

**DEPARTMENT OF
VETERANS AFFAIRS**

VISN #16



**STATEMENT OF WORK
FOR
ESSENTIAL ELECTRICAL SYSTEM (EES)
BREAKER REPLACEMENT
AT
John L. McClellan Memorial Veterans Hospital
Little Rock, AR**

**Last Revised:
10/17/2016**

1. STATEMENT OF WORK:

- a. Replace seventeen (17) existing 480V, 800A frame Westinghouse DS-206 drawout type circuit breakers. Existing circuit breakers have 30,000 Amps Interrupting Capacity (AIC) rating. New breakers shall be solid state and shall have 65,000 AIC rating minimum, and shall fit into the existing switchboard cubicle. The contractor will perform a survey to identify best methods to follow for replacement of circuit breakers.
- b. Retrofit the existing 480V, 3000A, Essential Electrical System (EES) switchboard as necessary to:
 - i. Accommodate the new solid state breakers identified in the Statement of Work item 1 above (If necessary.)
 - ii. Upgrade the short circuit current rating to 65,000A minimum. Existing bus bracing is 50,000A. The EES Switchboard has been in service for 33 years and is original to the hospital.
- c. Testing.
 - i. The Contractor shall inspect, test, and calibrate new circuit breakers and their associated trip units to coordinate with a recent short circuit coordination study. Testing and maintenance performed shall be in accordance with the manufacturer's instructions for each component.
 - ii. A complete operational test shall be performed on the switchgear when the project is complete. Testing shall confirm switchgear components operate properly during a power outage when the emergency generators come online.
- d. Provide any special tools that may be required for racking and unranking breakers
- e. Provide on-site training; operation and maintenance manuals; and record drawings upon completion of project.
- f. Contractor shall update the site's short circuit coordination, arc flash study to show proper interrupting capacity for the breakers installed. Last study was completed in April 2016 using SKM software. The SKM data for the study will be made available to the contractor to update and return to the Contracting Officer's Representative. (COR.)
- g. Contractor shall prepare written documentation of all testing results, visual inspections, calibrations, adjustments and maintenance recommendations, and submit to the COR. Service, calibration, and testing shall be as specified herein and in accordance with Maintenance Testing Specifications identified in International Electrical Testing Association (NETA).

2. APPLICABLE DOCUMENTS:

Most recent versions of the following documents:
NETA Maintenance Testing Specs. For Elect Dist. Eqt. and Systems
NFPA 70, National Electric Code
NFPA 70E, Standard for Electrical Safety in the Work Space
NFPA 99, Health Care Facilities
NFPA 110, Standard for Emergency and Standby Power Systems
VA Electrical Design Manual

3. QUALIFICATIONS:

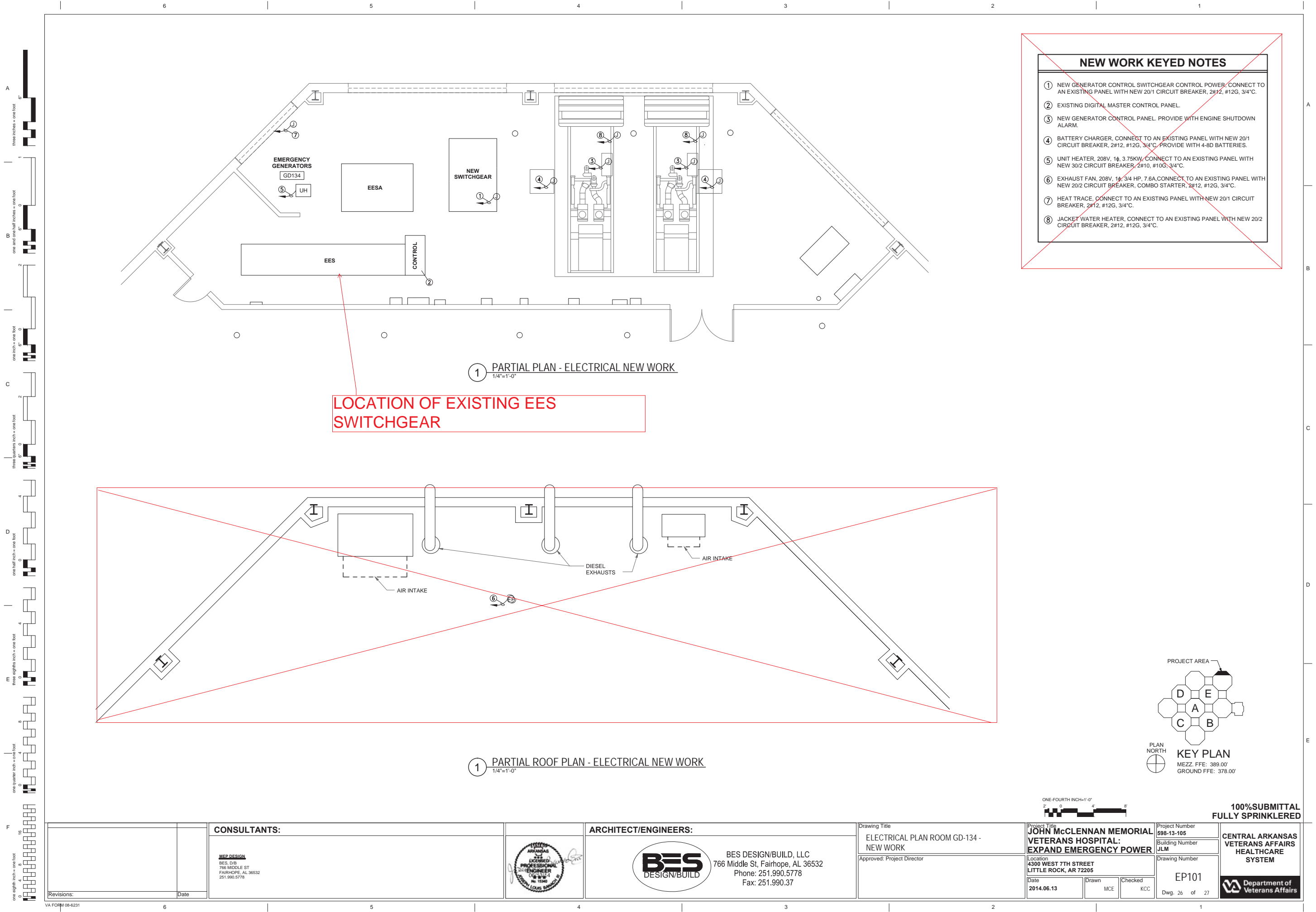
- a. Contractor shall have at least 5 years of experience with 480V switchgear and shall have access to factory trained switchgear vendors capable of performing this work.
- b. The contractor shall have access to engineering departments who are proficient in the design of electrical equipment.

