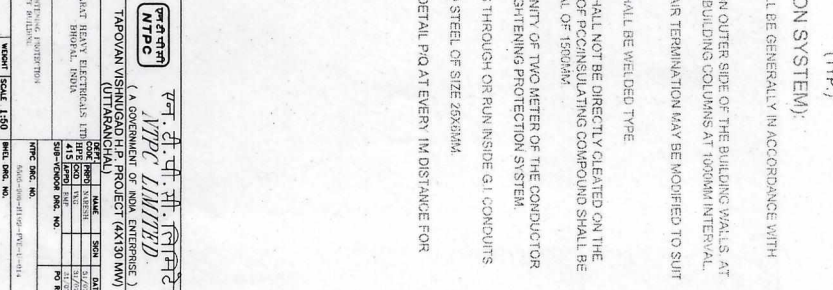
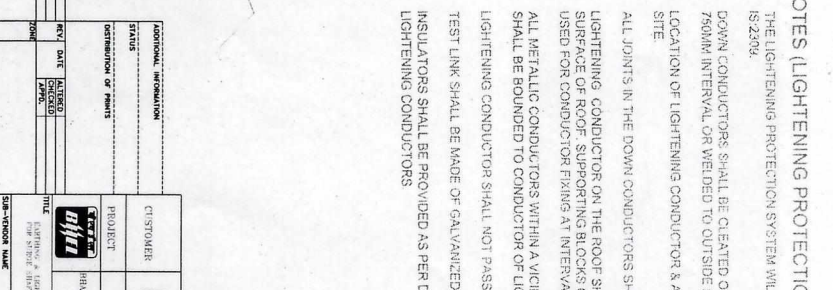
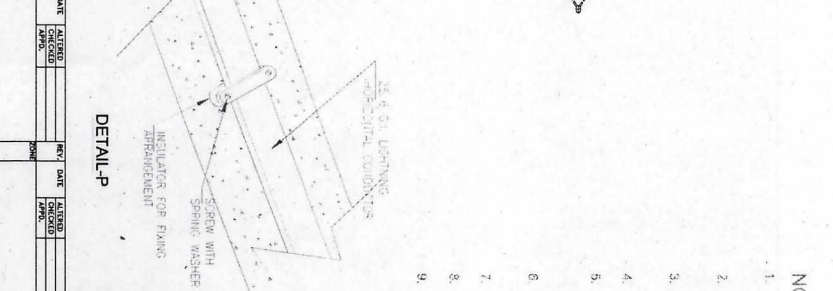
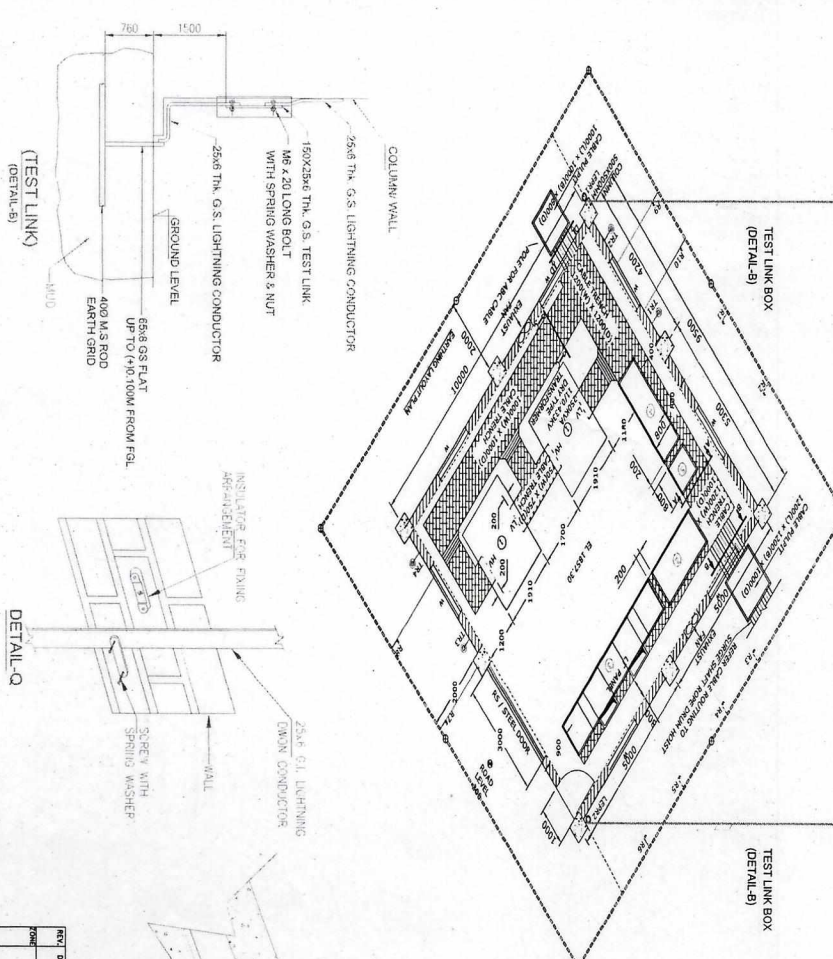
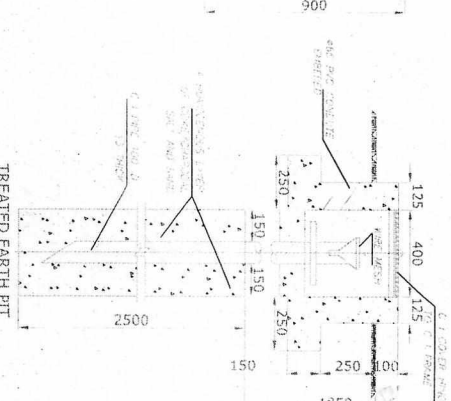
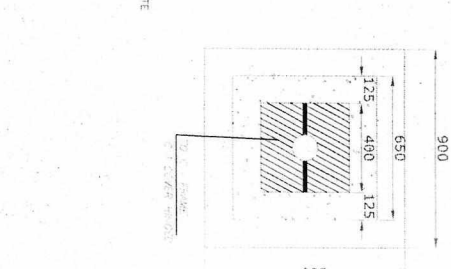
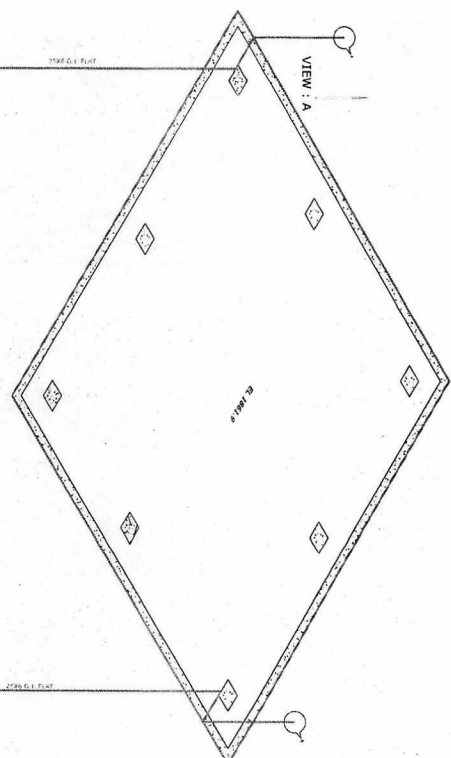


