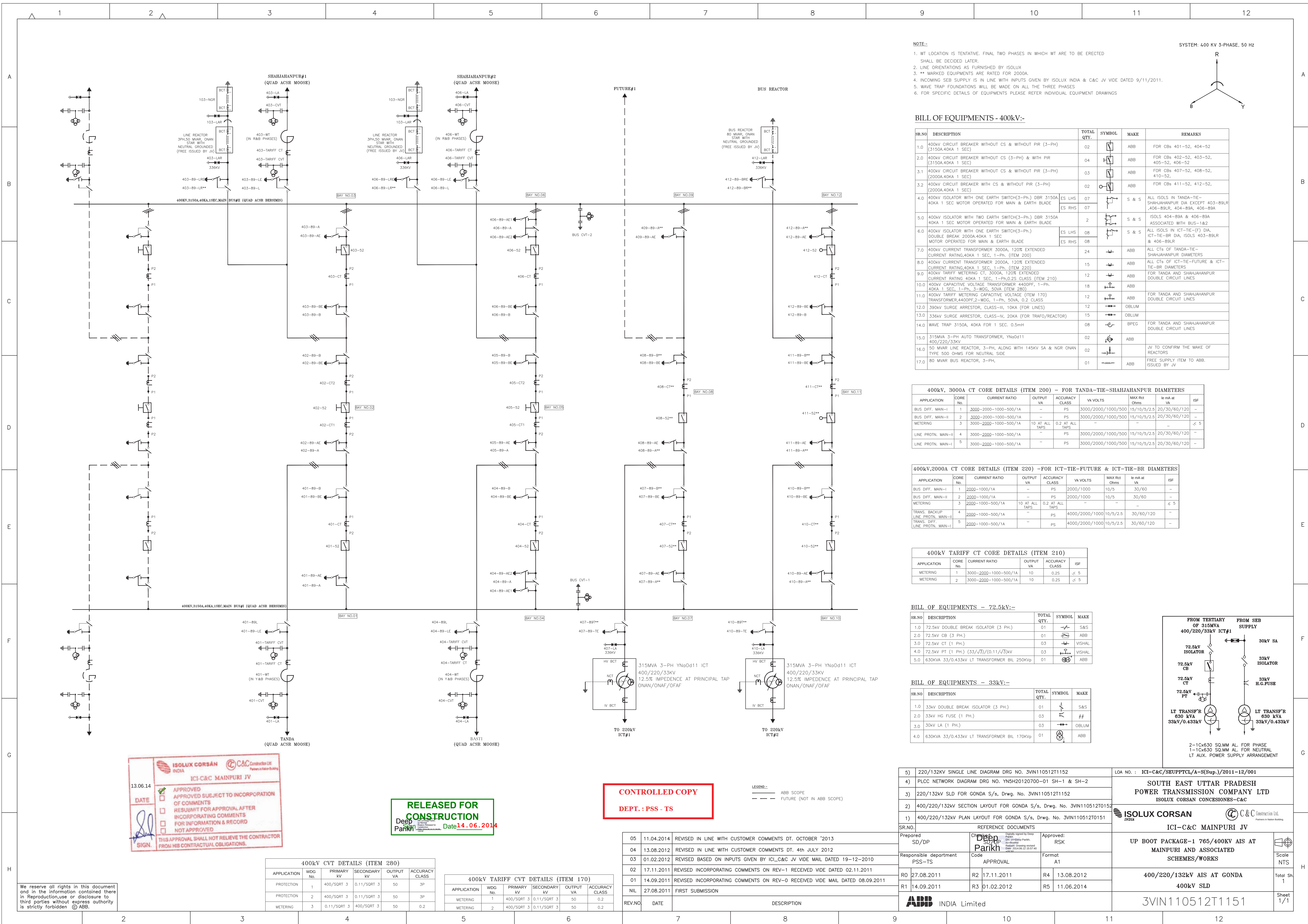




SR.NO	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE	REMARKS
1.0	400V CIRCUIT BREAKER WITHOUT CS & WITHOUT PIR (3-PH) (3150A.40KA 1 SEC)	02		ABB	FOR CBs 401-52, 404-52
2.0	400V CIRCUIT BREAKER WITHOUT CS (3-PH) & WITH PIR (3150A.40KA 1 SEC)	04		ABB	FOR CBs 402-52, 403-52, 405-52, 406-52
3.1	400V CIRCUIT BREAKER WITHOUT CS & WITHOUT PIR (3-PH) (2000A.40KA 1 SEC)	03		ABB	FOR CBs 407-52, 408-52, 410-52,
3.2	400V CIRCUIT BREAKER WITH CS & WITHOUT PIR (3-PH) (2000A.40KA 1 SEC)	02		ABB	FOR CBs 411-52, 412-52,
4.0	400V ISOLATOR WITH ONE EARTH SWITCH(3-PH.) DBR 3150A.40KA 1 SEC MOTOR OPERATED FOR MAIN & EARTH BLADE	ES LHS		S & S	ALL ISOLS IN TANDA-TIE SHAHUJANPUR DIA EXCEPT 403-89L, 406-89L, 404-89A, 406-89A
		ES RHS			
5.0	400V ISOLATOR WITH TWO EARTH SWITCH(3-PH.) DBR 3150A.40KA 1 SEC MOTOR OPERATED FOR MAIN & EARTH BLADE	2		S & S	ISOLS 404-89A & 406-89A ASSOCIATED WITH BUS-1&2
6.0	400V ISOLATOR WITH ONE EARTH SWITCH(3-PH.) DOUBLE BREAK 2000A.40KA 1 SEC MOTOR OPERATED FOR MAIN & EARTH BLADE	ES LHS ES RHS		S & S	ALL ISOLS IN ICT-TIE-(F) DIA, ICT-TIE-BR DIA, ISOLS 403-89R & 406-89L
7.0	400V CURRENT TRANSFORMER 3000A, 120% EXTENDED CURRENT RATING.40KA 1 SEC, 1-Ph. (ITEM 200)	24		ABB	ALL CTS OF TANDA-TIE SHAHUJANPUR DIAMETERS
8.0	400V CURRENT TRANSFORMER 2000A, 120% EXTENDED CURRENT RATING.40KA 1 SEC, 1-Ph. (ITEM 200)	15		ABB	ALL CTS of ICT-TIE-FUTURE & ICT-TIE-BR DIAMETERS
9.0	400V TARIFF METERING CT, 3000A, 120% EXTENDED CURRENT RATING 40KA 1 SEC, 1-Ph,0.2S CLASS (ITEM 210)	12		ABB	FOR TANDA AND SHAHUJANPUR DOUBLE CIRCUIT LINES
10.0	400V CAPACITIVE VOLTAGE TRANSFORMER 4400V, 1-Ph, 40KA 1 SEC, 1-Ph, 3-WDG, 50VA (ITEM 280)	18		ABB	
11.0	400V TARIFF METERING CAPACITIVE VOLTAGE 4400V, 1-Ph, 40KA 1 SEC, 1-Ph, 3-WDG, 50VA (ITEM 280)	12		ABB	FOR TANDA AND SHAHUJANPUR DOUBLE CIRCUIT LINES
12.0	390KV SURGE ARRESTOR, CLASS-III, 10KA (FOR LINES)	9		OBLUM	
13.0	336KV SURGE ARRESTOR, CLASS-IV, 20KA (FOR TRAF0/REACTOR)	1		OBLUM	
14.0	WAVE TRAP 3150A, 40KA FOR 1 SEC. 0.5MH	08		BPEG	FOR TANDA AND SHAHUJANPUR DOUBLE CIRCUIT LINES
15.0	315MVA 3-Ph AUTO TRANSFORMER, Yn0d11 400/220/33kV	02		ABB	
16.0	50 MVAR LINE REACTOR, 3-Ph, ALONG WITH 145KV 5A & NGR ONAN TYPE 500 OHMS FOR NEUTRAL SIDE	02			JV TO CONFIRM THE MAKE OF REACTORS
17.0	80 MVAR BUS REACTOR, 3-Ph,	01		ABB	FREE SUPPLY ITEM TO ABB. ISSUED BY JV

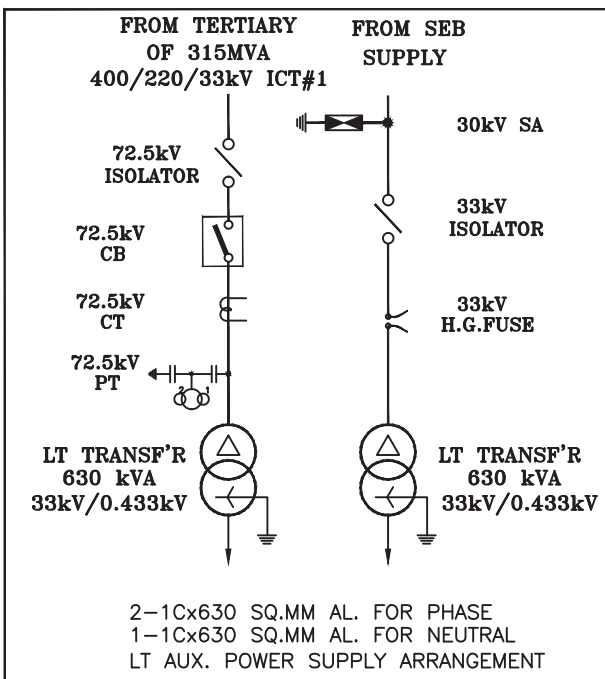
400kV, 3000A CT CORE DETAILS (ITEM 200) – FOR TANDA-TIE-SHAHAHANPUR DIAMETERS								
APPLICATION	CORE No.	CURRENT RATING	OUTPUT VA	ACCURACY CLASS	V-VOLTS	Max CT Ratio	to mA at V%	ISF
BUS DIFF. MAIN-I	1	3000–2000–1000–500/1A	–	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	–
BUS DIFF. MAIN-II	2	3000–2000–1000–500/1A	–	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	–
METERING	3	3000–2000–1000–500/1A	10 AT ALL TAPS	0.2 AT ALL TAPS	–	–	–	≤ 5
LINE PROTIN. MAIN-II	4	3000–2000–1000–500/1A	–	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	–
LINE PROTIN. MAIN-I	5	3000–2000–1000–500/1A	–	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	–

400KV,2000A CT CORE DETAILS (ITEM 22) – FOR ICT-TIE-FUTURE & ICT-TIE-BR DIAMETERS									
APPLICATION	CORE NO.	CURRENT RATING	OUTPUT VA	ACCURACY CLASS	Vk VOLTS	MAX RCT Ohms	Is in mA	ISF	
BUS DIFF. MAIN-I	1	2000-1000/1A	–	PS	2000/1000	10/5	30/60	–	
BUS DIFF. MAIN-II	2	2000-1000/1A	–	PS	2000/1000	10/5	30/60	–	
METERING	3	2000-1000-500/1A	10 TAPS AT ALL TAPS	0.2 AT ALL TAPS	–	–	–	≤ 5	
TRANS. BACKUP LINE PROT. MAIN-I	4	2000-1000-500/1A	–	PS	4000/2000/1000	10/5/2.5	30/60/120	–	
TRANS. DIFF. MAIN-I	5	2000-1000-500/1A	–	PS	4000/2000/1000	10/5/2.5	30/60/120	–	

