546240

Karnataka Power Transmission Corporation Limited

Telephone: 080-22210416
Fax :080-22292204

OFFICE OF THE
Chief Engineer Electy., (P&C)
Kaveri Bhavan, P.O.No. 9990,
Bangalore – 560 009.

No. CEE(P&C)/SE(Civil)/KCO-118/ 9758/07-08 8287-15
Encl: Drawings

Date: 28 SEP 2016

To,
All the Chief Engineers Electy,
Transmission zone,
KPTCL,
BANGALORE/TUMKUR/MYSORE
HASSAN, BAGALKOT/GULBARGA.

From No :.....
FTS No:.....
O/o. CEE (T&P) KPTCL
1) SEE T&P-1
2) SEE T&P-2
3) CA T&P
CE&(T&P)
KPTCL

Sir,

Sub:	Construction of control room buildings for 220Kv,110Kv & 66Kv sub stations-Reg revision of column and footing drawings

******

Please find herein enclosed the following drawing for adoption /execution forthwith.

Sl no.	Description of the drawing	Drawing No.
1.	220Kv Substation Control Room building-Column footing details	CEE(P&C)/SE(CIVIL)/06-07/220/002 (Rev:1)-3 sheets
2.	CRB-TYPE 1 Control Room building-Column footing details	CEE(P&C)/SE(CIVIL)/06-07/110-66/002 (Rev:1)

Further, action may be taken to adopt the above drawings for the future works and for the on-going works where the stage of the work permits for the construction as per the above drawing.

In adopting the said drawing in the ongoing projects, there shall not be any cost implications since the drawing uploaded with the tender are for reference/tender purpose and if any changes during execution is required owner (KPTCL) is at liberty to order for such changes required for successful completion of the work.

It is requested to supply copies of drawings to Circle offices, Major Works Division Offices in your jurisdiction

