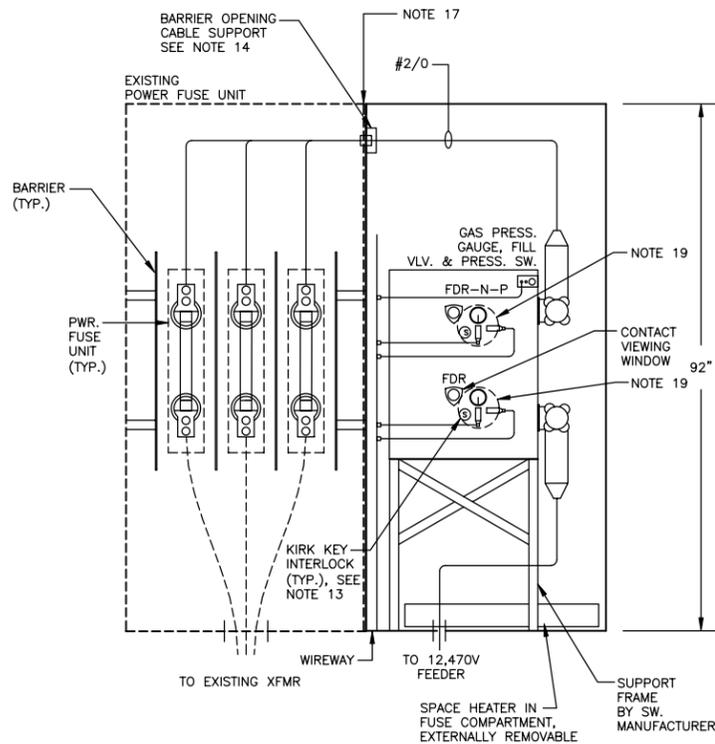
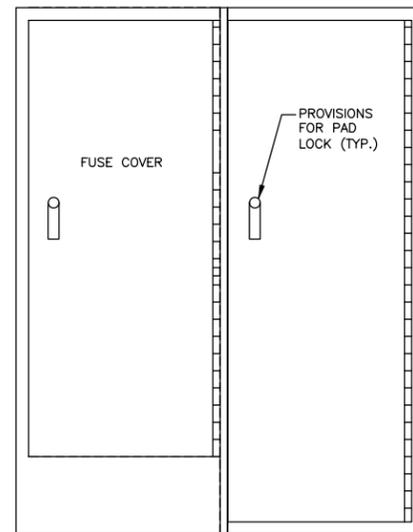


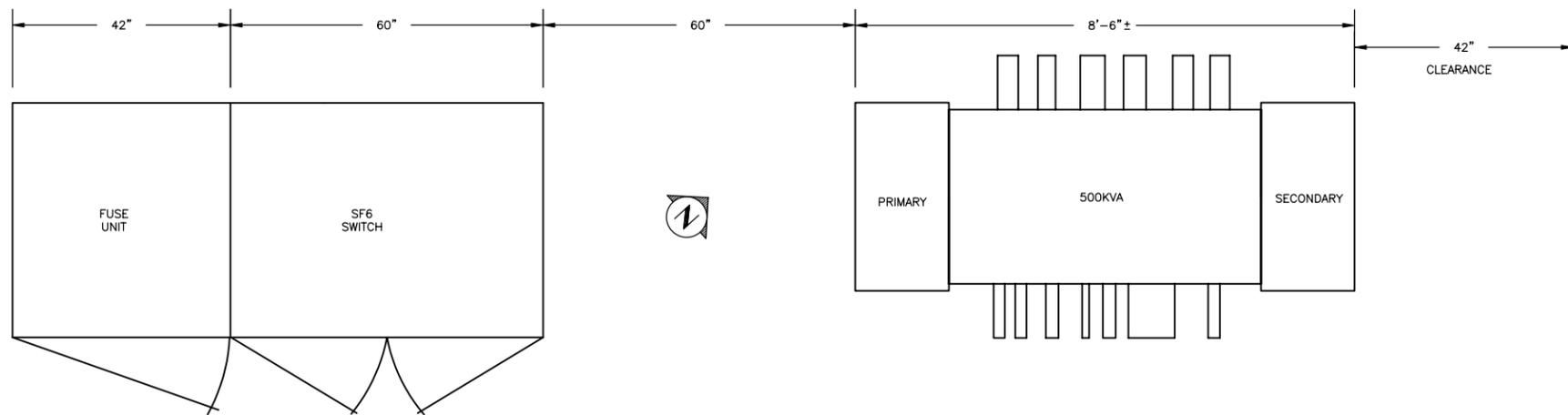
1 PLAN VIEW
E-8|E-8|8 N.T.S.