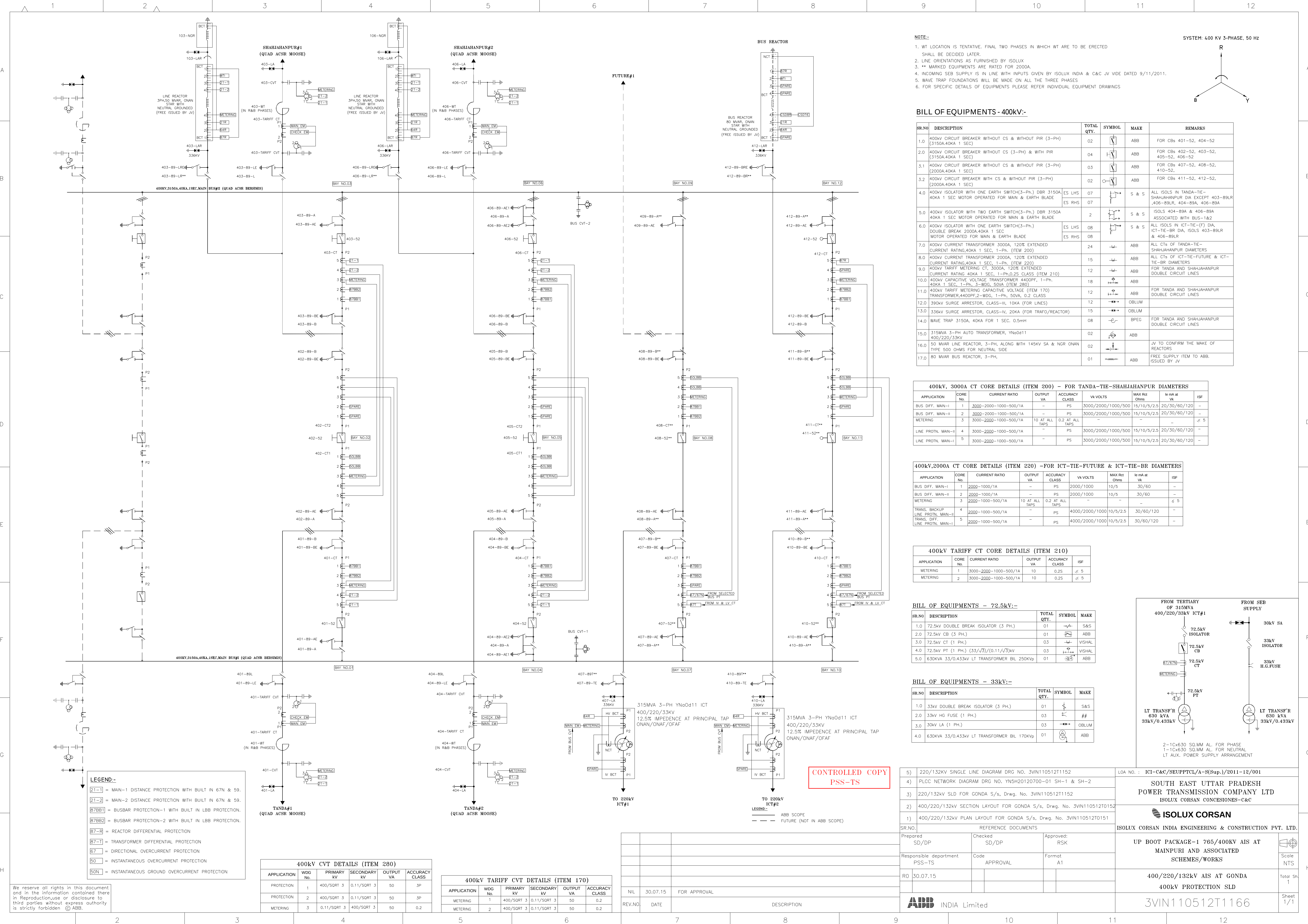
400kV TARIFF CT CORE DETAILS (ITEM 210)					
APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	ISF
METERING	1	3000-2000-1000-500/1A	10	0.2S	≤ 5
METERING	2	3000-2000-1000-500/1A	10	0.2S	≤ 5

BILL OF EQUIPMENTS - 72.5kV:-				
SER.NO	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE
1.0	72.5kV DOUBLE BREAK ISOLATOR (3 PH.)	01		S&S
2.0	72.5kV CB (3 PH.)	01		ABB
3.0	72.5kV CT (1 PH.)	03		VISHAL
4.0	72.5kV PT (1 PH.) $(33/\sqrt{3})/(0.11/\sqrt{3})kV$	03		VISHAL
5.0	630kVA 33/0.433kV LT TRANSFORMER BIL 250kVp	01		ABB

SR.NO	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE
1.0	33kV DOUBLE BREAK ISOLATOR (3 PH.)	01		S&S
2.0	33kV HG FUSE (1 PH.)	03		#
3.0	30kV LA (1 PH.)	03		OBLUM
4.0	630KVA 33/0.433kV LT TRANSFORMER BIL 170KVp	01		ABB



3)	220/132kV SINGLE LINE DIAGRAM DRG NO. 3VIN110512T1152			LOA NO. : ICI-C&C/SEUPCTCL/A-S(Sup.)/2011-12/001 SOUTH EAST UTTAR PRADESH POWER TRANSMISSION COMPANY LTD ISOLUX CORSAN CONCESIONES-C&C ICI-C&C MAINPURI JV C & C Construction Ltd. Partners in Modern Building
4)	PLCC NETWORK DIAGRAM DRG NO. YN5H20120700-01 SH-1 & SH-2			
2)	220/132kV SLD FOR GONDA S/s, Drwg. No. 3VIN110512T1152			
3)	400/220/132kV SECTION LAYOUT FOR GONDA S/s, Drwg. No. 3VIN110512T0152			
1)	400/220/132kV PLAN LAYOUT FOR GONDA S/s, Drwg. No. 3VIN110512T0151			
SR.NO.	REFERENCE DOCUMENTS			
Prepared SD/DP	 Deepankar Singh SD/DP	Digitally signed by Deepankar Singh DN: cn=Deepankar Singh, o=ICI-C&C, email=deepankar.singh@ici-c&c.com, date=2014.08.22, 13:57:40 +05'30'	Approved: RSK	
Responsible department PSS-TS	Code APPROVAL	Format A1		UP BOOT PACKAGE-1 765/400kV AIS AT MAINPURI AND ASSOCIATED SCHEMES/WORKS Scale NTS
R0 27.08.2011	R2 17.11.2011	R4 13.08.2012		400/220/132kV AIS AT GONDA
R1 14.09.2011	R3 01.02.2012	R5 11.06.2014		400kV SLD
INDIA Limited				3VIN110512T1151 Sheet 1/1



- NOTE:-
- WT LOCATION IS TENTATIVE. FINAL TWO PHASES IN WHICH WT ARE TO BE ERECTED SHALL BE DECIDED LATER.
 - LINE ORIENTATIONS AS FURNISHED BY ISOLUX.
 - ** MARKED EQUIPMENTS ARE RATED FOR 2000A.
 - INCOMING SEB SUPPLY IS IN LINE WITH INPUTS GIVEN BY ISOLUX INDIA & C&C JV DATE 9/11/2011.
 - WAVE TRAP FOUNDATIONS WILL BE MADE ON ALL THE THREE PHASES
 - FOR SPECIFIC DETAILS OF EQUIPMENTS PLEASE REFER INDIVIDUAL EQUIPMENT DRAWINGS

BILL OF EQUIPMENTS - 400KV:-

SR.NO	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE	REMARKS
1.0	400KV CIRCUIT BREAKER WITHOUT CS & WITHOUT PIR (3-PH) (3150A.40KA 1 SEC)	02		ABB	FOR CBs 401-52, 404-52
2.0	400KV CIRCUIT BREAKER WITHOUT CS (3-PH) & WITH PIR (3150A.40KA 1 SEC)	04		ABB	FOR CBs 402-52, 403-52, 405-52, 406-52
3.1	400KV CIRCUIT BREAKER WITHOUT CS & WITHOUT PIR (3-PH) (2000A.40KA 1 SEC)	03		ABB	FOR CBs 407-52, 408-52, 410-52
3.2	400KV CIRCUIT BREAKER WITH CS & WITHOUT PIR (3-PH) (2000A.40KA 1 SEC)	02		ABB	FOR CBs 411-52, 412-52
4.0	400KV ISOLATOR WITH ONE EARTH SWITCH(3-Ph.) DBR 3150A.40KA 1 SEC MOTOR OPERATED FOR MAIN & EARTH BLADE	07		S & S	ALL ISOLS IN TANDA-TIE-SHAHJAHANPUR DIA EXCEPT 403-89LR, 406-89LR, 404-89A, 406-89A
5.0	400KV ISOLATOR WITH TWO EARTH SWITCH(3-Ph.) DBR 3150A.40KA 1 SEC MOTOR OPERATED FOR MAIN & EARTH BLADE	2		S & S	ISOLS 404-89A & 406-89A ASSOCIATED WITH BUS-1&2
6.0	400KV ISOLATOR WITH ONE EARTH SWITCH(3-Ph.) DOUBLE BREAK 2000A.40KA 1 SEC MOTOR OPERATED FOR MAIN & EARTH BLADE	08		S & S	ALL ISOLS IN ICT-TIE-(F) DIA, ICT-TIE-BR DIA, ISOLS 403-89LR & 406-89LR
7.0	400KV CURRENT TRANSFORMER 3000A, 120% EXTENDED CURRENT RATING,40KA 1 SEC, 1-Ph. (ITEM 200)	24		ABB	ALL CTs OF TANDA-TIE-SHAHJAHANPUR DIAMETERS
8.0	400KV CURRENT TRANSFORMER 2000A, 120% EXTENDED CURRENT RATING,40KA 1 SEC, 1-Ph. (ITEM 220)	15		ABB	ALL CTs OF ICT-TIE-FUTURE & ICT-TIE-BR DIAMETERS
9.0	400KV TARIFF METERING 3000A, 120% EXTENDED CURRENT RATING 40KA 1 SEC, 1-Ph,0.2S CLASS (ITEM 210)	12		ABB	FOR TANDA AND SHAHJAHANPUR DOUBLE CIRCUIT LINES
10.0	400KV CAPACITIVE VOLTAGE TRANSFORMER 4400PF, 1-Ph, 40KA 1 SEC, 1-Ph, 3-WDG, 50VA (ITEM 280)	18		ABB	
11.0	400KV TARIFF METERING CAPACITIVE VOLTAGE TRANSFORMER,4400PF,2-WDG, 1-Ph, 50VA, 0.2 CLASS	12		ABB	FOR TANDA AND SHAHJAHANPUR DOUBLE CIRCUIT LINES
12.0	390KV SURGE ARRESTOR, CLASS-III, 10KA (FOR LINES)	12		OBLUM	
13.0	336KV SURGE ARRESTOR, CLASS-IV, 20KA (FOR TRAF/REACTOR)	15		OBLUM	
14.0	WAVE TRAP 3150A, 40KA FOR 1 SEC. 0.5mH	08		BPEG	FOR TANDA AND SHAHJAHANPUR DOUBLE CIRCUIT LINES
15.0	315MVA 3-PH AUTO TRANSFORMER, Yna0d11 400/220/33kv	02		ABB	
16.0	50 MVAR LINE REACTOR, 3-PH, ALONG WITH 145KV SA & NGR ONAN TYPE 500 OHMS FOR NEUTRAL SIDE	02			JV TO CONFIRM THE MAKE OF REACTORS
17.0	80 MVAR BUS REACTOR, 3-PH,	01		ABB	FREE SUPPLY ITEM TO ABB. ISSUED BY JV

