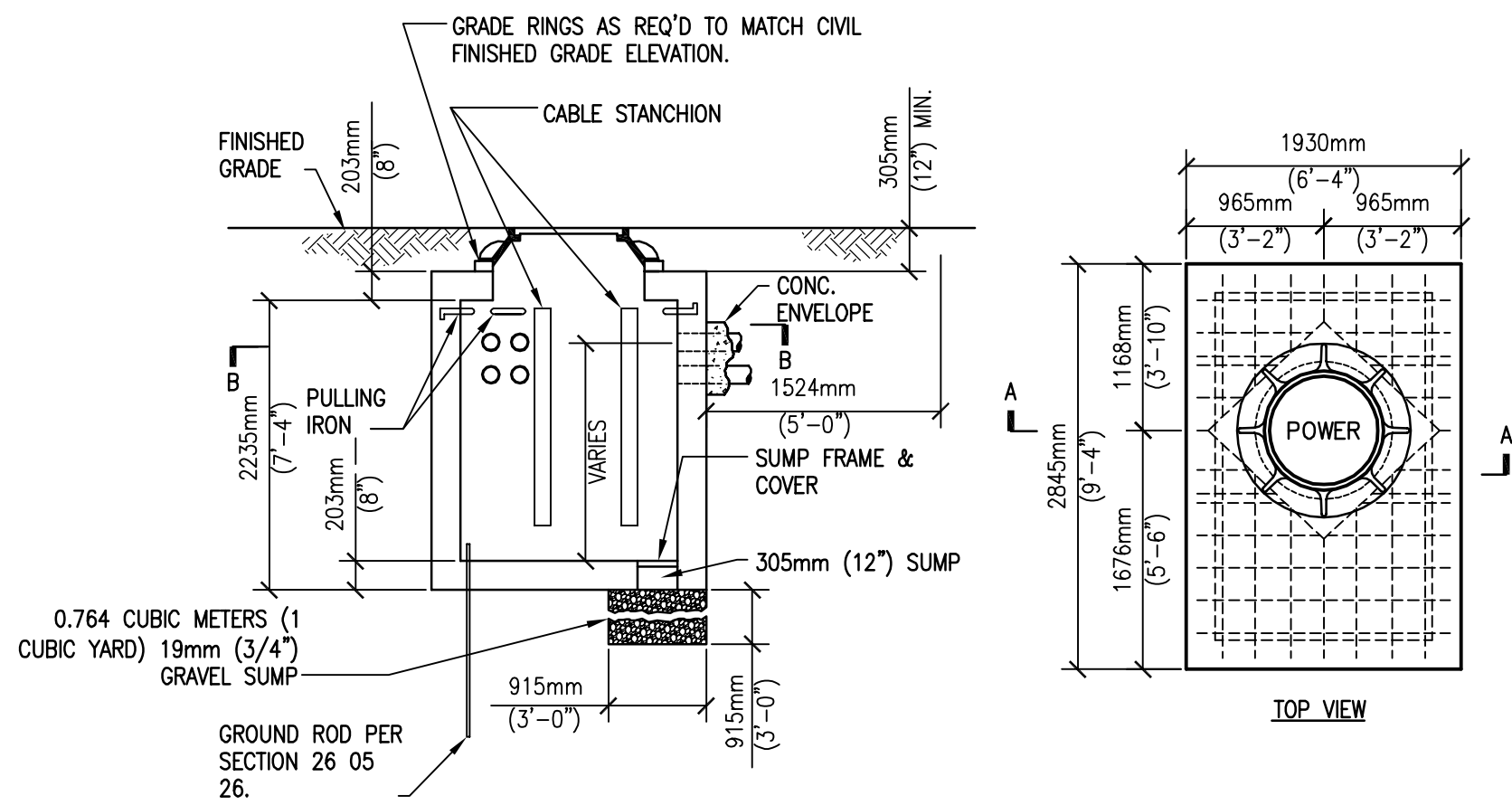
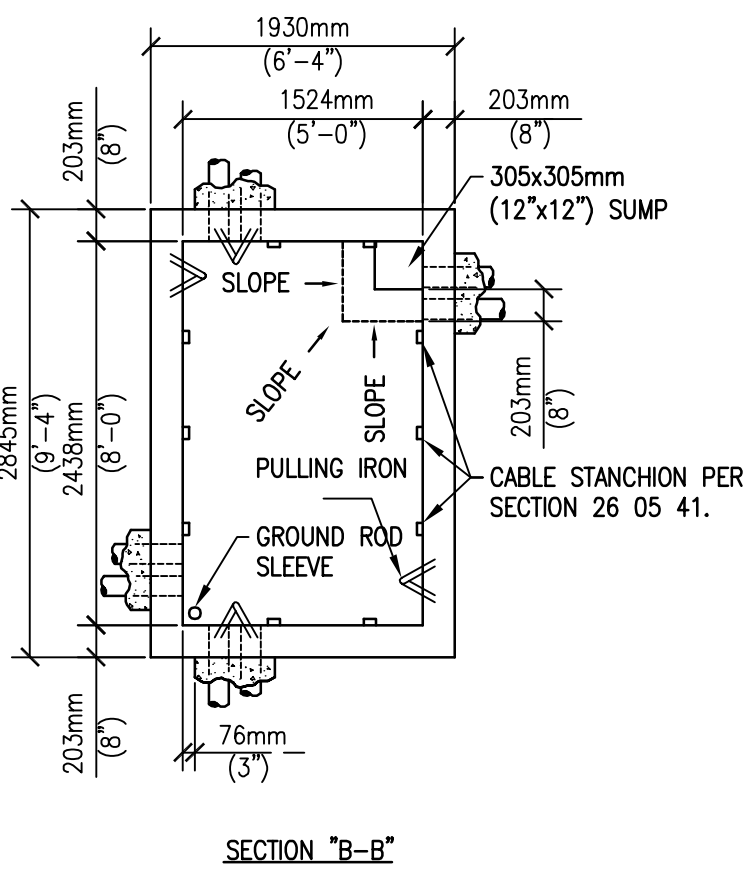