Yours faithfully,

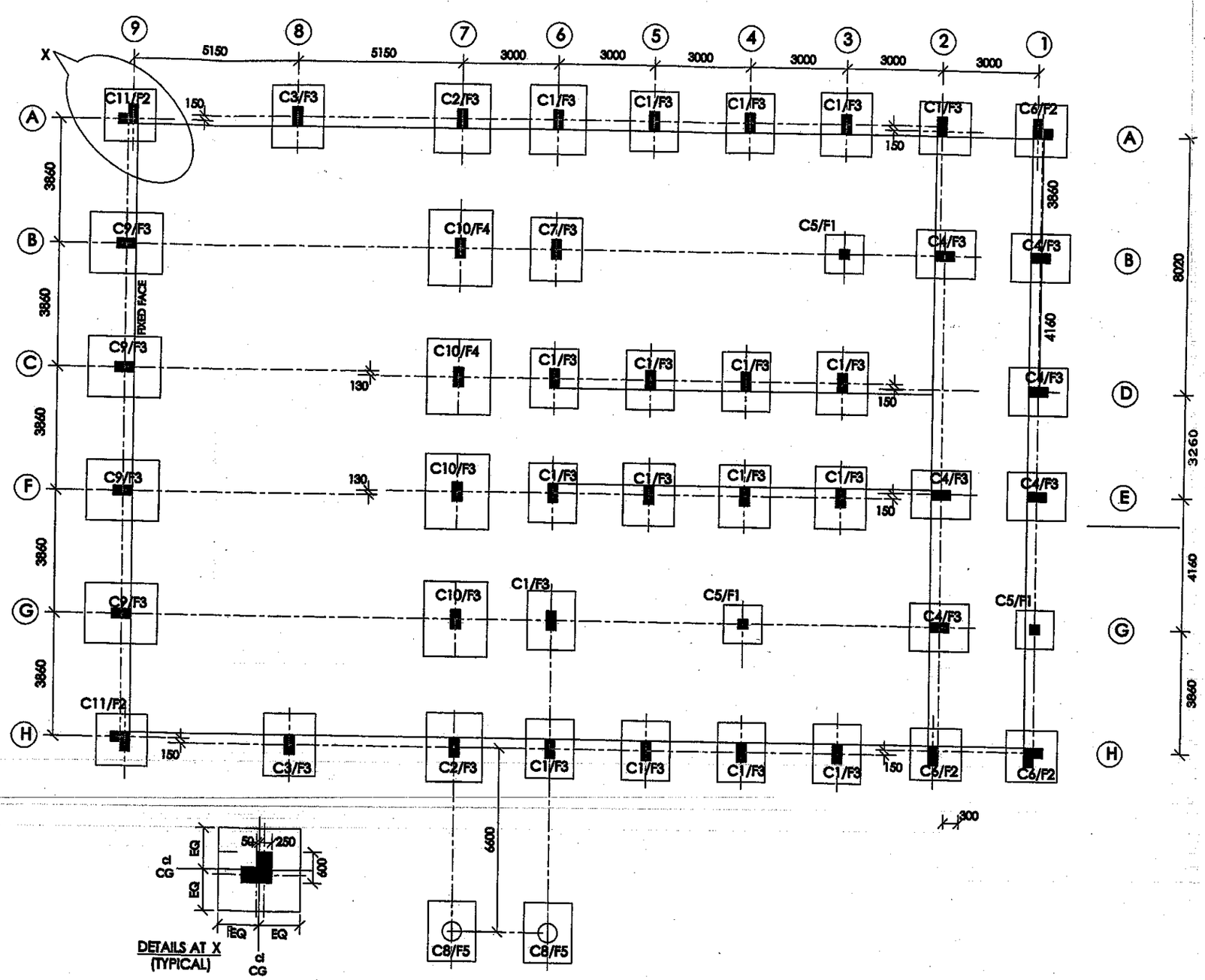
29/9/16

Chief Engineer Electy, (P&C)

Copy to:-

1. The Chief Engineer Electy, T&P, KPTCL, Bangalore for information along with the copy of the drawings for inclusion of the drawing in the tender documents for the turn key tendering works of 220Kv,110KV & 66KV sub-stations.
2. The Chief Engineer Electy, TA&QC, KPTCL, Bangalore for information along with the copies of the drawings for needful.
3. The superintending Engineer Elecl, Tech for information.
4. MF/OC

Copy to SE2 EE(IT) EE(T3) AEE(Civil) AEE(T2/T3) 29/9 29/9/16



NOTES:

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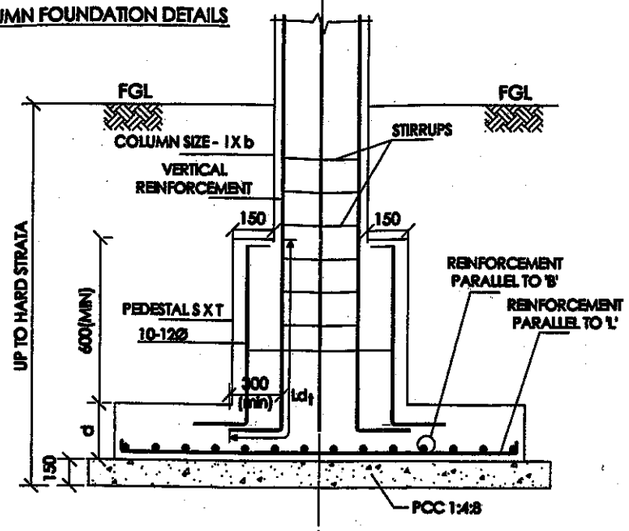
5. BACK FILLING SHALL BE WITH NEW EARTH(MURRAM) IN LAYERS OF 200MM TK COMPACTED TO PROCTOR DENSITY 96 % FOR BC SOIL/EXPNSIVE SOIL LOCATIONS
6. ALL STRUCTURAL CONCRETE SHALL BE M20 GRADE.
8. DOWEL BARS (MIN 50 DIA) OF COLUMN ABOVE SLAB SHALL BE ENCASED IN CONCRETE
9. THE DETAILS ARE SUITABLE FOR SOIL OF SBC >10T/SMTR.