400kv, 3000A CT CORE DETAILS (ITEM 200) - FOR TANDA-TIE-SHAHJAHANPUR DIAMETERS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	Vk VOLTS	MAX Rct Ohms	Ie mA at Vk	ISF
BUS DIFF. MAIN-I	1	3000-2000-1000-500/1A	-	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	-
BUS DIFF. MAIN-II	2	3000-2000-1000-500/1A	-	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	-
METERING	3	3000-2000-1000-500/1A	10 AT ALL TAPS	0.2 AT ALL TAPS	-	-	-	< 5
LINE PROTIN. MAIN-II	4	3000-2000-1000-500/1A	-	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	-
LINE PROTIN. MAIN-I	5	3000-2000-1000-500/1A	-	PS	3000/2000/1000/500	15/10/5/2.5	20/30/60/120	-

400kv,2000A CT CORE DETAILS (ITEM 220) -FOR ICT-TIE-FUTURE & ICT-TIE-BR DIAMETERS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	Vk VOLTS	MAX Rct Ohms	Ie mA at Vk	ISF
BUS DIFF. MAIN-I	1	2000-1000/1A	-	PS	2000/1000	10/5	30/60	-
BUS DIFF. MAIN-II	2	2000-1000/1A	-	PS	2000/1000	10/5	30/60	-
METERING	3	2000-1000-500/1A	10 AT ALL TAPS	0.2 AT ALL TAPS	-	-	-	< 5
TRANS. BACKUP LINE PROTIN. MAIN-II	4	2000-1000-500/1A	-	PS	4000/2000/1000	10/5/2.5	30/60/120	-
TRANS. DIFF. LINE PROTIN. MAIN-I	5	2000-1000-500/1A	-	PS	4000/2000/1000	10/5/2.5	30/60/120	-

400kv TARIFF CT CORE DETAILS (ITEM 210)

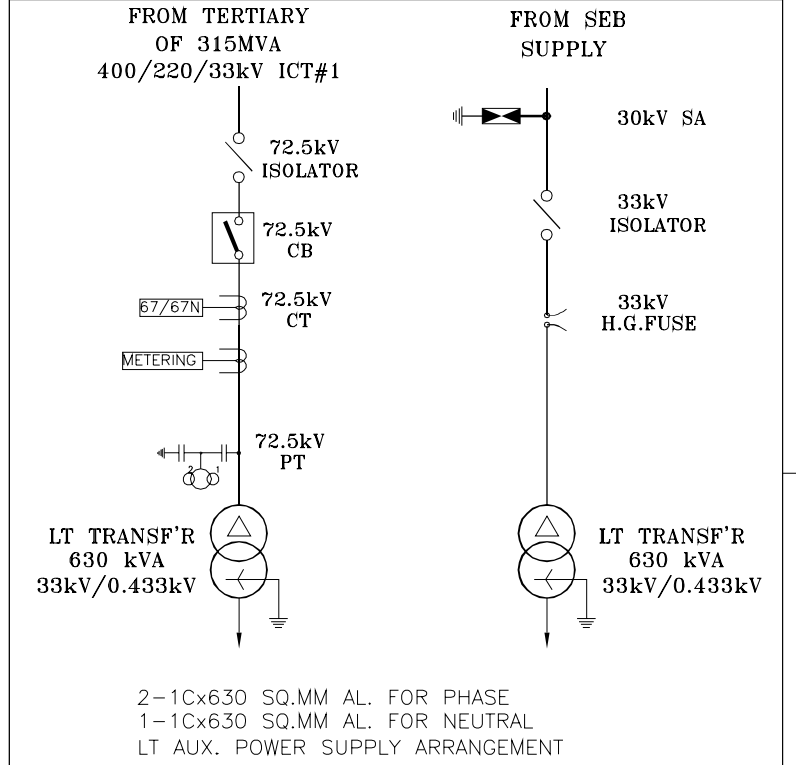
APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	ISF
METERING	1	3000-2000-1000-500/1A	10	0.2S	< 5
METERING	2	3000-2000-1000-500/1A	10	0.2S	< 5

BILL OF EQUIPMENTS - 72.5kV:-

SR.NO	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE
1.0	72.5KV DOUBLE BREAK ISOLATOR (3 PH.)	01		S&S
2.0	72.5KV CB (3 PH.)	01		ABB
3.0	72.5KV CT (1 PH.)	03		VISHAL
4.0	72.5KV PT (1 PH.) (33/√3)/(0.11/√3)kv	03		VISHAL
5.0	630KVA 33/0.433kv LT TRANSFORMER BIL 250Kv	01		ABB

BILL OF EQUIPMENTS - 33kV:-

SR.NO	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE
1.0	33kv DOUBLE BREAK ISOLATOR (3 PH.)	01		S&S
2.0	33kv HG FUSE (1 PH.)	03		##
3.0	30kv LA (1 PH.)	03		OBLUM
4.0	630KVA 33/0.433kv LT TRANSFORMER BIL 170Kv	01		ABB



- LEGEND:-
- [21-1] = MAIN-1 DISTANCE PROTECTION WITH BUILT IN 67N & 59.
 - [21-2] = MAIN-2 DISTANCE PROTECTION WITH BUILT IN 67N & 59.
 - [B7BB1] = BUSBAR PROTECTION-1 WITH BUILT IN LBB PROTECTION.
 - [B7BB2] = BUSBAR PROTECTION-2 WITH BUILT IN LBB PROTECTION.
 - [B7-R] = REACTOR DIFFERENTIAL PROTECTION
 - [B7-T] = TRANSFORMER DIFFERENTIAL PROTECTION
 - [67-T] = DIRECTIONAL OVERCURRENT PROTECTION
 - [50] = INSTANTANEOUS OVERCURRENT PROTECTION
 - [50N] = INSTANTANEOUS GROUND OVERCURRENT PROTECTION

400kv CVT DETAILS (ITEM 280)

APPLICATION	WDG No.	PRIMARY kv	SECONDARY kv	OUTPUT VA	ACCURACY CLASS
PROTECTION	1	400/SQRT 3	0.11/SQRT 3	50	3P
PROTECTION	2	400/SQRT 3	0.11/SQRT 3	50	3P
METERING	3	0.11/SQRT 3	400/SQRT 3	50	0.2

400kv TARIFF CVT DETAILS (ITEM 170)

APPLICATION	WDG No.	PRIMARY kv	SECONDARY kv	OUTPUT VA	ACCURACY CLASS
METERING	1	400/SQRT 3	0.11/SQRT 3	50	0.2
METERING	2	400/SQRT 3	0.11/SQRT 3	50	0.2

REV.NO.	DATE	FOR APPROVAL
NIL	30.07.15	

DESCRIPTION

5) 220/132KV SINGLE LINE DIAGRAM DRG NO. 3VIN10512T1152

4) PLLC NETWORK DIAGRAM DRG NO. YN5H20120700-01 SH-1 & SH-2

3) 220/132kv SLD FOR GONDA S/s, Drwg. No. 3VIN10512T1152

2) 400/220/132kv SECTION LAYOUT FOR GONDA S/s, Drwg. No. 3VIN10512T0152

1) 400/220/132kv PLAN LAYOUT FOR GONDA S/s, Drwg. No. 3VIN10512T0151

LOA NO. : ICI-C&C/SUPTCL/A-S(Sup.)/2011-12/001

SOUTH EAST UTTAR PRADESH POWER TRANSMISSION COMPANY LTD

ISOLUX CORSAN CONCESIONES-C&C

ISOLUX CORSAN

ISOLUX CORSAN INDIA ENGINEERING & CONSTRUCTION PVT. LTD.

