भारत हेवी इलेक्ट्रिकल्स लिमिटेड
(सार्वजनिक क्षेत्र का उपक्रम)
Bharat Heavy Electricals Limited
(A Public Sector Undertaking)

पावर सेक्टर- पश्चिमी क्षेत्र Power Sector-Western Region
श्रीमोहिनी काम्पलेक्स, 345 किंग्सवे, नागपुर Shreemohini complex, 345 Kingsway Nagpur - 440 001
फोन / Phone 0712- 3048600, फैक्स FAX: 0712- 3048699 www.bhelpswr.co.in
BHEL PAN: AAACB4146P

Ref: BHE/PW/PUR/NTPRT-STR ERE PKG-A/2117/Pkg-B/2118/Corr-03 Date: 11/07/2019

To

ALL BIDDERS,

Sub: Corrigendum-03: Issue of Drawings

Job: Package-A: Erection, Alignment, Bolting/Welding, Roofing & Cladding Work of Power House Building (including control room of Unit#01) (Power House Unit#01 {Grid-1 to Grid13a} + Power House Unit#03 {Grid-28a to Grid-39}), Pipe/cable rack along C row for Unit#01 & Unit#03, Misc. structural work in T/ O yard area of Unit#01 & Unit#03, FGD System structural work (including ball mill, gypsum dewatering, oxidation pump house), Structural works of Misc. BOP Building, Ammonia storage shed and Handling of Materials at BHEL / Client's Stores / Storage yard and transportation to site at 3X800 MW PVUNL PATRATU, Jharkhand.

AND

Package-B: Erection, Alignment, Bolting/Welding, Roofing & Cladding Work of Power house building (Grid 13a to Grid-28a) including CCR (i.e. common control room of Unit#02 & Unit#03), Pipe/cable rack along C row for Unit#02, Misc. structural work in T/ O yard area of Unit-2, BOP Pipe Rack & Cable Rack, Compressor Building, Service Building etc and Handling of Materials at BHEL / Client's Stores / Storage yard and transportation to site at 3X800 MW PVUNL PATRATU, Jharkhand.

S. No.	Package	E- TENDER SPECIFICATION NUMBER
01	Package-A	BHE/PW/PUR/NTPRT-STR ERE PKG-A/2117
02	Package-B	BHE/PW/PUR/NTPRT-STR ERE PKG-B/2118

Bidders to kindly take note of the following:

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AA) ISSUE OF CLARIFICATIONS:

Sl. No.	Bidder's query	BHEL's Clarification
1.	Please provide the Plot plan & foundation drawing for Patratu Main plat structure PKG A & PKG B details as below, 1. Main power house building 2. Misc. Structure work in T/O Yard area 3. FGD system structural work 4. Structural work of Misc. BOP Pump House 5. Ammonia storage shed. 6. Pipe/ cable rack	Please find the following drawing/clarification: 1) Main power house building foundation drawings– Attached with this corrigendum 2) Pipe/ cable rack layout Drg:- Attached with this corrigendum 3) Misc. Structure work in T/O Yard area –Shall be issued progressively during execution of work. 4) FGD system structural work - Shall be issued progressively during execution of work . 5) Structural work of Misc. BOP Pump House- Shall be issued progressively during execution of work. 6) Ammonia storage shed. - Shall be issued progressively during execution of work.

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BHEL PAN: AAACB4146P

Ref: BHE/PW/PUR/NTPRT-STR ERE PKG-A/2117/Pkg-B/2118/Corr-03 Date: 11/07/2019

All other Terms and conditions of the Tender Specification shall remain unaltered unless expressly amended by BHEL in writing. Bidders are requested to submit as a part of their offer, a copy of this corrigendum duly Digitally countersigned by the authorized signatory as a token of Bidder's unqualified acceptance of this corrigendum.

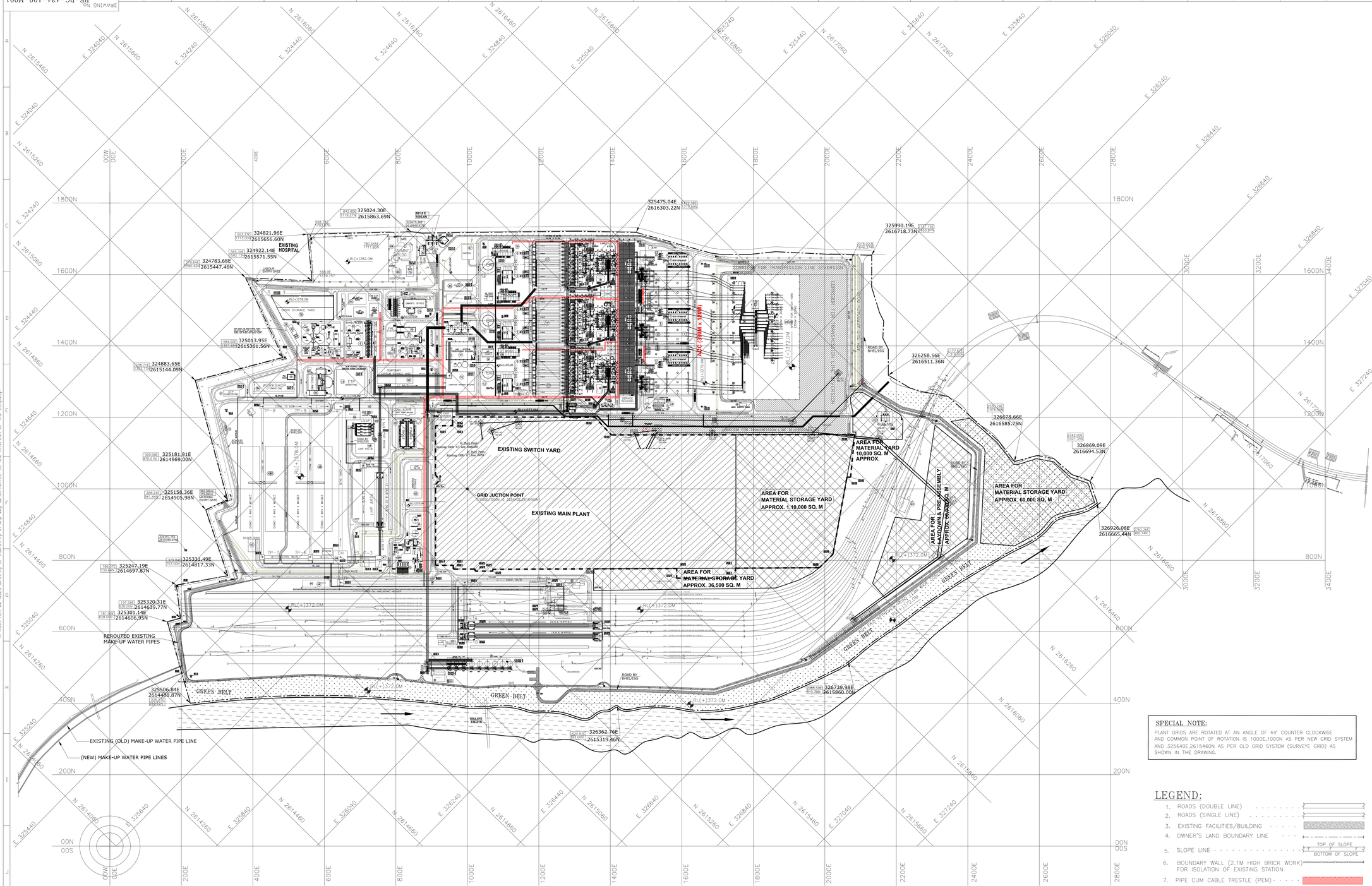
BIDDERS MAY PLEASE NOTE THAT SUBJECT TENDER IS E-TENDER AND THE OFFER IS TO BE SUBMITTED ONLY IN E-PROCUREMENT PORTAL→ **www.bhel.abcprocure.com**

BIDDERS WHO HAVE ALREADY SUBMITTED THEIR OFFERS PRIOR TO ISSUANCE OF THIS CORRIGENDUM IN E-TENDER PORTAL ARE REQUIRED TO RE-SUBMIT THEIR OFFER AFTER TAKING COGNIZANCE OF THIS CORRIGENDUM.

Thanking you,

Yours faithfully,

AGM (Purchase)



LIST OF BUILDING/EQUIPMENT SHOWN

S.No.	ZONE	DESCRIPTION
1.	D-8	ACC
2.	C-8, D-8 & E-8	ACC CONDENSATE STORAGE TANK
3.	C-8, D-8 & D-8	ACC MCC ROOM
4.	C-8, D-8 & D-8	ACC VACUUM HOGGING PUMP HOUSE
5.	D-4	ACW CHLORINE DICOXIDE DOSING SYSTEM
6.	D-5	ACW COOLING TOWER
7.	D-9	ACW PUMP HOUSE
8.	D-4	ACW TREATMENT SYSTEM
9.	D-5	AUX. BOILER
10.	C-7, D-7 & E-7	BOILER
11.	D-4	CHEMICAL LAB
12.	D-6, D-6 & E-6	CHIMNEY
13.	-	CMB
14.	E-7	CONDENSATE STORAGE TANKS
15.	E-7	CONDENSATE TRANSFER PUMP HOUSE
16.	D-4	CPU REGEN. BUILDING
17.	C-7, D-7 & E-7	ESP
18.	C-6, D-6 & D-6	ESP CONTROL ROOM
19.	E-4	ETP
20.	F-5	FO - FARM AREA (HFO, LDO, DOT)
21.	G-5	FO - FUEL OIL PUMP HOUSE
22.	G-5	FO - OIL TANKER UNLOADING
23.	E-10	HZ GEN. PLANT
24.	E-8	MAIN PLANT & MRS COMPRESSOR HOUSE
25.	C-7, D-7 & D-7	MRS
26.	D-4	RAW WATER PUMP HOUSE
27.	E-3	STP
28.	D-9	SWITCHYARD
29.	D-7, D-7 & E-7	TG BUILDING
30.	D-8, D-8 & E-8	TRANSFORMER YARD
31.	E-3	WEIGH BRIDGE
32.	H-6	AHP BA & FA SILO MCC
33.	D-7, D-7 & E-7	AHP BOTTOM ASH CONVYER
34.	D-7, D-7 & E-7	AHP BOTTOM ASH SILO
35.	D-6	AHP COMPRESSOR HOUSE-1
36.	C-6	AHP COMPRESSOR HOUSE-2
37.	D-6	AHP FLY ASH INTERMEDIATE SILO
38.	H-6	AHP FLY ASH SILO
39.	E-9	MISC. SWITCH GEAR BLDG.
40.	F-11	CHP- LOCO SHED
41.	H-5	SILO UTILITY BLDG.
42.	E-5	CHP-COAL CONVYER
43.	F-4, F-4	CHP-COAL STOCK PILE A,B,C,D
44.	G-4	CHP-CRUSHER HOUSE
45.	-	-
46.	-	-
47.	G-5	CHP-PUMP HOUSE-A (ON GROUND FLR OF LS CRH)
48.	F-5	CHP-PUMP HOUSE-B
49.	F-5	CSSP
50.	F-3	DOZER SHED
51.	D-6	LHP - GYPSUM, DEWATERING BUILDING
52.	E-6	LHP - LIMESTONE CRUSHER HOUSE
53.	E-5	LHP - TEMPORARY GYPSUM STORAGE SHED
54.	D-4	DM PLANT
55.	D-5	DM PLANT - ACID ALKALIE STORAGE
56.	D-5	DM PLANT N-PIT & BACKWASH
57.	D-6, D-6 & E-6	FGD - ABSORBER
58.	-	-
59.	D-6, D-6	COMMON FGD & ROOM & ESP CONTROL ROOM UNIT-2
60.	D-4	PT CHEMICAL HOUSE
61.	D-4	PT CLARIFIER
62.	D-4	PT PLANT
63.	D-4	DM TANKS
64.	C-5	ADMIN BUILDING
65.	F-5	AMMONIA STORAGE
66.	C-5	AUDITORIUM
67.	C-6	CANTEEN
68.	D-8	DG SETS
69.	D-8 & D-8	FIRE FIGHTING - DRILL TOWER
70.	D-5	FIRE FIGHTING - FIRE STATION
71.	D-7	FIRE FIGHTING - FIRE WATER BOOSTER PUMP HOUSE
72.	D-5	FIRE FIGHTING - FIREWATER PUMP HOUSE
73.	D-5	FIRE FIGHTING - FIREWATER TANKS
74.	G-5	FIRE FIGHTING - FOAMING PUMP HOUSE
75.	E-4	FGA BUILDING
76.	D-5	IT BUILDING
77.	C-5	GATE COMPLEX
78.	D-4	OPEN STORAGE YARD
79.	D-5	OWNERS OFFICE
80.	C-5	SAFETY PARK
81.	E-5	OWNER'S STORES (CONSTRUCTION)
82.	E-4	STORES (O&M)
83.	C-5	TDM OFFICE
84.	E-3	WORKSHOP
85.	-	-
86.	E-7	AHP MCC-1 (SWITCHGEAR CUM DCS ROOM)
87.	D-7	AHP MCC-2 (SWITCHGEAR CUM DCS ROOM)
88.	D-7	AHP MCC-3 (SWITCHGEAR CUM DCS ROOM)
89.	D-6	AHP MCC-4 (SWITCHGEAR CUM CONTROL ROOM)
90.	H-5	AHP MCC-5 (SWITCHGEAR CUM DCS ROOM)
91.	H-6	CHP MCC-1 (SWITCHGEAR CUM DCS ROOM)
92.	G-7	CHP MCC-2 (SWITCHGEAR CUM DCS ROOM)
93.	-	-
94.	G-4	CHP MCC-4 (SWITCHGEAR CUM CONTROL ROOM)
95.	E-4	CHP MCC-5 (SWITCHGEAR CUM DCS ROOM)
96.	E-6	CHP MCC-6 (SWITCHGEAR CUM DCS ROOM)

SPECIAL NOTE:

PLANT GRIDS ARE ROTATED AT AN ANGLE OF 44° COUNTER CLOCKWISE AND COMMON POINT OF ROTATION IS 1000E,1000N AS PER NEW GRID SYSTEM AND 325640E,2615460N AS PER OLD GRID SYSTEM (SURVEYE GRID) AS SHOWN IN THE DRAWING.