NOTES

- 13.2KV EMERGENCY PARALLELING SWITCHGEAR IN A NEMA 3R WEATHERPROOF ENCLOSURE. SEE SWITCHGEAR BUS DIAGRAM ON THIS SHEET, DETAIL A5 ON SHEET ES101 AND DETAILS ON SHEET EP401.
- 13.2KV, 2000KW GENERATOR WITH NEMA 3R WEATHERPROOF, SOUND ATTENUATED ENCLOSURE. SEE DETAILS ON SHEET EP401.
- UNDERGROUND 13.2KV FEEDER FROM GENERATOR TO EXTERIOR 13.2KV EMERGENCY PARALLELING SWITCHGEAR, 3#1/0, 1/0 GND, IN 4" C.
- EXISTING MANHOLE LOCATED IN PAVED AREA, EAST OF BUILDING 501 TRANSFORMERS.
- 13.2KV FEEDERS TO AND FROM EMERGENCY POWER PARALLELING SWITCHGEAR, 3#4/0, 4/0 GND, IN 4" C. INTERCEPT AND CONNECT TO BUILDING 501 FEEDER FROM HOSPITAL TO CHILLER PLANT.
- EXISTING 4/0, 13.2KV FEEDER FROM MAIN HOSPITAL SWITCHGEAR.
- NEW MANHOLE. BUILD AROUND EXISTING UNDERGROUND DUCTBANK TO ALLOW FOR INTERCEPTION OF EXISTING 13.2KV FEEDER FROM MAIN HOSPITAL SWITCHGEAR.
- INTERCEPT EXISTING FEEDER FROM MAIN HOSPITAL SWITCHGEAR AND ROUTE THRU EXTERIOR 13.2KV EMERGENCY PARALLELING SWITCHGEAR.
- CONNECT TO EXISTING INTERCEPTED FEEDER TO SERVE BUILDING 501 TRANSFORMERS FROM THE EXTERIOR 13.2KV EMERGENCY PARALLELING SWITCHGEAR.
- TO EXISTING BUILDING 501 PAD MOUNTED TRANSFORMERS.
- COORDINATE TRIP SETTING WITH OPD, LOCATED IN THE EXISTING HOSPITAL MV SWITCHGEAR THAT PRESENTLY SERVES BLDG 501.
- PROVIDE 4" EMPTY CONDUIT FROM SWITCHGEAR COMPARTMENT TO 24" BELOW GRADE AND EXTEND A MINIMUM OF 5' BEYOND THE BUILDING FOUNDATION. CAP AND MARK LOCATION FOR FUTURE USE.



SECTION "A-A"



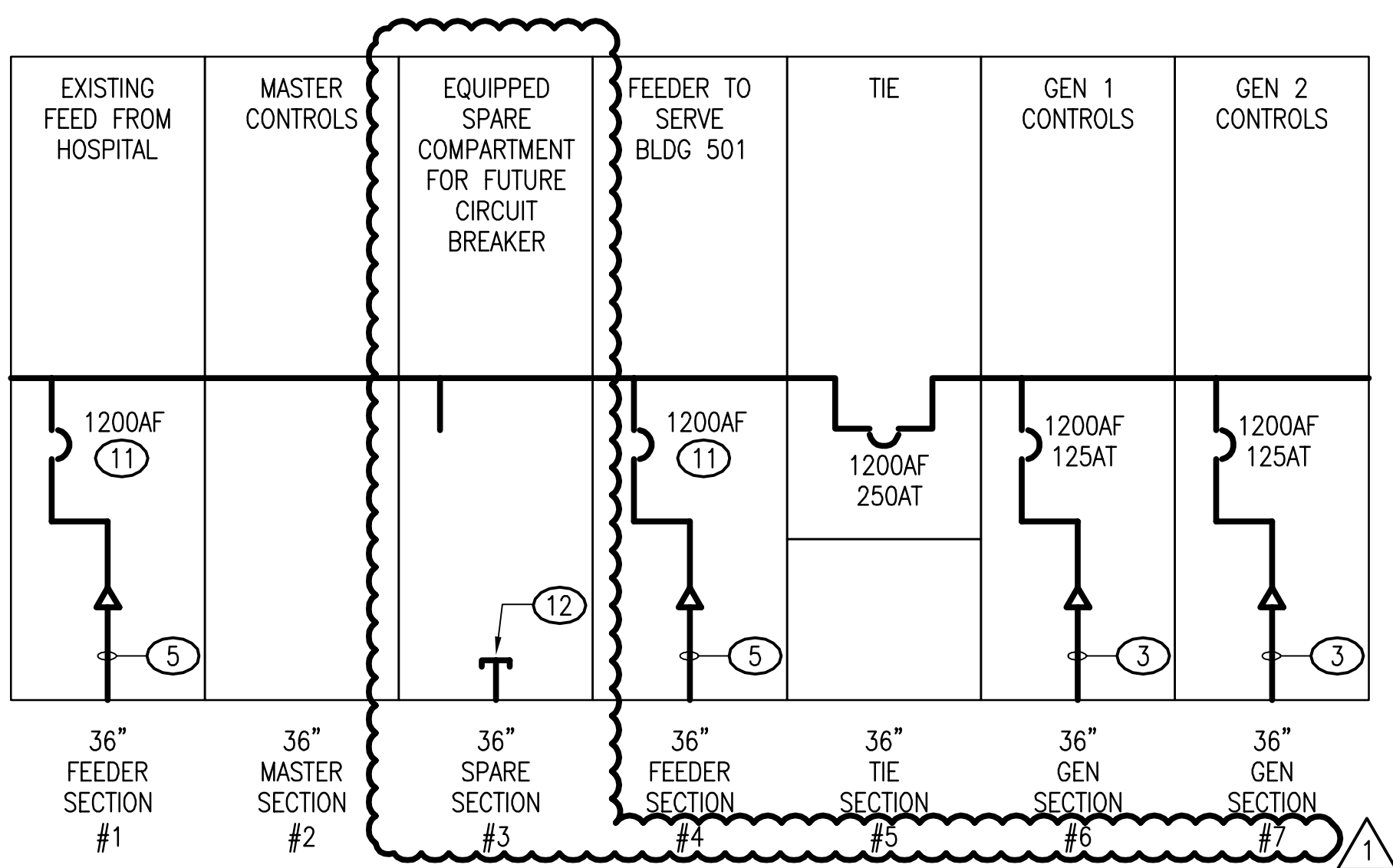
SECTION "B-B"

