRUCTION.
7. FOR PHASING AND INSTALLATION NOTES REFER TO DRAWING E-101.

KEYED NOTES - DEMOLITION PLAN

1. DISCONNECT FEEDERS FROM CIRCUIT BREAKER IN SUBSTATION #1 AND RECONNECT TO NEW SUBSTATION #1.
2. DISCONNECT AND REMOVE CONTROL WIRING BREAKER.
3. DISCONNECT AND REMOVE SUBSTATION #1 AND ASSOCIATED ACCESSORIES AND EQUIPMENT.
4. DISCONNECT AND REMOVE MAIN CIRCUIT BREAKER AND ASSOCIATED ACCESSORIES AND EQUIPMENT.
5. DISCONNECT AND REMOVE 750kVA TRANSFORMER AND ASSOCIATED ACCESSORIES AND EQUIPMENT.
6. DISCONNECT AND REMOVE 15kV SERVICE FUSIBLE DISCONNECT SWITCH AND ASSOCIATED ACCESSORIES AND EQUIPMENT.
7. DISCONNECT FEEDERS FROM CIRCUIT BREAKER IN SUBSTATION #2 AND RECONNECT TO NEW SUBSTATION #2.
8. REMOVE SUBSTATION #2 AND ASSOCIATED ACCESSORIES AND EQUIPMENT.

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:
BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER

Name Title	Drawing Title SINGLE LINE RISERS - DEMOLITION	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number 642-22-104
Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number E-106 Dwg. 20 of 25
Name Title	Name, Title Prevention Coordinator	Date: 10-21-2024 / Checked: AR / Drawn: MK	Office of Facility Management Service Department of Veterans Affairs

VA FORM 08-6231

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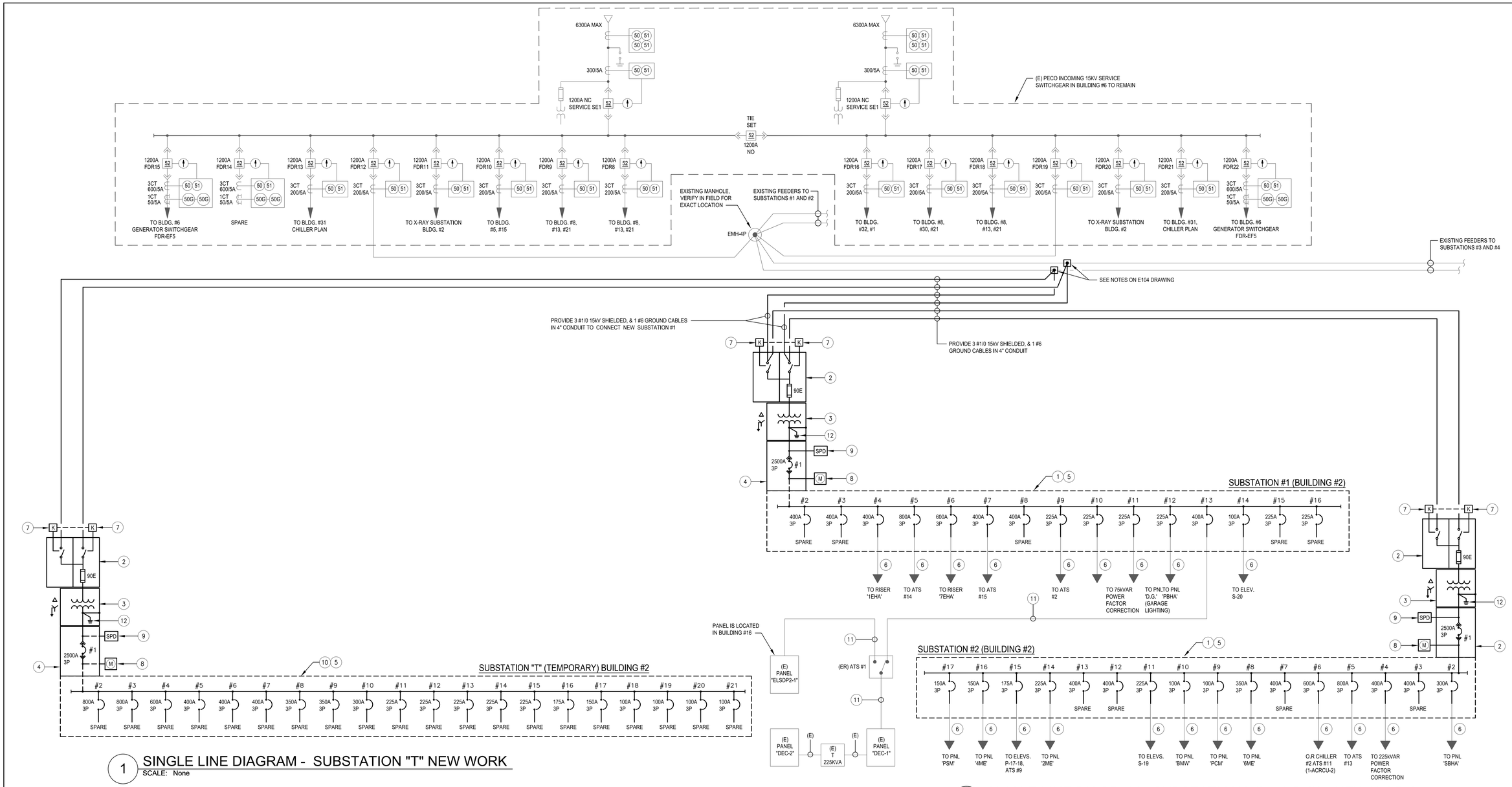

1 SINGLE LINE DIAGRAM - SUBSTATION "T" NEW WORK
SCALE: None

2 SINGLE LINE DIAGRAM - SUBSTATIONS #1 AND #2 - NEW WORK
SCALE: None

GENERAL NOTES

1. REFER TO THE ELECTRICAL COVER SHEET FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFER TO DRAWING E-108 FOR PANEL SCHEDULES.
3. FOR PHASING AND INSTALLATION NOTES REFER TO DRAWING E-101.