LEGEND:

1. ROADS (DOUBLE LINE)
2. ROADS (SINGLE LINE)
3. EXISTING FACILITIES/BUILDING
4. OWNER'S LAND BOUNDARY LINE
5. SLOPE LINE (TOP OF SLOPE / BOTTOM OF SLOPE)
6. BOUNDARY WALL (2.1M HIGH BRICK WORK) FOR ISOLATION OF EXISTING STATION
7. PIPE CUM CABLE TRESTLE (PEM)
8. CABLE TRESTLE (PEM)
9. CONSTRUCTION LIGHTNING MAST
10. CABLE TRESTLE (ISG)

REFERENCE DRGS:

SL. No.	TITLE	DRG. NUMBER	SCOPE
1	REFERENCE PLOT PLAN	9585-999-POC-F-001	NTPC

NOTES:-

1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. FINISH FLOOR LEVEL = RL (+)375.50 M,CORRESPONDS TO PLANT EL 0.0M (GROUND FLOOR OF STG BUILDING) FINISHED GROUND LEVEL OF BOP AREAS AS MARKED.
3. LOCATION/SIZE OF BOP FACILITIES IS TENTATIVE ONLY

40 0 40 80 120 160M
SCALE

REV.	DATE	ALTD	CHD	APPD
2	27.09.2018	RC	BKA	JJ
1	DRAWING REVISED AS PER LATEST GAs OF DIFFERENT FACILITIES & NTPC COMMENTS ON REV. 1			

REV.	DATE	ALTD	CHD	APPD
1	16.07.2018	RC	BKA	JJ
1	DRAWING REVISED AS PER LATEST GAs OF DIFFERENT FACILITIES & NTPC COMMENTS ON REV. 0			

JOB NO. 434
STATUS CONTRACT
DISTRIBUTION

NTPC DRG NO.: 9585-001-999-POC-F-001

CUSTOMER
एन टी पी सी NTPC
NTPC LIMITED

3x800MW PATRATU SUPER THERMAL POWER PROJECT

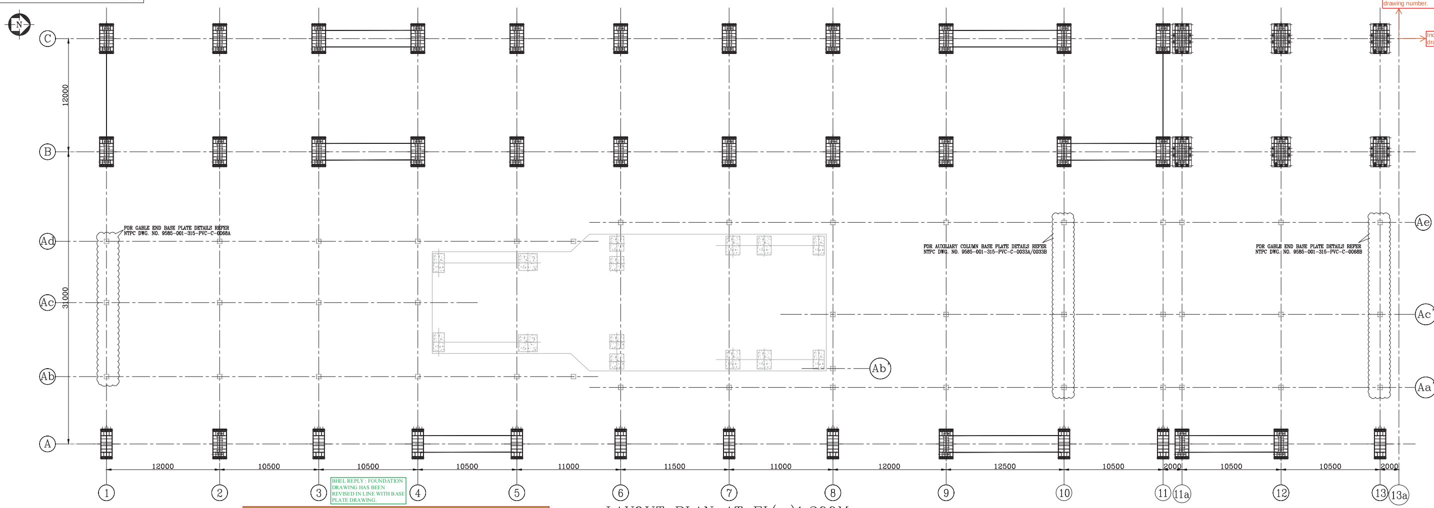
BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

DEPT CODE		NAME	SIGN	DATE
M	DRN	WS		26.03.2018
	DES'N	DEEPAK/RC		26.03.2018
	CHD	BKA		26.03.2018
	APPD	JJ		26.03.2018

TITLE
PLOT PLAN

DEPT. SCALE 1:425
SIGN
DRAWING NO. PE-DG-434-100-M001
SHEET 1 OF 1 REV. 3P
SIZE-A0

COMPUTER FILE NAME: 434_100_M001



LAYOUT PLAN AT EL(–)1.200M.

Pedestal Size given in foundation drawing ~0454-R1 is not sufficient to accommodate base plate. Please check and correct the foundation drawing in next revision

SCHEDULE OF A–ROW BASE PLATE

DIM MKD \ COL. MKD	A1, A6, A7	A2, A3	A4, A5	A8, A11	A9, A10	A11a, A12	A13	REMARKS
A	2700	2800	2800	2700	2700	3000	2700	BASE PLATE SIZE
B	1250	1500	1500	1250	1250	2200	1250	
C	740	740	740	740	740	740	740	COLUMN SIZE
D	1800	1800	1800	1800	1800	1800	1800	
E	290	350	350	290	290	300	290	C/C DIST. OF STIFFENERS
F	45	50	50	45	45	50	45	STIFFENER EDGE DISTANCE
G	300	300	300	300	300	300	300	C/C DIST. OF STIFFENERS
H	3200	3300	3300	3200	3200	3600	3200	STOOL PLATE SIZE
J	2150	3050	3050	2150	2150	3300	2150	C/C DIST. OF BOLTS
K	290	350	350	290	290	300	290	
N	150	150	150	150	150	200	150	WASHER PLATE SIZE
P	800	800	800	800	800	800	800	HEIGHT OF STIFFENERS
BP*	50	45	50	45	45	45	45	BASE PLATE THICKNESS
SP*	36	36	50	45	45	63	32	STOOL PLATE THICKNESS
NO. OF BOLTS	8	8	8	8	8	14	8	TOTAL NO. OF BOLTS
DIA. OF BOLTS	60	60	72	72	72	100	60	DIA. OF BOLTS
TF	REFER DWG. NO. 9585-001-315-PVC-C-0004							THICKNESS OF FLANGE
TW	REFER DWG. NO. 9585-001-315-PVC-C-0004							THICKNESS OF WEB
FS	12	16	20	12	16	36	12	FLANGE STIFFENER PLATE
WS	12	16	20	12	16	36	12	WEB STIFFENER PLATE
WP**	36	36	40	40	40	63	36	WASHER PLATE THICKNESS
FCS	12	12	12	12	12	12	12	FLANGE CROSS STIFF. PLATE
WCS	12	12	12	12	12	12	12	WEB CROSS STIFF. PLATE
SCS	12	12	12	12	12	12	12	STOOL CROSS STIFF. PLATE
L	900	900	700	900	700	700	900	WIDTH OF SHEAR KEY
M	150	150	150	150	150	150	150	DEPTH OF SHEAR KEY
SKT	40	40	40	40	45	50 (45)	40	THICKNESS OF SHEAR KEY
TYPE	I-TYPE	I-TYPE	TYPE-3	I-TYPE	TYPE-3	TYPE-3	I-TYPE	TYPE OF SHEAR KEY

* DIA OF BOLT HOLE IN STOOL PLATE = DIA. OF BOLT + 15 MM
** DIA OF BOLT HOLE IN WASHER PLATE = DIA. OF BOLT + 3 MM

Shear keys for some pedestal are not matching with the details given in foundation drawing ~c-0454. Please check and correct the foundation drawing.

BHEL REPLY : FOUNDATION DRAWING HAS BEEN REVISED IN LINE WITH BASE PLATE DRAWING.

SCHEDULE OF B–ROW BASE PLATE

DIM MKD \ COL. MKD	B1	B2, B3, B11	B4, B10	B5, B6	B7, B8, B9	B11a, B13	B12	REMARKS
A	2800	2700	2800	2800	2900	2900	2800	BASE PLATE SIZE
B	1500	1250	1500	1500	1500	1500	1500	
C	740	740	740	740	740	740	740	COLUMN SIZE
D	1800	1800	1800	1800	1800	1800	1800	
E	280	290	280	280	280	280	280	C/C DIST. OF STIFFENERS
F	50	45	50	50	50	50	50	STIFFENER EDGE DISTANCE
G	360	360	360	360	360	360	360	C/C DIST. OF STIFFENERS
H	3300	3200	3300	3300	3400	3400	3300	STOOL PLATE SIZE
T	-	-	-	-	-	2000	2000	
J	3050	2150	3050	3050	3150	3150	3050	C/C DIST. OF BOLTS
K	280	290	280	280	280	600	600	
N	150	150	150	150	150	150	150	WASHER PLATE SIZE
P	800	800	800	800	800	800	800	HEIGHT OF STIFFENERS
Q	-	-	-	-	-	900	900	COLUMN SIZE
R	-	-	-	-	-	500	500	
S	-	-	-	-	-	720	720	C/C DIST. OF BOLTS
BP***	45	45	45	50	50	45	45	BASE PLATE THICKNESS
SP*	50	45	50	40	40	63	50	STOOL PLATE THICKNESS
NO. OF BOLTS	10	8	10	10	10	10	10	TOTAL NO. OF BOLTS
DIA. OF BOLTS	80	72	72	60	72	80	72	DIA. OF BOLTS
TF	REFER DWG. NO. 9585-001-315-PVC-C-0004							THICKNESS OF FLANGE
TW	REFER DWG. NO. 9585-001-315-PVC-C-0004							THICKNESS OF WEB
FS	20	16	20	25	28	28	20	FLANGE STIFFENER PLATE
WS	20	16	20	25	28	28	20	WEB STIFFENER PLATE
WP**	45	40	40	36	40	45	40	WASHER PLATE THICKNESS
FCS	12	12	12	12	12	12	12	FLANGE CROSS STIFF. PLATE
WCS	12	12	12	12	12	12	12	WEB CROSS STIFF. PLATE
SCS	12	12	12	12	12	12	12	STOOL CROSS STIFF. PLATE
L	700	700	700	900	1100	900	900	WIDTH OF SHEAR KEY
M	150	150	150	150	150	150	150	DEPTH OF SHEAR KEY
SKT	50	50	40	50	50	50	50	THICKNESS OF SHEAR KEY
TYPE	TYPE-3	TYPE-3	TYPE-3	I-TYPE	I-TYPE	I-TYPE	I-TYPE	TYPE OF SHEAR KEY

* DIA OF BOLT HOLE IN STOOL PLATE = DIA. OF BOLT + 15 MM
** DIA OF BOLT HOLE IN WASHER PLATE = DIA. OF BOLT + 3 MM
*** DIA OF BOLT HOLE IN BASE PLATE = DIA. OF BOLT + 15MM

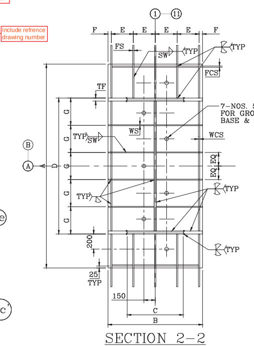
BHEL to ensure that the base plate sizes, Pedestal top and shear key details given in this drawing shall match with the foundation drawing for Main Power house i.e. ~C-0454.