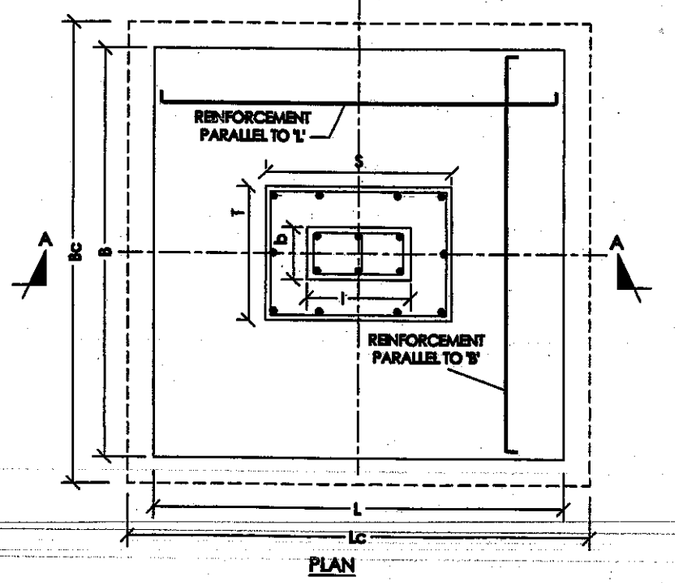
KARNATAKA POWER TRANSMISSION CORPORATION LTD.,		
220KV SUB STATION CONTROL ROOM BUILDING	COLUMN FOOTING DETAILS	SHEET 1 OF 3
DRG NO: CEE(P&C)/SE(CIVIL)/06-07/220/002	REVISION: 1	SCALE :NTS DT:08/2016
EE (CIVIL)	SE (CIVIL)	CHIEF ENGINEER ELECT, (P&C)
SUB	REC	APPROVED

27/9/16

COLUMN FOUNDATION DETAILS



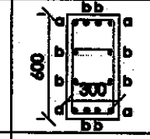
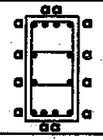
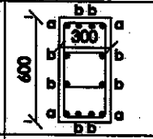
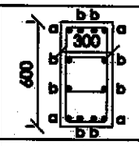
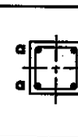
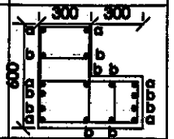
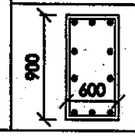
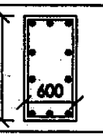
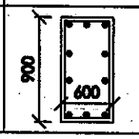
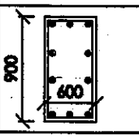
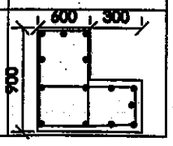
SECTION AA

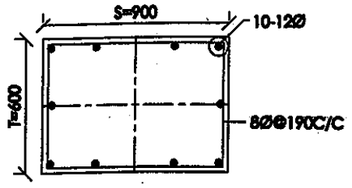


PLAN

FOUNDATION SCHEDULE						
FOOTING MARKS		F1	F2	F3	F4	F5
FOUNDATION	SIZE - B X L	1500 X 1500	2300X2300	2850X2850	2900 X 2900	1500 X 1500
	DEPTH - d	300 FLAT	400 FLAT	475 FLAT	475 FLAT	300 FLAT
	REINF II TO 'L' BOTTOM	8NOS OF 10 TOR	11NOS OF 12 TOR	20NOS OF 12 TOR	20NOS OF 12 TOR	8NOS OF 10 TOR
	REINF II TO 'B' BOTTOM	8NOS OF 10 TOR	11NOS OF 12 TOR	20NOS OF 12 TOR	20NOS OF 12 TOR	8NOS OF 10 TOR
	CONCRETE MIX	M20	M20	M20	M20	M20
	Lc X Bc X 150 TK PCC 1:4:8	1650 X 1650	2450 X 2450	3000 X 3000	3150X3150	1650 X 1650

