



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 02

Ref: PSER:SCT:PAL-C1001:TCN-02

Date: 24-04-2009

Sub	Tender change notice (TCN- 02).	
Job	<i>Construction of covered / semi-covered stores, site office, hard surfacing, temporary roads, drains & culverts, fencing, bore well etc and misc enabling civil works for Unit # 1 & 2 of 726.6 (2X363.3) MW Gas based CCPP at Palatana, Udaipur, Tripura.</i>	
Ref	1.0	Tender no PSER:SCT:PAL-C1001:09.
	2.0	BHEL's NIT, vide reference no PSER:SCT:PAL-C1001:09, dated 03-04-09.
	3.0	TCN-01 issued vide reference no. PSER:SCT:PAL-C1001:TCN-01 dated 22-04-2009
	4.0	Other references (if any).

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting the offer.

- 1.0 Due date of submission of offer is extended from **28-04-09** to **29-04-2009, 15-00 hrs.**
- 2.0 Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
- 3.0 **BOQ cum price schedule format VOL-III-A- Price Schedule, rev-0** has been revised as **VOL-III-A-BOQ Cum Price Schedule, REV-01** which is enclosed herewith. As such you are requested to consider the revised BOQ/price schedule format **VOL-III-A- BOQ cum Price Schedule, REV-01 only and quote your price accordingly.** Offer from bidders in superseded price schedule shall not be considered. Bidders are also requested to submit a declaration in techno-commercial offer that they have submitted their price bid in sealed envelope as per **REVISED price schedule format (VOL-III-A-BOQ cum Price Schedule , Rev-1)**
- 4.0 Tentative bar bending schedule & 2 No. of tentative tender drawing for store & office is also attached.
- 5.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

DGM (SCT)

Encl:

- 1.0 Revised format of 'No deviation certificate'.
- 2.0 Revised BOQ cum price schedule format (**VOL-III-A, BOQ Cum Price Schedule, REV-01**)
- 3.0 Tentative bar bending schedule .
- 4.0 2 No. of tentative tender drawing for store & office

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	Construction of covered / semi-covered stores, site office, hard surfacing, temporary roads, drains & culverts, fencing, bore well etc and misc enabling civil works for Unit # 1 & 2 of 726.6 (2X363.3) MW Gas based CCPP at Palatana, Udaipur, Tripura	
Ref	1.0	Tender no PSER:SCT:PAL-C1001:09.
	2.0	BHEL's NIT, vide reference no PSER:SCT:PAL-C1001:09, dated 03-04-09.
	3.0	BHEL's TCN-01 issued vide reference no. PSER:SCT:PAL-C1001:TCN-01 dated 22-04-2009
	04	BHEL's TCN-02, vide reference no PSER:SCT:PAL-C1001:TCN-02, dated 24-04-09.
	05	Other references (if any).

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

VOLUME-III	
BOQ CUM PRICE SCHEDULE, REV-01	
Constructon of covered / semi-covered stores, site office, hard surfacing, temporary roads, drains & culverts, fencing , bore well etc and misc enabling civil works for Unit # 1 & 2 of 726.6 (2X363.3) MW Gas based CCPP at Palatana , Udaipur, Tripura.	
TENDER NO - PSER:SCT:PAL-C1001:09	
PREAMBLE	
1.0	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with other volumes of tender as applicable.
2.0	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
3.0	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4.0	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule.
5.0	The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains within thirty percent ($\pm 30\%$) of the contract price.
6.0	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same.
7.0	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.
8.0	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted.
9.0	The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
10.0	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.