GENERAL NOTE:

1. INCLUDE ALUMINUM LADDER (NOT SHOWN FOR CLARITY)

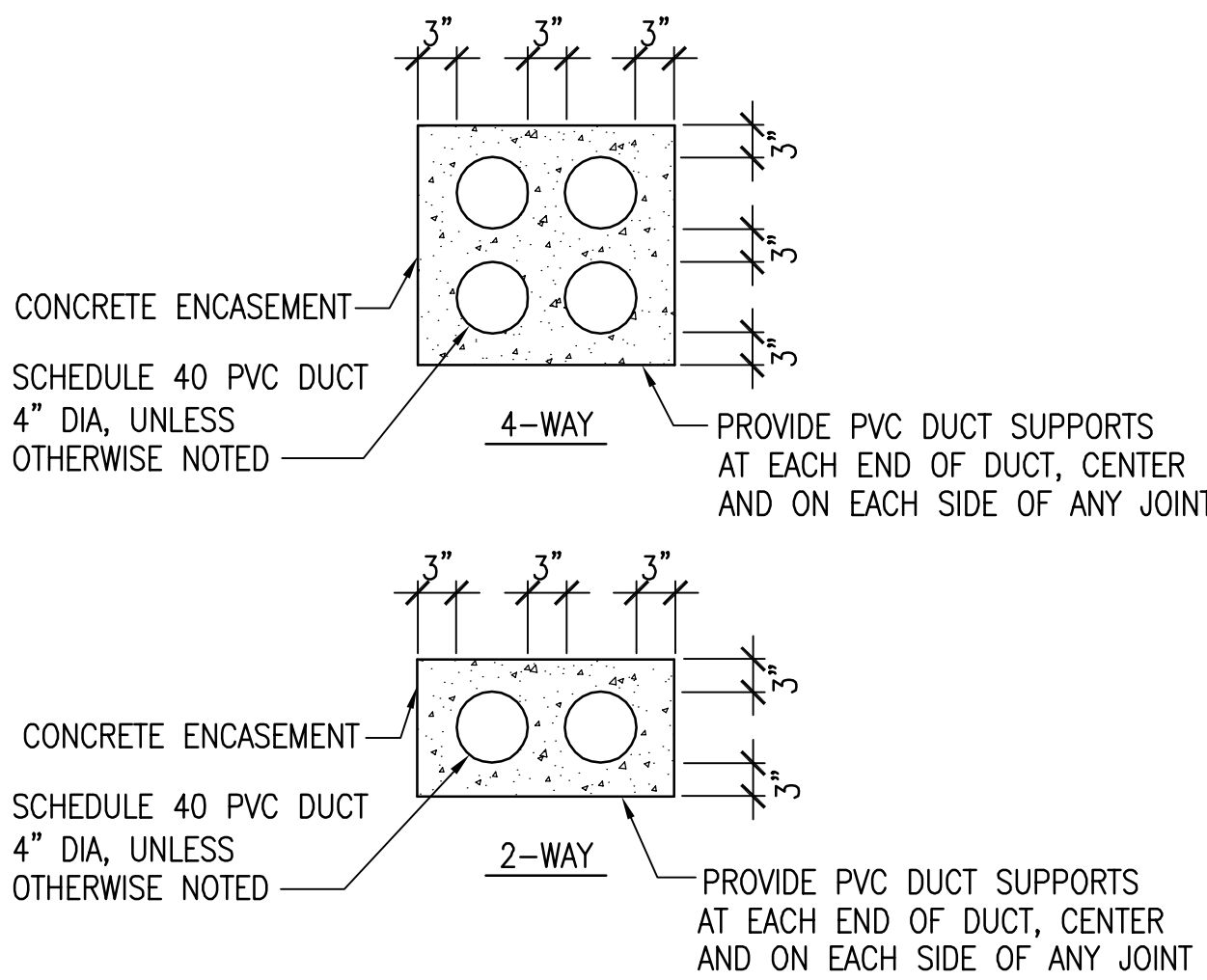
DUCTBANK TRENCH DETAIL

NO SCALE



MANHOLE DETAIL

NO SCALE

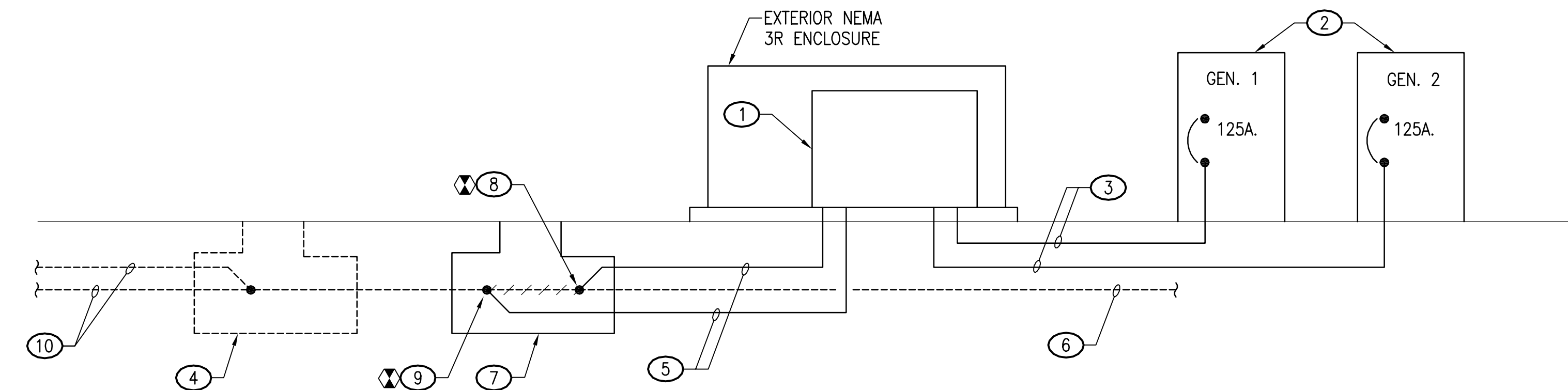


DUCT BANK DETAILS

NO SCALE

EMERGENCY PARALLELING SWITCHGEAR BUS DIAGRAM

NO SCALE









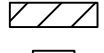



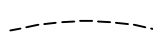




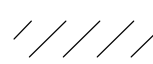

PARTIAL EMERGENCY POWER RISER - BUILDING 501 CHILLER PLANT

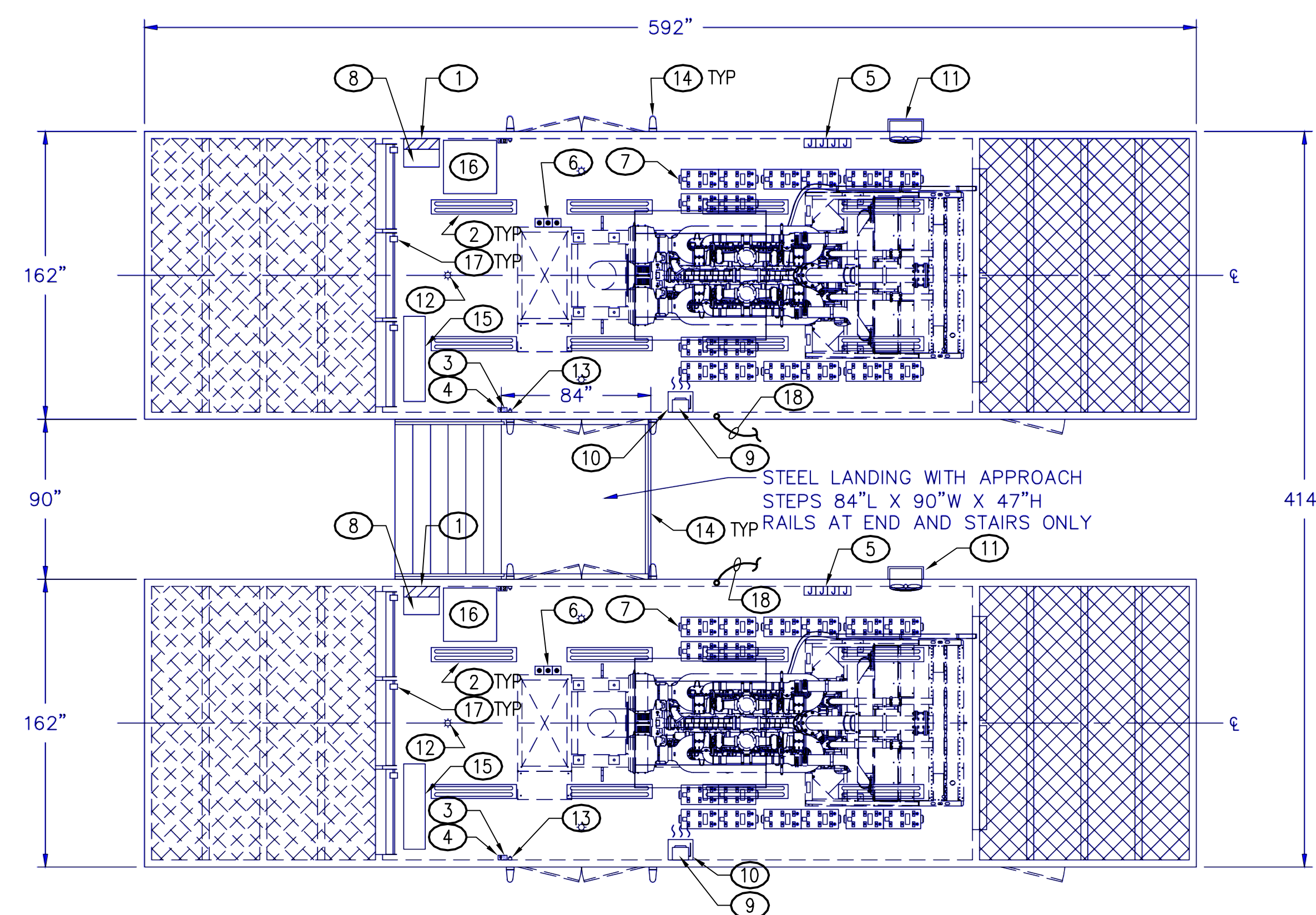
NO SCALE

ABBREVIATIONS

A	AMPERE	KAIC	THOUSAND AMP INTERRUPTING CAPACITY, RMS SYMMETRICAL
AF	AMPERE FRAME	KCMIL	THOUSAND CIRCULAR MILS
AFF	ABOVE FINISHED FLOOR	KVA	KILOVOLT AMPERE
AFG	ABOVE FINISHED GRADE	MCB	MAIN CIRCUIT BREAKER