COLUMN SCHEDULE

COLUMN MARKS		C1	C2	C3	C4	C5 (UPTO PLINTH BOTTOM)	C6
COLUMN SIZE - I X b		600 X 300	300 X 600	300 X 600	300 X 600	300X300	AS PER PLAN
FOOTING LEVEL TO FIRST SLAB LEVEL	VERTICAL REINFORCEMENT	4NOS OF 20 TOR - (a) +8NOS OF 16 TOR - (b)	12NOS OF 20 TOR - (a)	4NOS OF 16 TOR - (a) +8NOS OF 12 TOR - (b)	4NOS OF 20 TOR - (a) +8NOS OF 12 TOR - (b)	4NOS OF 16 TOR - (a)	6NOS OF 20 TOR - (a) +10NOS OF 12 TOR - (b)
	STIRRUPS	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 150C/C
	CONCRETE MIX	M 20	M 20	M 20	M 20	M 20	M 20
SECTION (TYPICAL)							
PEDESTAL: S X T		900 X 600	900 X 600	900 X 600	900 X 600	NO PEDESTAL	AS PER PLAN
		10NOS OF 12 TOR - (a)	10NOS OF 12 TOR - (a)	10NOS OF 12 TOR - (a)	10NOS OF 12 TOR - (a)	NO PEDESTAL	14NOS OF 12 TOR - (a)
						NO PEDESTAL	



PEDESTAL SECTION

DEVELOPMENT LENGTH,COVER TO REINFORCEMENT,SCHEDULING ETC.,SHALL BE AS PER IS PROVISIONS.

DEVELOPMENT LENGTH (Ld) OF BARS IN TENSION FOR Fe 415 GRADE STEEL	BAR DIA IN MM	M15	M20
	6	340	280
	8	460	375
	10	570	470
	12	690	560
	16	910	750
	20	1140	940
	25	1475	1175

CLEAR COVER TO BE PROVIDED FOR

1. FOOTINGS - 60MM
2. BEAMS - 25MM
3. COLUMNS - 40MM
4. SLABS - 20MM

NOTES:

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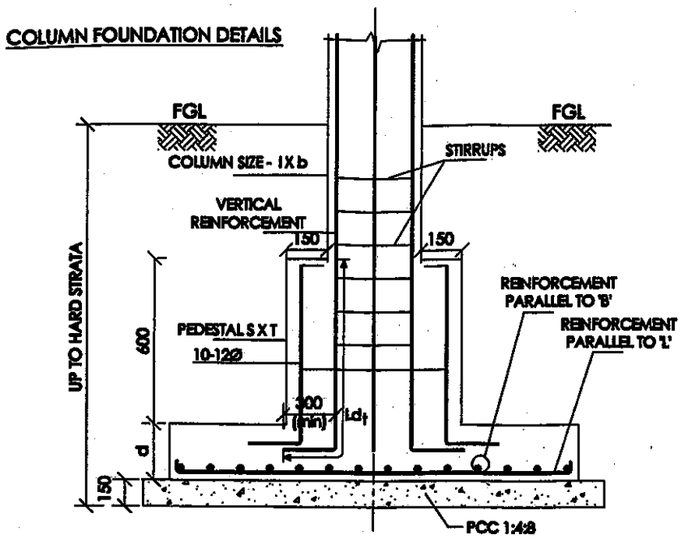
6. ALL STRUCTURAL CONCRETE SHALL BE M20 GRADE.
8. DOWEL BARS (MIN 50 DIA) OF COLUMN ABOVE SLAB SHALL BE ENCASED IN CONCRETE
9. THE DETAILS ARE SUITABLE FOR SOIL OF SBC>10T/SMTR.