BHEL REPLY : NOTED

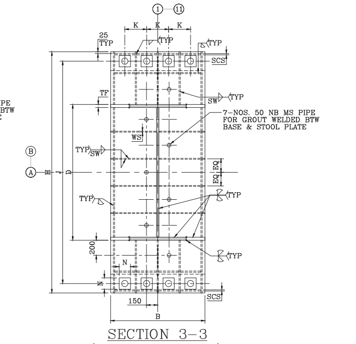
SCHEDULE OF C–ROW BASE PLATE

DIM MKD \ COL. MKD	C1, C11	C2	C3, C4	C5, C6	C7, C8	C9, C10	C11a, C13	C12 (C11a)	REMARKS
A	2800	2700	2800	2800	2800	2900	2900	2900	BASE PLATE SIZE
B	1600	1250	1250	1500	1500	1600	1600	1600	
C	740	740	740	740	740	740	740	740	COLUMN SIZE
D	1800	1800	1800	1800	1800	1800	1800	1800	
E	300	290	290	280	280	300	300	300	C/C DIST. OF STIFFENERS
F	50	45	45	50	50	50	50	50	STIFFENER EDGE DISTANCE
G	360	360	360	360	360	360	360	360	C/C DIST. OF STIFFENERS
H	3400	3200	3300	3300	3300	3500	3500	3400	STOOL PLATE SIZE
T	-	-	-	-	-	-	2100	2100	
J	3300	2150	3050	3050	3050	3200	3200	3150	C/C DIST. OF BOLTS
K	300	290	290	280	280	300	600	600	
N	150	150	150	150	150	200	200	150	WASHER PLATE SIZE
P	800	800	800	800	800	800	800	800	HEIGHT OF STIFFENERS
Q	-	-	-	-	-	-	900	900	COLUMN SIZE
R	-	-	-	-	-	-	500	500	
S	-	-	-	-	-	-	720	720	C/C DIST. OF BOLTS
BP***	40	40	50	45	50	50	45	45	BASE PLATE THICKNESS
SP*	63	36	45	45	50	63	50 (63)	45	STOOL PLATE THICKNESS
NO. OF BOLTS	10	8	8	10	10	10	10	10	TOTAL NO. OF BOLTS
DIA. OF BOLTS	100	60	72	72	80	100	100	60	DIA. OF BOLTS
TF	REFER DWG. NO. 9585-001-315-PVC-C-0004								THICKNESS OF FLANGE
TW	REFER DWG. NO. 9585-001-315-PVC-C-0004								THICKNESS OF WEB
FS	25	12	16	20	25	25	12	12	FLANGE STIFFENER PLATE
WS	25	12	16	20	25	25	12	12	WEB STIFFENER PLATE
WP**	63	36	40	40	45	63	63	36	WASHER PLATE THICKNESS
FCS	12	12	12	12	12	12	12	12	FLANGE CROSS STIFF. PLATE
WCS	12	12	12	12	12	12	12	12	WEB CROSS STIFF. PLATE
SCS	12	12	12	12	12	12	12	12	STOOL CROSS STIFF. PLATE
L	700	900	700	900	1000	700	900	900	WIDTH OF SHEAR KEY
M	150	150	150	150	150	150	150	150	DEPTH OF SHEAR KEY
SKT	45	36	40	45	50	50	40	40	THICKNESS OF SHEAR KEY
TYPE	TYPE-3	I-TYPE	TYPE-3	I-TYPE	I-TYPE	TYPE-3	H-TYPE	H-TYPE	TYPE OF SHEAR KEY

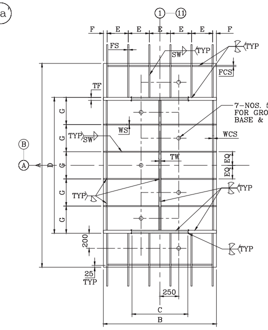
* DIA OF BOLT HOLE IN STOOL PLATE = DIA. OF BOLT + 15 MM
** DIA OF BOLT HOLE IN WASHER PLATE = DIA. OF BOLT + 3 MM
*** DIA OF BOLT HOLE IN BASE PLATE = DIA. OF BOLT + 15MM



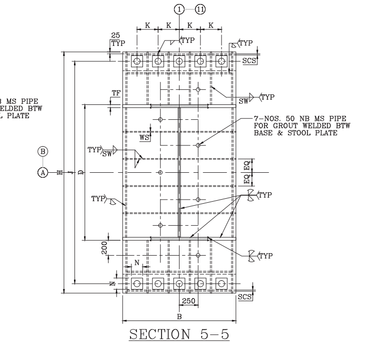
SECTION 2–2
(APPLICABLE FOR 4 NOS. BOLTS)
(SCALE 1:25)



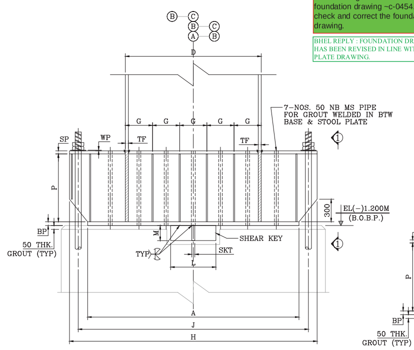
SECTION 3–3
(APPLICABLE FOR 4 NOS. BOLTS)
(SCALE 1:25)



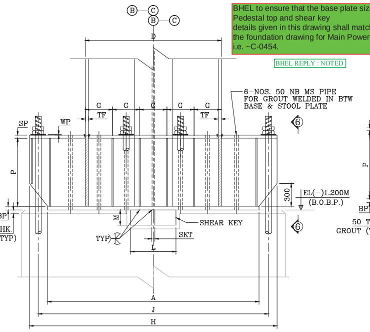
SECTION 4–4
(APPLICABLE FOR 5 NOS. BOLTS)
(SCALE 1:25)



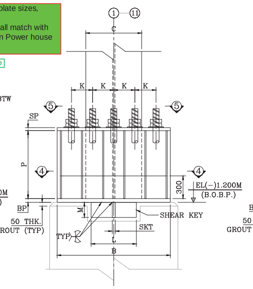
SECTION 5–5
(APPLICABLE FOR 5 NOS. BOLTS)
(SCALE 1:25)



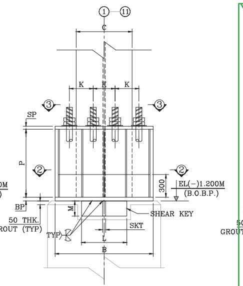
TYPICAL BASE PLATE DETAILS
(FOR A–ROW, B–ROW & C–ROW)
(SCALE 1:25)



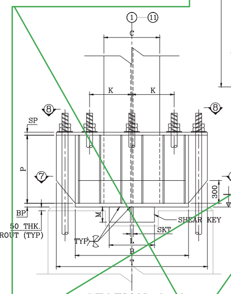
TYPICAL BASE PLATE DETAILS
(FOR B–ROW & C–ROW GRIDS 11a ,12 & 13)
(SCALE 1:25)



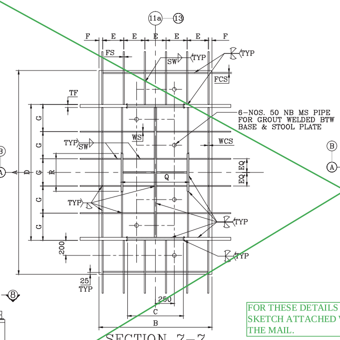
SECTION 1–1
(APPLICABLE FOR 5 NOS. BOLTS)
(SCALE 1:25)



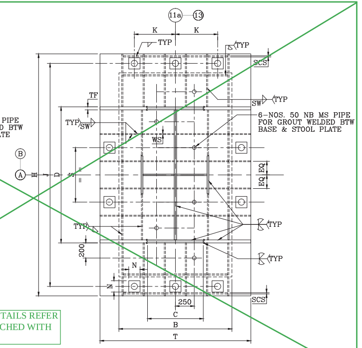
SECTION 1–1
(APPLICABLE FOR 4 NOS. BOLTS)
(SCALE 1:25)



SECTION 6–6
(SCALE 1:25)



SECTION 7–7
(SCALE 1:25)



SECTION 8–8
(SCALE 1:25)

FOR THESE DETAILS REFER SKETCH ATTACHED WITH THE MAIL.

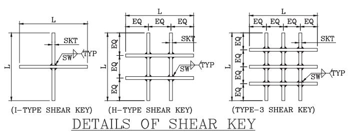
NOTES: –
1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. EL. 0.00 M WHICH CORRESPONDS TO RL.(+) 375.50 M.
3. FOR FOUNDATION BOLT DETAILS REF. DRG. NO. PE-DG-434-611-C001 (NTPC DRG NO. 4410-001-315-PVC-C-0454A)
4. FOR OTHER NOTES AND STD. DETAILS REF. DRG. PE-DG-434-600-C002 (NTPC DRG NO. 4410-001-315-PVC-C-0089A)
5. COLUMN BASE SURFACE & BOTTOM FACE OF VERTICAL STIFFENERS SHALL BE PROPERLY MACHINED BEFORE WELDING TO BASE PLATE.
6. GROUTING OF COLUMN BASE SHALL BE DONE AFTER FINAL ALIGNMENT OF COLUMN
7. ALL VERTICAL STIFFENERS, HORIZONTAL STIFFENERS & BASE PLATE MATERIAL SHALL CONFORM TO IS:2062
8. BOLTS SHALL BE MILD STEEL FOUNDATION BOLTS CONFORMING TO GRADE–A OF IS:2062 OR GRADE–1 OF IS:432
9. NON SHRINK FLOWABLE GROUTING BELOW BASE PLATE OF COLUMNS SHALL BE DONE AS PER SPECIFICATIONS.

ENGINEERING REFERENCE DRAWINGS : – (mention NTPC drg no. also)
1. PE–DG–434–100–M001 – PLOT PLAN
2. PE–DG–434–100–M002 – MAIN EQUIPEMENT PLAN
3. PE–DG–434–612–C001 – MAIN POWER HOUSE BUILDING UNIT # 1 STRUCTURAL FRAMING & COLUMN DETAILS ALONG A–ROW
4. PE–DG–434–612–C002 – MAIN POWER HOUSE BUILDING UNIT # 1 STRUCTURAL FRAMING & COLUMN DETAILS ALONG B–ROW
5. PE–DG–434–612–C003 – MAIN POWER HOUSE BUILDING UNIT # 1 STRUCTURAL FRAMING & COLUMN DETAILS ALONG C–ROW

CONSTRUCTION REFERENCE DRAWINGS : –
1. PE–DG–434–611–C001 – MAIN POWER HOUSE BUILDING UNIT # 1 G.A. & R/F DETAILS OF MAIN COLUMN FOUNDATIONS ON ROW A TO F

BHEL-PROJECT ENGINEERING MANAGEMENT(CIVIL)
THIS DRAWING MARKED (✓) IS RELEASED FOR
☐ COMMENTS/APPROVAL ☐ FABRICATION
☐ PLANNING ☐ INFORMATION
☑ CONSTRUCTION
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME: ABHAY KUMAR
SIGNATURE: For
DATE: 29/01/2019

LEGEND:
1. TOS = TOP OF STEEL
2. BOS = BOTTOM OF STEEL
3. TYP. = TYPICAL
4. BTW = BETWEEN
5. B.O.B.P. = BOTTOM OF BASE PLATE
6. UNO = UNLESS NOTED OTHERWISE
7. THK. = THICK
8. PLT. = PLATE
9. EQ = EQUAL



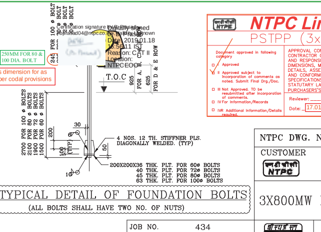
DETAILS OF SHEAR KEY
(SCALE 1:25)

SCHEDULE OF MINIMUM WELD SIZE FOR VARIOUS WEB PLATE SIZE OF WELD

PLATE THICKNESS(MM)	WW SIZE OF WELD IN(MM)	SW SIZE OF WELD IN(MM)
8 & 10	6	6
12	8	8
16 & 20	10	12
25	12	14
28 & 32	16	20
36 & 40	20	22
45 & 50	25	25
63	30	35

BILL OF MATERIAL

S.NO.	MEMBER	WEIGHT (MT)	GRADE
1	12 THK. PLT.	6.50	E-250
2	16 THK. PLT.	7.00	E-250
3	20 THK. PLT.	12.00	E-250
4	25 THK. PLT.	16.00	E-350
5	28 THK. PLT.	11.50	E-350
6	32 THK. PLT.	18.00	E-350
7	36 THK. PLT.	8.00	E-350
8	40 THK. PLT.	16.00	E-350
9	45 THK. PLT.	52.50	E-350
10	50 THK. PLT.	48.00	E-350
11	63 THK. PLT.	12.25	E-350
TOATL		207.75	



TYPICAL DETAIL OF FOUNDATION BOLTS
(ALL BOLTS SHALL HAVE TWO NO. OF NUTS)