AHU	AIR HANDLING UNIT	MIN	MINIMUM
AT	AMPERE TRIP	MLO	MAIN LUG ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MT	MOUNT
AWG	AMERICAN WIRE GAUGE	MTD	MOUNTED
BG	BELOW GRADE	MTG HT	MOUNTING HEIGHT
BLDG	BUILDING	MV	MEDIUM VOLTAGE
BRKR	BREAKER	NF	NON-FUSED
C	CONDUIT	N/O	NORMALLY OPEN
CB	CIRCUIT BREAKER	N	NEUTRAL
CKT	CIRCUIT	NIC	NOT IN CONTRACT
DISC SW	DISCONNECT SWITCH	OPD	OVERCURRENT PROTECTIVE DEVICE
DWG	DRAWING	P	POLE
EC	EMPTY CONDUIT	PH	PHASE
ELEV.	ELEVATION	PNL	PANEL
EMT	ELECTRICAL METALLIC TUBING	PVC	POLY VINYL CHLORIDE
EQUIP	EQUIPMENT	QTY	QUANTITY
EXIST	EXISTING	RECEPT	RECEPTACLE
FLA	FULL LOAD AMPS	REQ'D	REQUIRED
GEN	GENERATOR	RMC	RIGID METAL CONDUIT
G	GROUND FAULT INTERRUPTER	SWBD	SWITCHBOARD
GND	GROUND	UG	UNDERGROUND
		UON	UNLESS OTHERWISE NOTED