KEYED NOTES - NEW WORK PLAN

1. PROVIDE SUBSTATIONS #1, #2 AND "T" (TEMPORARY) PER SPECIFICATIONS AND CONTRACT DOCUMENT. COORDINATE AND VERIFY IN FIELD FOR ALL DIMENSIONS AND CLEARANCES INDICATED ON DRAWING E-103.
2. PROVIDE 15kV, DUPLEX LOAD-INTERRUPTER FUSIBLE SWITCH. COORDINATE IN FIELD FOR EXACT LOCATION PRIOR TO INSTALLATION.
3. PROVIDE 1500KVA TRANSFORMER, 13.2kV DELTA PRIMARY, 480Y/277V, 3PH, 4W SECONDARY FOR SUBSTATIONS #1, #2 AND "T" (TEMPORARY). COORDINATE IN FIELD FOR EXACT LOCATION PRIOR TO INSTALLATION.
4. PROVIDE A MAIN CIRCUIT BREAKERS FOR SUBSTATION #1, #2 AND "T" (TEMPORARY). COORDINATE IN FIELD FOR EXACT LOCATION PRIOR TO INSTALLATION.
5. ALL CONNECTIONS SHALL COMPLY WITH THE MANUFACTURER REQUIREMENT.
6. RECONNECT EXISTING ELECTRICAL EQUIPMENT TO NEW SUBSTATION #2 EXTEND FEEDERS AND CONDUITS AS REQUIRED. NEW FEEDERS AND CONDUITS SHALL MATCH EXISTING.
7. PROVIDE KEY INTERLOCKS TO PREVENT BOTH 15kV LOAD-INTERRUPTER SWITCHES FROM BEING CLOSED AT THE SAME TIME.
8. PROVIDE DIGITAL METER PER SWITCHBOARD SPECIFICATION.
9. PROVIDE 400kA, 480V, 3-PHASE, 4 WIRE, TYPE 2 SURGE PROTECTOR DEVICE.
10. PROVIDE TEMPORARY SUBSTATIONS "T" PER CONTRACT DOCUMENT FOR TRANSFERRING LOADS FROM EXISTING TO NEW SUBSTATIONS. COORDINATE AND VERIFY IN FIELD FOR ALL DIMENSIONS AND CLEARANCES INDICATED ON DRAWING E-103.
11. REUSED EXISTING FEEDERS AND CONDUITS TO CONNECT RELOCATION ELECTRICAL EQUIPMENT. EXTEND FEEDERS AND CONDUIT AS REQUIRED.
12. PROVIDE 1 #3/0 AWG COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" CONDUIT, CONNECT TO (E) BUILDING SERVICE GROUNDING SYSTEM.

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:
BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER II PE-0810-E

Name Title	Drawing Title SINGLE LINE RISERS - SUBSTATIONS #1, #2 AND "T" - NEW WORK	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number 642-22-104
Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number E-107 Dwg. 21 of 25
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024 / Checked AR / Drawn MK	Office of Facility Management Service Department of Veterans Affairs

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(N) SUBSTATION #1 BUILDING 2 (feeds from PECO 15KV service switchgear circuit #12 and #19 in BLDG. #6)

SWITCHBOARD DESIGNATION AND CHARACTERISTICS	MODULE NO.	LOAD DESCRIPTION	LOAD DATA: CONNECTED PHASE KVA A	B	C	DEMAND KVA	CIRCUIT BREAKER CHARACTERISTICS: FRAME RATING	SENSOR RATING (S)	PLUG RATING (X)	BREAKER KAIC	CIRCUIT BREAKER SETTINGS: LONG TIME CURRENT SETTING (C)	LONG TIME DELAY SECONDS	SHORT TIME PICK UP MULTIPLE OF (C)	SHORT TIME DELAY SECONDS	INSTANTANEOUS PICK UP MULTIPLE OF (X)	GROUND FAULT SETTING MULTIPLE OF SENSOR	GROUND FAULT DELAY SECONDS	REMARKS
SWBD #1 480Y/277V 3PH, 4W 2500 AMPERES 50kAIC FREE STANDING	1	MAIN					2500		2500									
	2	SPARE	EXISTING	EXISTING	EXISTING		400		400									
	3	SPARE	EXISTING	EXISTING	EXISTING		400		400									
	4	(E) RISER -1EHA	EXISTING	EXISTING	EXISTING		400		400									
	5	(E) ATS-14	EXISTING	EXISTING	EXISTING		800		800									
	6	(E) RISER -7EHA	EXISTING	EXISTING	EXISTING		800		600									
	7	(E) ATS-15 (EQUIPMENT ROOM B3A138E)	EXISTING	EXISTING	EXISTING		400		400									
	8	SPARE					400		400									
	9	(E) ATS-2					225		225									
	10	75kVAR POWER FACTOR CORRECTION	-	-	-		225		225									
	11	(E) PANEL "D.G." (GARAGE LIGHTING)	EXISTING	EXISTING	EXISTING		225		225									
	12	(E) PANEL "PBHA"	EXISTING	EXISTING	EXISTING		225		225									
	13	(E) ATS-1 FEEDS TO B2A104	EXISTING	EXISTING	EXISTING		400		400									
	14	ELEVATOR S-20	EXISTING	EXISTING	EXISTING		225		100									
	15	SPARE					225		225									
	16	SPARE					225		225									
	CONNECTED KVA PER PHASE/DEMAND KVA		0	0	0	0												