4. WORK PROCEDURES AND OUTAGES:

- a. The new work will be accomplished in and around areas that will remain in operation. Adequate dust control procedures shall be employed as required. Accordingly, measures shall be taken to avoid interference with the operational work routines. The site is a critical care hospital; therefore, the contractor shall ensure that interruption of electric power is limited to the absolute minimum necessary to complete the work. The contractor shall diligently pursue the installation once started, to minimize the impact on facility operations.
- b. All work must be accomplished on Saturdays with a maximum outage time of 8 hours. Contractor shall submit an outage plan to the Contracting Officer's Representative for approval, prior to the outage. The contractor shall request permission for power outages at least 21 calendar days prior to the desired date of the outage. Operational circumstances may require the approval of the outage to be withdrawn at the last minute; however, the government will make all efforts to maintain the agreed schedule or will reschedule the outage in the shortest possible time. The design and installation of the work shall be planned and performed in a manner that will keep necessary outages (downtime) to the minimum possible. The contractor shall coordinate all actions, which impact the facility power, or require a power outage, with the designated COR.

4. PERIOD OF PERFORMANCE:

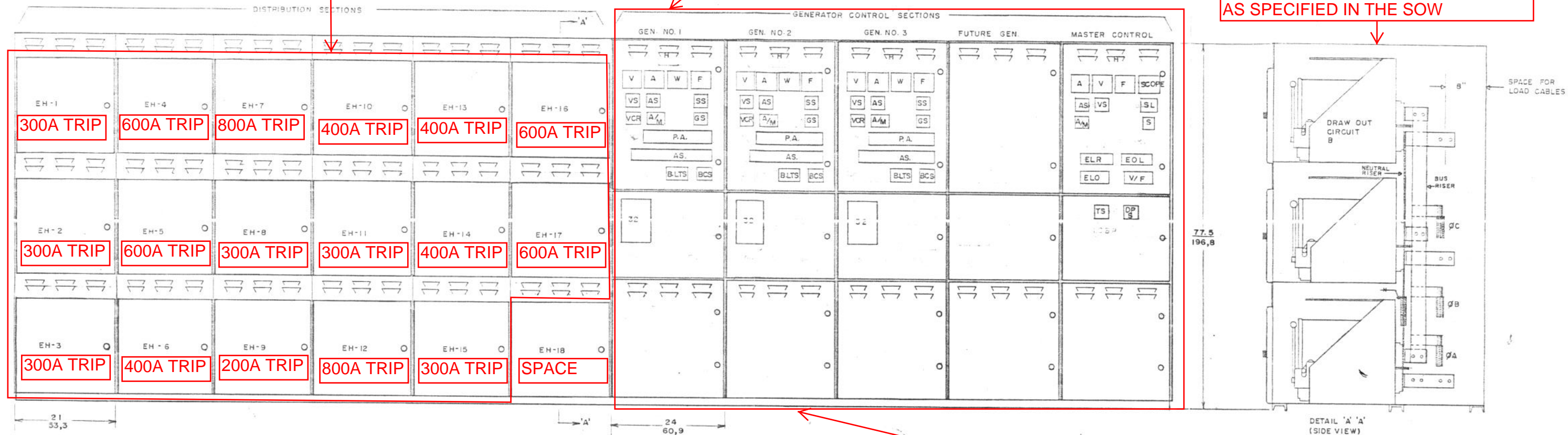
The contractor shall complete the work within 180 days after notification to proceed. Completion shall include final cleanup of job site and completion of all work.