		V	VOLTS
		WP	INDICATES WEATHERPROOF EQUIPMENT
		X/F	TRANSFORMER

ELECTRICAL LEGEND

SYMBOL		DESCRIPTION
EXISTING		LIGHTING
		EXTERIOR COMPACT FLUORESCENT LIGHT WITH PHOTOCELL.
		FLUORESCENT LIGHT WITH 32W T8 LAMPS.
		(4) LIGHT SWITCHES, (2) INTERIOR GFI RECEPTACLES, (4) EXTERNAL SWITCHES
		EXIT SIGN WITH EMERGENCY LIGHTS.
		POWER
		PANELBOARD – 480Y/277V
		PANELBOARD – 208Y/120V
		DRY-TYPE TRANSFORMER
		SWITCHGEAR LUG
		CIRCUIT BREAKER
		WIRE, CONDUIT AND RACEWAY
		FEEDER WIRING IN CONDUIT AS NOTED
		CONDUIT STUB UP
		GENERAL
		NOTE REFERENCE NUMBER.
		POINT OF CONNECTION NEW-TO-EXISTING. (SEE LEGEND NOTE 1)
		HATCHING INDICATES REMOVE DEVICE OR CIRCUIT
		POWER DEVICES
		DUPLEX CONVENIENCE RECEPTACLE, 15 A, 125 VAC, MOUNT 18" AFF UON.