UP BOOT PACKAGE-1 765/400KV AIS AT MAINPURI AND ASSOCIATED SCHEMES/WORKS

400/220/132kv AIS AT GONDA

400KV PROTECTION SLD

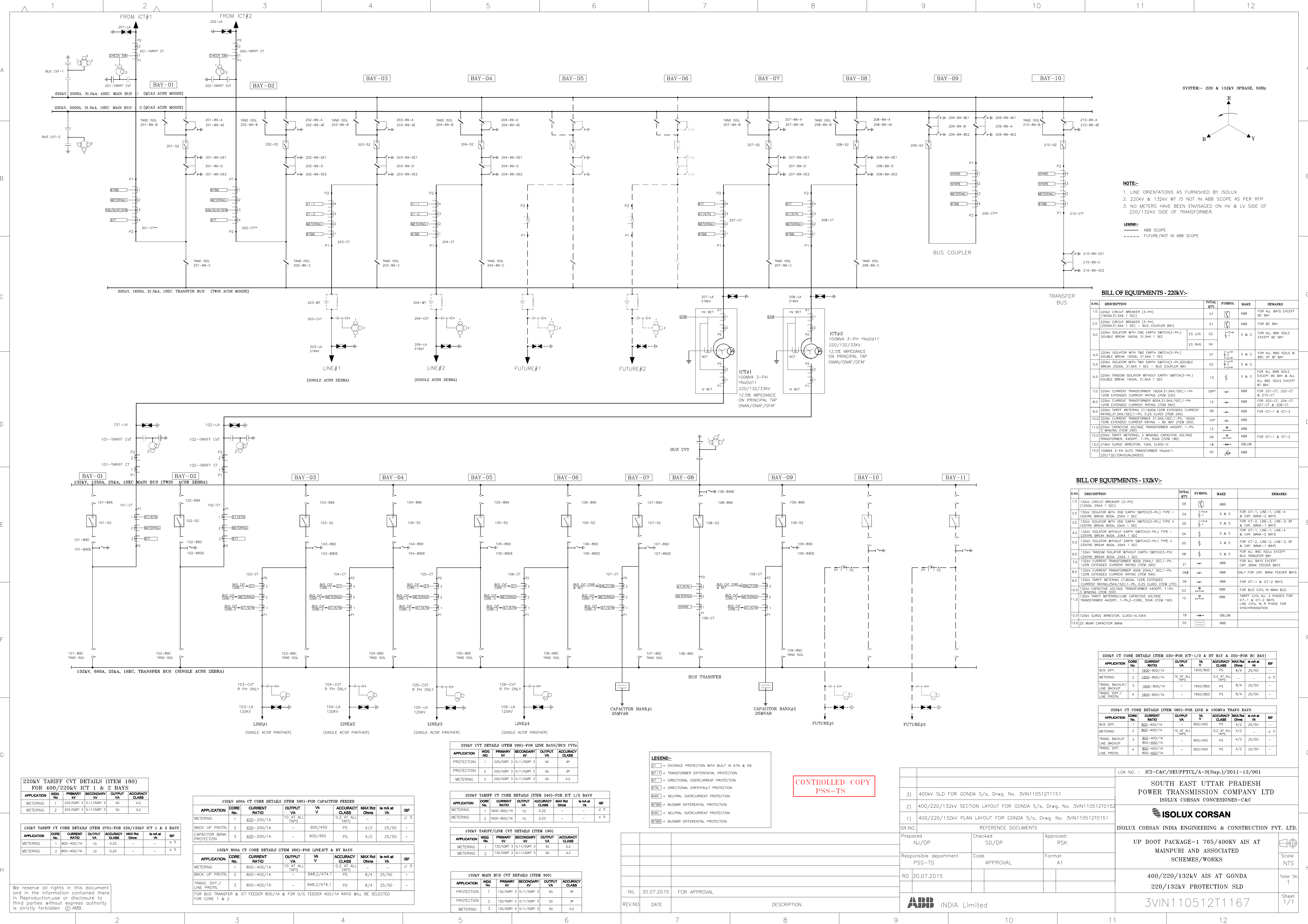
3VIN110512T1166

Scale NTS

Total Sh. 1

Sheet 1/1

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NOTE:-
1. LINE ORIENTATIONS AS FURNISHED BY ISOLUX
2. 220kV & 132kV WT IS NOT IN ABB SCOPE AS PER RFP
3. NO METERS HAVE BEEN ENVISAGED ON HV & LV SIDE OF 220/132KV SIDE OF TRANSFORMER.

LEGEND:-
ABB SCOPE
FUTURE/NOT IN ABB SCOPE

BILL OF EQUIPMENTS - 220kV:-

S.NO.	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE	REMARKS
1.0	220kV CIRCUIT BREAKER (3-PH) (1600A/31.5KA 1 SEC)	07		ABB	FOR ALL BAYS EXCEPT BC BAY
2.0	220kV CIRCUIT BREAKER (3-PH) (2200A/31.5KA 1 SEC - BUS COUPLER BAY)	01		ABB	FOR BC BAY
3.0	220kV ISOLATOR WITH ONE EARTH SWITCH(3-PH.) DOUBLE BREAK 1600A, 31.5KA 1 SEC	ES LHS 03 ES RHS 04		S & S	FOR ALL BSA ISOLS EXCEPT BC BAY
4.0	220kV ISOLATOR WITH TWO EARTH SWITCH(3-PH.) DOUBLE BREAK 1600A, 31.5KA 1 SEC	07		S & S	FOR ALL BSD ISOLS & BSC OF BT BAY
5.0	220kV ISOLATOR WITH TWO EARTH SWITCH(3-PH.) DOUBLE BREAK 2500A, 31.5KA 1 SEC - BUS COUPLER BAY	02		S & S	FOR ALL BSB ISOLS EXCEPT BT BAY
6.0	220kV TANDOM ISOLATOR WITHOUT EARTH SWITCH(3-PH.) DOUBLE BREAK 1600A, 31.5KA 1 SEC	13		S & S	FOR ALL BSC ISOLS EXCEPT BT BAY
7.0	220kV CURRENT TRANSFORMER 1600A/31.5KA/1SEC, 1-PH 120% EXTENDED CURRENT RATING (ITEM 560)	08**		ABB	FOR 201-CT, 202-CT & 210-CT
8.0	220kV CURRENT TRANSFORMER 800A/31.5KA/1SEC, 1-PH 120% EXTENDED CURRENT RATING (ITEM 560)	12		ABB	FOR 203-CT, 204-CT & 210-CT
9.0	220kV TARIFF METERING CT, 1600A/120% EXTENDED CURRENT RATING, 31.5KA/1SEC, 1-PH, 0.2S CLASS (ITEM 240)	06		ABB	FOR ICT-1 & ICT-2
10.0	220kV CURRENT TRANSFORMER 31.5KA/1SEC, 1-PH, 1600A 150% EXTENDED CURRENT RATING - BC BAY (ITEM 250)	03*		ABB	
11.0	220kV CAPACITIVE VOLTAGE TRANSFORMER 400PF, 1-PH, 3 WINDING (ITEM 290)	12		ABB	
12.0	220kV TARIFF METERING, 2 WINDING CAPACITIVE VOLTAGE TRANSFORMER 400PF, 1-PH, 50VA (ITEM 180)	06		ABB	FOR ICT-1 & ICT-2
13.0	216kV SURGE ARRESTOR, 10KA, CLASS-II	18		OBLUM	
14.0	100MVA 3-PH AUTO TRANSFORMER YNd011 (220/132/33kV)(UNLOADED)	02		ABB	

BILL OF EQUIPMENTS - 132kV:-

S.NO.	DESCRIPTION	TOTAL QTY.	SYMBOL	MAKE	REMARKS
1.0	132kV CIRCUIT BREAKER (3-PH) (1250A, 25KA 1 SEC)	09		ABB	
2.0	132kV ISOLATOR WITH ONE EARTH SWITCH(3-PH.) TYPE I CENTRE BREAK 800A, 25KA 1 SEC	04		S & S	FOR ICT-1, LINE-1, LINE-4 & CAP. BANK-2 BAYS
3.0	132kV ISOLATOR WITH ONE EARTH SWITCH(3-PH.) TYPE II CENTRE BREAK 800A, 25KA 1 SEC	05		S & S	FOR ICT-2, LINE-2, LINE-3, BT & CAP. BANK-1 BAYS
4.0	132kV ISOLATOR WITHOUT EARTH SWITCH(3-PH.) TYPE I CENTRE BREAK 800A, 25KA 1 SEC	04		S & S	FOR ICT-1, LINE-1, LINE-4 & CAP. BANK-2 BAYS
5.0	132kV ISOLATOR WITHOUT EARTH SWITCH(3-PH.) TYPE II CENTRE BREAK 800A, 25KA 1 SEC	05		S & S	FOR ICT-2, LINE-2, LINE-3, BT & CAP. BANK-1 BAYS
6.0	132kV TANDOM ISOLATOR WITHOUT EARTH SWITCH(3-PH.) CENTRE BREAK 800A, 25KA 1 SEC	08		S & S	FOR ALL BSC ISOLS EXCEPT BUS TRANSFER BAY
7.0	132kV CURRENT TRANSFORMER 800A/25KA/1 SEC, 1-PH, 120% EXTENDED CURRENT RATING (ITEM 560)	21		ABB	FOR ALL BAYS EXCEPT CAP. BANK FEEDER BAYS
8.0	132kV CURRENT TRANSFORMER 400A/25KA/1 SEC, 1-PH, 120% EXTENDED CURRENT RATING (ITEM 560)	06#		ABB	ONLY FOR CAP. BANK FEEDER BAYS
9.0	132kV TARIFF METERING CT, 800A, 120% EXTENDED CURRENT RATING, 25KA/1SEC, 1-PH, 0.2S CLASS (ITEM 270)	06		ABB	FOR ICT-1 & ICT-2 BAYS
10.0	132kV CAPACITIVE VOLTAGE TRANSFORMER 400PF, 1-PH, 3 WINDING (ITEM 300)	03		ABB	FOR BUS CVTs IN MAIN BUS
11.0	132kV TARIFF METERING/LINE CAPACITIVE VOLTAGE TRANSFORMER 400PF, 1-PH, 2-CORE, 50VA (ITEM 180)	10		ABB	TARIFF CVTs ALL 3 PHASES FOR ICT-1 & ICT-2 BAYS LINE CVTs IN 5 PHASE FOR SYNCHRONISATION
12.0	120kV SURGE ARRESTOR, CLASS-II, 10KA	18		OBLUM	
13.0	25 MVAR CAPACITOR BANK	02		ABB	

220kV CT CORE DETAILS (ITEM 230-FOR ICT-1/2 & BT BAY & 350-FOR BC BAY)

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	MAX Rct Ohms	ISF
BUS DIFF.	1	1600-800/1A	-	1600/800 PS	8/4	25/50 -
METERING	2	1600-800/1A	10 AT ALL TAPS	0.2 AT ALL TAPS	-	- < 5
TRANS. BACKUP/ LINE BACKUP	3	1600-800/1A	-	1600/800 PS	8/4	25/50 -
TRANS. DIFF./ LINE PROTIN.	4	1600-800/1A	-	1600/800 PS	8/4	25/50 -

220kV CT CORE DETAILS (ITEM 560)-FOR LINE & 100MVA TRAF0 BAYS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	MAX Rct Ohms	ISF
BUS DIFF.	1	800-400/1A	-	800/400 PS	4/2	25/50 -
METERING	2	800-400/1A	10 AT ALL TAPS	0.2 AT ALL TAPS	-	- < 5
TRANS. BACKUP/ LINE BACKUP	3	800-400/1A	-	800/400 PS	4/2	25/50 -
TRANS. DIFF./ LINE PROTIN.	4	800-400/1A	-	800/400 PS	4/2	25/50 -

220kV TARIFF CVT DETAILS (ITEM 180) FOR 400/220kV ICT 1 & 2 BAYS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	MAX Rct Ohms	ISF
METERING	1	220/50RT 3	0.11/50RT 3	50	0.2	-
METERING	2	220/50RT 3	0.11/50RT 3	50	0.2	-

132kV TARIFF CT CORE DETAILS (ITEM 270)-FOR 220/132kV ICT 1 & 2 BAYS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	MAX Rct Ohms	ISF
METERING	1	800-400/1A	10	0.25	-	- < 5
METERING	2	800-400/1A	10	0.25	-	- < 5

132kV 400A CT CORE DETAILS (ITEM 590)-FOR CAPACITOR FEEDER

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	Vk V	ACCURACY CLASS	MAX Rct Ohms	ISF
METERING	1	400-200/1A	10 AT ALL TAPS	-	0.2 AT ALL TAPS	-	- < 5
BACK UP PROTIN.	2	400-200/1A	-	900/450	PS	4/2	25/50 -
CAPACITOR BANK PROTECTION	3	400-200/1A	-	900/450	PS	4/2	25/50 -

132kV 800A CT CORE DETAILS (ITEM 260)-FOR LINE, ICT & BT BAYS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	Vk V	ACCURACY CLASS	MAX Rct Ohms	ISF
METERING	1	800-400/1A	10 AT ALL TAPS	-	0.2 AT ALL TAPS	-	- < 5
BACK UP PROTIN.	2	800-400/1A	-	948.2/474.1	PS	8/4	25/50 -
TRANS. DIFF./ LINE PROTIN.	3	800-400/1A	-	948.2/474.1	PS	8/4	25/50 -