FIRST ANGLE PROJECTION
ON 3RD

(ALL DIMENSIONS ARE IN MM)



NOTES (LIGHTENING PROTECTION SYSTEM)

1. THE LIGHTENING PROTECTION SYSTEM WILL BE GENERALLY IN ACCORDANCE WITH IS:2296.
2. DOWN CONDUCTORS SHALL BE CLEANED ON OUTER SIDE OF THE BUILDING WALLS AT 750MM INTERVAL OR WELDED TO OUTSIDE BUILDING COLUMNS AT 1000MM INTERVAL.
3. LOCATION OF LIGHTENING CONDUCTOR & AIR TERMINATION MAY BE MODIFIED TO SUIT SITE.
4. ALL JOINTS IN THE DOWN CONDUCTORS SHALL BE WELDED TYPE.
5. LIGHTENING CONDUCTOR ON THE ROOF SHALL NOT BE DIRECTLY CLEANED ON THE SURFACE OF ROOF SUPPORTING BLOCKS OF PCC/INSULATING COMPOUND SHALL BE USED FOR CONDUCTOR FIXING AT INTERVAL OF 1500MM.
6. ALL METALLIC CONDUCTORS WITHIN A VICINITY OF TWO METER OF THE CONDUCTOR SHALL BE BOUNDED TO CONDUCTOR OF LIGHTENING PROTECTION SYSTEM.
7. LIGHTENING CONDUCTOR SHALL NOT PASS THROUGH OR RUN INSIDE G.I. CONDUITS.
8. TEST LINK SHALL BE MADE OF GALVANIZED STEEL OF SIZE 45X6MM.
9. INSULATORS SHALL BE PROVIDED AS PER DETAIL PQ AT EVERY 1M DISTANCE FOR LIGHTENING CONDUCTORS.