NTPC Limited.
PSTPP (3x800MW)
Document approved in following category
☐ I Approved
☑ II Approved subject to incorporation of comments as noted. Submit Final Drg./Doc.
☐ III Not Approved. TO be resubmitted after incorporation of comments.
☐ IV For Information/Records
☐ IVR Additional Information/Details required.
APPROVAL CONVEYED HEREIN NEITHER RELIEVES THE CONTRACTOR OF THE CONTRACTUAL OBLIGATIONS AND RESPONSIBILITIES FOR CORRECTNESS OF DIMENSIONS, MATERIALS OF CONSTRUCTION, DESIGN DETAILS, ASSEMBLY, PERFORMANCE PARTICULARS AND CONFORMITY OF THE SUPPLIES WITH SPECIFICATIONS AND APPROVED SCHEMES AND STATUTARY LAWS NOR DOES IT LIMITS THE PURCHASERS'S RIGHT UNDER THE CONTRACT.
Reviewer:
Date: 17.01.19

BHEL–PROJECT ENGINEERING MANAGEMENT(CIVIL)
THIS DRAWING MARKED( ) IS RELEASED FOR
☑ COMMENTS/APPROVAL
☐ PLANNING/INFORMATION
☐ CONSTRUCTION
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME: GAURAV KUMAR SINGH
SIGNATURE: Sd/–
DATE: 20/11/2018

NTPC DWG. NO. 9585–001–315–PVC–C–0003A
CUSTOMER: NTPC LIMITED
3X800MW PATRATU SUPER THERMAL POWER PROJECT
JOB NO. 434
STATUS
DISTRIBUTION
BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

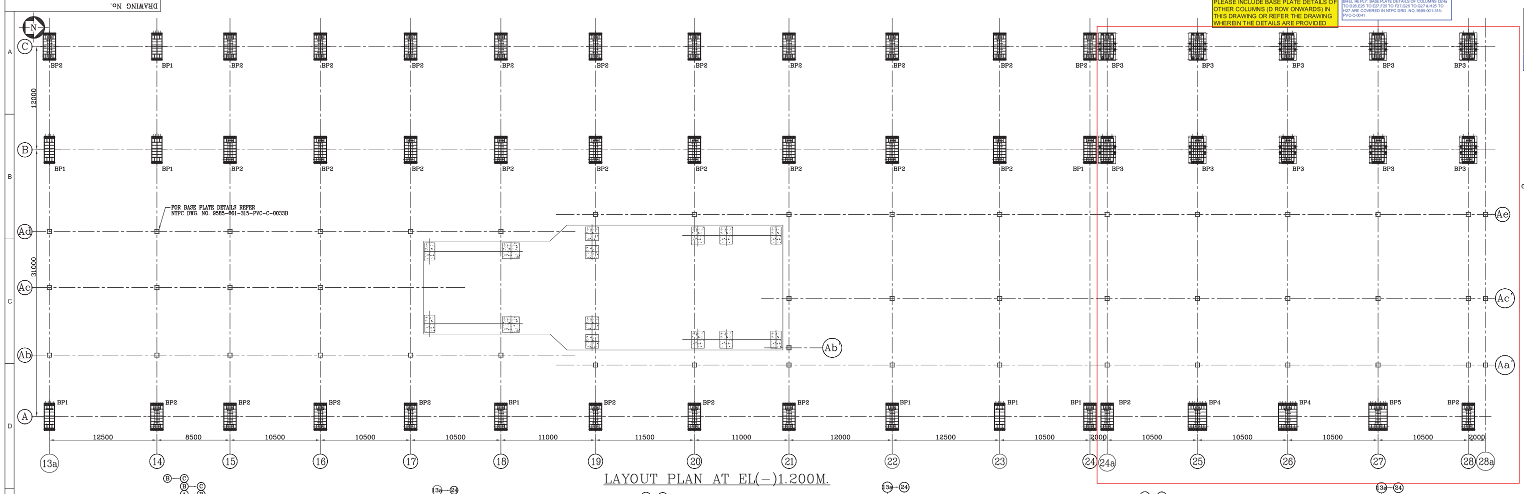
REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD
R2	04.01.19	G.K.S.	A.K.	A.K.S.	R1	21.11.18	G.K.S.	A.K.	A.K.S.
	REVISED AS PER NTPC COMMENTS VIDE TRANSMITTAL DATED 14.12.2018 (REF. NO. 315:1595)					REVISED AS PER NTPC COMMENTS VIDE TRANSMITTAL DATED 15.09.2018 (REF. NO. 315:864)			

DEPT CODE		NAME	SIGN	DATE
C	DRN	JN	–SD–	20.11.18
	DESN	GAURAV	–SD–	20.11.18
	CHD	ABHAY	–SD–	20.11.18
	APPD	AKS	–SD–	20.11.18

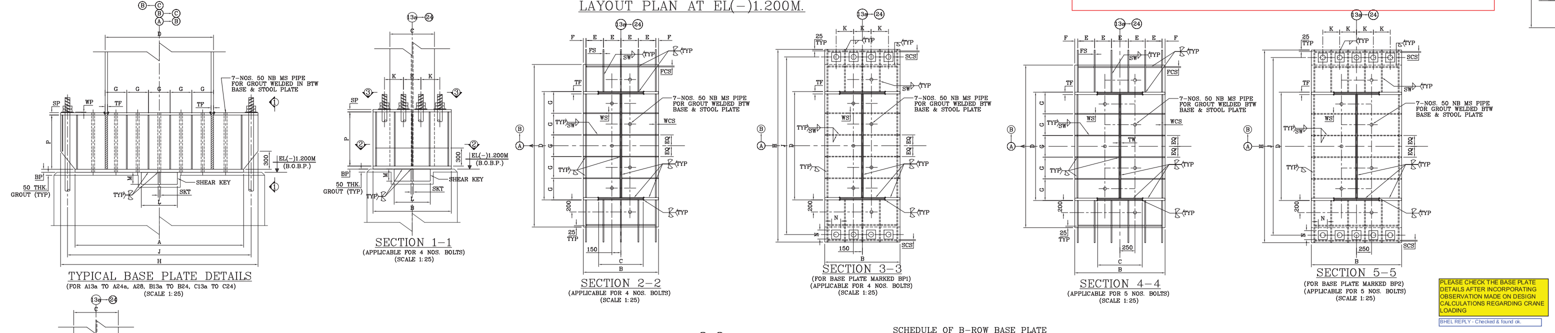
TITLE: MAIN POWER HOUSE BUILDING
LAYOUT & DETAILS OF BASE PLATE UNIT–1 (A,B,C ROW AXIS 1-13)
SCALE 1:100
DRAWING NO. PE–DG–434–612–C010
SHEET 1 OF 1 REV. R2
SIZE–A0

DRAWING No. PE-DG-434-612-C011

CUSTOMER'S DRAWING No. 9585-001-315-PVC-C-0003B



LAYOUT PLAN AT EL(-)1.200M.



TYPICAL BASE PLATE DETAILS (FOR A13a TO A24a, A28, B13a TO B24, C13a TO C24) (SCALE 1:25)

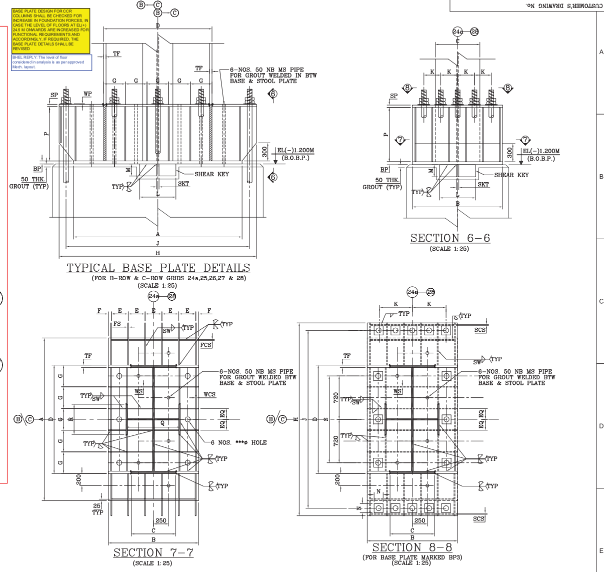
SECTION 1-1 (APPLICABLE FOR 4 NOS. BOLTS) (SCALE 1:25)

SECTION 2-2 (APPLICABLE FOR 4 NOS. BOLTS) (SCALE 1:25)

SECTION 3-3 (FOR BASE PLATE MARKED BP1) (APPLICABLE FOR 4 NOS. BOLTS) (SCALE 1:25)

SECTION 4-4 (APPLICABLE FOR 5 NOS. BOLTS) (SCALE 1:25)

SECTION 5-5 (FOR BASE PLATE MARKED BP2) (APPLICABLE FOR 5 NOS. BOLTS) (SCALE 1:25)



TYPICAL BASE PLATE DETAILS (FOR B-ROW & C-ROW GRIDS 24a,25,26,27 & 28) (SCALE 1:25)

SECTION 6-6 (SCALE 1:25)

SECTION 7-7 (SCALE 1:25)

SECTION 8-8 (FOR BASE PLATE MARKED BP3) (SCALE 1:25)

SCHEDULE OF A-ROW BASE PLATE

DIM. MKD. \ COL. MKD.	A13a, A24	A14	A15, A16	A17,	A19, A20, A21	A18	A22, A23	A24a, A28	A25, A26	A27	REMARKS
A	2400	2900	2800	2800	2800	2800	2800	2850	3250	3200	BASE PLATE SIZE
B	1250	1600	1500	1500	1500	1250	1250	1500	2550	2200	
C	740	740	740	740	740	740	740	740	740	740	COLUMN SIZE
D	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
E	290	300	280	280	280	290	290	280	350	300	
F	45	50	50	50	50	45	45	50	50	50	C/C DIST. OF STIFFENERS
G	360	360	360	360	360	360	360	360	300	360	C/C DIST. OF STIFFENERS
H	2900	3500	3300	3300	3300	3300	3300	3350	4450	3700	STOOL PLATE SIZE
J	2650	3200	3050	3050	3050	3050	3050	3100	4150	3450	C/C DIST. OF BOLTS
T									3550		
K	290	300	280	280	280	290	290	280	350	300	
N	150	200	150	150	150	150	150	150	200	150	WASHER PLATE SIZE
P	800	800	800	800	800	800	800	800	800	800	STOOL PLATE
BP	50	50	45	50	45	45	45	50	50	45	BASE PLATE THICKNESS
SP*	36	50	40	40	36	36	40	40	63	45	STOOL PLATE THICKNESS
NO. OF BOLTS	8	10	10	10	10	8	8	10	28	14	TOTAL NO. OF BOLTS
DIA. OF BOLTS	60	100	72	60	60	60	72	60	100	80	DIA. OF BOLTS
TF	REFER DWG. NO. 9585-001-315-PVC-C-0005										THICKNESS OF FLANGE
TW	REFER DWG. NO. 9585-001-315-PVC-C-0005										THICKNESS OF WEB
FS	12	16	12	16	16	16	16	16	32	32	FLANGE STIFF. PLT.
WS	12	16	12	16	16	16	16	16	50	32	WEB STIFF. PLT.
WP**	36	63	40	36	36	36	40	36	63	45	WASHER PLT. THICKNESS
FCS	12	12	12	12	12	12	12	12	16	12	FLANGE CROSS STIFF. PLT.
WCS	12	12	12	12	12	12	12	12	16	12	WEB CROSS STIFF. PLT.
SCS	12	12	12	12	12	12	12	12	16	12	STOOL CROSS STIFF. PLT.
L	900	1100	900	1100	900	1100	1200	1100	1800	1200	WIDTH OF SHEAR KEY
M	150	150	150	150	150	150	200	150	200	200	DEPTH OF SHEAR KEY
SKT	36	36	45	45	40	45	63	32	63	50	THICKNESS OF SHEAR KEY
TYPE	I-TYPE	H-TYPE	I-TYPE	H-TYPE	I-TYPE	H-TYPE	TYPE-H	H-TYPE	TYPE-3	TYPE-H	TYPE OF SHEAR KEY

* DIA OF BOLT HOLE IN STOOL PLATE = DIA. OF BOLT + 15 MM
** DIA OF BOLT HOLE IN WASHER PLATE = DIA. OF BOLT + 3 MM
*** DIA OF BOLT HOLE IN BASE PLATE = DIA. OF BOLT + 15 MM

SIZE, NOT SUFFICIENT. REFER OBSRVATIONS ON DESIGN CALCULATIONS
BHEL REPLY - Noted. Shear key size revised.

PLEASE CHECK THE BASE PLATE DETAILS AFTER INCORPORATING OBSERVATION MADE ON DESIGN CALCULATIONS REGARDING CRANE LOADING
BHEL REPLY - Checked & found ok.