FOR BUS TRANSFER & ICT FEEDER 800/1A & FOR O/G FEEDER 400/1A RATIO WILL BE SELECTED FOR CORE 1 & 2

220kV CVT DETAILS (ITEM 290)-FOR LINE BAYS/BUS CVT#

APPLICATION	WDG No.	PRIMARY KV	SECONDARY KV	OUTPUT VA	ACCURACY CLASS
PROTECTION	1	220/50RT 3	0.11/50RT 3	50	3P
PROTECTION	2	220/50RT 3	0.11/50RT 3	50	3P
METERING	3	220/50RT 3	0.11/50RT 3	50	0.2

220kV TARIFF CT CORE DETAILS (ITEM 240)-FOR ICT 1/2 BAYS

APPLICATION	CORE No.	CURRENT RATIO	OUTPUT VA	ACCURACY CLASS	MAX Rct Ohms	ISF
METERING	1	1600-800/1A	10	0.25	-	- < 5
METERING	2	1600-800/1A	10	0.25	-	- < 5

132kV TARIFF/LINE CVT DETAILS (ITEM 190)

APPLICATION	WDG No.	PRIMARY KV	SECONDARY KV	OUTPUT VA	ACCURACY CLASS
METERING	1	132/50RT 3	0.11/50RT 3	50	0.2
METERING	2	132/50RT 3	0.11/50RT 3	50	0.2

132kV MAIN BUS CVT DETAILS (ITEM 300)

APPLICATION	WDG No.	PRIMARY KV	SECONDARY KV	OUTPUT VA	ACCURACY CLASS
PROTECTION	1	132/50RT 3	0.11/50RT 3	50	3P
PROTECTION	2	132/50RT 3	0.11/50RT 3	50	3P
METERING	3	132/50RT 3	0.11/50RT 3	50	0.2

LEGEND:-

- 21- = DISTANCE PROTECTION WITH BUILT IN 67N & 59.
- 67- = TRANSFORMER DIFFERENTIAL PROTECTION
- 67- = DIRECTIONAL OVERCURRENT PROTECTION
- 67N- = DIRECTIONAL EARTH-FAULT PROTECTION
- 64N- = NEUTRAL OVERCURRENT PROTECTION
- 67(80)- = BUSBAR DIFFERENTIAL PROTECTION
- 64N- = NEUTRAL OVERCURRENT PROTECTION
- 67(80)- = BUSBAR DIFFERENTIAL PROTECTION

CONTROLLED COPY PSS-TS

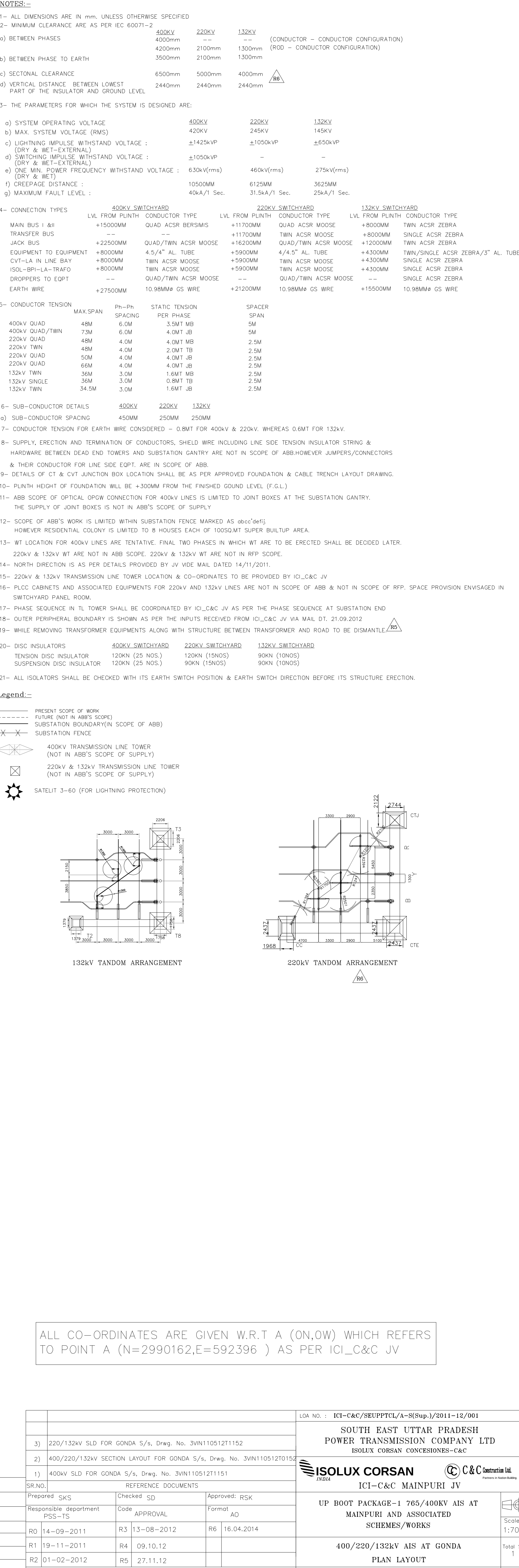
REV.NO.	DATE	DESCRIPTION
NIL	30.07.2015	FOR APPROVAL
ABB INDIA Limited		

3)	400kV SLD FOR GONDA S/s, Drwg. No. 3VIN110512T1151
2)	400/220/132kV SECTION LAYOUT FOR GONDA S/s, Drwg. No. 3VIN110512T0152
1)	400/220/132kV PLAN LAYOUT FOR GONDA S/s, Drwg. No. 3VIN110512T0151

SR.NO.	REFERENCE DOCUMENTS
Prepared	NJ/DP
Checked	SD/DP
Approved:	RSK
Responsible department	PSS-TS
Code	APPROVAL
Format	A1
R0	30.07.2015

LOA NO.:	ICI-C&C/SUPTCL/A-S(Sup.)/2011-12/001
SOUTH EAST UTTAR PRADESH POWER TRANSMISSION COMPANY LTD	
ISOLUX CORSAN CONCESSIONS-C&C	
ISOLUX CORSAN INDIA ENGINEERING & CONSTRUCTION PVT. LTD.	
UP BOOT PACKAGE-1 765/400KV AIS AT MAINPURI AND ASSOCIATED SCHEMES/WORKS	
400/220/132kV AIS AT GONDA	
220/132kV PROTECTION SLD	
3VIN110512T1167	

Scale	NTS
Total Sh.	1
Sheet	1/1



Submit Earthing Layout for Control Room Building, FFPH,Kiosk and LT yard Area separately in Detail.

NOTES:-

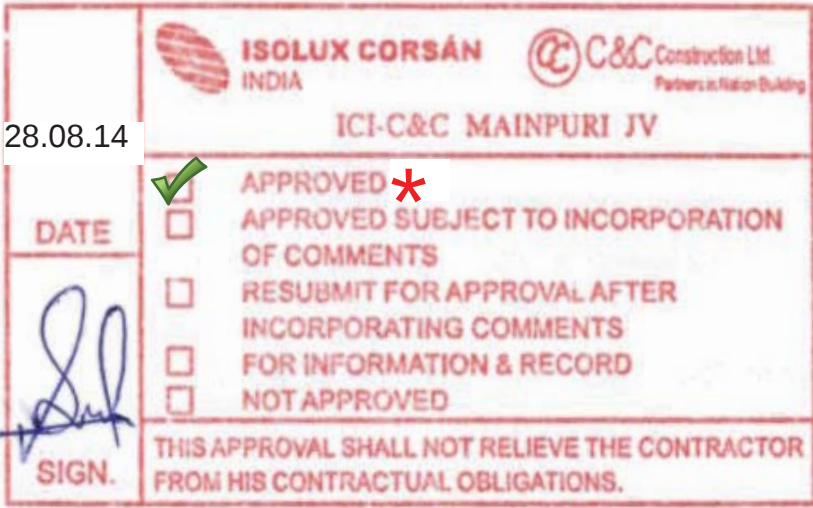
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. MAIN EARTHMAT CONDUCTOR WILL BE LAID 600MM BELOW FROM THE FINISHED GROUND LEVEL.
3. EARTHING CONDUCTOR RUNNING BELOW CABLE TRENCHES, DRAINS, ROADS & RAIL WILL BE LAID 300MM BELOW THEM.
4. THIS DRAWING IS ONLY SYMBOLIC REPRESENTATION OF EARTHING CONDUCTOR LAYOUT. AT ACTUAL SITE CONDITION CONDUCTOR WILL BE ROUTED IN SUCH MANNER SO THAT IT DOES NOT HINDER WITH ANY FOUNDATION.
5. FOR CONTROL BUILDING AND FFPH BUILDING MAIN SWITCHYARD EATHMAT CONDUCTOR WILL BE ROUTED AROUND THE BUILDING AT 1500mm AND BUILDING EARTHING WILL BE CONNECTED WITH THE EARTH MAT.
6. EARTHMAT WILL BE LAID APPROX. 2000MM AWAY FROM THE OUTER FENCE. IN CASE OF BOUNDARY WALL IT WILL BE LAID UPTO THE NEAREST ROAD. STONE SPREADING WILL BE DONE IN EARTHMAT AREA AS PER EARTHING CALCULATION.
7. CABLE TRENCH EARTHING WILL BE DONE WITH 50X6 MS FLAT AND RUN ALONG THE CABLE SUPPORTING STRUCTURE. EARTH FLAT OF CABLE TRENCH WILL BE CONNECTED TO THE MAIN EARTHING AT 30MTR. INTERVAL.
8. EQUIPMENT EARTHING CONNECTIONS MAY CHANGE TO SUIT AS PER SITE CONDITION.
9. FENCE WILL BE CONNECTED AT ALTERNATE POST. RAIL TRACK WILL BE EARTHED AT EVERY 30MTR & AT BOTH ENDS.
10. ALL EARTHING WILL BE DONE IN ACCORDANCE WITH IS:3043 & EQUIPMENT EARTHING DETAIL DRG. 3VIN110512T4152.
11. AUXILIARY EARTHMAT OF 1500mm X 1500 mm SIZE COMPRISING OF 40mmØ MS RODS CLOSELY SPACED (300mmx300mm) SHALL BE PROVIDED AT DEPTH OF 300mm FROM GROUND LEVEL. BELOW OPERATING HANDLES OF MOM/EOM BOX OF THE ISOLATOR. THIS WILL BE DONE AS PER THE ACTUAL LOCATION OF MOM & EOM BOX AT SITE.
12. FOR INDIVIDUAL EARTHING DETAIL REFER EQUIPMENT EARTHING DETAIL DRG - 3VIN110512T4152
13. EVERY EQUIPMENT SHALL BE EARTHED AT TWO DIFFERENT POINT OF MAIN EARTHMAT.
14. MINIMUM DISTANCE OF 6000MM SHALL BE MAINTAINED BETWEEN TWO TREATED PIPE ELECTRODE.
15. ROD ELECTRODE SHALL BE PROVIDED FOR CORNERS OF CONTROL ROOM & FFPH.