KARNATAKA POWER TRANSMISSION CORPORATION LTD.,

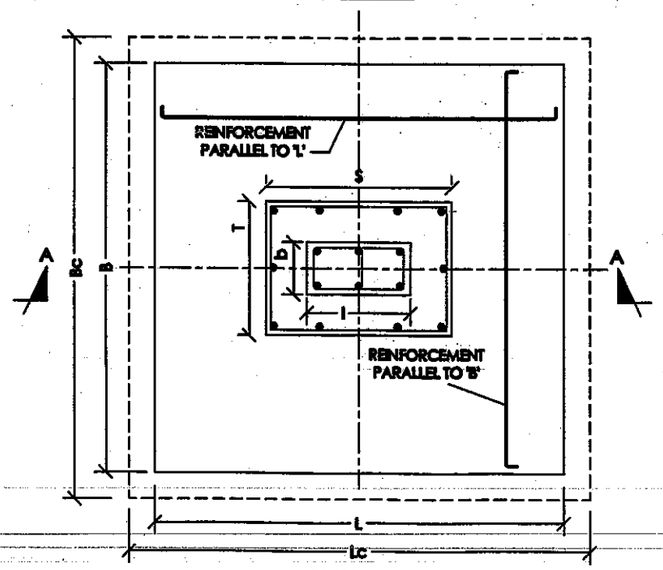
220KV SUB STATION CONTROL ROOM BUILDING	COLUMN FOOTING DETAILS	SHEET 2 OF 3
DRG NO: CEE(P&C)/SE(CIVIL)/06-07/220/002	REVISION: 1	SCALE: NTS DT:09/2015

EE (CIVIL)	SE (CIVIL)	CHIEF ENGINEER ELECT, (P&C)
SUB	EEC	APPROVED

COLUMN FOUNDATION DETAILS



SECTION AA

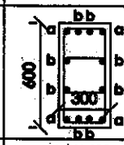
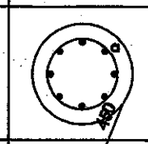
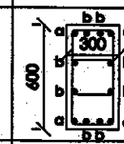
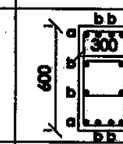
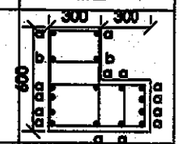
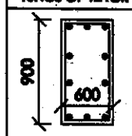
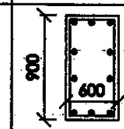
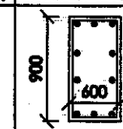
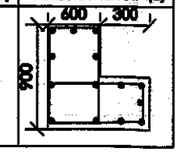


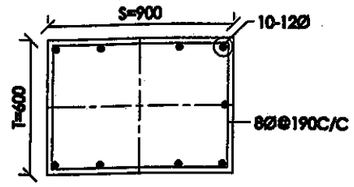
PLAN

FOUNDATION SCHEDULE

FOOTING MARKS		F1	F2	F3	F4	F5
FOUNDATION	SIZE - B X L	1500 X 1500	2300X2300	2850X2850	2900 X 2900	1500 X 1500
	DEPTH - d	300 FLAT	400 FLAT	475 FLAT	475 FLAT	300 FLAT
	REINF ǁ TO 'L' BOTTOM	8NOS OF 10 TOR	11NOS OF 12 TOR	20NOS OF 12 TOR	20NOS OF 12 TOR	8NOS OF 10 TOR
	REINF ǁ TO 'B' BOTTOM	8NOS OF 10 TOR	11NOS OF 12 TOR	20NOS OF 12 TOR	20NOS OF 12 TOR	8NOS OF 10 TOR
	CONCRETE MIX	M20	M20	M20	M20	M20
	Lc X Bc X 150 TK PCC 1:4:8	1650 X 1650	2450 X 2450	3000 X 3000	3150X3150	1650 X 1650

COLUMN SCHEDULE

COLUMN MARKS		C7	C8 UPTO CANOPY LVL	C9	C10	C11
COLUMN SIZE - l X b		600 X 300	450 dia	300 X 600	300 X 600	AS PER PLAN
FOOTING LEVEL TO FIRST SLAB LEVEL	VERTICAL REINFORCEMENT	4NOS OF 16 TOR - (a) +6NOS OF 12 TOR - (b)	8 NOS OF 16 (a)	4NOS OF 25 TOR - (a) +6NOS OF 20 TOR - (b)	4NOS OF 25 TOR - (a) +6NOS OF 20 TOR - (b)	14NOS OF 20 TOR - (a) +2NOS OF 12 TOR - (b)
	STIRRUPS	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C	8DIA TOR @ 190C/C
	CONCRETE MIX	M 20	M 20	M 20	M 20	M 20
SECTION (TYPICAL)						
PEDESTAL: S X T		900 X 600 10NOS OF 12 TOR - (a) 	NO PEDESTAL NO PEDESTAL + NO PEDESTAL	900 X 600 10NOS OF 12 TOR - (a) 	900 X 600 10NOS OF 12 TOR - (a) 	AS PER PLAN 14NOS OF 12 TOR - (a) 



STUB SECTION

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6. ALL STRUCTURAL CONCRETE SHALL BE M20 GRADE.
8. DOWEL BARS (MIN 50 DIA) OF COLUMN ABOVE SLAB SHALL BE ENCASED IN CONCRETE
9. THE DETAILS ARE SUITABLE FOR SOIL OF SBC>10T/SMTR.