SCHEDULE OF B-ROW BASE PLATE

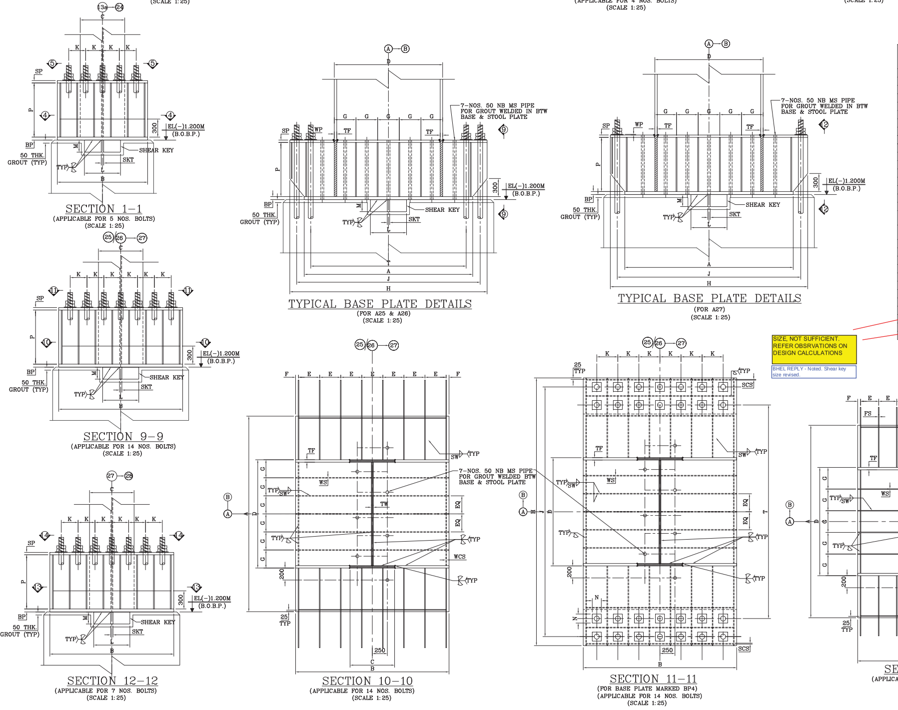
DIM. MKD. \ COL. MKD.	B13a	B14	B15, B19	B16, B17	B18, B20	B21, B22	B23, B24	B24a	B28	B25, B26, B27	REMARKS
A	2700	2700	2800	2800	2800	2800	2700	2900	2900	2900	BASE PLATE SIZE
B	1250	1250	1500	1500	1500	1500	1250	1600	1600	1700	
C	740	740	740	740	740	740	740	740	740	740	COLUMN SIZE
D	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
E	290	290	280	280	280	280	290	300	300	320	
F	45	45	50	50	50	50	45	50	50	50	C/C DIST. OF STIFFENERS
G	360	360	360	360	360	360	360	360	360	360	C/C DIST. OF STIFFENERS
H	3200	3200	3300	3300	3300	3300	3200	3400	3500	3400	STOOL PLATE SIZE
J	2950	2950	3050	3050	3050	3050	2950	3150	3200	3150	C/C DIST. OF BOLTS
K	290	290	280	280	280	280	290	300	300	320	
N	150	150	150	150	150	150	150	150	200	150	WASHER PLATE SIZE
P	800	800	800	800	800	800	800	800	800	800	STOOL PLATE
Q	–	–	–	–	–	–	–	900	900	900	COLUMN SIZE
R	–	–	–	–	–	–	–	500	500	500	
S	–	–	–	–	–	–	–	1440	1440	1440	C/C DIST. OF BOLTS
BP	45	45	45	45	45	50	45	45	45	45	BASE PLATE THICKNESS
SP*	32	32	40	40	40	40	40	50	63	50	STOOL PLATE THICKNESS
NO. OF BOLTS	8	8	10	10	10	10	8	16	16	16	TOTAL NO. OF BOLTS
DIA. OF BOLTS	60	60	60	72	72	60	60	72	100	80	DIA. OF BOLTS
TF	REFER DWG. NO. 9585-001-315-PVC-C-0008										THICKNESS OF FLANGE
TW	REFER DWG. NO. 9585-001-315-PVC-C-0008										THICKNESS OF WEB
FS	20	20	20	25	25	28	20	28	28	28	FLANGE STIFF. PLT.
WS	20	20	20	25	25	28	20	28	28	28	WEB STIFF. PLT.
WP**	36	36	36	40	40	36	36	40	63	45	WASHER PLT. THICKNESS
FCS	12	12	12	12	12	12	12	12	12	12	FLANGE CROSS STIFF. PLT.
WCS	12	12	12	12	12	12	12	12	12	12	WEB CROSS STIFF. PLT.
SCS	12	12	12	12	12	12	12	12	12	12	STOOL CROSS STIFF. PLT.
L	1200	900	900	1200	900	1100	1100	1100	1100	1100	WIDTH OF SHEAR KEY
M	200	150	150	200	150	150	200	150	150	150	DEPTH OF SHEAR KEY
SKT	63	40	45	63	50	36	63	32	36	36	THICKNESS OF SHEAR KEY
TYPE	TYPE-H	I-TYPE	I-TYPE	TYPE-H	I-TYPE	H-TYPE	TYPE-3	H-TYPE	H-TYPE	H-TYPE	TYPE OF SHEAR KEY

* DIA OF BOLT HOLE IN STOOL PLATE = DIA. OF BOLT + 15 MM
** DIA OF BOLT HOLE IN WASHER PLATE = DIA. OF BOLT + 3 MM
*** DIA OF BOLT HOLE IN BASE PLATE = DIA. OF BOLT + 15 MM (B242a TO B28)

SIZE, NOT SUFFICIENT. REFER OBSRVATIONS ON DESIGN CALCULATIONS
BHEL REPLY - Noted. Shear key size revised.

PLEASE REFER OBSERVATIONS ON ATTACHED CALCULATIONS OF BASE PLATES (ON PAGE 239) OF STAR COLUMNS, B24a TO B28 AND C24a TO C28

BUTT WELD TYP.



SECTION 1-1 (APPLICABLE FOR 5 NOS. BOLTS) (SCALE 1:25)

TYPICAL BASE PLATE DETAILS (FOR A25 & A26) (SCALE 1:25)

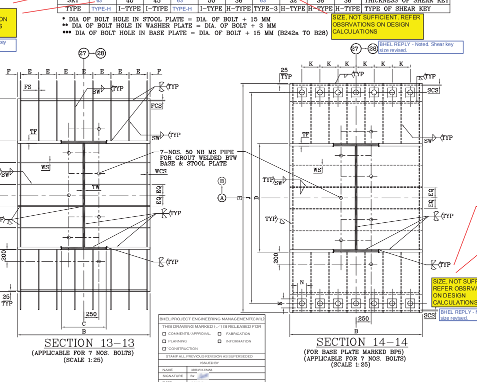
TYPICAL BASE PLATE DETAILS (FOR A27) (SCALE 1:25)

SECTION 9-9 (APPLICABLE FOR 14 NOS. BOLTS) (SCALE 1:25)

SECTION 12-12 (APPLICABLE FOR 7 NOS. BOLTS) (SCALE 1:25)

SECTION 10-10 (APPLICABLE FOR 14 NOS. BOLTS) (SCALE 1:25)

SECTION 11-11 (FOR BASE PLATE MARKED BP4) (APPLICABLE FOR 14 NOS. BOLTS) (SCALE 1:25)



SECTION 13-13 (APPLICABLE FOR 7 NOS. BOLTS) (SCALE 1:25)

SECTION 14-14 (FOR BASE PLATE MARKED BP5) (APPLICABLE FOR 7 NOS. BOLTS) (SCALE 1:25)

(I-TYPE SHEAR KEY) (H-TYPE SHEAR KEY) (TYPE-3 SHEAR KEY)

DETAILS OF SHEAR KEY (SCALE 1:25)

SCHEDULE OF C-ROW BASE PLATE

DIM. MKD. \ COL. MKD.	C13a, C22	C14	C15	C16, C17	C18, C19	C20, C21	C23, C24	C24a	C25, C26, C27	C28	REMARKS
A	2800	2700	2700	2800	2800	2700	2700	2900	2900	2900	BASE PLATE SIZE
B	1500	1250	1500	1500	1500	1500	1500	1700	1800	1700	
C	740	740	740	740	740	740	740	740	740	740	COLUMN SIZE
D	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
E	280	290	280	280	280	280	280	320	340	320	
F	50	45	50	50	50	50	50	50	50	50	C/C DIST. OF STIFFENERS
G	360	360	360	360	360	360	360	360	360	360	C/C DIST. OF STIFFENERS
H	3300	3200	3200	3300	3300	3200	3200	3400	3400	3500	STOOL PLATE SIZE
J	3050	2950	2950	3050	3050	2950	2950	3150	3150	3200	C/C DIST. OF BOLTS
K	280	290	280	280	280	280	280	320	340	320	
N	150	150	150	150	150	150	150	150	150	200	WASHER PLATE SIZE
P	800	800	800	800	800	800	800	800	800	800	STOOL PLATE
Q	–	–	–	–	–	–	–	900	1000	900	COLUMN SIZE
R	–	–	–	–	–	–	–	500	500	500	
S	–	–	–	–	–	–	–	1440	1440	1440	C/C DIST. OF BOLTS
BP	50	45	45	45	50	45	45	45	45	45	BASE PLATE THICKNESS
SP*	45	36	40	45	45	45	50	50	45	63	STOOL PLATE THICKNESS
NO. OF BOLTS	10	8	10	10	10	10	10	16	16	16	TOTAL NO. OF BOLTS
DIA. OF BOLTS	72	60	60	72	80	72	80	80	80	100	DIA. OF BOLTS
TF	REFER DWG. NO. 9585-001-315-PVC-C-0011										THICKNESS OF FLANGE
TW	REFER DWG. NO. 9585-001-315-PVC-C-0011										THICKNESS OF WEB
FS	25	12	16	20	20	25	25	28	28	28	FLANGE STIFF. PLT.
WS	25	12	16	20	20	25	25	28	28	28	WEB STIFF. PLT.
WP**	40	36	36	40	45	40	45	45	45	63	WASHER PLT. THICKNESS
FCS	12	12	12	12	12	12	12	12	12	12	FLANGE CROSS STIFF. PLT.
WCS	12	12	12	12	12	12	12	12	12	12	WEB CROSS STIFF. PLT.
SCS	12	12	12	12	12	12	12	12	12	12	STOOL CROSS STIFF. PLT.
L	1200	1100	1100	1200	1100	1100	1200	1100	1100	1100	WIDTH OF SHEAR KEY
M	200	150	150	200	150	150	200	150	150	150	DEPTH OF SHEAR KEY
SKT	63	40	40	50	40	40	63	36	40	40	THICKNESS OF SHEAR KEY
TYPE	TYPE-H	H-TYPE	H-TYPE	TYPE-H	H-TYPE	H-TYPE	TYPE-H	H-TYPE	H-TYPE	H-TYPE	TYPE OF SHEAR KEY

* DIA OF BOLT HOLE IN STOOL PLATE = DIA. OF BOLT + 15 MM
** DIA OF BOLT HOLE IN WASHER PLATE = DIA. OF BOLT + 3 MM
*** DIA OF BOLT HOLE IN BASE PLATE = DIA. OF BOLT + 15 MM (C242a TO C28)

SIZE, NOT SUFFICIENT. REFER OBSRVATIONS ON DESIGN CALCULATIONS
BHEL REPLY - Noted. Shear key size revised.

BILL OF MATERIAL

S.NO.	MEMBER	WEIGHT (MT)	GRADE
1	12 THK. PLT.	4.00	IS:2062–E250
2	16 THK. PLT.	16.0	IS:2062–E250
3	20 THK. PLT.	14.0	IS:2062–E250
4	25 THK. PLT.	15.0	IS:2062– E350
5	28 THK. PLT.	29.0	IS:2062– E350
6	32 THK. PLT.	14.0	IS:2062– E350
7	36 THK. PLT.	9.00	IS:2062– E350
8	40 THK. PLT.	27.0	IS:2062– E350
9	45 THK. PLT.	80.0	IS:2062– E350
10	50 THK. PLT.	42.0	IS:2062– E350
11	63 THK. PLT.	15.0	IS:2062– E350
	TOTAL	265.0	

PLEASE CHECK GRADE OF STEEL
BHEL REPLY - Checked & corrected as marked.