W/EVERY NO. SIGN. & DATE REF. DES. NO.

11

ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED.
USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

(TEST LINK)
(DETAIL B)

DETAIL Q

DETAIL P

REV	DATE	REASON	BY	CHKD
01	15/05/2024	ISSUED FOR TENDER	...	...

REV	DATE	REASON	BY	CHKD
01	15/05/2024	ISSUED FOR TENDER	...	...

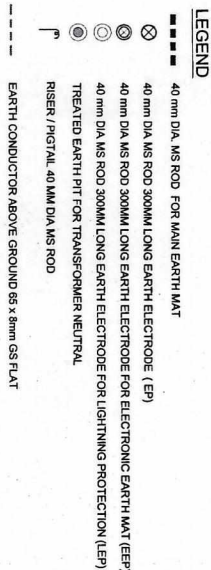
REV	DATE	REASON	BY	CHKD
01	15/05/2024	ISSUED FOR TENDER	...	...

REV	DATE	REASON	BY	CHKD
01	15/05/2024	ISSUED FOR TENDER	...	...

REV	DATE	REASON	BY	CHKD
01	15/05/2024	ISSUED FOR TENDER	...	...

PROJECT INFORMATION CUSTOMER: भारत भारती PROJECT: भारत भारती (A GOVERNMENT OF INDIA ENTERPRISE) BHARAT HEAVY ELECTRICALS LIMITED BHARAT, INDIA		DESIGN INFORMATION TITLE: Lightning & Lightning Protection SCALE: 1:50 SHEET NO. 02 OF 02	
--	--	---	--

INVENTORY NO.	SIGN. & DATE	REF. DRG. NO.
---------------	--------------	---------------



1. THE EARTHING SYSTEM WILL BE GENERALLY IN ACCORDANCE WITH IS-3043, MEASURED VALUE OF EARTHING RESISTANCE HAVE TO BE LESS THAN ONE OHM
2. ROUTING OF EARTHING CONDUCTOR IS DIAGNOSTICALLY ONLY MARGINAL SHIFTING OF CONDUCTOR IF REQUIRED TO AVOID INTERFERENCE WITH OTHER SYSTEMS OR SERVICES WILL BE DONE AT SITE.
3. EARTHING CONDUCTORS BURIED IN GROUND WILL BE LAID MINIMUM 300MM BELOW GRADE LEVEL UNLESS OTHERWISE INDICATED IN THE DRAWING. WHEREVER IT WILL BE CROSSING PIPES, DUCTS, TRENCHES, RAIL TRACKS, FOUNDATION, ETC., IT WILL BE AT LEAST 500MM BELOW THEM. EARTHING CONDUCTOR CROSSING THE ROAD WILL BE INSTALLED IN PIPES.
4. EARTHING CONDUCTORS EMBEDDED IN THE CONCRETE FLOOR OF THE BUILDING WILL HAVE APPROXIMATELY 50 MM CONCRETE COVER.
5. STAIR CASE, HAND RAILS AND OTHER NON CURRENT CARRYING METAL PARTS SHALL BE EARTHED THROUGH 25 X 6MM GS FLAT CONDUCTOR.
6. EARTHING CONDUCTOR LAID ALONG CONTINUOUS LENGTH OF THE CABLE TRAYS WILL BE EARTHED AT MINIMUM TWO PLACES BY 50X6 GS FLAT TO EARTHING SYSTEM. DISTANCE BETWEEN THE EARTHING POINTS SHALL NOT EXCEED 30M
7. PIPE SLEEVES WILL BE PROVIDED FOR RISERS WHENEVER IT IS CROSSING THE FLOOR LEVEL.
8. FOR ANY FURTHER DETAILS PLEASE REFER TO DOCUMENT "TYPICAL EQUIPMENT EARTHING DETAIL AND LIGHTNING PROTECTION DETAILS"
9. THE SIZES OF EARTHING CONDUCTORS TO BE CONNECTED BETWEEN FLOOR, EARTH CONDUCTOR RING AND VARIOUS ELECTRICAL EQUIPMENT, AT TWO LOCATIONS SHALL BE AS BELOW:
 - i) 330V/11KV SYSTEM GEAR - 55X8 MM GS FLAT
 - ii) 415V MCC/DISTRIBUTION BOARDS - 50X6 MM GS FLAT
 - iii) CONTROL PANELS & DESK - 25X3 MM GS FLAT
 - iv) CABLE TRAYS/STRUCTURES - 50X6 MM GS FLAT
 - v) RAILS/ OTHER NON CURRENT CARRYING METAL PARTS - 25X6MM GS FLAT
10. RTU FOR SURGE SHAFT SHALL BE CONNECTED TO EP1 AND EP2 EARTH ELECTRODE