- BLDG 501 MV GENERATORS – PLAN VIEW
NO SCALE

SWITCHGEAR ACCESS DOORS

6" 6" 6" 6" 6" 6"

27" 54" 30" 30" 30" 30" 30" 30" 30" 54" 27"

90" 132" 146"

408"

NORTH SIDE VIEW

[illegible]

END VIEW

Technical drawing showing the end view of the mobile office unit. Dimensions are provided in inches:

- Overall width: 227"
- Overall height: 27"
- Distance from left edge to the start of the main body: 21"
- Width of the main body: 36"
- Distance from the end of the main body to the right edge: 21"
- Distance from the left edge to the center of the main body: 78"
- Distance from the center of the main body to the right edge: 122"
- Distance from the left edge to the center of the main body: 200"

Labels:

- STAINLESS STEEL GROUND PAD (pointing to the pad on the right side)

EXHAUST OUTLET

RAIN GUTTERS ABOVE DOORS

AIR DISCHARGE GRAVITY LOUVERS

UL-142 LISTED 10,000 GALLON SUB-BASE TANK

92.94"

142"

189"

47"

48"

2"

48"

2"

48"

162"

EXHAUST OUTLET

RAIN GUTTERS ABOVE DOORS

AIR DISCHARGE GRAVITY LOUVERS

UL-142 LISTED 10,000 GALLON SUB-BASE TANK

120"

142"

189"

6.03"

47"

58.5"

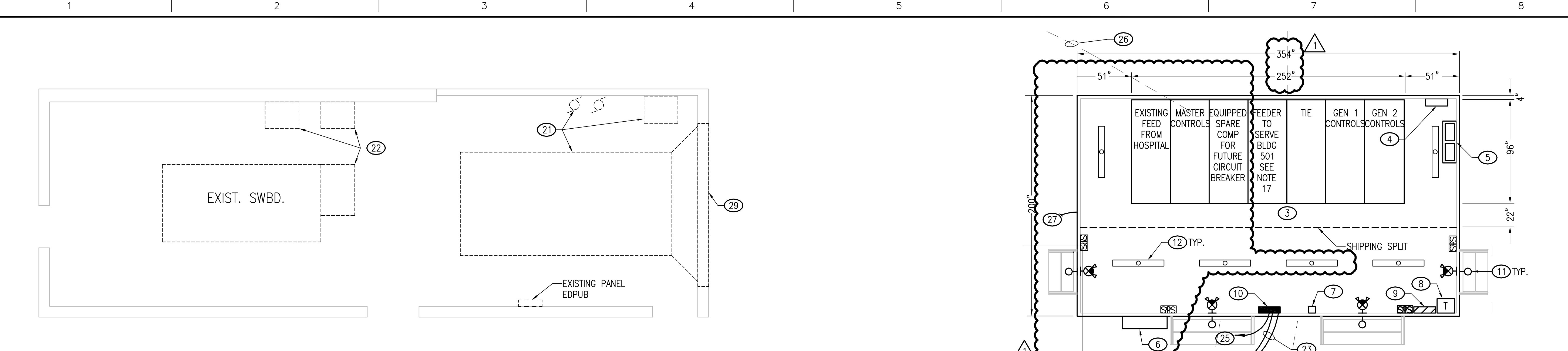
3"

58.5"

162"

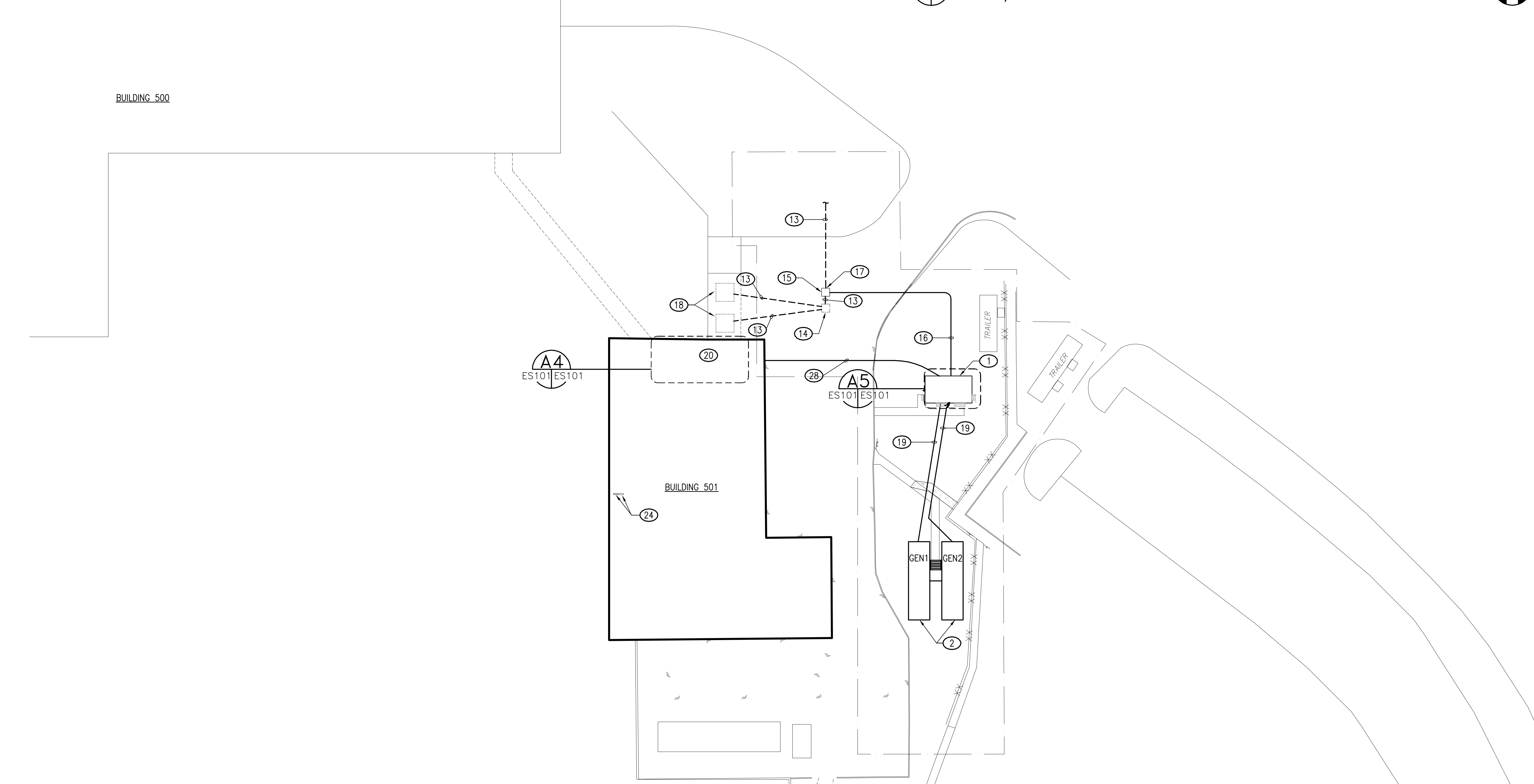
BLDG 501 MV GENERATORS — END VIEW
NO SCALE