SCHEDULE OF MINIMUM WELD SIZE FOR VARIOUS WEB PLATE SIZE OF WELD

PLATE THICKNESS(MM)	WW SIZE OF WELD IN(MM)	SW SIZE OF WELD IN(MM)
8 & 10	6	6
12	8	8
16 & 20	10	12
25	12	14
28 & 32	16	20
36 & 40	20	22
45 & 50	25	25

NOTES:-
1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. EL. 0.00 M WHICH CORRESPONDS TO RL.(+) 375.50 M.
3. FOR FOUNDATION BOLT DETAILS REF. DRG. NO. PE-DG-434-611-C001 (NTPC DRG NO. 9585-001-315-PVC-C-0454B)
4. FOR OTHER NOTES AND STD. DETAILS REF. DRG. PE-DG-434-600-C002 (NTPC DRG NO. 9585-001-315-PVC-C-0089A)
5. COLUMN BASE SURFACE & BOTTOM FACE OF VERTICAL STIFFENERS SHALL BE PROPERLY MACHINED BEFORE WELDING TO BASE PLATE.
6. GROUTING OF COLUMN BASE SHALL BE DONE AFTER FINAL ALIGNMENT OF COLUMN
7. ALL VERTICAL STIFFENERS, HORIZONTAL STIFFENERS & BASE PLATE MATERIAL SHALL CONFORM TO IS:2062 AS PER TECHNICAL SPECIFICATION
8. BOLTS SHALL BE MILD STEEL FOUNDATION BOLTS CONFORMING TO GRADE A OF IS:2062 AND/OR GRADE-1OF IS:432

ENGINEERING REFERENCE DRAWINGS :-
1. PE-DG-434-100-M001 – PLOT PLAN (9585-001-999-POC-F-001)
2. PE-DG-434-100-M002 – MAIN EQUIPEMENT PLAN (9585-001-999-PGM-F-001)
3. PE-DG-434-612-C002 – MAIN POWER HOUSE BUILDING UNIT # 2 STRUCTURAL FRAMING (9585-001-315-PVC-C-0005)& COLUMN DETAILS ALONG A-ROW
4. PE-DG-434-612-C005 – MAIN POWER HOUSE BUILDING UNIT # 2 STRUCTURAL FRAMING (9585-001-315-PVC-C-0008)& COLUMN DETAILS ALONG B-ROW
5. PE-DG-434-612-C008 – MAIN POWER HOUSE BUILDING UNIT # 2 STRUCTURAL FRAMING (9585-001-315-PVC-C-0011) & COLUMN DETAILS ALONG C-ROW
6. PE-DG-434-611-C002 – MPH BUILDING – G.A. & R.C. OF COLS FDN ON ROW A to F UNIT-2 (9585-001-315-PVC-C-0454B)
7. PE-DG-434-612-C030 – MPH BUILDING – DETAIL OF AUXILLIARY COLUMNS UNIT – 1, 2 & 3 (9585-001-315-PVC-C-0033B)

LEGEND:
1. TOS = TOP OF STEEL
2. BOS = BOTTOM OF STEEL
3. TYP. = TYPICAL
4. BTW = BETWEEN
5. B.O.B.P. = BOTTOM OF BASE PLATE
6. UNO = UNLESS NOTED OTHERWISE
7. THK. = THICK
8. PLT. = PLATE
9. EQ = EQUAL

NTPC DWG. NO. 9585-001-315-PVC-C-0003B

CUSTOMER: NTPC LIMITED

3X800MW PATRATU SUPER THERMAL POWER PROJECT

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

JOB NO. 434
STATUS
DISTRIBUTION

REV.	DATE	ALTD	CHD	APPD
R1	31.01.19	DEEPAK	AB	AKS

DRAWING REVISED AS PER COMMENTS RECEIVED FROM NTPC VIDE LETTER NO. 315:1539 DATED 05.12.2018

DEPT CODE		NAME	SIGN	DATE
C	DRN	JN	-SD-	17.11.18
	DSGN	SONAM	-SD-	17.11.18
	CHD	ABHAY	-SD-	17.11.18
	APPD	AKS	-SD-	17.11.18

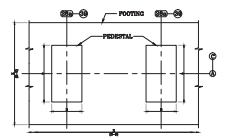
TITLE: MAIN POWER HOUSE BUILDING LAYOUT & DETAILS OF BASE PLATE UNIT-2

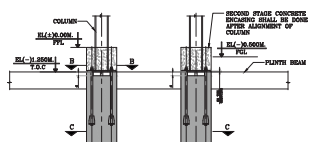
DEPT. SCALE 1:100
DRAWING NO. PE-DG-434-612-C011
SHEET 1 OF 1 REV. R1
SIZE-A0

TABLE–1
SCHEDULE OF FOOTINGS/PEDESTALS DETAIL Refer design document , the founding level is -6.5m. BHEL REPLY - FOUNDING LEVEL IS IN ORDER

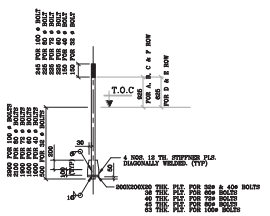
S.NO.	Foundation Mkd.	Founding Level (B.O.C.)	Size Of Footing (mm)			Column / Pedestal Mkd.	Size of pedestal (mm)		Foundation Bolt Details				Shear Key Pocket Details				Top Of Pedestal
			Along Z (Z)	Along X (X)	Depth		Width (B)	Length (A)	No. of Bolts	Dia. of Bolts	C	D	E	F	d	Type	
			(N-S)	(E-W)	(D)		Along Z	Along X	(N)	(Φ)	mm	mm					(T.O.C.)
1						A28	1900	3500	10	60	3100	280	1200	1200	150	H-Type	EL(-)1.250
2						A28a	1600	3500	8	60	3050	290	1000	1000	150	I-Type	EL(-)1.250
3						Aa'28	1500	1500	4	32	850	850	600	600	150	I-Type	EL(-)1.250
4	CF1	EL(-)5.500	7000	28000	1700	Ac'28	1500	1500	4	32	850	850	600	600	150	I-Type	EL(-)1.250
5						Ae28	1800	1800	4	32	850	850	600	600	150	I-Type	EL(-)1.250
6						Ab28a	1500	1500	12	50	250	250	800	800	150	H-Type	EL(-)1.250
7						Ac28a	1500	1500	12	50	250	250	800	800	150	H-Type	EL(-)1.250
8						Ad28a	1800	1800	12	72	250	250	800	800	150	Type-3	EL(-)1.250
9	AF29	EL(-)5.500	3900	6000	1000	A29	1600	3500	8	60	3050	290	1000	1000	150	I-Type	EL(-)1.250
10						A30	1600	3500	8	60	3050	290	1000	1000	150	I-Type	EL(-)1.250
11	CF2	EL(-)5.500	24000	6000	1900	A31	1600	3500	8	72	3050	290	800	800	150	Type-3	EL(-)1.250
12						A32	1600	3500	8	72	3050	290	800	800	150	Type-3	EL(-)1.250
13	AF33	EL(-)5.500	4000	6300	1100	A33	1600	3500	8	60	3050	290	1000	1000	150	I-Type	EL(-)1.250
14	AF34	EL(-)5.500	3900	6000	1000	A34	1600	3500	8	72	3050	290	1000	1000	150	I-Type	EL(-)1.250
15						A35	1900	3600	8	72	3150	350	1000	1000	150	I-Type	EL(-)1.250
16	CF3	EL(-)5.500	28500	7500	2000	A36	1900	3600	10	80	3150	280	800	800	150	Type-3	EL(-)1.250
17						A37	1900	3600	10	80	3150	280	800	800	150	Type-3	EL(-)1.250
18	AF38	EL(-)5.500	4000	6500	1100	A38	1900	3600	8	72	3150	350	1000	1000	150	I-Type	EL(-)1.250
19	AF39	EL(-)5.500	4000	6300	1100	A39	1600	3500	8	72	3050	290	1000	1000	150	I-Type	EL(-)1.250
20						B28	1900	3600	16	80	3150	300	1200	1200	150	H-Type	EL(-)1.250
21	CF4	EL(-)5.500	8000	19000	2400	B28a	1900	3500	10	80	3050	280	800	800	150	Type-3	EL(-)1.250
22						C28	1900	3600	16	72	3150	320	1200	1200	150	H-Type	EL(-)1.250
23						C28a	2000	3500	12	100	3050	300	800	800	150	Type-3	EL(-)1.250
24						B29	1900	3500	8	72	3050	350	800	800	150	Type-3	EL(-)1.250
25	CF5	EL(-)5.500	25000	6500	2100	B30	1900	3500	8	72	3050	350	800	800	150	Type-3	EL(-)1.250
26						B31	1900	3500	10	72	3050	280	800	800	150	Type-3	EL(-)1.250
27						B32	1900	3600	10	72	3150	280	1100	1100	150	I-Type	EL(-)1.250
28	CF6	EL(-)5.500	45000	8000	2400	B33	1900	3600	10	72	3150	280	1100	1100	150	I-Type	EL(-)1.250
29						B34	1900	3600	10	72	3250	280	800	800	150	H-Type	EL(-)1.250
30						B35	1900	3600	10	72	3250	280	800	800	150	H-Type	EL(-)1.250
31						B36	1900	3600	10	72	3250	280	800	800	150	H-Type	EL(-)1.250
32						B37	1900	3500	10	72	3050	280	800	800	150	Type-3	EL(-)1.250
33						B38	1900	3500	10	72	3050	280	800	800	150	Type-3	EL(-)1.250
34	CF7	EL(-)5.500	37500	16600	2600	B39	1900	3500	10	80	3050	280	1000	1000	150	Type-3	EL(-)1.250
35						C36	2000	3600	10	100	3300	300	800	800	150	Type-3	EL(-)1.250
36						C37	2000	3600	10	100	3300	300	800	800	150	Type-3	EL(-)1.250
37						C38	1900	3500	10	72	3050	280	1000	1000	150	I-Type	EL(-)1.250
38						C39	2200	3500	12	100	3050	300	800	800	150	Type-3	EL(-)1.250
39						C29	1600	3500	8	60	2950	290	1000	1000	150	I-Type	EL(-)1.250
40	CF8	EL(-)5.500	25000	6500	2100	C30	1600	3500	8	72	3050	290	800	800	150	Type-3	EL(-)1.250
41						C31	1600	3500	8	72	3050	290	800	800	150	Type-3	EL(-)1.250
42						C32	1900	3500	10	72	3050	280	1000	1000	150	I-Type	EL(-)1.250
43	CF9	EL(-)5.500	37000	6000	2400	C33	1900	3500	10	72	3050	280	1000	1000	150	I-Type	EL(-)1.250
44						C34	1900	3500	10	80	3050	280	1000	1000	150	I-Type	EL(-)1.250
45						C35	2000	3600	10	100	3300	300	800	800	150	Type-3	EL(-)1.250

Bolt Details are not reviewed

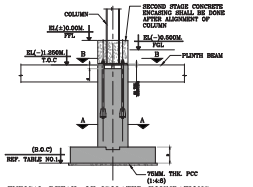




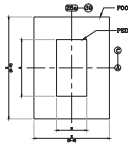
TYPICAL DETAIL OF COMBINED FOUNDATIONS
(FOR DETAILS REFER TABLE-1)
(SCALE-1:25)



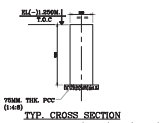
TYPICAL DETAIL OF FOUNDATION BOLTS



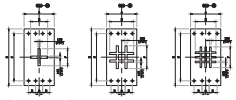
TYPICAL DETAIL OF ISOLATED FOUNDATIONS
(FOR DETAILS REFER TABLE-1)
(SCALE-1:25)



SECTION A–A
(REFER TABLE NO.1)
(SCALE-1:25)

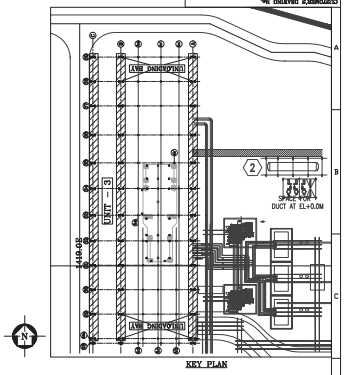


TYP. CROSS SECTION
FOR PLINTH BEAMS (PB–1) & (PB–2)
(SCALE-1:25)



As the Design document for Analysis and Design of Main Frame -Unit#3 is in Cat-2. Any change in reaction coming from superstructure may impact the foundation. BHEL shall ensure to incorporate those changes in foundation design subsequently.

BHEL self also ensure that the base plate details, shear key and other related details shall match with the corresponding base plate drawing.



