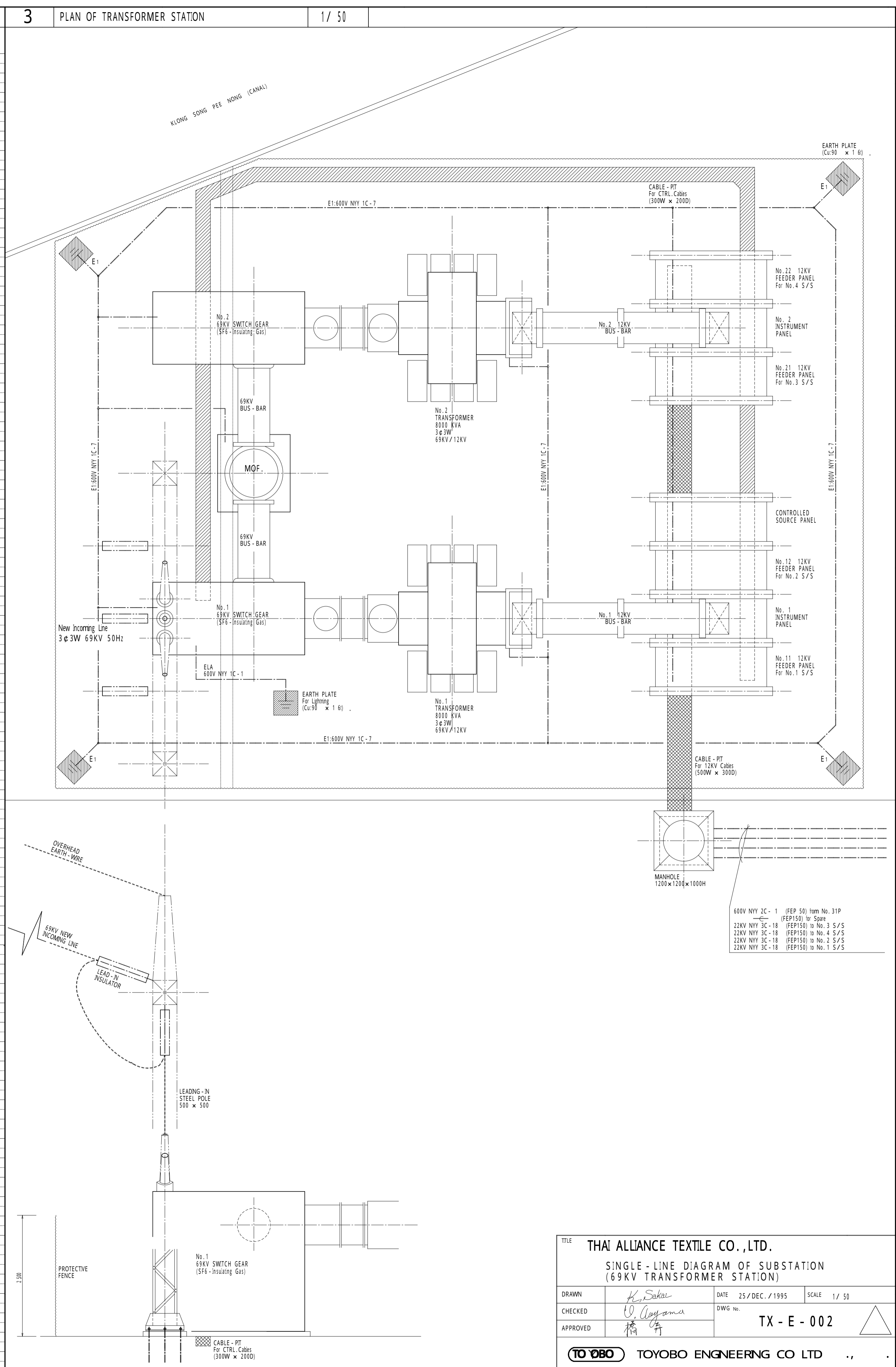


2 ELECTRICAL DRAFTING SYMBOLS

SYMBOL	LET-TER	DESCRIPTION	REMARKS
JIS	IEC		
CH	CH	Cable sealing end, shown with one three-core cable	
MOF		Melting outfit	CT x2, VT x2
DS		Disconnector	
ES		Earthing switch	
LBS		Load-break switch	
VCB		Vacuum circuit breaker	truck type
GCB		Gas circuit breaker	SF6-insulating gas
ACB		Air-blast circuit breaker	3P-2500(A), 3000(A)
ACB		Air-blast circuit breaker	4P-2500(A), 3000(A)
A	A	Ammeter	
AS	AS	Ammeter change-over switch	
V	V	Volmeter	
VS	VS	Volmeter change-over switch	
WH	WH	Recording Watthour meter	
CT		Current transformer	moded type
ZCT		Zero-phase-sequence current transformer	moded type
GVT		Grounding voltage transformer connection star-star-openselta	moded type draw out type
CT-T		Test terminal for current transformer	
E-T		Measuring terminal for grounding resistance	
OCR		Over-current relay	
OCGR		Ground over-current relay	
DGR		Ground directional relay	
LGR		Ground relay for low-voltage	
OVGR		Ground over-voltage relay	
CLR		Current-limiting reactance	
RDF		Ratio differential relay	
TR		No. 1, No. 2 Transformer three-phase three-wire system 50 Hz 69KV / 12KV rated output 8000 KVA	connection star-delta oil-cooled type with da thermometer
TR		No. 31, 32, 33 Transformer three-phase four-wire system 50 Hz 12KV / 400-230V rated output 2000 KVA	connection delta-star oil-cooled type with cross protection board with da thermometer
TR		No. 41, 42, Transformer three-phase four-wire system 50 Hz 12KV / 400-230V rated output 1500 KVA	connection delta-star oil-cooled type with cross protection board with da thermometer
SC		Series power capacitor with discharge resistance	oil-cooled type
SR		Series reactor	oil-cooled type
LA		Lightning arrester 84 KV 10 KA Bus-bar 12KV-400A three-phase three-wire system	draw out type
MCB		Molded-case circuit-breaker	
ELB		Molded-case earth leakage-breaker	current operating type
MCTT		Electromagnetic contactor	
F		Low-voltage line fuse	
TR		Voltage transformer 1-phase 2-wire 400V/100V	
PL		Display lamp 100V/18V	
E1		Earthing of 1st kind Earth plate	E1 100 []
E1A		Earthing of 1st kind Earth plate for arrester	E1 100 []
E2		Earthing of 2nd kind Earth plate	E2 150 [g] [] 12KV single line-to-ground fault current
E3		Earthing of 3rd kind Ground rod	E3 100 []
Ep.c		Earthing of measurement Ground rod	



TITLE: **THAI ALLIANCE TEXTILE CO., LTD.**
SINGLE-LINE DIAGRAM OF SUBSTATION (69KV TRANSFORMER STATION)

DRAWN: *R. Sakai* DATE: 25/DEC./1995 SCALE: 1/50
 CHECKED: *O. Uyama* DWG NO.: TX-E-002
 APPROVED: *橋本*

TOYOBO ENGINEERING CO LTD