VA FORM 08-6231



A4 ENLARGED ELECTRICAL ROOM
ES101/ES101 SCALE: 1/4" = 1'-0"

A5 ENLARGED 13.2KV EMERGENCY PARALLELING SWITCHGEAR WITH WEATHERPROOF ENCLOSURE
ES101/ES101 SCALE: 1/4" = 1'-0"



PARTIAL SITE PLAN — POWER
1/32"=1'-0"

1/4" = 1'-0"
1/32" = 1'-0"

- ### GENERAL NOTES
- A. THE EXTERIOR 13.2KV EMERGENCY PARALLELING SWITCHGEAR AND MV GENERATOR ENCLOSURES SHALL BE PRE-WIRED AND INCLUDE THE LIGHTING FIXTURES, PANELBOARDS, DEVICES, SWITCHGEAR, TRANSFORMER AND OTHER ACCESSORIES AS SHOWN ON ENLARGED PLAN A5/ES101, AND DETAILS ON SHEET EP401.
- ### NOTES
- EXTERIOR 13.2KV EMERGENCY POWER PARALLELING SWITCHGEAR IN A NEMA 3R WP ENCLOSURE. SEE SHEET EP401 FOR ELEVATIONS.
 - 13.2KV GENERATORS 1 AND 2 IN NEMA 3R WP, SOUND ATTENUATED ENCLOSURES WITH BASE MOUNTED FUEL TANKS. SEE SHEET EP401 FOR DETAILS.
 - 13.2KV EMERGENCY POWER PARALLELING SWITCHGEAR LINEUP RATED AT 1200 AMPS.
 - CONNECTION FOR BATTERY CHARGER.
 - CONNECTION FOR BATTERIES.
 - 5 TON AC/5KW HEATER UNIT. PROVIDE CONTROLS FOR MONITORING AT ENGINEERING CONTROL CENTER IN THE UTILITY PLANT.
 - MC3000A UNIT CONTROLLER.
 - 30KVA TRANSFORMER 480-208/120V 3 PHASE.
 - 100A, 208Y/120V PANELBOARD TO SERVE RECEPTACLES AND OTHER 120V LOADS.
 - 100A, 480/277V PANELBOARD TO SERVE ENCLOSURE HVAC, LIGHTING AND THE 30KVA X/F IN THIS ENCLOSURE AND THE MV GENERATOR ENCLOSURES. PROVIDE 50A, 3 POLE CIRCUIT BREAKERS IN THIS PANEL TO SERVE EACH X/F.
 - AREA LIGHT, COMPACT FLUORESCENT W/ 26W LAMPS.
 - NOMINAL 4'-0" FLUORESCENT FIXTURE WITH (2) T8 LAMPS.
 - EXIST. UG DUCTBANK WITH 13.2KV FEEDER FROM MAIN HOSPITAL SERVICE ENTRANCE SWITCHGEAR, THAT SERVES BUILDING 501 X/Fs.
 - EXISTING MANHOLE.
 - INSTALL NEW MANHOLE AROUND EXISTING UNDERGROUND DUCTBANK AND INTERCEPT EXISTING FEEDER FROM HOSPITAL SWITCHGEAR. REFER TO MANHOLE DETAILS ON SHEET E-001.
 - (4) 4" CONDUITS IN UNDERGROUND DUCTBANK TO MANHOLE. PROVIDE 13.2KV FEEDER CONDUCTORS IN (2) OF THE CONDUITS PER PARTIAL EMERGENCY POWER RISER ON SHEET E-001. REFER TO 4-WAY DUCTBANK DETAIL ON SHEET E-001.
 - INTERCEPT EXISTING BUILDING 501 FEEDER IN MANHOLE AND CONNECT TO 13.2 KV EMERGENCY PARALLELING SWITCHGEAR. SEE PARTIAL EMERGENCY POWER RISER ON SHEET E-001.
 - EXISTING PAD MOUNTED TRANSFORMERS THAT SERVE BUILDING 501.
 - (2) 4" CONDUITS IN UNDERGROUND DUCTBANK FROM 13.2KV GENERATOR TO EMERGENCY PARALLELING SWITCHGEAR. INSTALL 13.2KV FEEDER CONDUCTORS IN (1) OF THE CONDUITS PER PARTIAL EMERGENCY POWER RISER ON SHEET E-001. REFER TO 2-WAY DUCTBANK DETAIL ON SHEET E-001.
 - EXIST. BLDG 501 MAIN ELECTRICAL ROOM. REFER TO ENLARGED PLAN.
 - DISCONNECT AND REMOVE EXISTING 600KW GENERATOR, CONTROL PANEL, FUEL OIL PUMPS, DAY TANK, ASSOCIATED WIRING, CONDUIT AND APPURTENANCES, AND TURN EQUIPMENT OVER TO OWNER.