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRS, CO–ORDINATES & LEVELS IN METRES.
2. EL(+)0.000 CORRESPONDS TO FINISHED FLOOR LEVEL OF POWER HOUSE BUILDING WHICH CORRESPONDS TO EL 370.5OM. ABOVE MSL. FOR BOILER AREA IS EL (–)0.000 M. CORRESPONDING TO R.L. 370.5OM.
3. GRADE OF CONCRETE : M35 WITH 53MM AND DOWN GRADED AGGREGATES. SLUMP OF CONCRETE SHALL BE AS PER SPECIFICATIONS/ MIX DESIGN. ALL REINFORCEMENTS SHALL BE HIGH YIELD STRENGTH DEFORMED BARS (Fy–500 WITH MINIMUM ELONGATION OF 14.5%(% 5D0G) CONFORMING TO IS: 1786 EXCEPT 6 MM. DIA. BAR WHICH SHALL BE OF MILD STEEL CONFIRMING TO GARDE–1 OF IS:432.
4. NET SAFE BEARING CAPACITY IS CONSIDERED AS 5OT/SQ.M. AT EL(–)5.5OM BELOW FGL DEPENDING UPON WIDTH OF FOUNDATION AS PER LATEST APPROVED SOIL REPORT.
5. CLEAR COVER TO OUTERMOST REINFORCEMENT (INCLUDING TIES) SHALL BE AS FOLLOWS:–

	TOP	BOTTOM	SIDE
PEDESTAL	5O	5O	5O
RAFT/FOUNDATION	5O	75	5O

6. THE FOUNDATION PITS SHALL BE MAINTAINED DRY DURING THE COMPLETE CONSTRUCTION PERIOD.
7. REF. DRG. 9585–001–315–PVC–C–0451B–GENERAL NOTES AND STANDARD DETAILS FOR R.C.C. WORKS.
8. NON SHRINK FLOWABLE GROUTING BELOW BASE PLATE OF COLUMNS SHALL BE DONE AS PER SPECIFICATIONS.
9. BOTTOM 300MM OF EXCAVATION TO BE DONE CAREFULLY TO AVOID OVER EXCAVATION AND PCC TO BE DONE IMMEDIATELY AFTER EXCAVATION & COMPACTION.
10. ENCASING OF COLUMNS SHALL BE DONE BY CIVIL CONTRACTOR AFTER GROUTING OF COL BASES ARE COMPLETED BY ERECTION CONTRACTOR.
11. BACKFILLING AROUND FOUNDATIONS, THROUGHS, SUMPS, PITS, PLINTH ETC. SHALL BE CARRIED OUT WITH SAND IN LAYERS NOT EXCEEDING 200MM COMPACTED THICKNESS AND EACH LAYER SHALL BE COMPACTED TO MINIMUM 80% OF RELATIVE DENSITY.

LEGEND:–

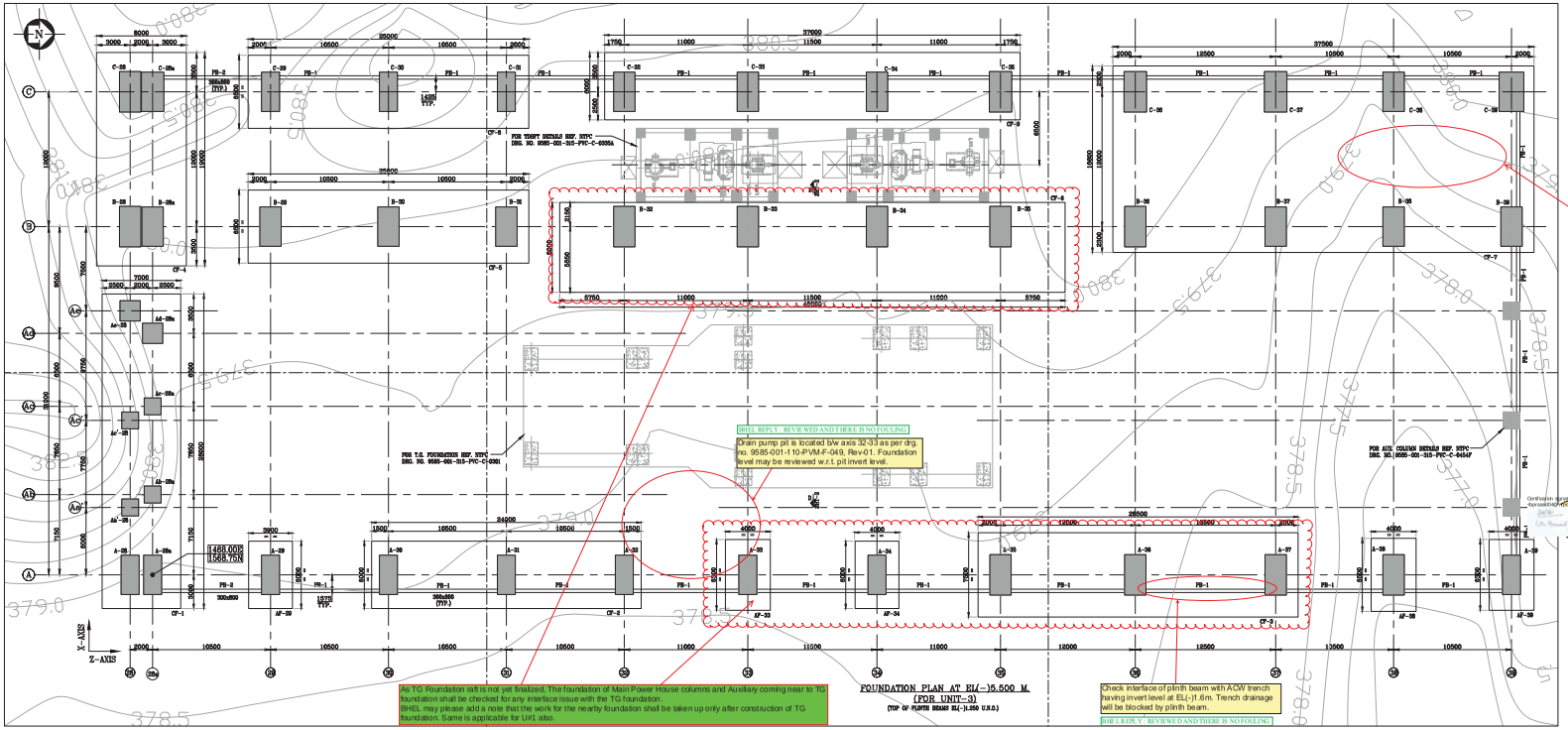
UNO – UNLESS NOTED OTHERWISE
TYP – TYPICAL
EL. – ELEVATION
T.O.C. – TOP OF CONCRETE
B.O.C – BOTTOM OF CONCRETE
THK. – THICK
F.G.L – FINISHED GROUND LEVEL
F.F.L. – FINISHED FINISH LEVEL
PLT. – PLATE
N.T.S. – NOT TO SCALE
(N–S) – NORTH TO SOUTH
(E–W) – EAST TO WEST

ENGINEERING REFERENCE DRAWINGS :–

1. 9585–001–999–PGC–F–001 – PLOT PLAN
2. 9585–001–990–PDN–F–001 – MAIN EQUIPEMENT LAYOUT
3. 9585–001–110–PVM–F–0040 – T.G. EQUIPEMENT LAYOUT PLAN AT EL 0.0M FLOOR

CONSTRUCTION REFERENCE DRAWINGS :–

1. 9585–001–315–PVC–C–0454F – MPH BUILDING : G.A. & R/F DETAILS OF INTERMEDIATE COLUMNS (A–B BAY) UNIT–1
2. 9585–001–315–PVC–C–0003C – MPH BUILDING : LAYOUT & DETAILS OF BASE PLATE UNIT–1
3. 9585–001–315–PVC–C–0301 – T.G. FOUNDATION : G.A. OF RAFT
4. 9585–001–315–PVC–C–0350A – G.A. OF MISFIT DECK
5. 9585–001–315–PVC–C–0335A – G.A. OF TURFIT DECK



FOUNDATION PLAN AT EL(–)5.500 M.
(FOR UNIT–3)
(TOP OF PLINTH BEAMS EL(-)1.250 U.N.O.)

THIS DRG SHALL BE READ IN CONJUCTION WITH NTPC DRG NO. 9585–001–315–PVC–C–0454C SHEET 2 OF 2

REV.	DATE	AUTD	CHD	APPD	REV.	DATE	AUTD	CHD	APPD

BHEL–PROJECT ENGINEERING MANAGEMENT(CIVIL)
THIS DRAWING MARKED '_' IS RELEASED FOR
☐ COMMENTS/APPROVAL ☐ FABRICATION
☐ PLANNING ☐ INFORMATION
☐ CONSTRUCTION
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME GAURAV KUMAR SINGH
SIGNATURE
DATE 31/12/2018

NTPC DWG. NO. 9585–001–315–PVC–C–0454C

CUSTOMER
NTPC LIMITED

3X800MW PATRATU SUPER THERMAL POWER PROJECT

JOB NO. 434
STATUS
DISTRIBUTION

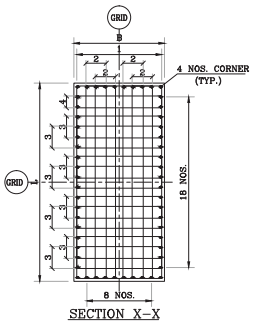
BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

DEPT. CODE	NAME	SIGN	DATE
C	DRN BN	–SD–	31.12.18
	CHD G.K.SINGH	–SD–	31.12.18
	CHD A.KUMAR	–SD–	31.12.18
	APPD G.K.SINGH	–SD–	31.12.18

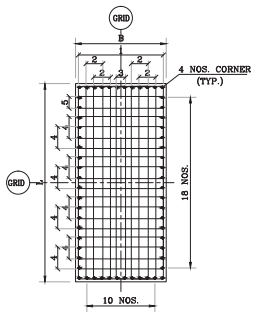
TITLE
MAIN POWER HOUSE BUILDING, UNIT 1
G.A. & R/F DETAILS OF FOUNDATIONS ON ROW A TO C

DEPT.	SCALE	DRAWING NO.
SIGN		PE–DG–434–611–C003
		SHEET 1 OF 2 REV. 00

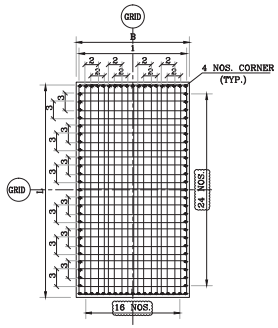
SIZE–A0



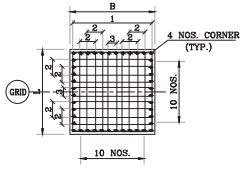
SECTION X–X
TYPE–1
TOTAL NO. OF BAR = 56
8 Y STIRRUPS (1–1)+(4–2)+(8–3)+(1–4)
@ 250 C/C PER SET
FOR R/F DETAIL REF. TABLE–3



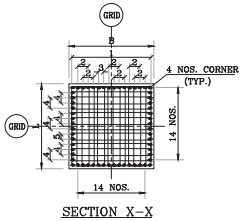
SECTION X–X
TYPE–2
TOTAL NO. OF BAR = 60
8 Y STIRRUPS (1–1)+(4–2)+(1–3)+(8–4)+(1–5)
@ 250 C/C PER SET
FOR R/F DETAIL REF. TABLE–3



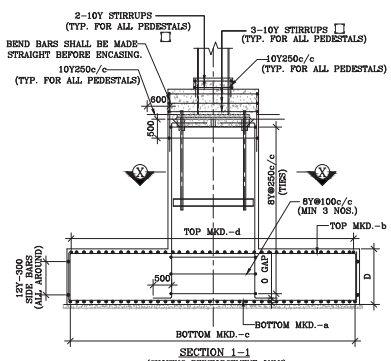
SECTION X–X
TYPE–3
TOTAL NO. OF BAR = 84
8 Y STIRRUPS (1–1)+(8–2)+(12–3)+(2–LINKS)
@ 250 C/C PER SET
FOR R/F DETAIL REF. TABLE–3



SECTION X–X
TYPE–4
TOTAL NO. OF BAR = 44
8 Y STIRRUPS (1–1)+(8–2)+(2–3)
@ 250 C/C PER SET
FOR R/F DETAIL REF. TABLE–3



SECTION X–X
TYPE–5
TOTAL NO. OF BAR = 60
8 Y STIRRUPS (1–1)+(6–2)+(1–3)+(6–4)+(1–5)
@ 250 C/C PER SET
FOR R/F DETAIL REF. TABLE–3



SECTION 1–1
(SHOWING REINFORCEMENT ONLY)
(FOR R/F DETAILS REFER TABLE–2)

TABLE–2
FOOTING R/F SUMMARY

S.NO.	Foundation Mkd.	Parallel to Power House		Perpendicular to Power House		Side Face R/F	Shear R/F
		Bar Mkd. (a)	Bar Mkd. (b)	Bar Mkd. (c)	Bar Mkd. (d)	Bar Mkd. (e)	(Open links)
		Along Z-Axis		Along X-Axis			
		(N-S) Bottom	(N-S) Top	(E-W) Bottom	(E-W) Top		
1	CF1	25 Y 175	20 Y 175	25 Y 175	32 Y 150 (Double Layer)	12 Y 300	-
2	AF29	20 Y 200	16 Y 175	20 Y 200	16 Y 175	12 Y 300	-
3	CF2	32 Y 150	32 Y 150 (Double Layer)	28 Y 150	20 Y 150	12 Y 300	8 Y 300
4	AF33	20 Y 175	16 Y 150	20 Y 175	16 Y 150	12 Y 300	-
5	AF34	20 Y 200	16 Y 175	20 Y 200	16 Y 175	12 Y 300	-
6	CF3	32 Y 150	32 Y 150 (Double Layer)	28 Y 150	25 Y 150	12 Y 300	8 Y 300
7	AF38	20 Y 175	16 Y 150	20 Y 175	16 Y 150	12 Y 300	-
8	AF39	20 Y 175	16 Y 150	20 Y 175	16 Y 150	12 Y 300	-
9	CF4	28 Y 150	25 Y 150	28 Y 150	32 Y 150	12 Y 300	-
10	CF5	28 Y 150	32Y 150 (Double Layer)	28 Y 150	25 Y 150	12 Y 300	8 Y 300
11	CF6	28 Y 150	25 Y 150	28 Y 150	25 Y 150	12 Y 300	8 Y 300
12	CF7	28 Y 150	32 Y 150 (Double Layer)	28 Y 150	28 Y 150	12 Y 300	-
13	CF8	28 Y 150	32 Y 200 (Double Layer)	28 Y 150	25 Y 150	12 Y 300	8 Y 300
14	CF9	28 Y 150	36 Y 100 (Double Layer)	28 Y 150	25 Y 150	12 Y 300	8 Y 300

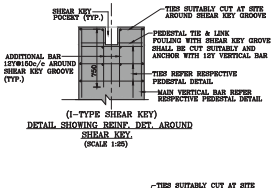
36 mm dia bar shall not be used as per Amendment -3 of IS-456. Please refer the same for clarity.