DEVELOPMENT LENGTH,COVER TO REINFORCEMENT,SCHEDULING ETC.,SHALL BE AS PER IS PROVISIONS.

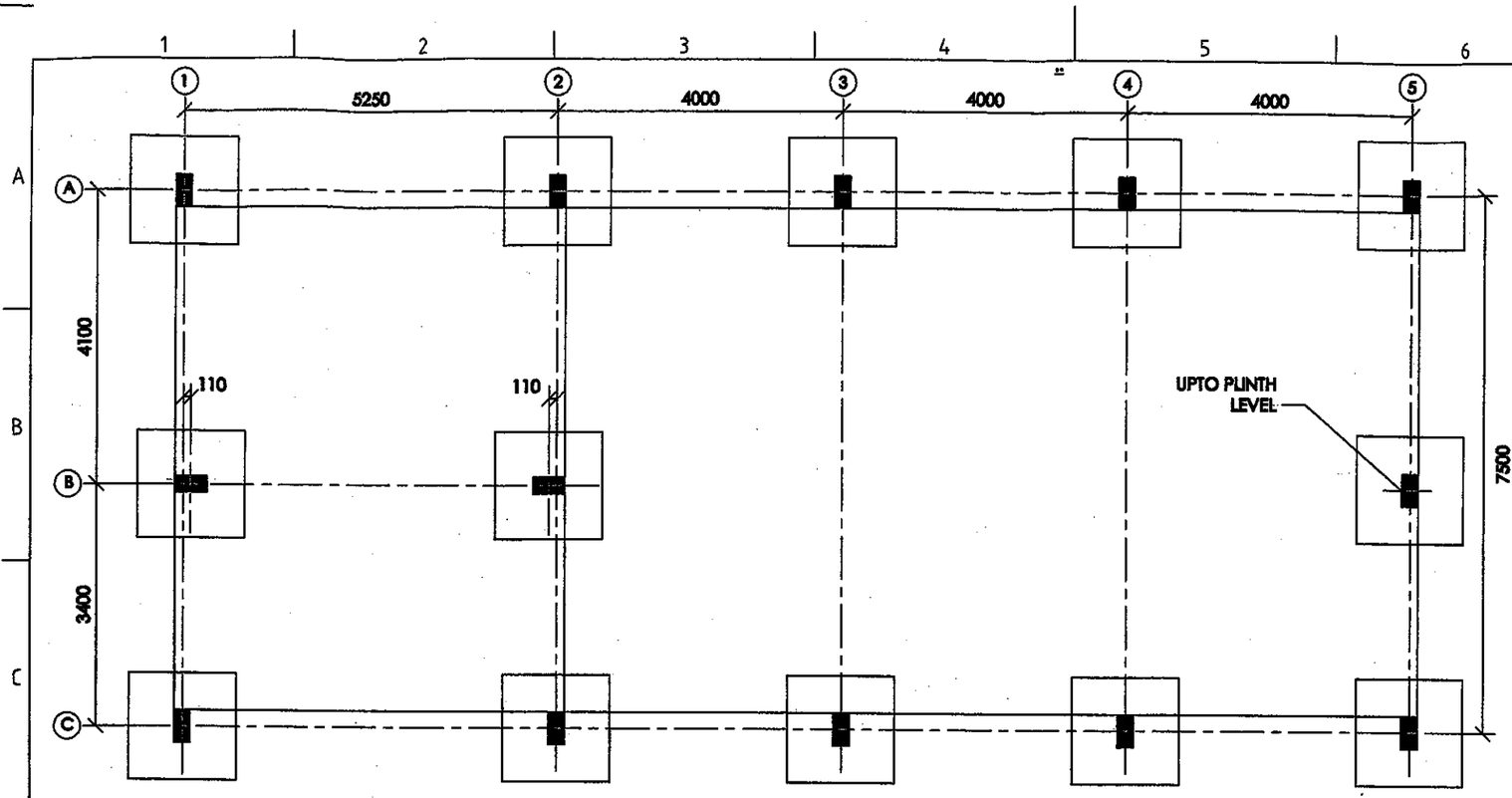
DEVELOPMENT LENGTH (Ld) OF BARS IN TENSION FOR Fe 415 GRADE STEEL	BAR DIA IN MM	M15	M20
	6	340	280
	8	460	375
	10	570	470
	12	690	560
	16	910	750
	20	1140	940
	25	1475	1175