VOLUME-III BOQ CUM PRICE SCHEDULE , REV-01						
Constructon of covered / semi-covered stores, site office, hard surfacing, temporary roads, drains & culverts, fencing , bore well etc and misc enabling civil works for Unit # 1 & 2 of 726.6 (2X363.3) MW Gas based CCPP at Palatana , Udaipur, Tripura.						
TENDER NO. PSER:SCT:PAL-C1001:09						
MAIN PRICE BREAK UP						
SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
1	2600	ENABLING WORKS FOR STORES, OFFICE, ROADS, RCC SLEEPER, HARD SURFACING, DRAIN,BOREWELL AND MISC WORKS.				
2	2601	Excavation with lift up to 2.0 meters including dewatering, clearing all grass, vegetation etc. including trimming of excavation bottom, spreading evenly at a distance of 500 M, etc. for foundation, trenches, drains, roads, drain, septic tanks, floors, under ground reservoir etc. with all materials and labour complete as per drawinga/ sketches issued by BHEL time to time for all type of soil, laterite, moorums, ash, hard soil etc.	17500	CUM		
3	2602	Filling using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, area levelling etc. in layers not exceeding 250 mm thickness including lead upto 800 to 900 M and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities with 90% proctor density.	4250	CUM		
4	2603	Sand filling (river sand) in plinth in layers not exceeding 15cm as directed by BHEL and consolidating same by thorough saturation with water and ramming complete including the cost of supply of sand (payment to be made on measurement of finished qty).	475	CUM		
5	2604	Plain cement Concrete 1 : 4 : 8 (1 cement : 4 sand : 8 graded stone aggregate of 40 mm nominal size) as filling course or lean concrete at any level below foundations, drain, septic tank, floors, hume pipes, materials, labour etc complete (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) / ACC/ BIRLA or equivalent).	635	CUM		
6	2605	Reinforced / plain cement concrete 1 : 1.5 : 3 (1 cement : 1.5 sand : 3 graded stone aggregate of 20 mm nominal size) for foundation, columns, beams, chajjas, RCC sleepers, RCC shelf, over head tanks slab, super structure slabs etc excluding cost of shuttering and reinforcement if any but including all materials, labour, curing etc complete all the levels (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) / ACC/ BIRLA or equivalent).	587	CUM		
7	2606	Reinforced/ plain cement concrete 1:2:4 for RCC floor etc. with approved stone chips 20mm down for floor, drain etc excluding cost of shuttering and reinforcement if any but including all materials, labour, curing etc complete all the levels. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) / ACC/ BIRLA or equivalent).	570	CUM		
8	2607A	Supply, transporting, straightening, cutting, bending, placing at any level, binding in position mild steel reinforcements in concrete including cost of reinforcement and binding wire, labour etc complete all as per specifications & drawings (Contractor will provide MS round from SAIL/ TISCO/ IISCO/ SRMB/ SHRICON/ SHYAM STEEL/ ELEGANT etc).	1	MT		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
9	2607B	Supply, transporting, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in concrete including cost of reinforcement and binding wire, labour etc complete all as per specifications & drawings (Contractor will provide TMT bar Fe-415/500 quality from SAIL/ TISCO/ IISCO/ SRMB/ SHRICON/ SHYAM STEEL etc). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	115	MT		
10	2608	Hire and labour charges for 25mm thick shuttering for bldg. works for concrete foundations, floor/ roof slabs, beams, lintels, columns, chajja, fins etc including fitting, fixing and striking out carefully after completion of work for below ground and upto 6m height from finished floor level.				
11	(a)	Without vertical props.	3575	SQM		
12	(b)	With vertical props up to (+)6M height.	1300	SQM		
13	2609	Brick work in cement mortar (1:6) in foundation, plinth, pier, abutment, wing wlls, water tank, septic tank, drains, culvert etc including all materials, labours, scaffolding and other incidental etc. complete. (Cement - PPC/OPC/PSC to be supplied by the vendor with test certificate from direct manufacturer of ACC /ULTRATECH /CETURY /BIRLA /LAFARGE /INDIA CEMENT etc).				
14	(a)	Ordinary bricks / fly ash bricks, Class designation 75 below plinth lvl.	45	CUM		
15	(b)	Ordinary bricks / fly ash bricks, Class designation 75, above plinth lvl upto 7.0M height.	137	CUM		
16	2610	12.5 cm thick brick work in cement mortar (1 cement :4 sand) in foundation, plinth, pier, abutment, walls, water tank, septic tank, drains, culvert, super structure etc including cost of scaffolding and other incidental work etc. completed. (Cement - PPC / OPC / PSC to be supplied by the vendor with test certificate from direct manufacturer of ACC / ULTRATECH / CETURY / BIRLA / LAFARGE / INDIA CEMENT etc).				
17	A)	Ordinary bricks / fly ash bricks, Class designation 75, below plinth level.	9845	SQM		
18	B)	Ordinary bricks / fly ash bricks, Class designation 75, above plinth lvl upto 7,0 M height.	4000	SQM		
19	2611	Plaster to wall floor, slab soffits, fins, sills etc with sand cement mortar including rounding off or chenerfering corners as directed and racking out joints or roughening of concrete surface including chipping & application of cement slury where necessary etc complete as per drawing and direction of engineer (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of ACC/ ULTRATECH/ CENTURY/ BIRLA/ LAFARGE/ INDIA CEMENT etc).				
20	A)	With 1:6 cement mortar average 12.5mm thick plaster below GL.	120	SQM		
21	B)	With 1:6 cement mortar average 12.5mm thick plaster above GL.	1560	SQM		
22	C)	Outside plaster with 1:6 cement mortar average 15 mm thick above GL.	4000	SQM		