TABLE–3
PEDESTALS R/F SUMMARY

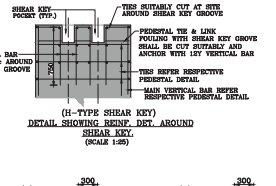
Ped ID	Size of pedestal (mm)		Dia of Long. Bars (mm)	Total no. of Long. Bars	Dia of Stirrup bars (mm)	Spacing of Stirrup bars (mm)	TYPE
	Along Z (B)	Along X (L)					
A28	1900	3500	16	56	8	250	TYPE-1
A28a	1600	3500	16	56	8	250	TYPE-1
A29	1600	3500	16	56	8	250	TYPE-1
A30	1600	3500	16	56	8	250	TYPE-1
A31	1600	3500	32	60	8	250	TYPE-2
A32	1600	3500	28	60	8	250	TYPE-1
A33	1600	3500	20	56	8	250	TYPE-1
A34	1600	3500	16	56	8	250	TYPE-1
A35	1900	3600	16	56	8	250	TYPE-1
A36	1900	3600	28	84	8	250	TYPE-3
A37	1900	3600	32	84	8	250	TYPE-3
A38	1900	3600	16	56	8	250	TYPE-1
A39	1600	3500	16	56	8	250	TYPE-1
Aa'28	1500	1500	16	44	8	250	TYPE-4
Ac'28	1500	1500	16	44	8	250	TYPE-4
Ae28	1800	1800	16	44	8	250	TYPE-4
Ab28a	1500	1500	28	44	8	250	TYPE-4
Ac28a	1500	1500	28	44	8	250	TYPE-4
Ad28a	1800	1800	32	60	8	250	TYPE-5
B28	1900	3600	20	56	8	250	TYPE-1
B28a	1900	3500	36	60	8	250	TYPE-2
B29	1900	3500	25	56	8	250	TYPE-1
B30	1900	3500	28	56	8	250	TYPE-1
B31	1900	3500	28	56	8	250	TYPE-1
B32	1900	3600	25	56	8	250	TYPE-1
B33	1900	3600	25	56	8	250	TYPE-1
B34	1900	3600	25	56	8	250	TYPE-1
B35	1900	3600	25	56	8	250	TYPE-1
B36	1900	3600	25	56	8	250	TYPE-1
B37	1900	3500	32	60	8	250	TYPE-2
B38	1900	3500	32	60	8	250	TYPE-2
B39	1900	3500	32	60	8	250	TYPE-2
C28	1900	3600	20	56	8	250	TYPE-1
C28a	2000	3500	32	60	8	250	TYPE-2
C29	1600	3500	20	56	8	250	TYPE-1
C30	1600	3500	32	56	8	250	TYPE-1
C31	1600	3500	32	56	8	250	TYPE-1
C32	1900	3500	25	56	8	250	TYPE-1
C33	1900	3500	25	56	8	250	TYPE-1
C34	1900	3500	25	56	8	250	TYPE-1
C35	2000	3600	25	56	8	250	TYPE-1
C36	2000	3600	32	84	8	250	TYPE-3
C37	2000	3600	32	84	8	250	TYPE-3
C38	1900	3500	20	56	8	250	TYPE-1
C39	2200	3500	36	60	8	250	TYPE-2

Wherever 36mm dia bars are used in pedestal, it is to be ensured that the splicing shall not be permitted as per IS 456. Otherwise use lower diameter bars.

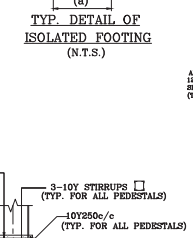
WHEN "REPLY" FOR 36MM BARS USE REINFORCEMENT COUPLERS OF CLASS-H CONFORMING TO IS 16172 : 2014 SHALL BE USED. OTHER PARAMETERS SHALL BE AS PER TECHNICAL SPECIFICATION.



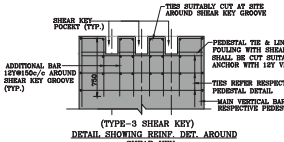
(I–TYPE SHEAR KEY)
DETAIL SHOWING REINF. DET. AROUND SHEAR KEY.
(SCALE 1:25)



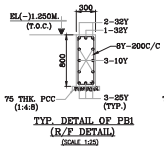
(H–TYPE SHEAR KEY)
DETAIL SHOWING REINF. DET. AROUND SHEAR KEY.
(SCALE 1:25)



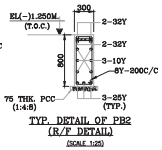
TYP. DETAIL OF ISOLATED FOOTING
(N.T.S.)



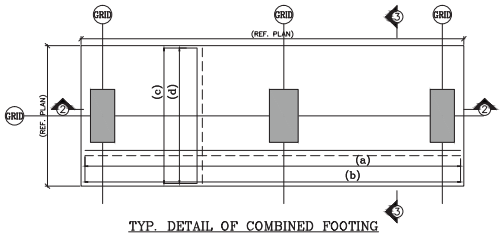
(TYPE–3 SHEAR KEY)
DETAIL SHOWING REINF. DET. AROUND SHEAR KEY.
(SCALE 1:25)



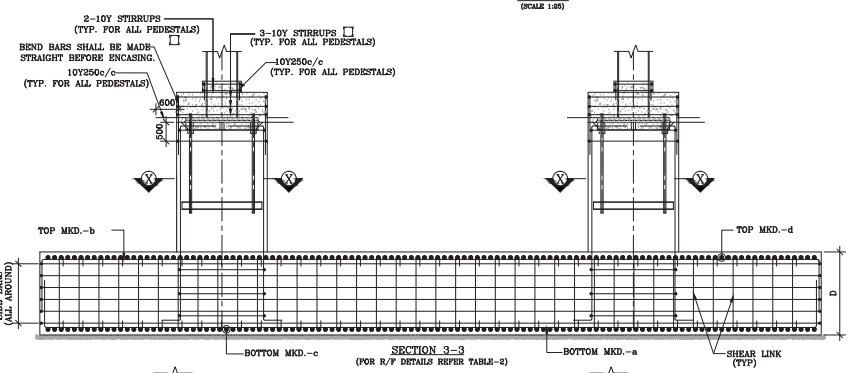
TYP. DETAIL OF PB1
(R/F DETAIL)
(SCALE 1:25)



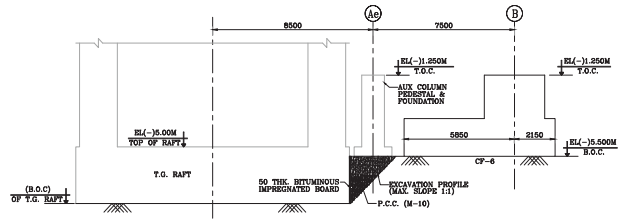
TYP. DETAIL OF PB2
(R/F DETAIL)
(SCALE 1:25)



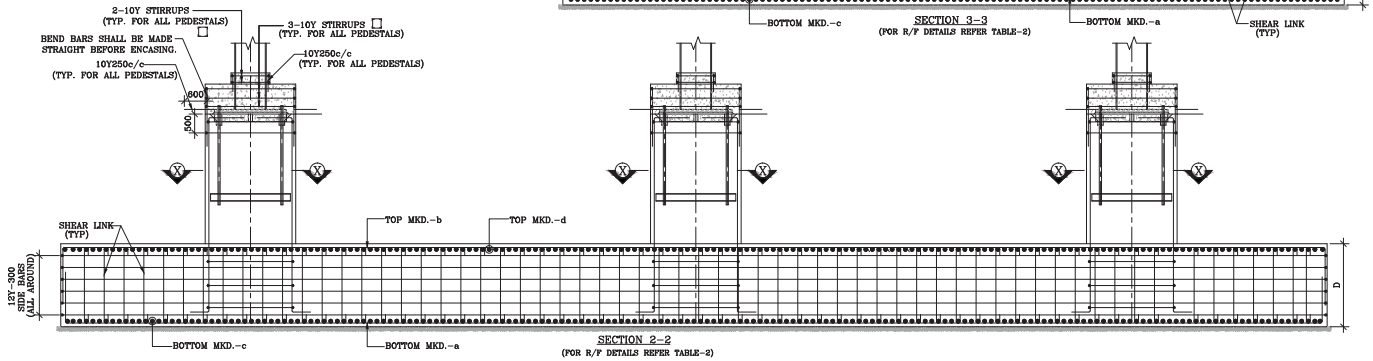
TYP. DETAIL OF COMBINED FOOTING
(N.T.S.)



SECTION 3–3
(FOR R/F DETAILS REFER TABLE–2)



SECTION D–D



SECTION 2–2
(FOR R/F DETAILS REFER TABLE–2)

BILL OF QUANTITY

S.NO.	DESCRIPTION	UNIT	QUANTITY
1	R.C.C.	Cu-m	5830.00
2	P.C.C.	Cu-m	200.00
3	REINFORCEMENT		
	8 Φ	MT	23.00
	10 Φ	MT	0.00
	12 Φ	MT	5.00
	16 Φ	MT	9.00
	20 Φ	MT	15.50
	25 Φ	MT	83.50
	28 Φ	MT	186.50
	32 Φ	MT	185.00
	36 Φ	MT	43.00
	TOTAL REINFORCEMENT (MT)		550.50

NOTES
1. ALL DIMENSIONS ARE IN MM. AND LEVEL ARE IN METER UNLESS OTHERWISE SPECIFIED.
2. FOR ALL OTHER NOTE REFER DRG. NO. 9585–001–315–PVC–C–0452E
3. BAR MARKED Y DENOTES FOR STEEL OF GRADE Fe–500. WITH MINIMUM ELONGATION 14.5%/Fe 500D
4. REINFORCEMENT SHALL BE SUITABLY ADJUSTED AT SITE TO CLEAR POCKETS, BOLTS, OPENINGS & CUT–OUTS ETC. AS APPROVED BY THE ENGINEER UNLESS SHOWN OTHERWISE IN THE DRAWINGS

CONSTRUCTION REFERENCE DRAWINGS :–
1. 9585–001–315–PVC–C–0454F – MPH BUILDING : G.A. & R/F DETAILS OF INTERMEDIATE COLUMNS (A–B BAY) UNIT–3
2. 9585–001–315–PVC–C–0003C – MPH BUILDING : LAYOUT & DETAILS OF BASE PLATE UNIT–3
3. 9585–001–315–PVC–C–0301 – T.G. FOUNDATION : G.A. OF RAFT
4. 9585–001–315–PVC–C–0338A – G.A. OF MSMPP DECK
5. 9585–001–315–PVC–C–0338A – G.A. OF TGMPP DECK

BHEL-PROJECT ENGINEERING MANAGEMENT(CIVIL)
THIS DRAWING MARKED( ) IS RELEASED FOR
COMMENTS/APPROVAL
PLANNING/INFORMATION
CONSTRUCTION
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME: GAURAV KUMAR SINGH
SIGNATURE:
DATE: 31/12/2018

BHEL-PROJECT ENGINEERING MANAGEMENT(CIVIL)
THIS DRAWING MARKED( ) IS RELEASED FOR
COMMENTS/APPROVAL
PLANNING
CONSTRUCTION
FABRICATION
INFORMATION
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME: LEKH'S NAME
SIGNATURE:
DATE: 31.12.18

NTPC DWG. NO. 9585–001–315–PVC–C–0454C

CUSTOMER
NTPC LIMITED

3X800MW PATRATU SUPER THERMAL POWER PROJECT

JOB NO. 434
STATUS
DISTRIBUTION

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

REV.	DATE	ALTD	CHD	APPD
C				

DEPT.	NAME	SIGN	DATE
CODE	DSN /JK	–SD–	31.12.18
	DSN/C.K.SINGH	–SD–	31.12.18
	CHD /A.KUMAR	–SD–	31.12.18
	APPD/A.K.SINGH	–SD–	31.12.18

TITLE: MAIN POWER HOUSE BUILDING UNIT 3
G.A. & R/F DETAILS OF FOUNDATIONS ON ROW A TO C

DEPT. SCALE SIGN
DRAWING NO. PE–DG–434–611–C003
SHEET 2 OF 2 REV. 00
SIZE–A0

THIS DRG SHALL BE READ IN CONJUCTION WITH NTPC DRG NO. 9585–001–315–PVC–C–0454C SHEET 1 OF 2