SUMMARY		
CONNECTED KVA - ALL PHASES	0	KVA
CONNECTED AMPERES @ 480 VOLTS	0	AMPERES
DEMAND AMPERES	0	AMPERES
DEMAND AMPERES @ 125%	0	AMPERES
FEEDER SIZE	4W####	AMPERES

SCHEDULE EXPLANATORY NOTES
(S) = CIRCUIT BREAKER SENSOR AMP RATING
(X) = RATING PLUG AMPS
(C) = PICKUP-MULTIPLE OF RATING PLUG AMPS (X)
DELAY = TIME DELAY AT 600% OF CURRENT SETTING
I^2T IN DELAY = TIME DELAY AT 600% OF CURRENT SETTING
I^2T OUT DELAY = TIME DELAY AT LOWER LIMIT OF BAND

(N) SUBSTATION #2 BUILDING 2 (feeds from PECO 15KV service switchgear circuit #12 and #19 in BLDG. #6)

SWITCHBOARD DESIGNATION AND CHARACTERISTICS	MODULE NO.	LOAD DESCRIPTION	LOAD DATA: CONNECTED PHASE KVA A	B	C	DEMAND KVA	CIRCUIT BREAKER CHARACTERISTICS: FRAME RATING	SENSOR RATING (S)	PLUG RATING (X)	BREAKER KAIC	CIRCUIT BREAKER SETTINGS: LONG TIME CURRENT SETTING (C)	LONG TIME DELAY SECONDS	SHORT TIME PICK UP MULTIPLE OF (C)	SHORT TIME DELAY SECONDS	INSTANTANEOUS PICK UP MULTIPLE OF (X)	GROUND FAULT SETTING MULTIPLE OF SENSOR	GROUND FAULT DELAY SECONDS	REMARKS
SWBD #2 480Y/277V 3PH, 4W 2500 AMPERES 50kAIC FREE STANDING	1	MAIN					2500		2500									
	2	(E) PANEL "SBHA" FEEDS TO (B3A102)	EXISTING	EXISTING	EXISTING		400		300									
	3	SPARE	-	-	-		400		400									
	4	(N) 225kVAR AUTOMATIC POWER F.C.U.	EXISTING	EXISTING	EXISTING		400		400									
	5	(E) ATS #13	EXISTING	EXISTING	EXISTING		800		800									
	6	(E) O.R. CHILLER #2 (ATS #11)	EXISTING	EXISTING	EXISTING		800		600									
	7	SPARE	EXISTING	EXISTING	EXISTING		400		400									
	8	(E) PANEL "6ME"	EXISTING	EXISTING	EXISTING		400		350									
	9	(E) PANEL "PCM" FEEDS TO (B2A105A)	EXISTING	EXISTING	EXISTING		225		100									
	10	(E) PANEL "BMW" FEEDS TO (B1B100)	EXISTING	EXISTING	EXISTING		225		100									
	11	(E) ELEVATOR S-19	EXISTING	EXISTING	EXISTING		225		225									
	12	SPARE	-	-	-		400		400									
	13	SPARE	-	-	-		400		400									
	14	(E) PANEL "2ME" FEEDS TO (2A103)	EXISTING	EXISTING	EXISTING		225		225									
	15	(E) ELEVATORS P-17-18 (ATS #9)	EXISTING	EXISTING	EXISTING		225		175									
	16	(E) PANEL "4ME" FEEDS TO (4A101)	EXISTING	EXISTING	EXISTING		225		150									
	17	(E) PANEL "PSM"	EXISTING	EXISTING	EXISTING		225		150									
	CONNECTED KVA PER PHASE/DEMAND KVA		0	0	0	0												

SUMMARY		
CONNECTED KVA - ALL PHASES	0	KVA
CONNECTED AMPERES @ 480 VOLTS	0	AMPERES
DEMAND AMPERES	0	AMPERES
DEMAND AMPERES @ 125%	0	AMPERES
FEEDER SIZE	4W####	AMPERES

SCHEDULE EXPLANATORY NOTES
(S) = CIRCUIT BREAKER SENSOR AMP RATING
(X) = RATING PLUG AMPS
(C) = PICKUP-MULTIPLE OF RATING PLUG AMPS (X)
DELAY = TIME DELAY AT 600% OF CURRENT SETTING
I^2T IN DELAY = TIME DELAY AT 600% OF CURRENT SETTING
I^2T OUT DELAY = TIME DELAY AT LOWER LIMIT OF BAND

(N) SUBSTATION T BUILDING 2 (feeds from main distribution switchgear circuit #12 in BLDG. #19)