CLEAR COVER TO BE PROVIDED FOR
1. FOOTINGS - 60MM
2. BEAMS - 25MM
3. COLUMNS - 40MM
4. SLABS - 20MM

KARNATAKA POWER TRANSMISSION CORPORATION LTD.,

220KV SUB STATION CONTROL ROOM BUILDING	COLUMN FOOTING DETAILS	SHEET 3 OF 3
DRG NO: CEE(P&C)/SE(CIVIL)/96-97/220/002	REVISION: 1	SCALE :NTS DT:08/2015

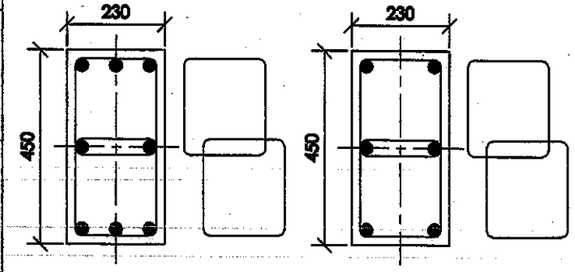
SE (CIVIL)	SE (CIVIL)	CHIEF ENGINEER ELECT, (P&C)
EE	EEC	APPROVED



CONTROL ROOM FOOTING PLAN

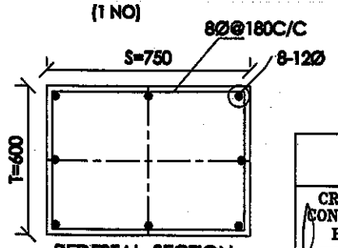
SL NO	FOOTING NOS	QTY	B	L	Lc	Bc	D	REINF // TO 'L' AT BOTTOM	REINF // TO 'B' AT BOTTOM	SBC OF SOIL
1	A1 TO A5 C1 TO C5	10 NOS	2600	2600	2750	2750	430 FLAT	18 NOS OF 12MM DIA TOR	18 NOS OF 12MM DIA TOR	10 T/SQ MTR
2	B1 & B2	2 NOS	2300	2300	2450	2450	430 FLAT	12 NOS OF 12MM DIA TOR	12 NOS OF 12MM DIA TOR	
3	B5 (UP TO PLINTH LVL)	1 NO	1500	1500	1650	1650	300 FLAT	8 NOS OF 10MM DIA TOR	8 NOS OF 10MM DIA TOR	
1	A1 TO A5 C1 TO C5	10 NOS	2250	2250	2400	2400	430 FLAT	14 NOS OF 12MM DIA TOR	14 NOS OF 12MM DIA TOR	15 T/SQ MTR
2	B1 & B2	2 NOS	2000	2000	2150	2150	430 FLAT	10 NOS OF 12MM DIA TOR	10 NOS OF 12MM DIA TOR	
3	B5 (UP TO PLINTH LVL)	1 NO	1500	1500	1800	1800	300 FLAT	8 NOS OF 10MM DIA TOR	8 NOS OF 10MM DIA TOR	
1	A1 TO A5 C1 TO C5	10 NOS	3650	3650	3800	3800	430 FLAT	27 NOS OF 12MM DIA TOR	27 NOS OF 12MM DIA TOR	5 T/SQ MTR
2	B1 & B2	2 NOS	2850	3650	2900	3800	430 FLAT	14 NOS OF 12MM DIA TOR	18 NOS OF 12MM DIA TOR	
3	B5 (UP TO PLINTH LVL)	1 NO	1900	1900	2200	2200	300 FLAT	10 NOS OF 10MM DIA TOR	10 NOS OF 10MM DIA TOR	