23	2612	Supply, fabrication, erection and painting of structural steel work in columns, beams, wind ties, etc with simple rolled structural members connected to one with another with brackets gusset cleats, bolts & nuts or welding etc as per design & direction complete including fabrication, hoisting & erection including all materials, labour etc complete with one coat of primer & two coats of synthetic enamel painting (Contractor will provide structural steel from JINDAL/ SAIL/ TISCO/ IISCO/ SRMB/ SHRICON/ SHYAM STEEL/ RINL etc with test certificate). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	54	MT		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
24	2613	Supply, fabrication, erection and painting of steel work with tubular sections as per IS 1161& 1239 for roof truss, purlin etc including all materials conforming to relevant IS codes, labour etc as per drawing, specification and direction of engineer with one coat of primer and two coats of synthetic enamel painting (Contractor will provide structural steel from JINDAL /BANSAL/ TATA/ SHYAM STEEL/ RINL etc). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	162	MT		
25	2614	Providing & fixing corrugated galvanised iron sheet (CGI) 0.5mm thick for roofing of TATA/SAIL/ZINDAL/BANSAL make including galvanised J or L hook, bolts and nuts 8mm dia with bitumen washer 25mmdiax 3mm thick and 1.6 mm thick limpet washer complete with all labour, tools and plants. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	7440	SQM		
26	2615	Providing and fixing galvanised iron ridge 0.5 mm thick and 230 mm lappings on both sides of TATA /SAIL /ZINDAL /BANSAL make including fixing necessary screws, washers etc complete with all labour and tools and plants.	364	RM		
27	2616	Providing, transporting, fixing of MS foundation/ anchor bolt (Grade-1 of IS:432 & IS:2062) assembly in concrete along with nuts, lock nuts, 25mm dia, 950mm long including furnishing of labour, materials, welding, etc all complete as per specification, drawing and instruction of engineer (Contractor will supply all material). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	5000	KG		
28	2617	Supplying, fitting & fixing openable steel window conforming to us IS:1036-1975 & IS:7452-1974 with non-friction projecting type of hinges fitted with revetts or nut bolt system as directed, glazing cleats, lugs, 2 nos MS anodised peg stays & fastner for each window of size 900x1200mm, 4mm thick clear glass pane (each glass max size 450x450mm), including fixing in position, fixing lug in cement concrete 1:2:4 with stone chips 12.5mm down cutting holes & mending good damage, 10mm dia MS round guard bar welded horizontally 125 c/c with each window etc complete with 1 coat of primer and 2 coats of synthetic enamel finish in all respect.	35	SQM		
29	2618	Supplying, fitting and fixing fixed steel windows for store conforming to us IS:1036-1975 and IS:7452-1974 with glazing, cleats, lugs, 4mm thick clear glass pane (each glass max size 450mmx450mm), etc including fixing in position, fixing lugs in cement concrete 1:2:4 with stone chips 19mm down cutting holes & mending goods damages, with 10mm dia MS round guard bar fixed horizontally 125 c/c etc complete with one coat of primer and two coats of synthetic enamel finish in all respect.	148	SQM		
30	2619	Priming one coat to timber or steel or plastered surface or other metal surface with ready mix paint of approved quantity including smoothening of surface by sand papering etc complete.	25	SQM		
31	2620	Painting two coats with best quantity synthetic enamel paint ready mix oil bound paint of approved make and brand including smoothening surface by sand pepering etc including using approved putty etc on the surface if necessary.				
32	(a)	On steel or other metal or wooden surface with super gloss.	50	SQM		
33	2621	3 coats white washing with lime including cleaning and smoothening masonry surface thoroughly to give an even shade.	4450	SQM		
34	2622	Providing plaster of paris 2 mm thick punning over finished plaster surface and finished with one coat of acrylic emulsion primer followed by two coats of acrylic emulsion paint inside office to give smooth and even surface as per specification at all levels.	960	SQM		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
35	2623	Two coats of water proofing cement paint of Seacem or equivalent make & shade applied on outer wall including scraping the surface thoroughly on plastered or concrete surface (manufacturers specification to be followed) at all levels including all materials, labours, scaffolding etc complete as per direction of engineer.	4880	SQM		
36	2624	Providing & fixing in position rolling shutters of approved make as per IS , profile type with 18BG of approved type, steel lathe section 75 mm interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking including coil wire springs, required no of pulleys, providing hood top cover, 2 coats of approved enamel paint over one coat of red lead primer etc, all complete, mechanically operated. (Measurement will be made on the area of opening covered by the rolling shutter). Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. All rolling shutter shall be inside fittings.	190	SQM		
37	2625	Providing attach toilet with following facilities as directed by BHEL: (a) Inside size of toilet 1.5x1.35m, (b) 5mm thick white colour ceramic floor tile & inside walls tile upto 1.2m height from finish floor, (c) 1 white vitreous wash basin 450x300mm (Hindustan make or equivalent) with CI bracket, 15mm CP brass pillar taps, 32mm PVC waste water pipe, 32mm CP brass waste, 1 CP towel rail 550mm long, 1 best quality 550x400mm mirror etc complete, (d) 1 European type WC pan with seat and lid black colour, low level 10 ltr capacity white PVC flushing cistern, etc (e) all inside pipe lines shall be 15mm/ 20mm PVC & concealed pipes, (f) main external supply water pipe line shall be 25mmdia PVC of 6m, complete in all respect including testing, (g) Soil pipe shall be min 75mm dia CI for below floor if any & outside shall be 100mm PVC of supreme or equivalent. Masonry, plastering & PCC will be paid as per respective items (rate in lumsun for each set of toilet).	8	SET		