SWITCHBOARD DESIGNATION AND CHARACTERISTICS	MODULE NO.	LOAD DESCRIPTION	LOAD DATA: CONNECTED PHASE KVA A	B	C	DEMAND KVA	CIRCUIT BREAKER CHARACTERISTICS: FRAME RATING	SENSOR RATING (S)	PLUG RATING (X)	BREAKER KAIC	CIRCUIT BREAKER SETTINGS: LONG TIME CURRENT SETTING (C)	LONG TIME DELAY SECONDS	SHORT TIME PICK UP MULTIPLE OF (C)	SHORT TIME DELAY SECONDS	INSTANTANEOUS PICK UP MULTIPLE OF (X)	GROUND FAULT SETTING MULTIPLE OF SENSOR	GROUND FAULT DELAY SECONDS	REMARKS
SWBD T 480Y/277V 3PH, 4W 2500 AMPERES 50kAIC FREE STANDING	1	MAIN					2500		2500									
	2	SPARE					800		800									
	3	SPARE					800		800									
	4	SPARE					400		400									
	5	SPARE					400		400									
	6	SPARE					400		400									
	7	SPARE					400		400									
	8	SPARE					225		225									
	9	SPARE					225		225									
	10	SPARE					225		225									
	11	SPARE					225		225									
	12	SPARE					225		225									
	13	SPARE					225		175									
	14	SPARE					225		150									
	15	SPARE					225		100									
	16	SPARE					225		100									
	17	SPARE					225		100									
	18	SPARE					225		100									
	CONNECTED KVA PER PHASE/DEMAND KVA		0	0	0	0												

SUMMARY		
CONNECTED KVA - ALL PHASES	0	KVA
CONNECTED AMPERES @ 480 VOLTS	0	AMPERES
DEMAND AMPERES	0	AMPERES
DEMAND AMPERES @ 125%	0	AMPERES
FEEDER SIZE	4W####	AMPERES

SCHEDULE EXPLANATORY NOTES
(S) = CIRCUIT BREAKER SENSOR AMP RATING
(X) = RATING PLUG AMPS
(C) = PICKUP-MULTIPLE OF RATING PLUG AMPS (X)
DELAY = TIME DELAY AT 600% OF CURRENT SETTING
I^2T IN DELAY = TIME DELAY AT 600% OF CURRENT SETTING
I^2T OUT DELAY = TIME DELAY AT LOWER LIMIT OF BAND

1 SUBSTATIONS #1 AND #2 ELEVATION
SCALE: None

2 SUBSTATIONS TEMPORARY ELEVATION
SCALE: None

DESIGN CHANGE APPROVED

DESCRIPTION	DATE
BID DOCUMENTS	October-21-2024

CONSULTANT FIRM:

SEAL:

ARCHITECTS/ENGINEERS:

A DESIGN GROUP, LLC
ART - ARCHITECTURE - ENGINEERING
2787 HILL ROAD
VIENNA, VA 22181
FRANK V. STURGEON, AIA
AMBRISH RASTOGI, PE
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FRANK@ADG10.COM

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER PE-051887-E

Name / Title
Name / Title
Name / Title
Name / Title

Drawing Title: SCHEDULES AND EQUIPMENT ELEVATIONS

Chief Engineer Approval

Name, Title
Prevention Coordinator

Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1

Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER

Date: 10-21-2024 | Checked: AR | Drawn: MK

Project Number: 642-22-104

Building Number: 2

Drawing Number: E-108

Dwg. 22 of 25

Office of Facility Management Service

Department of Veterans Affairs

VA FORM 08-6231

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three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

GENERAL NOTES:

1. THE INTENT OF THESE DRAWINGS IS TO PROVIDE A COMPLETE AND PROPERLY FUNCTIONING SPRINKLER SYSTEM. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACHIEVE SUCH REQUIREMENTS. CONTRACTOR IS OBLIGATED TO EXAMINE PLANS. ANY OBSERVED FAULTS OR AMBIGUITY IN THIS PLAN SET SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF AS-BUILT DRAWINGS AND TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
2. ALL WORK ON THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS. ALL EQUIPMENT SHALL BE UL LISTED.
3. THESE DRAWINGS ARE SCHEMATIC AND INTENDED TO DEPICT THE GENERAL LOCATION OF SPRINKLER SYSTEM COMPONENTS.
4. CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS AND ARRANGE FOR INSPECTIONS BY VA MEDICAL CENTER
5. SPRINKLER CONTRACTOR SHALL THOROUGHLY CLEAN THE WORK AREA DAILY OR AS REQUESTED BY THE GENERAL CONTRACTOR. CONTRACTOR SHALL ALSO REMOVE ALL TRASH AND DEBRIS AFTER THE COMPLETION OF THE WORK.
6. THE SPRINKLER WORK SHALL BE PERFORMED IN A WORKMANLIKE FASHION. WORK SHALL BE REPLACED IF, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, IT IS NOT INSTALLED IN A PROPER MANNER.
7. ALL EQUIPMENT AND THE SYSTEM SHALL BE PROVIDED IN CONFORMANCE WITH NFPA 13, AND MANUFACTURER'S RECOMMENDATIONS, CURRENT CODES AND UFC REQUIREMENTS.
8. HANGARS AND SUPPORTS, SHALL BE PER NFPA 13 REQUIREMENTS FOR INSTALLATION AND SPACING.
9. SUBMITTALS
   A. SUBMIT A LIST OF ANY PRODUCT SUBSTITUTIONS.
   B. SUBMIT SHOP DRAWINGS, PRODUCT DATA OF ALL EQUIPMENT, AND HYDRAULIC CALCULATIONS (IF NECESSARY) PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL MAKE ALL REQUIRED REVISIONS BASED ON REVIEW COMMENTS.
   C. IMMEDIATELY UPON PROJECT COMPLETION, PREPARE AND SUBMIT AS-BUILT DRAWINGS IN THE FORM OF MARKED-UP CONSTRUCTION DOCUMENTS DETAILING THE AS-BUILT CONDITIONS AND ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.
   D. A MINIMUM OF TWO WEEKS TIME WILL BE REQUIRED FOR A REVIEW OF EACH SUBMITTAL BY THE ARCHITECT AND ENGINEER. INVOLVED SUBMITTALS SUCH AS CONTROLS MAY REQUIRE ADDITIONAL TIME TO REVIEW. CONTRACTOR IS RESPONSIBLE FOR ALLOCATING SUFFICIENT TIME IN THE CONSTRUCTION SCHEDULE TO OBTAIN FINAL APPROVAL OF SUBMITTALS, INCLUDING TIME FOR SUBSEQUENT REVIEWS OF SUBMITTALS NOT INITIALLY APPROVED. ANY CLAIMS FOR DELAYS RELATED TO SUBMITTAL REVIEW WILL NOT BE ACCEPTED.
10. PROJECT CLOSEOUT:
    A. FURNISH "AS-BUILT" DRAWINGS.
    B. PROVIDE INSTRUCTION TO OWNER AND DESIGNATED PERSONNEL, DEMONSTRATING TYPICAL MAINTENANCE AND REPAIR PROCEDURES.
    C. PROVIDE OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT.
    D. PROVIDE WARRANTY CERTIFICATES FOR ALL EQUIPMENT.
    E. PROVIDE REQUIRED SPARE PARTS.
    F. PROVIDE SYSTEM DEMONSTRATION.