EARTH ELECTRODE BOM		
DESCRIPTION	40mm DIA ROD	40mm DIA PIPE
400KV TOWER	20	
400KV LA	27	
400KV CVT	30	
220KV TOWER	28	
220KV LA	18	
220KV CVT	18	
132KV TOWER	23	
132KV LA	18	
132KV CVT	13	
CONTROL ROOM	04	
FFPH BUILDING	04	
315MVA ICT		04
100MVA ICT		04
400KV REACTOR		06
DG SET		02
AUX TRAFO		04
TOTAL	203	20

40mm DIA MS ROD MAIN MAT=13082 MTR (APPROX)

- Legends:
1. MS Rod (Main Earthmat)
 2. 75x12 GS Flat (Riser)
 3. MS Electrode
 4. Pipe Electrode

Location of Pipe Electodes and Rod elctrodes are not shown. Show these in the drawing.

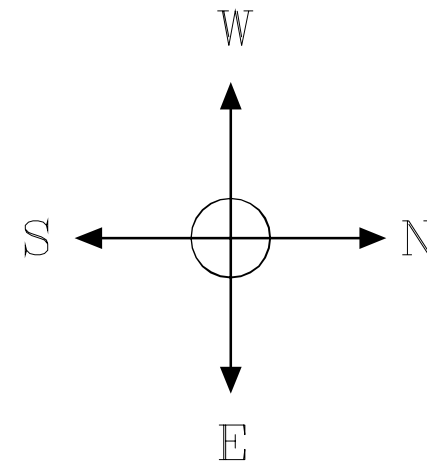
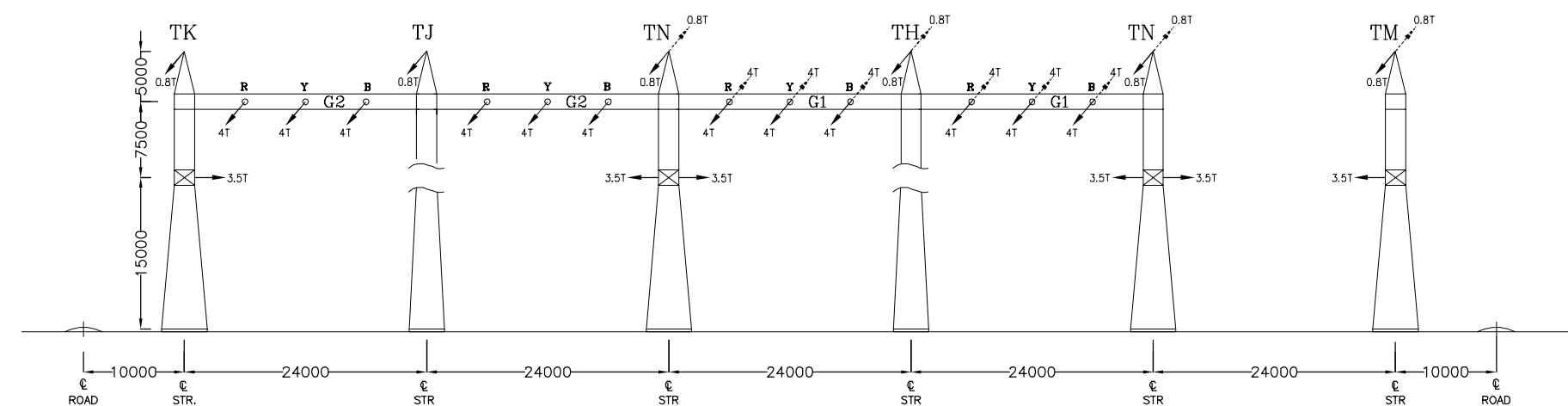
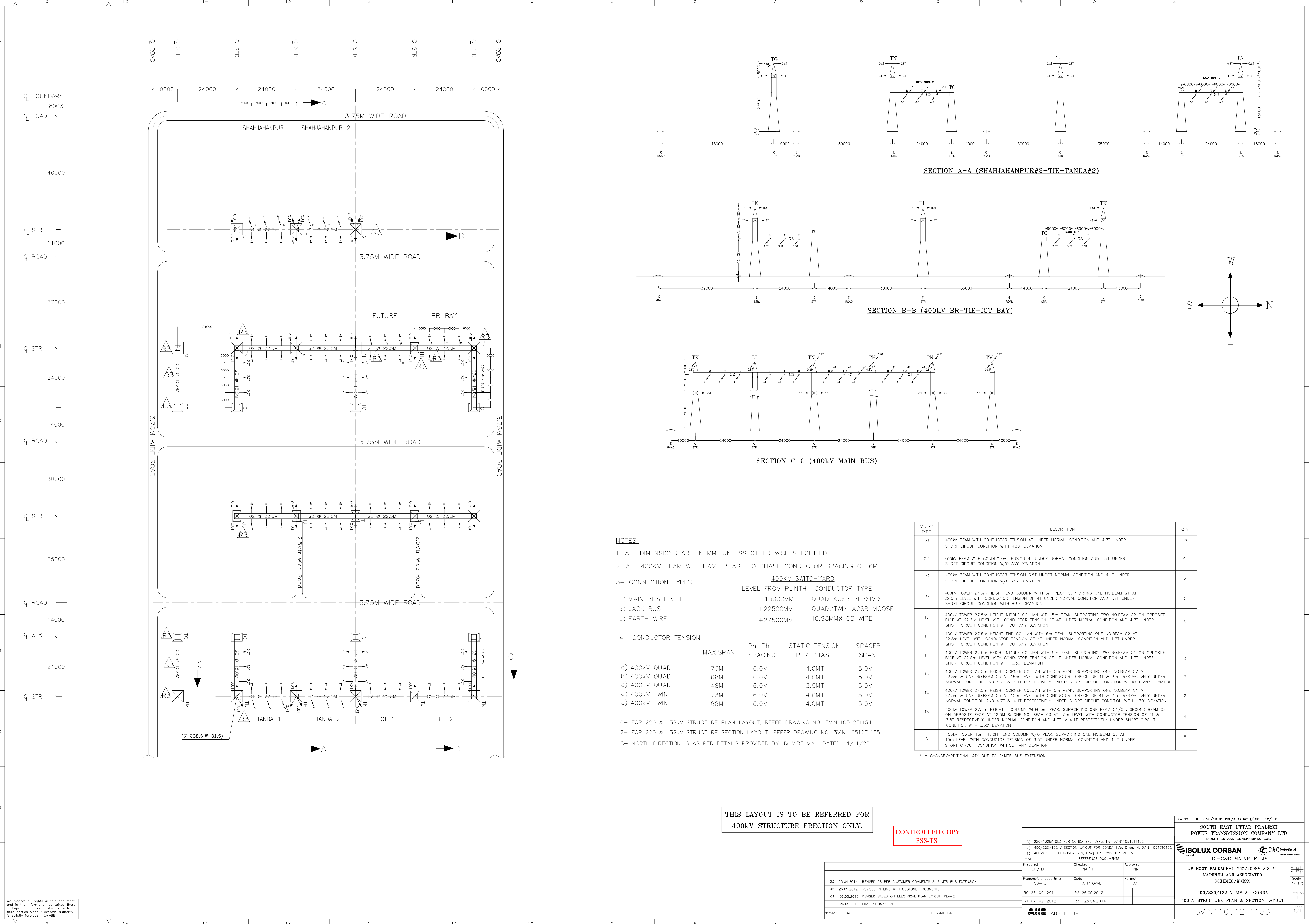


THIS DRAWING IS TO BE REFERRED FOR EARTHMAT LAYING ONLY

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REV.NO.	DATE	DESCRIPTION
2	25.08.2014	REVISED AS PER APPROVED PLOT PLAN WITH 24 MTR EXTENSION BAY
1	16.09.2013	REVISED AS PER DESIGN & JV COMMENT.
NIL	27.06.2012	FIRST SUBMISSION

3)			LOA NO. : ICI-C&C/SUPPTCL/A-S&Sup.1/2011-12/001	
2)			SOUTH EAST UTTAR PRADESH POWER TRANSMISSION COMPANY LTD ISOLUX CORSAN CONCESSIONES-C&C	
1)			ISOLUX CORSAN ICI-C&C MAINPURI JV	
SR.NO.			UP BOOT PACKAGE-1 765/400KV AIS AT MAINPURI AND ASSOCIATED SCHEMES/WORKS	
Prepared			400/220/132KV AIS AT GONDA EARTHING LAYOUT	
Checked			3VIN110512T1163	
Approved			Scale 1:500	
Responsible department			Total Sh 1	
Code			Sheet 1/1	
Approval				
R0				
R1				
ABB Limited				



SECTION C-C (400kV MAIN BUS)

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHER WISE SPECIFIED.
2. ALL 400KV BEAM WILL HAVE PHASE TO PHASE CONDUCTOR SPACING OF 6M

3- CONNECTION TYPES

3- CONNECTION TYPES		400KV SWITCHYARD	
	LEVEL FROM PLINTH	CONDUCTOR TYPE	
a) MAIN BUS I & II	+15000MM	QUAD ACSR BERSIMIS	
b) JACK BUS	+22500MM	QUAD/TWIN ACSR MOOSE	
c) EARTH WIRE	+27500MM	10.98MM ϕ GS WIRE	

4- CONDUCTOR TENSION				
	MAX.SPAN	Ph-Ph SPACING	STATIC TENSION PER PHASE	SPACER SPAN
a) 400kV QUAD	73M	6.0M	4.0MT	5.0M
b) 400kV QUAD	68M	6.0M	4.0MT	5.0M
c) 400kV QUAD	48M	6.0M	3.5MT	5.0M
d) 400kV TWIN	73M	6.0M	4.0MT	5.0M
e) 400kV TWIN	68M	6.0M	4.0MT	5.0M

6- FOR 220 & 132KV STRUCTURE PLAN LAYOUT, REFER DRAWING NO. 3VIN110512T1154
7- FOR 220 & 132KV STRUCTURE SECTION LAYOUT, REFER DRAWING NO. 3VIN110512T115
8- NORTH DIRECTION IS AS PER DETAILS PROVIDED BY JV VIDE MAIL DATED 14/11/2011.