38	2626	Providing common toilet with following facilities as directed by BHEL: (a) Inside size of toilet 6.0Mx2.7M, (b) 5mm thick white colour ceramic floor tile and inside walls tile upto 1.35 M height from finish floor, (c) two white vitreous wash basin 550x400 mm (Hindustan make or equivalent) with CI bracket, 15 mm cp brass pillar taps, 32 mm PVC waste water pipe, 32mm CP brass waste, two CP towel rail 550mm long, two best quality 550x400mm mirror etc complete, (d) two WC chamber with European type WC pan with seat and lid black colour, low level 10 lts capacity white PVC flushing cistern, etc, (e) all inside pipe line shall be 15mm /20mm PVC and concealed pipes, (f) main supply external supply water pipe line shall be 25mm dia PVC of 12 M, (g) one bathroom with one 15 CP tap, one CP shower, complete in all respect. (h) three nos. Flat back urinal with automatic high level CI flushing system , 5 litre capacity with CP connector, (i) Soil/ drain pipe shall be min 75mm dia CI for below floor inside if any and outside shall be 100mm dia PVC of supreme or equivalent. Masonry, PCC & plastering will be paid as per respective items (rate in lumsun for each set of toilet).	2	SET		
39	2627	Consolidation of subgrade/ existing surface with 12 T power roller or vibromax including making good the undulations with earth and rerolling the subgrade for road, hard surfacing of equipment store,fabrication yard, assembly vard etc as directed by BHEL.	110000	SQM		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
40	2628	Providing and laying stone for making erection roads with specified sizes of approved quality hard rock rubble or hand broken hard metal of sizes ranging from 100mm to 225mm, any depths etc in one layers approximately 250mm thickness after compaction, hand packing, filling in interstices with quarry spalls/ moorum and providing a layer of 25mm thickness (consolidated) including watering, thoroughly compacting layer with 12 tonne power roller or vibromax with minimum 8 passes etc all as per the direction of the engineer and as per specification.	6250	CUM		
41	2629	Providing & laying water bound macadam base for erection roads, hard surfacing of open equipment store, preassembly yard etc in layers of required thickness with stone aggregate 90mm to 45mm size stone screening and binding material including screening, sorting, spreading and consolidation with power road roller 12T including carriage spreading and consolidation of blinding material moorum etc Including cost of material, labour, all complete.	8250	CUM		
42	2630	12 mm thick cement plaster (1:6) with 1mm neat cement punning for drain/septic tank etc complete with all materials including cement, labour etc as directed by BHEL.	100	SQM		
43	2631	1.2M high fencing with MS angle post of size 40X40X5 mm 1.8 M long post placed every 3M centre to centre embedded in concrete blocks(1:2:4), every 15th post, last but one end post corner post shall be strutted on both sides and post on one side only and provided with 8 horizontal lines and two diagonal sinterwoven with horizontal wires, of barbed wire 9.38 kg per 100 metres (min) between two post fitted and fixed with GI staples turn buckles, angle post shall be embedded in plain cement concrete(1:2:4)size 300x300x600mm deep below ground etc complete including excavation, backfilling, concreting, one coat of primer, two coat of synthetic enamel paint finish. Contractor will supply all materials including cement , structural steel, paint, labour etc complete.				
44	A)	For structural angle post with two coats of bitumen based protective coating etc complete.	6	MT		
45	B)	Supplying, fitting, fixing galvanised chain link fencing of approved quality 50mmx50mmx8 g, by means of galvanised `C` clips, with fixing of galvanised special clips etc. Contractor to supply all materials. Angle post to be paid separately as per item no 2625 (A). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	3000	SQM		
46	C)	For G I barbed with all fixing etc complete. Contractor to supply all materials.	2	MT		
47	2632	Supplying, fabrication and installation of natural colour matt finish 10-12 micron anodised aluminium (Indal or equivalent section) framework for false ceiling with 12 mm thick SITATEX random perforated white ceiling tiles (610 mmx610 mm) for false ceiling including vertical drops wherever required, of IS approved extruded sections with 35mmx25mmx1.2 mm thick main tee placed @ 614 mm c/c grid pattern and 25mmx25mmx1.2mm Al cross tee with Al angle at the periphery with the walls, the main runners to be suspended from roof truss by 4mm GI wire at suitable spacing and 150mm long special J adjustors with 100mm long thread for level adjustment upto 0.25mm with double nuts and washers. The GI wire to be suspended by MS cleat of size 50x50mmx3 mm fixed to RCC slab by special fasteners, including fixing of ceiling boards and cost of all accessories, as per specification and direction of engineer.	900	SQM		
48	2633	Providing & laying of 2mm thick PVC flooring & 100mm high skirting with all materials & labour etc complete.	900	SQM		
49	2634	Providing PVC pipe of Supreme or equivalent quality for drinking water system for BHEL office with all fittings and fixtures, labour etc complete for BHEL office.				