FIRE PROTECTION LEGEND

ABBREVIATIONS

AD	AREA DRAIN
AP	ACCESS PANEL
BFP	BACKFLOW PREVENTER
CLG	CEILING
CO.	CLEANOUT
DFU	DRAINAGE FIXTURE UNITS
CW	COLD WATER
DN	DOWN
FD	FLOOR DRAIN
FLR.	FLOOR
FIXT.	FIXTURE
GPF	GALLONS PER FLUSH
GPM	GALLONS PER MINUTE
IPC	INTERNATIONAL PLUMBING CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
SP	STANDPIPE

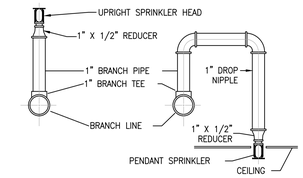
SYMBOLS

- CONTROL VALVE WITH TAMPER SWITCH
- PIPE UP
- PIPE DOWN
- FIRE ALARM MONITOR MODULE
- WATERFLOW SWITCH
- STANDPIPE WITH HOSE OUTLET
- REMOVE AND DISPOSE OF EXISTING SPRINKLER
- NEW SPRINKLER (SUGGESTED LOCATION, INFORMATION ONLY)
- SP — EXISTING WORK
- PHOTO REFERENCE OF EXISTING CONDITIONS ARROW POINTS IN DIRECTION OF PHOTO
- DISCONNECTION POINT
- POINT OF CONNECTION NEW TO EXISTING
- HATCHED SYMBOLS INDICATE EXISTING TO BE REMOVED
- RISER
- CHECK VALVE
- DRAIN VALVE
- OS&Y VALVE
- SPRINKLER HEAD
- BACKFLOW PREVENTER
- FLOW SWITCH
- VALVE WITH SUPERVISORY SWITCH
- EXISTING SYSTEM/PIPING

NOTE: ALL ABBREVIATIONS AND SYMBOLS MAY NOT BE USED

FIRE PROTECTION SYSTEM NOTES:

1. THE TERM "PROVIDE" SHALL MEAN THE CONTRACTOR SHALL FURNISH, INSTALL, AND CONNECT FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. CONTRACTOR SHALL PROVIDE A COMPLETE WET PIPE AUTOMATIC SPRINKLER SYSTEM THROUGHOUT THE BUILDING, INCLUDING WATER FLOW ALARM SWITCHES, VALVE SUPERVISORY SWITCHES, CHECK VALVES, CONTROL VALVES, PIPING, HANGERS, SPRINKLERS, AND ALL ASSOCIATED EQUIPMENT. ALL WORK AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE PROVISIONS OF THE VA FIRE PROTECTION DESIGN MANUAL, AND LATEST EDITIONS OF ASME A17.1 AND NFPA 13.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE CONCERNING THE WORK BEFORE PROCEEDING WITH EITHER FABRICATION OR INSTALLATION OF NEW WORK.
4. ANY INFORMATION CONFLICTS BETWEEN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE CONTRACTING OFFICER'S (COR) ATTENTION. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, EXCEPT AT THEIR OWN RISK UNTIL CLARIFICATIONS OF THE CONFLICTS ARE ISSUED TO THE CONTRACTOR BY THE COR.
5. SPRINKLER SYSTEMS SHALL CONSIST OF WET PIPE TYPE WITHIN AREA OF SCOPE OF WORK.
6. ALL PIPING MODIFICATIONS SHALL MATCH THE PREVIOUSLY PIPE SIZES.
7. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS PRIOR TO CONDUCTING ANY WORK.
8. ALL WALL AND FLOOR PENETRATIONS SHALL BE CORE-DRILLED. PROVIDE PIPE SLEEVES FOR WALL AND FLOOR PENETRATIONS AS INDICATED IN THE SPECIFICATIONS. ALL PENETRATIONS IN WALLS, CEILINGS AND FLOORS SHALL BE SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH APPROVED FIRE STOPPING MATERIAL OF EQUAL OR GREATER FIRE RESISTANCE.
9. THE EXISTING SYSTEMS SHALL REMAIN IN SERVICE UNTIL NEW WORK IS TESTED AND ACCEPTED. INTERRUPTION OF PROTECTION FOR THE PURPOSES OF MAKING TAPS OF EXISTING PIPING OR MAKING INTERCONNECTIONS BETWEEN NEW AND EXISTING WORK SHALL BE COORDINATED IN ADVANCE WITH COR.
10. THE SPRINKLER HEADS INSTALLED BELOW 8'-0" ABOVE FINISHED FLOOR SHALL BE PROVIDED WITH A SPRINKLER HEAD GUARD.
11. THE SPRINKLER PIPING INSTALLED IN FINISHED AREAS SHALL BE CONCEALED.
12. ALL CEILINGS, WALLS, FLOORS AND FINISHES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND PAINTED TO MATCH EXISTING CONDITIONS.
13. ALL DAMAGE TO WALLS, CEILINGS, FLOORS, AND STRUCTURAL MEMBERS FROM PENETRATIONS, INSTALLATIONS OR OTHER ACTIONS OF THE CONTRACTORS SHALL BE PATCHED, REPAIRED, AND PAINTED WITH NEW MATERIALS BY THE CONTRACTOR TO MATCH ADJACENT WORK, WHETHER SPECIFICALLY NOTED OR NOT.
14. THE CONTRACT DRAWINGS FOR SPRINKLER WORK ARE DIAGRAMMATIC, INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT. CONTRACTOR SHOULD VISIT THE SITE TO DETERMINE EXACT QUANTITIES AND SCOPE OF WORK.
15. PRIOR TO THE INSTALLATION OF THE SPRINKLER SYSTEM, THE SPRINKLER CONTRACTOR SHALL COORDINATE PIPING, VALVES, SPRINKLERS HEAD, ETC. WITH NEW AND EXISTING DUCT WORK, PIPING, CABLE TRAY, LIGHTING FIXTURES, STRUCTURAL MEMBERS AND OTHER TRADES.
16. ANY NEW FIRE PROTECTION CONTROL VALVES SHALL BE EQUIPPED WITH APPROVED VALVE SUPERVISORY SWITCHES.
17. SPRINKLERS INSTALLED IN PROXIMITY TO DUCTS OR OTHER OBSTRUCTIONS SHALL BE LOCATED TO MINIMIZE OBSTRUCTION TO DISCHARGE IN ACCORDANCE WITH NFPA 13.
18. ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS OF THE SYSTEM CAN BE DRAINED BACK THROUGH THE DRAIN VALVE. ANY REQUIRED AUXILIARY DRAIN VALVES REQUIRED ABOVE CEILINGS SHALL HAVE A SIGN AT THE CEILING LEVEL INDICATING SUCH DRAIN.
19. CONTRACTOR SHALL CONCEAL ALL SPRINKLER PIPING IN AREAS PROVIDED WITH SUSPENDED CEILINGS, EXCEPT FOR PIPING IN THE MECHANICAL ROOM, ELECTRICAL ROOM, TELECOMMUNICATIONS ROOM, ETC.
20. ALL SPRINKLERS SHALL BE STANDARD RESPONSE TYPE. ALL SPRINKLERS WITHIN THE AREA OF WORK SHALL BE REPLACED WITH NEW SPRINKLERS. RELOCATION OF ANY EXISTING SPRINKLER IS PROHIBITED.
21. SPRINKLER CONTRACTOR SHALL PREPARE SHOP DRAWINGS FOR THE COR'S AND ENGINEER'S REVIEW. AFTER THE REVISION OF SPRINKLER DRAWINGS IN COMPLIANCE WITH C.O'S COMMENTS, SUBMIT AN APPROVED STAMPED COPY OF SPRINKLER PLAN BEARING THE APPROVAL OF THE VA FIRE MARSHALL.
22. SPRINKLERS:
    A. IN AREA WITHOUT FINISHED CEILINGS, EXPOSED SPRINKLERS SHALL BE QUICK RESPONSE BRASS FINISH UPRIGHT TYPE.
    B. IN AREAS WITH FINISHED CEILINGS, SPRINKLERS SHALL BE THE QUICK RESPONSE SEMI-RECESSED TYPE, CHROME PLATED WITH 2-PIECE CHROME ESCUTCHEON.
23. THE EXISTING SPRINKLER SYSTEM SHALL REMAIN IN SERVICE DURING DEMOLITION. WHEN THE SYSTEM IS TAKEN OUT OF SERVICE FOR A WORK SHIFT, A FIRE WATCH SHALL BE PERFORMED. THE FIRE WATCH INSTRUCTIONS CAN BE OBTAINED FROM THE VA MEDICAL CENTER COR. THE OCCUPIED PORTION OF THE FLOOR SHALL REMAIN IN SERVICE.



UPRIGHT RECESSED PENDANT

SPRINKLER CONNECTIONS DETAIL

SCALE: NOT TO SCALE

DESIGN CHANGE APPROVED	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS:	SEAL:	Name Title	Drawing Title: FIRE PROTECTION COVER SHEET	Project Title: SUBSTATION UPGRADE BUILDING 2 - PHASE 1
BID DOCUMENTS October-21-2024			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADGIO.COM	COMMONWEALTH OF VIRGINIA PROFESSIONAL AMBRISH K RASTOGI ENGINEER PE-0510202-E	Name Title	Chief Engineer Approval	Location: CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER
DESCRIPTION DATE					Name Title	Name, Title: Prevention Coordinator	Date: 10-21-2024 / Checked: AR / Drawn: AM
					Name Title		Project Number: 642-22-104 / Building Number: 2 / Drawing Number: FP-001 Dwg. 23 of 25