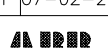
GATEGORY	DESCRIPTION	QTY.
G1	400KV BEAM WITH CONDUCTOR TENSION 4T UNDER NORMAL CONDITION AND 4.7T UNDER SHORT CIRCUIT CONDITION WITH ±30° DEVIATION	5
G2	400KV BEAM WITH CONDUCTOR TENSION 4T UNDER NORMAL CONDITION AND 4.7T UNDER SHORT CIRCUIT CONDITION W/O ANY DEVIATION	9
G3	400KV BEAM WITH CONDUCTOR TENSION 3.5T UNDER NORMAL CONDITION AND 4.1T UNDER SHORT CIRCUIT CONDITION W/O ANY DEVIATION	8
TG	400KV TOWER 27.5m HEIGHT END COLUMN WITH 5m PEAK, SUPPORTING ONE NO.BEAM G1 AT 22.5m LEVEL WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND 4.7T UNDER SHORT CIRCUIT CONDITION WITH ±30° DEVIATION	2
TJ	400KV TOWER 27.5m HEIGHT MIDDLE COLUMN WITH 5m PEAK, SUPPORTING TWO NO.BEAM G2 ON OPPOSITE FACE AT 22.5m LEVEL WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND 4.7T UNDER SHORT CIRCUIT CONDITION WITHOUT ANY DEVIATION	6
TI	400KV TOWER 27.5m HEIGHT END COLUMN WITH 5m PEAK, SUPPORTING ONE NO.BEAM G2 AT 22.5m LEVEL WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND 4.7T UNDER SHORT CIRCUIT CONDITION WITHOUT ANY DEVIATION	1
TH	400KV TOWER 27.5m HEIGHT MIDDLE COLUMN WITH 5m PEAK, SUPPORTING TWO NO.BEAM G1 ON OPPOSITE FACE AT 22.5m LEVEL WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND 4.7T UNDER SHORT CIRCUIT CONDITION WITH ±30° DEVIATION	3
TK	400KV TOWER 27.5m HEIGHT CORNER COLUMN WITH 5m PEAK, SUPPORTING ONE NO.BEAM G2 AT 22.5m AND ONE NO.BEAM G3 AT 15m LEVEL WITH CONDUCTOR TENSION OF 4T & 3.5T RESPECTIVELY UNDER NORMAL CONDITION AND 4.7T & 4.1T RESPECTIVELY UNDER SHORT CIRCUIT CONDITION WITHOUT ANY DEVIATION	2
TM	400KV TOWER 27.5m HEIGHT CORNER COLUMN WITH 5m PEAK, SUPPORTING ONE NO.BEAM G1 AT 22.5m AND ONE NO.BEAM G3 AT 15m LEVEL WITH CONDUCTOR TENSION OF 4T & 3.5T RESPECTIVELY UNDER NORMAL CONDITION AND 4.7T & 4.1T RESPECTIVELY UNDER SHORT CIRCUIT CONDITION WITH ±30° DEVIATION	2
TN	400KV TOWER 27.5m HEIGHT T COLUMN WITH 5m PEAK, SUPPORTING ONE BEAM G1/G2, SECOND BEAM G2 ON OPPOSITE FACE AT 22.5m LEVEL WITH CONDUCTOR TENSION OF 4T & 3.5T RESPECTIVELY UNDER NORMAL CONDITION AND 4.7T & 4.1T RESPECTIVELY UNDER SHORT CIRCUIT CONDITION WITH ±30° DEVIATION	4
TC	400KV TOWER 15m HEIGHT END COLUMN W/O PEAK, SUPPORTING ONE NO.BEAM G3 AT 15m LEVEL WITH CONDUCTOR TENSION OF 3.5T UNDER NORMAL CONDITION AND 4.1T UNDER SHORT CIRCUIT CONDITION WITHOUT ANY DEVIATION	8

* = CHANGE/ADDITIONAL QTY DUE TO 24MTR BUS EXTENSION.

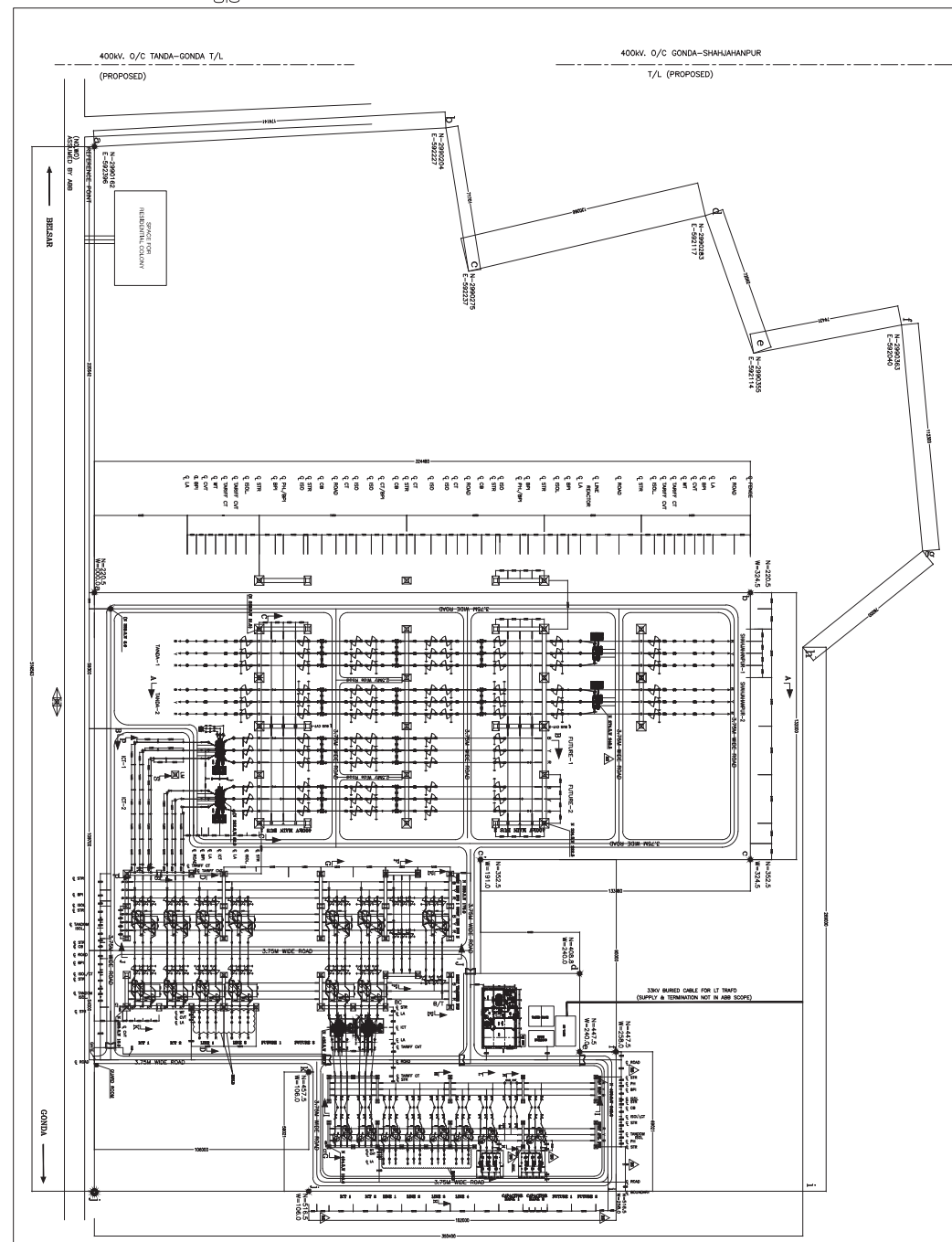
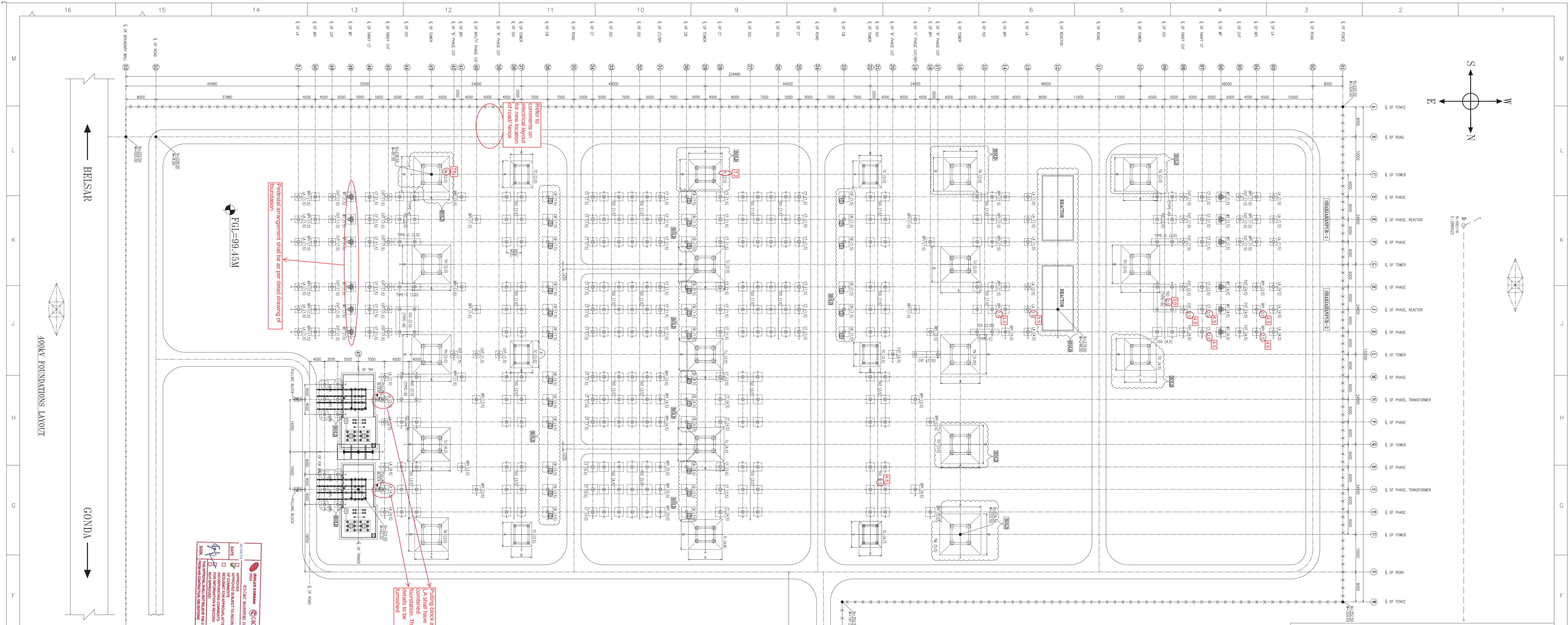
THIS LAYOUT IS TO BE REFERRED FOR
400kV STRUCTURE ERECTION ONLY.