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
50	a)	For external 32mm dia.	60	RM		
51	b)	For external 40mm dia.	50	RM		
52	c)	For external 50mm dia.	50	RM		
53	2635	Providing PVC pipe with fittings and fixtures of Supreme or equivalent make with all materials, labour etc complete for external sewer line/ waste water line connection upto open drain or manhole to manhole/ septic tank/ soak pit for BHEL office.				
54	(a)	For external 75mm dia.	30	RM		
55	(b)	For external 100mm dia.	50	RM		
56	2636	Providing & fixing of wooden solid flush door with commercial ply finish, fitted with MS hinges, one each of 150 mm aluminium tower bolt, 16x300mm long Al sliding door bolt & 100mm aluminium handle, finished with one coat of primer & two coats of synthetic enamel paint etc complete.				
57	a)	25 mm thick.	17	SQM		
58	b)	30 mm thick.	9	SQM		
59	2637	Providing and fixing of wooden frame second class sisoo or equivalent for door frame including fixing on wall with MS cleats/ flats and embedded in concrete, finished with one coat of primer & two coats of synthetic enamel paint on exposed surface and bitumenous coat on masonry contact surface, etc complete with all labour & materials.	1	CUM		
60	2638	Supply, fitting & fixing/ laying of GI pipe as per IS 1239/IS 3589 with all necessary accessories ie socket, bend, tee, union, cross, elbow, nipple, long screw, reducing socket, reducing tee, short piece etc complete for making connection from deep well/source to water tank for construction/ drinking water system including cost of all necessary jointing materials labour etc all complete (payment will be made on center line measurement of total pipeline including all specials).				
61	A)	50 mm dia nominal bore, medium quality	100	RM		
62	b)	80 mm nominal bore, medium quality.	120	RM		
63	2639	Supply, installation, erection testing & commissioning, operation & maintenance of electronic road weigh bridge pitless type, 60Tx100kg with platform size of 16 Mx3 M with necessary supporting structures, control room with proper digital indicator, recorder, printer, PC with keyboard, display unit (15"), UPS (500VA), accuracy ±0.25% of actual weight, minimum graduation 10kg, maximum weight 60T. AVERY or equivalent make. Payment terms - a) On receipt of weigh bridge materials at site - 50%, b) On successful installation, commissioning & on submission of certificate from statutory authorities regarding calibration etc - 10%; c) Balance 40% will be paid on prorata monthly basis through contract period of 32 months. BHEL reserve right to extend use of weigh bridge by paying monthly prorata rate for another 6 months (max).	1	SET		
64	2740	Providing, supply and laying jhamabrick flat soling including all materials and labour complete.	3,500	SQM		
65	2641	Providing and fixing security kiosk size approx 2Mx2M in plan, front height 3M and back side height 2.9M, made of structural angle frame 65x65x6 all verticals and two horizontals with diagonals, 3 vertical sides and roof shall be covered with CGI sheet 0.5 MM thick with one each side opening 300x300MM for viewing, floor shall be made with 40 MM thick wooden planks (second class treated wood) at an height of 400MM above ground level, one wooden planks 2.0mx450mm size to be provided for sitting arrangement inside kiosk, all angles and planks top side shall be painted with one coat of primer and two coats of synthetic enamel paint finish including all labours and materials etc complete..	9	SET		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
66	2642	Providing and laying NP3 class RCC with collars joint with stiff mixture of cement mortar 1:3 with all materials and labour> All excavation, bacfilling, concreting if required shall be paid as per relevent items.				
67	A)	300mm dia	30	RM		
68	B)	400mm dia	40	RM		
69						
70	2643	BOREWELL				
71	2644	Ground survey & selection of points for Bore well to drill by VES (vertacal electrical sounding) method to assess potentiality & quantity / availability of water etc. with all labour material etc. complete.The spread of current shall be such that assessment up to 250 depth can be made. The bidder to suggest location of bore wells accordingly.	3	EACH		
72	2645	Labour for boring through any type of soil,rock & boulders for sinking tubewell of required dia. With top enlargement by rig boring system (either by DTH method or by rotary method or by combination Rig as required) including hire charges and labour for Rig Machine tools and plants, staging force pumping set, and making arrangement for water required for boring etc. complete and lowering of casing pipes , strainers blind pipes etc. complete for 150 mm dia upto 50 mtrs, and 100 mm dia. from 50m to 250mtrs & beyond from GL. Depth of boring to be decided at the				
73	A	for 150 mm dia bore hole for depth range 0 - 50 Mtrs from GL.	150	M		
74	B	for 100 mm dia bore hole for depth range 51- 100 Mtrs from GL..	150	M		
75	C	for 100 mm dia for bore hole depth range 101-150 Mtrs from GL..	150	M		