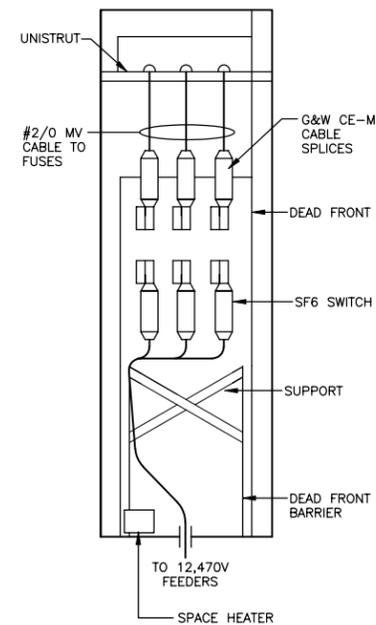
2 FRONT ELEVATION
E-8|E-8|8 3/4\"=1'-0\" WITHOUT FRONT PANELS/DOORS



3 FRONT COVER ELEVATION
E-8|E-8|8 3/4\"=1'-0\"



4 SUBSTATION B-354
E-8|E-8|8 3/4\"=1'-0\"



5 RIGHT SIDE
E-8|E-8|8 3/4\"=1'-0\"

GENERAL NOTES

- EQUIPMENT AND INSTALLATION SHALL MEET NEC AND NATIONAL ELECTRICAL SAFETY CODE REQUIREMENTS.
- SWITCH SHALL BE A 630A, 15.5KV, 40KA MOMENTARY, LOAD BREAK G&W RAM SERIES, SF6 SWITCH, OR APPROVED EQUAL. SF6 SWITCHES SHALL INCLUDE MV SWITCH POSITION INDICATION CONTACTS, GAS PRESSURE AND DENSITY ALARM CONTACTS, PRESSURE GAUGE, FILL VALVE, KEY LOCKS, (KEY REMOVABLE IN OPEN POSITION ONLY), GROUND LUG AND MAIN SWITCH POSITION VIEW WINDOWS. SWITCHES TO BE CAPABLE OF REMAINING CLOSED AT THE SAME TIME.
- EQUIPMENT SHALL BE INSTALLED IN AN OUTDOOR NEMA 3R ENCLOSURE MINIMUM #14 GAUGE METAL CONSTRUCTION.
- FUSE, FUSE HOLDER AND BARRIER SHALL BE SM-5S TYPE, OR APPROVED EQUAL.
- SUPPORTS FOR CABLES AND CABLE ENDS SHALL BE GLAZED CERAMIC SADDLE TYPE CLAMPS MOUNTED ON STEEL U CHANNELS, T&B "DELTEC" TIES, OR APPROVED EQUAL, SHALL BE USED TO SECURE THE CABLES.
- CABLE TERMINATIONS AT SF6 SWITCH SHALL BE G&W CE-ME CONNECTORS (IF G&W SWITCH USED) OR NEMA ELBOWS FOR ALL OTHER MANUFACTURERS.
- CONTRACTOR SHALL FIELD VERIFY, PRIOR TO START OF CONSTRUCTION, THAT THE NEW EQUIPMENT WILL MOUNT TO THE AS-DESIGNED HOUSE KEEPING PADS. CONTRACTOR SHALL ADJUST PAD SIZE TO ACCOMMODATE ENCLOSURE.
- BEND RADIUS OF 15KV CONDUCTORS SHALL BE EQUAL OR GREATER THAN RECOMMENDATIONS OF CABLE MANUFACTURER. SUPPORTS SHALL BE PROVIDED FOR 15KV CABLES TO OBTAIN 40KA MOMENTARY RMS ASYMMETRICAL RATINGS.
- INTERCONNECTING CONDUCTORS SHALL BE SHIELDED JACKETED CABLE RATED 15KV. STRESS CONES SHALL BE PROVIDED AT CABLE ENDS NOT TERMINATED WITH A G&W CE OR NEMA ELBOWS. REFER TO ONE-LINE DIAGRAM AND SPECIFICATIONS FOR COMPLETE CABLE DESCRIPTION.