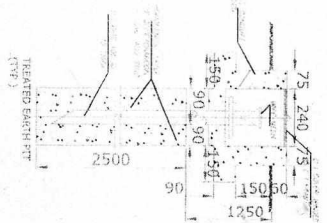
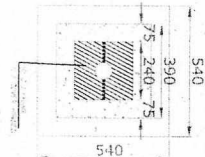
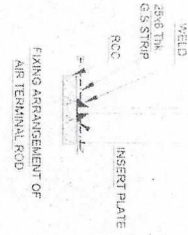
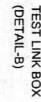
S NO.	EQUIPMENT	QTY	DIMENSION
1	250KA TRANSFORMER	2	2400W x 1910 x 2340H
2	MDB-1	1	2000(W) x 1000(D) x 1800(H)
3	LT SWITCHGEAR	1	4700(W) x 1210(D) x 2500(H)
4	3SBS SHUNT SUPPLY PANEL (NH PACKAGE)	1	2500(W) x 800(D) x 2000(H)
5	RTU SOURCE SHUNT	1	800(W) x 800(D) x 2415(H)

RISER DETAILS	
RISER NO.	CONNECTION
R1, R2, R3, R4, R5, R6	TO EXISTING CONDUCTIVE MANS AT FLOOR EL. 17000
LEHR, LEPC2	EXISTING BUILDING LIGHTING FIXTURES
R7, R8, R9, R10	FOR TEAS/DAKSHIN DASH & CO. LINES
R11, R12, R13, R14	FOR WESTERN PARTNERSHIP OF TRANSPORT
R15, R16	FOR SUDAN SHANTIRU PAVILION

REV.	DATE	ALTERED		REV.	DATE	ALTERED	
		CHECKED				CHECKED	
		APPO.				APPO.	
ZONE				ZONE			

ADDITIONAL INFORMATION	CUSTOMER		NTPC LIMITED (A GOVERNMENT OF INDIA ENTERPRISE) TAPOLAN VISHNUDAO H.P. PROJECT (4X130 MW) (UDHAPUR)	
STATUS	PROJECT		BHAVAN HEAVY ELECTRICALS LTD. 80/80A, CHANDRANAGAR BANGALORE, INDIA	
DESCRIPTION OF WORKS				
DATE	ISSUED	DATE	DATE	DATE
REV	CHANGED	DATE	DATE	DATE
DATE	DATE	DATE	DATE	DATE
TOTAL		EMPLOYING A. ENGINEERING, OPERATION AND SHIFTS STAFF BUILDING		
NTPC Dtd. No.		Signature Not Verified Date:		