76	D	for 100 mm dia bore hole for depth range 151 - 200 Mtrs from GL..	150	M		
77	2646	Geophysical investigation of the aquifer by electrologging system with all Tools anfd plants, specialist manpower, etc. as may be necessary to asses water level for deciding filter position and length of pipes etc. including submioission of reports	3	EACH		
78	2647	Supplying, fitting, fixing 'ORIPLAST' make or equivalent PVC casing pipes as per IS 12818-1992/ASTM -D - 1785 and the following details :(Dia & length of pipe to be decided at site during execution):-				
79	A	150 Nb having wall thickness of 11mm (Min)	150	Mtrs		
80	B	100 Nb having wall thickness of 8.6mm (Min)	450	Mtrs.		
81	2648	Supplying, fitting, fixing of 'ORIPLAST' make or equivalent PVC ribbed screen (strainer) as per IS 12818-1992. 100(Hundred) NB (wall thickness 5.0 mm(Min))	90	Mtrs		
82	2649	Supplying fitting & fixing reducing socket 100mm x 150 mm	3	No.		
83	2650	Providing & fixing bottom plug as required upto 100 mm (internal) dia fixed with PVC pipes with necessary fittings.	3	No.		
84	2651	Supplying fitting & fixing 150mm Dia MS Housing Clamp.	3	Set		
85	2652	Providing 150 mm Centre Guide for positioning casing pipes.	24	Set		
86	2653	Packing the annular space in the blank bore hole at the bottom, between the outside of the tubewell pipe strainers, casing pipes, and the borehole with pea size gravel of sizes varying between 2mm to 5 mm	450	Mtrs		
87	2654	Packing the annular space between the outside of the 150 mm dia casing pipe and the bore hole with puddled clay balls.	60	Mtrs		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
88	2655	Washing and developing tubewell with Air compressor of 150 PSI / 300 CFM for with necesasary arrangement for testing the yield in gallons per hour with V notch, including Bacteria removal treatment as necessary till the water is silt & sand free.	3	Nos.		
89	2656	Collecting sample of water for bacteriological and chemical test from any Govt. approved laboratory. Documentary evidence from Govt. approved laboratory regarding the water quality certifying that the water coming out of the borewell is safe for Human consumption.	3	Nos.		
90	2657	Supplying fitting & fixing MS Cap at top 150 mm dia including 150 mm dia MS pipe of 1 mtr or less to be fixed with PVC pipes above ground level.	3	Nos./Set		
91	2658	Supply & delivery of 2 HP KSB make or equivalent submersible pump motor set having duty point capacity of discharging 2 LPS of clear water at a total head of 40 mtr. Along with 40 mm dia GI heavy duty best quality column pipes of total length 40 mtrs & lockable PVC submersible cable clamps of suitable no. and 6 mm dia steel wire rope of suitable length for protecting device with necessary galvanised nuts, bolts, washers for all & Control Panel, complete and commissioning of pump set as directed by BHEL. Payment terms - a) on receipt of pump set at site 80% alongwith TC and all purchase documents, b) on installation of pump and commissioning 20%.	1	EACH		
92	2659	Supply & delivery of 1 HP KSB make or equivalent submersible pump motor set having duty point capacity of discharging 1 LPS of clear water at a total head of 40 mtr. Along with 25 mm dia GI heavy duty best quality column pipes of total length 40 mtrs & lockable PVC submersible cable clamps of suitable no. and 6 mm dia steel wire rope of suitable length for protecting device with necessary galvanised nuts, bolts, washers for all & Control Panel, complete and commissioning of pump set as directed by BHEL. Payment terms - a) on receipt of pump set at site 80% alongwith TC and all purchase documents, b) on installation of pump and commissioning 20%.	1	EACH		
93	2660	Supply & delivery of 4 to 5 HP KSB make or equivalent submersible pump motor set having duty point capacity of discharging 3.5 to 4 LPS of clear water at a total head of 40 mtr. Along with 40 mm dia GI heavy duty best quality column pipes of total length 40 to 60 M & lockable PVC submersible cable clamps of suitable no. and 6 mm dia steel wire rope of suitable length for protecting device with necessary galvanised nuts, bolts, washers for all & Control Panel, complete and commissioning of pump set as directed by BHEL. Payment terms - a) on receipt of pump set at site 80% alongwith TC and all purchase documents, b) on installation of pump and commissioning 20%.To be decided at site as per site condition.	1	EACH		
94	2661	Supplying & delivery of 400 volts, 30 Amps, ICTPN switch with MRC fuses of make Havels or equivalent and Suitable starter L&T or equivalent, MS Angle Frame for mounting etc. complete	3	Nos.		
95	2662	Installation of ICTPN switch & Starter on MS angle frame on wall.	3	Nos.		
96	2663	Drawing the double run submersible cable from the tubewell to the starter through suitable dia class - B medium GI protection tubes by supplying & laying the same on underground / under floor / wall, including laying, termination etc. all complete	3	EACH		

SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
97	2664	Supplying & laying 10 Sq. m 1.1 Kv grade 3.5 core PVC armoured ALUMINIUM cable on wall by means of saddles from ICTPN switch to busbars to MCCB, NCCB to starter including all end termination and interconnections etc. complete.	165	EACH		
98	2665	Earthing of the whole installation as per I.E. Rule by supplying of earth electronics, swg, GI wire earth bus and all other materials etc. all complete.	3	EACH		
99	2666	Supplying fitting and fixing GI pipes of TATA medium or equivalent make with all necessary accessories, specials viz. Socket, bend, tee, union, cross, short piece etc. fitted with holder bat clamps, including cutting pipes, making threads, fittings, fixing etc. complete in all respects, including cost of all necessary fittings as required, jointing materials in position above ground. 40 mm dia medium quality.	45	EACH		
100	2667	Supplying fitting and fixing GI pipes of TATA medium or equivalent make with all necessary accessories, specials viz. Socket, bend, tee, union, cross, short piece etc. fitted with holder bat clamps, including cutting pipes, making threads, fittings, fixing etc. complete in all respects, including cost of all necessary fittings as required, jointing materials in position above ground. 40 mm dia medium quality.	50	EACH		
101	2668	Supplying, fitting, fixing 40 mm dia wheel valve, gun metal of approved brand and make tested to 21 Kq/sq.cm. as directed by BHEL.	3	EACH		
102	2669	Providing manpower, Consumable, T&P etc. For running and maintenance without supply of major equipment for all 3 tube wells with pump set.	3	EACH		
103	2670	Providing manpower, materials for construction of brick masonry pump house (inside area around 5 sqM) with brick foundation of 1 M depth from existing GL and Plinth level of Pump House shall be 600 mm from existing GL with 40 mm thick IPS flooring, 250 thick brick wall 2500mm height from PL with plaster finish in inside & outside (12/15 mm thick) all brick work & plaster 1 cement : 6 sand, with one MS angle (50x50x6) framed door with MS sheet of 3 mm thick with locking arrangement, 120 mm thick RCC roof concrete grade M-25 with one 150 ISMB fixed on the ceiling of the pump house for maintenance purpose, inside 3 coat of whitewash, out side 3 coats of water proof cement paint finish, the pump house inide to be wired for fixing a CFL lamp of 18W with a switchboard. The necessary supply for this illumination can be tapped from the ICTPN switch supplied for the pump motor set. All cement, steel and other materials, labour etc. required are to be supplied by the bidder.	3	Set		
104						
105	2700	ELECTRICAL / ILLUMINATION OF STORE/OFFICE ETC				
106	2701a	Supply of 3.5 core 25 sqmm PVC, armoured Aluminium cable of 1.1 KV grade. As per IS-1554.	900	RM		
107	2701b	Laying of above cable above ground on wall/ surface with clamps etc, chase cutting on wall/ floor, mending good damages, testing & commissioning of 3.5 core 25 sqmm PVC, Aluminium cable of 1.1 KV grade.	175	RM		
108	2701c	Laying of above cable below ground in excavated trench average depth 800 mm with 8 nos. of brick on top of the cable per meter including filling the space between brick & cable and also the trench with shifted soil levelling and restoring the surface duly rammed & compacted.	600	RM		
109	2701d	End termination with double compression gland and lugs(including supply)	20	NO		
110	2702	Supply & fixing of Iron Clad Main Switches TPN/DP on angle iron frame on wall - 63a TPN.	4	NO		