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03	25.04.2014	REVISED AS PER CUSTOMER COMMENTS & 24MTR B
02	26.05.2012	REVISED IN LINE WITH CUSTOMER COMMENTS
01	06.02.2012	REVISED BASED ON ELECTRICAL PLAN LAYOUT, REV-
NIL	26.09.2011	FIRST SUBMISSION
REV.NO.	DATE	DESCRIPTION

				LGA No. : IC1-C&C/SBP/PT/A-8(Sup./1/2011-12/001) SOUTH EAST UTTAR PRADESH POWER TRANSMISSION COMPANY LTD ISOLUX CORSBAN CONCESIONES-C&C	
3) 220/132kV SLD FOR GONDA S/s, Drawg No. 3VIN110512T1152 4) 200/220/132kV SECTION LAYOUT FOR GONDA S/s, Drawg. No.3VIN110512T0152 5) 400KV SLD FOR GONDA S/s, Drawg. No.3VIN110512T1151				ISOLUX CORSAN AGM IC1-C&C MAINPURI JV	
(S/N) REFERENCE DOCUMENTS Prepared CP/JN Checked NJ/FT Approved: NR Responsible department Code APPROVAL Form A1 PSS-TS				UP BOOT PACKAGE-1 765/400KV AT MAINPURI AND ASSOCIATED SCHEMES/WORKS	
R0 26-09-2011 R1 07-02-2012		R2 26.05.2012 R3 25.04.2014		400/220/132kV AT GONDA 400KV STRUCTURE PLAN & SECTION LAYOUT	
 ABB Limited				3VIN110512T1153 Sheet 1/1	

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(4) 120/132V STRUCTURE PLAN & SECTION LAYOUT FOR GONDA S/5, Dwg. No. 3VN110512T0953-R2 (5) 400V STRUCTURE PLAN & SECTION LAYOUT FOR GONDA S/5, Dwg. No. 3VN110512T0955-R1 (6) 400/220/132V SECTION LAYOUT FOR GONDA S/5, Dwg. No. 3VN110512T0152 (7) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5				LGD No. ICI-C&C/SEUPPTCL/A-SISup/3/2011-12/001 SOUTH EAST UTTAR PRADESH POWER TRANSMISSION COMPANY LTD ISOLUX CORSAN CONCESSIONS-C&C	
(8) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5				 ISOLUX CORSAN  C&C Concession Ltd INDIA Pakistan's Leading	
(9) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5				ICI-C&C MAINPURI JV	
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(58) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5					
(59) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5					
(60) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5					
(61) 400/220/132V AS AT GONDA PLAN LAYOUT, Dwg. No. 3VN110512T0151-R5					
(62) 400/220					

02	07.01.2013	REVISED BASED ON 400/220/132KV AIS AT GONDA PLAN LAYOUT 3VIN11051270151-R5
01	01.10.2012	REVISED AS PER ISOLUX COMMENTS RECEIVED DT: 10.09.12
NIL	22.08.2012	FIRST SUBMISSION
REV.NO	DATE	DESCRIPTION

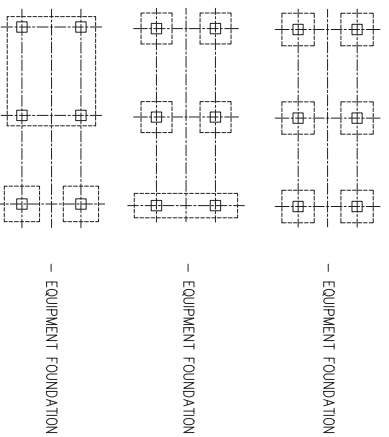
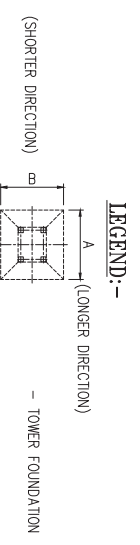
Comments:

1. All equipment and tower foundations shall be laid at least 1.5m below NGSL EGL. Accordingly the minimum depth of foundation may be calculated and appropriate details/foundation depth from FGL) may be adopted.

2. This drawing may be revised based on latest approved electrical layout.

400m SWIMMERS CENTER FOUNDATION						
ID	FUNCTION	COLLAR MARKED	STP MARKED	FUNCTION (DRAWN IN)	PLATING SIZE	
					A x B	REMARKS
5/001	1C (1A)	1C	1	SWN1021-2986-H	800 x 800	
6	2 (1A)	1C		SWN1021-2986-H	1050 x 800	
8	3 (1A)	1C	2	SWN1021-2986-H	800 x 800	
9	1C (1A)	1C		SWN1021-2986-H	800 x 800	
10	1C (1A)	1C	2	SWN1021-2986-H	800 x 800	
11	2 (1A)	1C		SWN1021-2986-H	800 x 800	
12	3 (1A)	1C		SWN1021-2986-H	800 x 800	
13	1C (1A)	1C		SWN1021-2986-H	800 x 800	
14	2 (1A)	1C		SWN1021-2986-H	800 x 800	
15	3 (1A)	1C		SWN1021-2986-H	800 x 800	
16	1C (1A)	1C	3	SWN1021-2986-H	7200 x 800	
17	2 (1A)	1C		SWN1021-2986-H	800 x 800	
18	3 (1A)	1C	2	SWN1021-2986-H	800 x 800	

400K SURTACED EQUIPMENT FOUNDATIONS									
NO.	FOUNDATION NUMBER	TYPE OF FOUNDATION	CY OF CONCRETE	FOUNDATION SIZE (FOOTING x WALL)		REINFORCING BARS	FORMWORK SQUARE FEET	FORMWORK COST	TOTAL COST
				FOOTING	WALL				
1	LA (1)	LA	13	3	10	3	1800 x 800	1800 x 800	1800 x 800
2	LA (2)	LA	4	3	10	3	2000 x 800	2000 x 800	2000 x 800
3	LA (3)	LA	7	4	10	4	2000 x 800	2000 x 800	2000 x 800
4	BR (1)	BR	22	4	10	4	2000 x 800	2000 x 800	2000 x 800
5	BR (2)	BR	10	4	10	4	2000 x 800	2000 x 800	2000 x 800
6	BR (3)	BR	10	4	10	4	2000 x 800	2000 x 800	2000 x 800
7	BR (4)	BR	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
8	BR (5)	BR	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
9	CT (1)	CT	36	4	10	4	2000 x 800	2000 x 800	2000 x 800
10	CT (2)	CT	7	4	10	4	2000 x 800	2000 x 800	2000 x 800
11	CT (3)	CT	21	4	10	4	2000 x 800	2000 x 800	2000 x 800
12	CT (4)	CT	21	4	10	4	1800 x 800	1800 x 800	1800 x 800
13	CT (5)	CT	5	4	10	4	2000 x 800	2000 x 800	2000 x 800
14	CT (6)	CT	5	4	10	4	2000 x 800	2000 x 800	2000 x 800
15	CT (7)	CT	13	4	10	4	1700 x 800	1700 x 800	1700 x 800
16	BR (1)	BR	13	4	10	4	2000 x 800	2000 x 800	2000 x 800
17	BR (2)	BR	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
18	BR (3)	BR	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
19	BR (4)	BR	2	4	10	4	2000 x 800	2000 x 800	2000 x 800
20	BR (5)	BR	1	4	10	4	2000 x 800	2000 x 800	2000 x 800
21	BR (6)	BR	2	4	10	4	2000 x 800	2000 x 800	2000 x 800
22	BR (7)	BR	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
23	BR (8)	BR	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
24	BR (9)	BR	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
25	CT (1)	CT	18	4	10	4	2000 x 800	2000 x 800	2000 x 800
26	CT (2)	CT	4	4	10	4	2000 x 800	2000 x 800	2000 x 800
27	CT (3)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
28	CT (4)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
29	CT (5)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
30	CT (6)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
31	CT (7)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
32	CT (8)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
33	CT (9)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
34	CT (10)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
35	CT (11)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
36	CT (12)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
37	CT (13)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
38	CT (14)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
39	CT (15)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
40	CT (16)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
41	CT (17)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
42	CT (18)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
43	CT (19)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
44	CT (20)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
45	CT (21)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
46	CT (22)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
47	CT (23)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
48	CT (24)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
49	CT (25)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
50	CT (26)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
51	CT (27)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
52	CT (28)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
53	CT (29)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
54	CT (30)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
55	CT (31)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
56	CT (32)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
57	CT (33)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
58	CT (34)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
59	CT (35)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
60	CT (36)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
61	CT (37)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
62	CT (38)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
63	CT (39)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
64	CT (40)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
65	CT (41)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
66	CT (42)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
67	CT (43)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
68	CT (44)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
69	CT (45)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
70	CT (46)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
71	CT (47)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
72	CT (48)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
73	CT (49)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
74	CT (50)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
75	CT (51)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
76	CT (52)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
77	CT (53)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
78	CT (54)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
79	CT (55)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
80	CT (56)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
81	CT (57)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
82	CT (58)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
83	CT (59)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
84	CT (60)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
85	CT (61)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
86	CT (62)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
87	CT (63)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
88	CT (64)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
89	CT (65)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
90	CT (66)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
91	CT (67)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
92	CT (68)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
93	CT (69)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
94	CT (70)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
95	CT (71)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
96	CT (72)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
97	CT (73)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
98	CT (74)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
99	CT (75)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
100	CT (76)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
101	CT (77)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
102	CT (78)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
103	CT (79)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
104	CT (80)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
105	CT (81)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
106	CT (82)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
107	CT (83)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
108	CT (84)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
109	CT (85)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
110	CT (86)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
111	CT (87)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
112	CT (88)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
113	CT (89)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
114	CT (90)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
115	CT (91)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
116	CT (92)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
117	CT (93)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
118	CT (94)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
119	CT (95)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
120	CT (96)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
121	CT (97)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
122	CT (98)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
123	CT (99)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
124	CT (100)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
125	CT (101)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
126	CT (102)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
127	CT (103)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
128	CT (104)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
129	CT (105)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
130	CT (106)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
131	CT (107)	CT	3	4	10	4	2000 x 800	2000 x 800	2000 x 800
132	CT (1								



2. THIS FRAME IS NOT TO BE SCALED. ONLY WIDTH DIMENSIONS ARE TO BE FOLLOWED.
3. ALL TOLERANCES ARE TO BE MINUS UNLESS OTHERWISE SPECIFIED. FOUNDATION SIZES ARE TO BE EXACT.
4. IN CASE OF ANY CONFLICT/AMBIGUITY REQUIRED ALL WORK AT SITE SHOULD BE STOPPED AND LEFT OPEN TO BE DETERMINED BY THE ARCHITECT.
5. FOUNDATION DETAILS SHOWN IN THIS DRAWING ARE INDICATIVE ONLY FOR EXACT DETAILS OF FOUNDATION REFER INDIVIDUAL FOUNDATION DRAWINGS OF TOWER.
6. ORIENTATION OF FOUNDATION SHALL BE VERIFIED WITH RESPECT TO LAZAVEL.
7. ALL SMOOTHED FOUNDATION CORNERS SHALL BE DERIVED FROM THREE POINTS ONLY.
8. FOUNDATION STRUCTURE LAZAVEL DRAWING FOR CROSS CHECKING OF TOWER RESISTANCE.
9. TOWER SHALL BE (1) 724240 TOWER CORRESPONDING TO TOWER WINDWARD OR NONWIND SIDE SHALL BE (2) 724240 TOWER CORRESPONDING TO TOWER WINDWARD OR NONWIND SIDE.

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