Office of Facility Management Service

Department of Veterans Affairs

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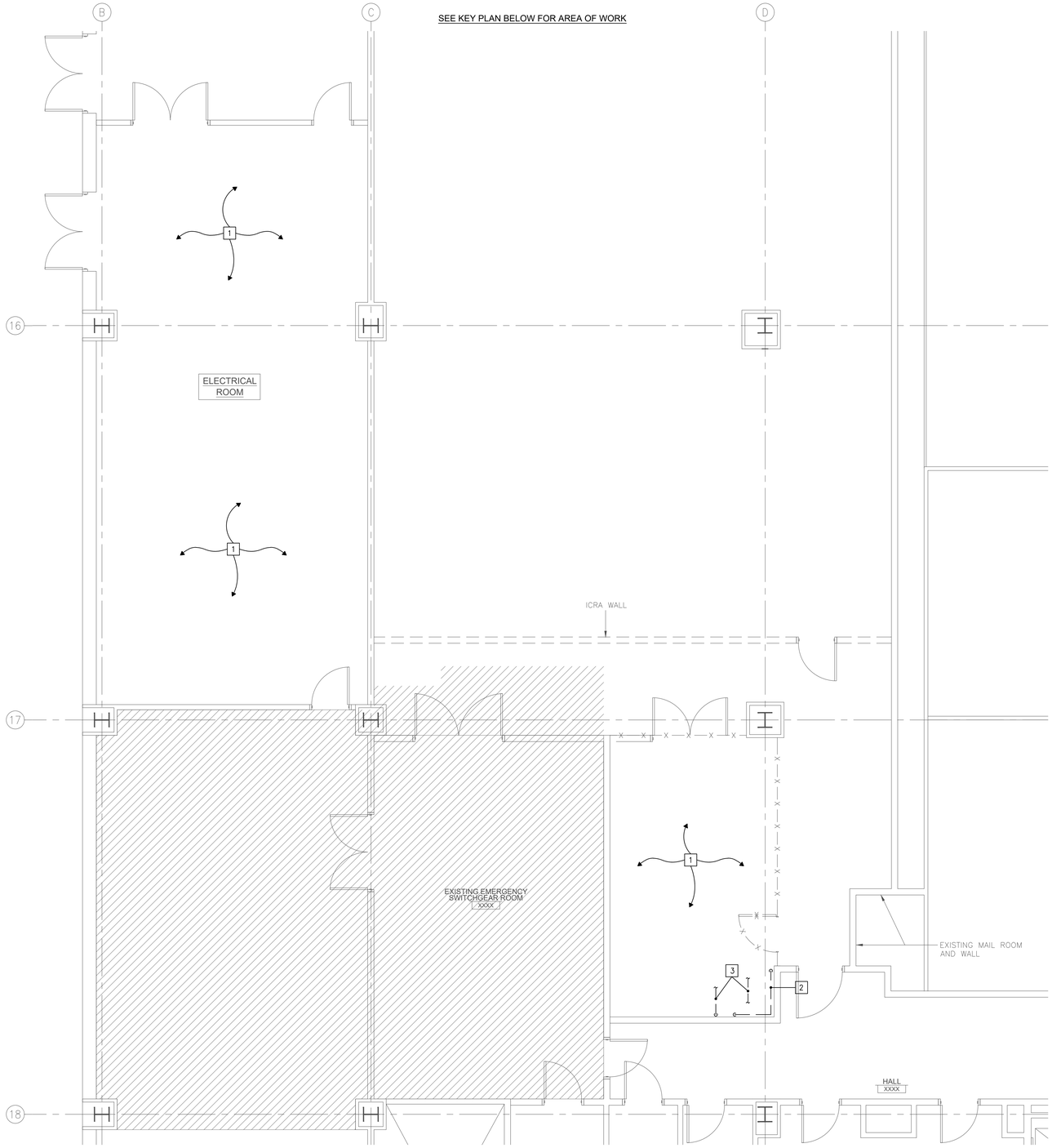
IF THIS SHEET IS NOT 30" X 42"
FULL SIZE, USE GRAPHIC SCALES

one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

SEE KEY PLAN BELOW FOR AREA OF WORK



1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION WORK - FIRE PROTECTION

1/4" = 1'-0"

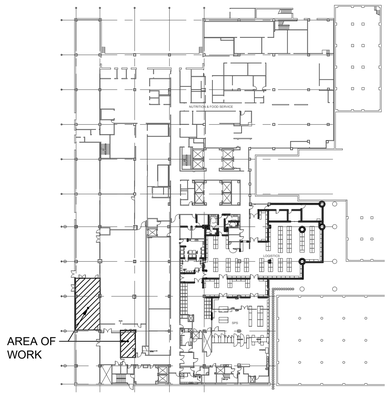
scale: 1/4"= 1'-0"