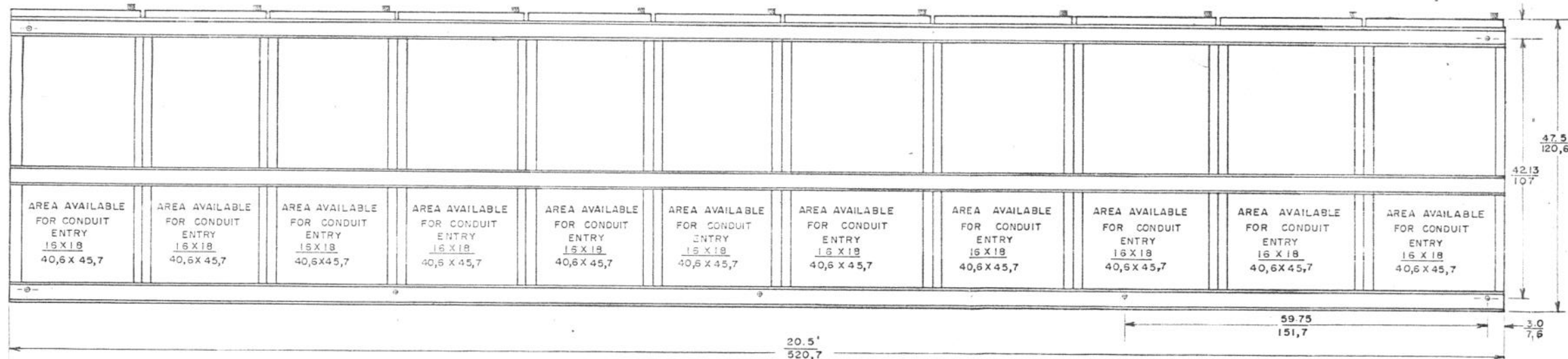
REPLACE 17 EXISTING 480V, 800A, FRAME WESTINGHOUSE DS-206 DRAWOUT TYPE CIRCUIT BREAKERS.

EXISTING GENERATOR CONTROLS ARE ABANDONED IN PLACE

RETROFIT SWITCHGEAR BUSWORK AS NECESSARY TO ACHIEVE NEW SHORT CIRCUIT WITHSTAND RATING AS SPECIFIED IN THE SOW



EXISTING EES SWITCHGEAR



ALL CIRCUIT BREAKERS ARE WESTINGHOUSE DS-206, ELECTRIC OPERATED, DRAWOUT TYPE

- LEGEND
- | | | | |
|--------------------------------|--|---|--|
| H = ALARM HORN | GS = GOVERNOR SWITCH | B.LTS. = CIRCUIT BREAKER POSITION INDICATING LIGHTS | DPS = DROP PRIORITY LOAD SWITCH |
| V = A.C. VOLTMETER | P.A. = PRE-ALARM INDICATING LIGHTS | BCS = CIRCUIT BREAKER CONTROL SWITCH | BVS = BUS VOLTMETER SWITCH |
| A = A.C. AMMETER | AS = AUTOSTART CONTROL | SCOPE = SYNCHROSCOPE | TS = TEST/NORMAL SWITCH |
| F = FREQUENCY METER | A/M = AUTOMATIC/MANUAL SWITCH WITH MANUAL POSITION LIGHT | BUS V = BUS VOLTAGE | ERL = ENGINE RUN LIGHTS |
| W = KILOWATT METER | ES = EMERGENCY STOP PUSHBUTTON | BUS F = BUS FREQUENCY METER | EOL = ENGINE ON BUS LIGHTS |
| VS = VOLTMETER SWITCH | | S.L. = SYNCHRONIZING LIGHTS | ELO = ENGINE LOCK OUT LIGHT |
| AS = AMMETER SWITCH | | S. = SYNCHRONIZING LIGHT ON/OFF SWITCH | V/F = BUS OVER/UNDER-VOLTAGE AND FREQUENCY W/HORN SILENCE PB |
| SS = SYNCHRONIZING SWITCH | | | LSBP = LOAD SHED BY PASS SWITCHES |
| VCR = VOLTAGE CONTROL RHEOSTAT | 32 = REVERSE POWER RELAY | | |

DIMENSIONS = INCHES - FEET
CENTIMETERS METERS

WEIGHT = 11,500 LBS.
5175 KG

ENGINEERING CHANGE	DJM	7-16-81
	SIMPLEX, INC. SPRINGFIELD, ILLINOIS	
	SCALE:	APPROVED BY: DRAWN BY DJM
	DATE: 5-1-81	REVISED:
EMERGENCY GENERATOR & DISTRIBUTION SWITCHGEAR		
WD. 50522		DRAWING NUMBER 510024438