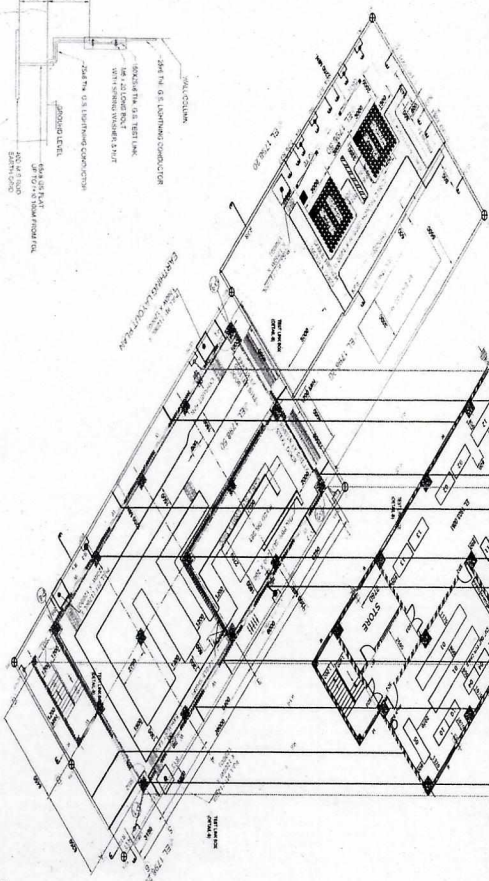
019/08.06
LIST



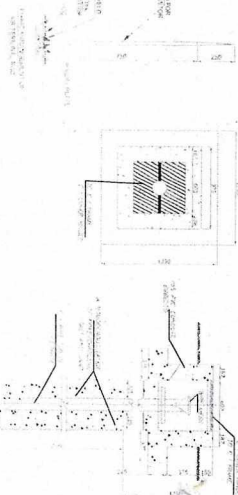
1. THE LIGHTENING PROTECTION SYSTEM WILL BE GENERALLY IN ACCORDANCE WITH IS:2320.
2. DOWN CONDUCTORS SHALL BE CLEATED ON OUTER SIDE OF THE BUILDING WALLS AT 750MM INTERVAL OR WELDED TO OUTSIDE BUILDING COLUMNS AT 1000MM INTERVAL.
3. LOCATION OF LIGHTENING CONDUCTOR & AIR TERMINATION MAY BE MODIFIED TO SUIT SITE.
4. ALL JOINTS IN THE DOWN CONDUCTORS SHALL BE WELDED TYPE.
5. LIGHTENING CONDUCTOR ON THE ROOF SHALL NOT BE DIRECTLY CLEATED ON THE SURFACE OF ROOF. SUPPORTING BLOCKS OF POLYINSULATING COMPOUND SHALL BE USED FOR CONDUCTOR FIXING AT INTERVAL OF 1500MM.
6. ALL METALLIC CONDUCTORS WITHIN A VICINITY OF TWO METER OF THE CONDUCTOR SHALL BE BOUNDED TO CONDUCTOR OF LIGHTENING PROTECTION SYSTEM.
7. LIGHTENING CONDUCTOR SHALL NOT PASS THROUGH OR RUN INSIDE G.I. CONDUITS.
8. TEST LINK SHALL BE MADE OF GALVANIZED STEEL OF SIZE 25X6MM.
9. INSULATORS SHALL BE PROVIDED AS PER DETAIL PRO AT EVERY 1M DISTANCE FOR LIGHTENING CONDUCTORS.

[illegible]

INVENTORY NO.	SIGN. & DATE	REF. DRG. NO.
---------------	--------------	---------------



DETAIL-

[illegible][illegible]

REV.	DATE	ALTERED	ZONE
		CHECKED	
		APPD.	

TITLE	PROJECT: R. STEPHENS, LARRY & J. L. STEPHENS, JR. GEORGETOWN FROM GEORGETOWN DISTRICT	
	DATE	NO. OF ITEMS
SUB-VEHICLE DRG. NO.	PO REF	NO. OF ITEMS
	NTPC DRG. NO.	

[illegible]

NOTES (LIGHTNING PROTECTION SYSTEM)

1. THE LIGHTNING PROTECTION SYSTEM WILL BE GENERALLY IN ACCORDANCE WITH IS-3000.
2. DOWN CONDUCTORS SHALL BE CLEANED ON OUTER SIDE OF THE BUILDING WALL AT 150MM INTERVAL OR WELDED TO SURFACE BLEEDING COLUMNS AT 100MM INTERVAL.
3. LOCATION OF LIGHTENING CONDUCTOR & AIR TERMINATION MAY BE MODIFIED TO SUIT SITE.
4. ALL JOINTS IN THE DOWN CONDUCTORS SHALL BE WELDED TYPE.
5. LIGHTENING CONDUCTOR ON THE ROOF SHALL NOT BE DIRECTLY CLEANED ON THE SURFACE OF ROOF SUPPORTING BLOCKS OF POLYMERIZATING COMPOUND SHALL BE USED FOR CONDUCTOR FINISH AT INTERVAL OF 150MM.
6. ALL METALLIC CONDUCTORS WITHIN A WIDTH OF TWO METERS OF THE CONDUCTOR SHALL BE BOUND TO CONDUCTOR OF LIGHTENING PROTECTION SYSTEM.
7. LIGHTENING CONDUCTOR SHALL NOT PASS THROUGH ROOF INSIDE (S). CONDUITS.
8. TEST U Signature NOT REQUIRED (UNARMED STEEL OF SIZE 25MMK).
9. INSULAT Signature NOT REQUIRED (UNARMED STEEL OF SIZE 25MMK).
10. LIGHTENING CONDUCTOR SHALL BE PROVIDED AS PER DETAIL P/2 AT EVERY 1M DISTANCE FOR 150MMK.

NOTES (LEARNING OBJECTIVES)

- [illegible]