- TEST POINTS SHALL BE PROVIDED ON THE SOURCE CABLE TERMINATIONS.
- GROUND SWITCH AND ENCLOSURE USING #4/0 STRANDED BARE COPPER SINGLE CONDUCTOR CABLE TO GROUNDING SYSTEM. EACH COMPARTMENT TO BE SEPARATELY GROUND.
- ENCLOSURE SIZE AND MOUNTING OF SWITCH WITHIN ENCLOSURE MUST ACCOMMODATE FUTURE ADDITION OF REMOTE OPERATORS.
- KIRK-KEYS TO BE PROVIDED ON SF6 SWITCHES. KEYS REMOVABLE IN OPEN POSITION ONLY. KEYS FOR SWITCHES NOT COMMON. KEYS REMOVABLE FROM DOOR LOCK ONLY IN LOCKED POSITION.
- BARRIER OPENING FOR CABLE PENETRATIONS SHALL BE RECTANGULAR CUTOUT. A STRUT STIFFENER SHALL BE INSTALLED AT BOTTOM OF OPENING. CUT-OUT TO BE COVERED BY 1 INCH THICK MELAMINE BLOCK DRILLED FOR TIGHT FIT OF CABLE PASSAGE THROUGH HORIZONTAL CENTER LINE. BLOCK TO BE SPLIT ALONG HORIZONTAL CENTERLINE (AFTER BORING) TO FACILITATE CABLE INSTALLATION. BOTTOM HALF OF BLOCK ATTACHED TO STRUT THROUGH BARRIER SHEET; TOP HALF BOLTED TO BARRIER - MINIMUM 3 BOLTS PER HALF BLOCK.
- LABEL SWITCHES WITH FEEDER NUMBER PER ONE-LINE DIAGRAM.
- SPACE HEATER (HEAT STRIPS), HOA SWITCH, CONTROLS AND PANEL TO BE PROVIDED.
- THE SWITCH HOUSING ASSEMBLY SHALL INCLUDE REMOVABLE HEAVY GAGE PAINTED SHEET METAL PROTECTIVE BARRIERS SO THAT WHEN THE FRONT DOOR IS OPEN, ONLY THE SWITCH FACE IS VISIBLE (I.E., DEAD FRONT).
- SWITCH / FUSE UNIT SHALL BE DESIGNED AND ANCHORED TO WITHSTAND 130 MPH WIND FORCE.
- PROVIDE VIEWING WINDOW.

REVISION	DATE	DESCRIPTION	P.E.	SECT
SIGNATURES		DATE	NATIONAL AERONAUTICS & SPACE ADMINISTRATION	
DR.	ENG.	7-28-03	LYNDON B. JOHNSON SPACE CENTER - HOUSTON, TEXAS	
CH.	APPR.		BLDG 354P BATTERY TEST BUILDING	
ISSUE FOR BIDS	7-28-03		SF6 SWITCH DETAILS	
REV.			PROJECT NO.	SHEET NO.
DISC.			PROJECT I.D.	WR
P.E.			CODE IDENT NO.	SIZE
APPR.				

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