COLUMN NOS		QTY	b	l	VERTICAL REINFORCEMENT	STIRRUPS
1	A1 TO A5 C1 TO C5 B1 & B2	12 NOS	230	450	6 NOS OF 20MM DIA TOR 2 NOS OF 25MM DIA TOR	8MM DIA STIRRUPS AT 180MM C/C
2	B5 (UP TO PLINTH LVL)	1 NO	230	450	6 NOS OF 12MM DIA TOR	8MM DIA STIRRUPS AT 180MM C/C



DETAILS OF COLUMN
(A1 TO A5,C1 TO C5, B1&B2)
(12 NOS)

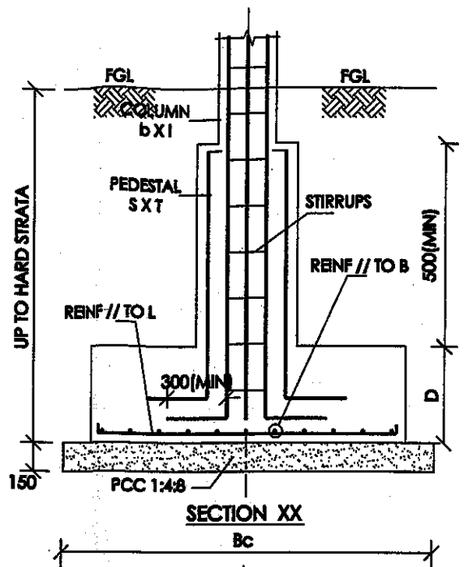
DETAILS OF COLUMN - B5
(UP TO PLINTH LEVEL)
(1 NO)



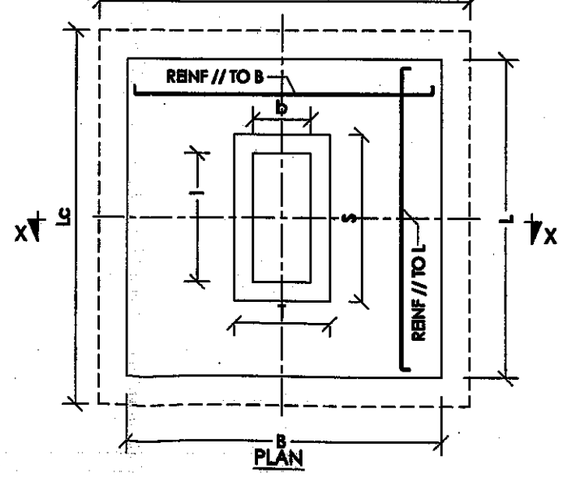
PEDESTAL SECTION
(FOR ALL COLUMNS EXCEPT B5)

NOTES:

1. ALL DIMENSIONS ARE IN MMS,U.O.S.
2. DO NOT SCALE OUT THIS DRG, FOLLOW ONLY THE WRITTEN DIMENSIONS.
3. ANY DISCRIPENCY FOUND MAY PLEASE BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. STEEL REINFORCEMENT SHALL CONFORM TO IS 1786/1979. OF GRADE Fe 415.
5. STRUCTURAL CONCRETE SHALL BE M20 GRADE.
6. COVER TO REINFROCEMENT,LAP LENGTH,FABRICATION ETC., SHALL BE AS PER IS PROVISIONS.
7. THIS DRG SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DRG.



SECTION XX



PLAN

KARNATAKA POWER TRANSMISSION CORPORATION LTD.,		
CRB TYPE-1 CONTROL ROOM BUILDING	COLUMN FOOTING DETAILS	SHEET 1 OF 1
DRG NO: CEE(P&C)/SE(CIVIL)/16-07/110-69/002	REVISION: 1	SCALE :NTS DT:09/2016
EE (CIVIL)	SE (CIVIL)	CHIEF ENGINEER ELECY, (P&C)
SUB	RBC	APPROVED

FNAME REVDATE USER