GENERAL NOTES - DEMOLITION WORK

1. UNDER NO CIRCUMSTANCE SHALL THE WORK PERFORMED UNDER THIS CONTRACT ADVERSELY AFFECT ADJACENT AREAS, NOT PART OF THIS CONTRACT.
2. ALL SERVICE OUTAGES SHALL BE COORDINATED WITH THE OWNER. REQUESTS FOR SERVICE OUTAGES SHALL BE MADE A MINIMUM OF 14 DAYS PRIOR TO ANTICIPATED DATE. THE SPRINKLER SYSTEM SHALL BE PUT BACK INTO SERVICE AT THE END OF EACH OUTAGE. A FIRE WATCH SHALL BE PERFORMED DURING THE SYSTEM OUTAGE.
3. 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 OWNER.
4. ALL DEMOLISHED EQUIPMENT AND RUBBISH SHALL BE CLEARED, TRANSPORTED AND DISPOSED OF IN A LAWFUL AND RESPONSIBLE MANNER.
5. THE CONTRACTOR SHALL REMOVE ANY AND ALL OBSOLETE, UNUSED OR UNNECESSARY ITEMS AS CALLED OUT ON DRAWINGS OR HEREIN SPECIFIED. ANY SUCH ITEMS INTENDED FOR SUCH REMOVAL SHALL BE COMPLETELY VERIFIED AND APPROVED BY THE ARCHITECT.
6. CONTRACTOR SHALL COORDINATE WITH ALL TRADES. CONTRACTOR SHALL DEMOLISH EXISTING LAYOUT AS NECESSARY TO ALLOW INSTALLATION OF OTHER MECHANICAL EQUIPMENT, CEILINGS, WALLS, ETC. DEMOLISH EXISTING SPRINKLER HEADS.

KEYED NOTES-DEMOLITION WORK

1. MODIFY EXISTING SPRINKLER SYSTEM AS REQUIRED (TYPICAL).
2. REMOVE EXISTING ABANDONED 3/4" CW COPPER PIPING AND CAP PIPING AT FLOOR LEVEL. VERIFY IN FIELD.
3. THE CONTRACTOR SHALL COORDINATE EXISTING DRAIN AND SPRINKLER PIPING WITH NEW WORK.



KEY PLAN-GROUND FLOOR

NO SCALE

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BID DOCUMENTS October-21-2024 DESCRIPTION DATE			A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2787 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG10.COM	COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL AMBRISH K RASTOGI ENGINEER

Name Title	Drawing Title ELECTRICAL ROOM-DEMOLITION WORK -FIRE PROTECTION	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1	Project Number 642-22-104
Name Title			Building Number 2
Name Title	Chief Engineer Approval	Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER	Drawing Number FPD-101
Name Title	Name, Title Prevention Coordinator	Date 10-21-2024 / Checked AR / Drawn AM	Dwg. 24 of 25

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SEE KEY PLAN BELOW FOR AREA OF WORK

MECHANICAL EQUIPMENT
B2A105

EXISTING ELECTRICAL

WARE HOUSE
XXXX

ICRA WALL

HALL
XXXX

EXISTING EMERGENCY SWITCHGEAR ROOM
XXXX

NEW TEMPORARY SUBSTATION ROOM

EXISTING MAIL I AND WALL

GENERAL NOTES - NEW WORK

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 EXISTING SYSTEMS WHICH IS NOT PART OF SCOPE OF WORK.
2. ALL EXISTING, NEW WALL PENETRATIONS WILL BE COMPLETELY SEALED WITH APPROVED U/L LISTED FIRE STOPPING MATERIALS. CONTRACTOR SHALL PROVIDE FIRE STOPPING SUBMITTALS FOR APPROVAL.
3. THIS PROJECT SHALL HAVE WET PIPE SPRINKLER SYSTEMS DESIGNED IN ACCORDANCE WITH NFPA 13, IBC'S REQUIREMENTS, VA DESIGN GUIDE LINES. MODIFY EXISTING SPRINKLER SYSTEM TO MAINTAIN FULL SPRINKLER COVERAGE IN THE SCOPE OF WORK AREA.
4. SPRINKLER CONTRACTOR SHALL PREPARE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS FOR THE VA FIRE MARSHALL AND COR REVIEW. AFTER THE REVISION OF SPRINKLER DRAWINGS IN COMPLIANCE WITH VA FIRE MARSHALL COMMENTS, SUBMIT AN APPROVED STAMPED COPY OF SPRINKLER PLAN BEARING THE APPROVAL OF THE VA FIRE MARSHALL.

KEYED NOTES - NEW WORK

(1) MODIFY EXISTING SPRINKLER SYSTEM AS REQUIRED TO PROVIDE FULL SPRINKLER COVERAGE IN THIS AREA (TYPICAL).

NOTE

THE SPRINKLER SYSTEM FOR NEW STORAGE ROOM SHALL BE IN COMPLIANCE WITH ORDINARY HAZARD GROUP 2.

AREA OF WORK

KEY PLAN-GROUND FLOOR
NO SCALE

1 PARTIAL GROUND FLOOR - ELECTRICAL ROOM - NEW WORK - FIRE PROTECTION
1/4" = 1'-0"

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

DESIGN CHANGE APPROVED BID DOCUMENTS October-21-2024 DESCRIPTION DATE	CONSULTANT FIRM:	SEAL:	ARCHITECTS/ENGINEERS: A DESIGN GROUP, LLC ART - ARCHITECTURE - ENGINEERING 2767 HILL ROAD VIENNA, VA 22181 FRANK V. STURGEON, AIA AMBRISH RASTOGI, PE 703.938.5226 FRANK@ADG1O.COM	SEAL:	Name Title Name Title Name Title Name Title	Drawing Title ELECTRICAL ROOM-NEW WORK -FIRE PROTECTION Chief Engineer Approval Name, Title Prevention Coordinator	Project Title SUBSTATION UPGRADE BUILDING 2 - PHASE 1 Location CORPORAL MICHAEL J. CRESCENZ VA MEDICAL CENTER Date 10-21-2024 Checked AR Drawn AM	Project Number 642-22-104 Building Number 2 Drawing Number FP-101 Dwg. 25 of 25	Office of Facility Management Service Department of Veterans Affairs

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