 - DISCONNECT AND REMOVE EXISTING AUTOMATIC TRANSFER SWITCHES (ATS). REMOVE THE SIGNAL, CONTROL AND "EMERGENCY" FEEDER WIRING ASSOCIATED WITH EACH ATS. AFTER ATS IS REMOVED PROVIDE A JUNCTION BOX IN ITS PLACE AND MAKE A DIRECT CONNECTION OF THE EXISTING ATS "NORMAL" POWER FEEDER TO THE ATS "LOAD" FEEDER WITHIN THE JUNCTION BOX TO MAINTAIN CONTINUITY OF THE EXISTING CIRCUIT. PROVIDE TERMINAL BARS AND OTHER HARDWARE WITHIN THE JUNCTION BOX AS NEEDED TO MAKE THE CONNECTION OF THE EXISTING NORMAL POWER FEEDER TO THE LOAD FEEDER. PROVIDE SIGNAGE ON THE JUNCTION BOX THAT INDICATES THE ASSOCIATED LOAD SERVED THRU THE JUNCTION BOX.
 - PROVIDE 3#6, 1#10, 3/4" FROM 50A, 3 POLE CIRCUIT BREAKERS IN THE 480/277V PANELBOARD TO SERVE EACH 30KVA X/F LOCATED IN THE MV GENERATOR ENCLOSURES. SEE SHEET EP-401 FOR X/F LOCATIONS. ROUTE MIN 24" BELOW FINISHED GRADE.
 - LOCATE GENERATOR REMOTE ANNUNCIATOR AND REMOTE CONTROLS PANEL IN UTILITY PLANT SECURITY OFFICE. COORDINATE EXACT LOCATION WITH THE OWNER. PROVIDE CONDUIT AND WIRING FROM GENERATOR CONTROLS TO SECURITY OFFICE AS REQUIRED BY GENERATOR SYSTEM MANUFACTURER.
 - PROVIDE 4#3, 1#8 GND, 1 1/2"C. FROM EXISTING PANEL EDUPB. ROUTE UNDERGROUND FROM BUILDING 501. ROUTE OVERHEAD 15' MINIMUM AFF INSIDE BUILDING 501 FROM PANEL. PROVIDE AN 80A, 3 POLE CIRCUIT BREAKER IN EXISTING SPACES WITHIN PANEL EDUPB TO SERVE FEEDER. CIRCUIT BREAKER TYPE AND AIC RATING SHALL MATCH EXISTING.
 - (2) 2" CONDUITS TO UTILITY PLANT SECURITY OFFICE FOR CONTROL AND DATA WIRING. PROVIDE CONTROL AND DATA WIRING PER MFGRS REQUIREMENTS.
 - (2) 2" CONDUITS FROM MV GENERATOR ENCLOSURES TO EMERGENCY PARALLELING SWITCHGEAR FOR CONTROL AND DATA WIRING. PROVIDE CONTROL AND DATA WIRING PER MFGRS REQUIREMENTS. SEE SHEET EP401.
 - POWER, CONTROL AND DATA WIRING & CONDUITS FROM EMERGENCY PARALLELING SWITCHGEAR ENCLOSURE TO SECURITY OFC IN BLDG 501.
 - REMOVE EXISTING EXHAUST LOUVER FROM EXISTING GENERATOR ROOM. INFILL OPENING WITH INSULATED METAL WALL PANEL SYSTEM TO MATCH EXISTING AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE STEEL ANGLES AT TOP AND BOTTOM OF OPENING AS REQUIRED TO ATTACH METAL PANELS. PROVIDE STEEL ANGLES AT SIDES OF OPENING AS REQUIRED TO ATTACH METAL PANELS. PROVIDE FLASHING AT TOP OF NEW INSULATED METAL WALL PANEL AND AT TOP OF EXISTING INTAKE LOUVER. PROVIDE SEALANT AT ALL JOINTS.

REVISIONS	DATE	CONSULTANT ENGINEER: CLARK•NEXSEN <i>Architecture & Engineering</i> 4525 MAIN STREET, SUITE 1400 VIRGINIA BEACH, VIRGINIA 23602 757-455-5800 FAX 757-455-5638 WWW.CLARKNEXSEN.COM	SEAL: Scott Parker Schwenk Lisc No. 37431 11/21/14 PROFESSIONAL ENGINEER	ARCHITECT: Avetech design group, plc 123 BRUTON COURT, SUITE 100 CHESAPEAKE, VA 23322 PHONE: 757.389.5518	Drawing Title PARTIAL SITE PLAN, ENLARGED PLANS AND NOTES - POWER	Project Title Upgrade Generators HH McGuire VA Medical Center	Project Number 652-14-103 Building Number 501	Office of Construction and Facilities Management Department of Veterans Affairs
Approved Project Director	Location Richmond, Virginia	Date 11/25/14 FOR CONSTRUCTION	Checked SPS	Drawn DWF	Drawing Number ES101 Dwg. 8 of 9			