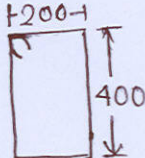
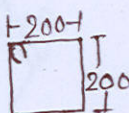
SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
111	2703	Supply & fixing of sheet metal (16SWG) iron clad busbar chamber (W=500mmxD=150mm) on angle iron frame duly painted on wall with 4 Al bars (25mmx5mmx600mm) 500V, with adequate nos of holes drilled for connection of incoming & outgoing ckts, bars are fixed on porcelain insulators including supply of required hardwares for connection, fitted with DANGER board all complete.	6	NO		
112	2704a	Supply of 4 core 16 sqmm PVC, armoured Aluminium cable of 1.1 KV grade as per IS-1554.	600	RM		
113	2704b	Laying of above cable above ground on wall/ surface with clamps etc, chase cutting on wall/ floor, mending good damages, testing & commissioning of 4 core 16 sqmm PVC, Aluminium cable of 1.1 KV grade.	120	RM		
114	2704c	Laying of above cable, below ground in excavated trench average depth 800 mm with 8 nos of brick on top of the cable per meter including filling the space between brick & cable and also the trench with shifted soil levelling and restoring the surface duly rammed & compacted.	600	RM		
115	2704d	End termination with double compression gland and lugs(including supply).	36	NO		
116	2705	Supply & fixing of Iron Clad Main Switches TPN/DP on angle iron frame duly painted on wall with all required materials, hardwares, etc.				
117	2705a	30/32A TPN.	12	NO		
118	2705b	16A DP.	36	NO		
119	2706	Supply, drawing through PVC conduit, termination, testing & commissioning of 1 core 2.5 sqmm PVC insulated, stranded Copper wire of 1.1 KV grade as wiring for lighting & power.	1100	RM		
120	2707	Supply and fixing of 1" dia rigid PVC conduit with all bends, tees, reducers, circular box, clamps, saddles, etc along with the accessories in surface/ recess in beam/ roof slab/ wall/ false ceiling and making good the same as required.	5000	RM		
121	2708	Supply and fixing of 1" dia flexible PVC conduit with all bends, tees, reducers, circular box, clamps, saddles, etc along with the accessories in surface/ recess in beam/ roof slab/ wall/ false ceiling and making good the same as required.	230	RM		
122	2709	Supply & fixing composite flush type 250V, 6 pin 15 A plug-socket-integral fuse unit with 15A piano key type swich on sheet metal box with bakelite cover and earthing attachment including S&F of matching PVC box, make - ANCHOR/ NORTH-EAST.	43	NO		
123	2710	Supply & fixing composite flush type 250V, 5 pin 5 A plug socket-integral fuse with 5A piano key type swich on sheet metal box with bakelite cover and earthing attachment including S&F of matching PVC box, make - ANCHOR/ NORTH-EAST.	36	NO		
124	2711	Supply & fixing of Ceiling Rose on circular boxes.	120	NO		
125	2712a	Supply of outdoor luminaires type 1x70 W HPSV lamps in cast aluminium body with acrylic cover along with lamps, control gear, etc including all fixing/ supporting accessories complete, model - BJMSC-70SV of BAJAJ or equivalent of PHILIPS/ CROMPTON.(including all supply items)	42	NO		
126	2712b	Fixing on wall with 40 mm dia swan neck GI pipe with suitable clamps etc & commissioning of outdoor luminaires suitable for 1x70 W HPSV lamps in cast Al body with acrylic cover along with lamps including all fixing/ supporting accessories complete and flexible wire for connection between ceiling rose & fitting.(including all supply items)	42	NO		
127	2713	Supply of Indoor type luminaries 1x150 W medium bay industrial type, model BJMBI-150SV of BAJAJ or equivalent of PHILIPS/ CROMPTON.(including all supply items)	40	NO		
128	2714	Fixing from roof truss with suitable clamp arrangement, flexible wire for connection between ceiling rose & fitting and commissioning of type HPSV luminaries medium bay industrial type, model BJMBI-150SV of BAJAJ or equivalent of PHILIPS/ CROMPTON.(including all supply items)	132	NO		
129	2715	Supply & installation of earth electrode 40 mm dia 3 metre long GI pipe directly driven into earth including earth excavation if required.	36	NO		
130	2716	Supplying & installation of 16 SWG GI wire for earthing including supply & termination with lugs as required.	3600	RM		
131	2717	Supplying & installation of 8 SWG GI wire for earthing including supply & termination with lugs as required.	230	RM		

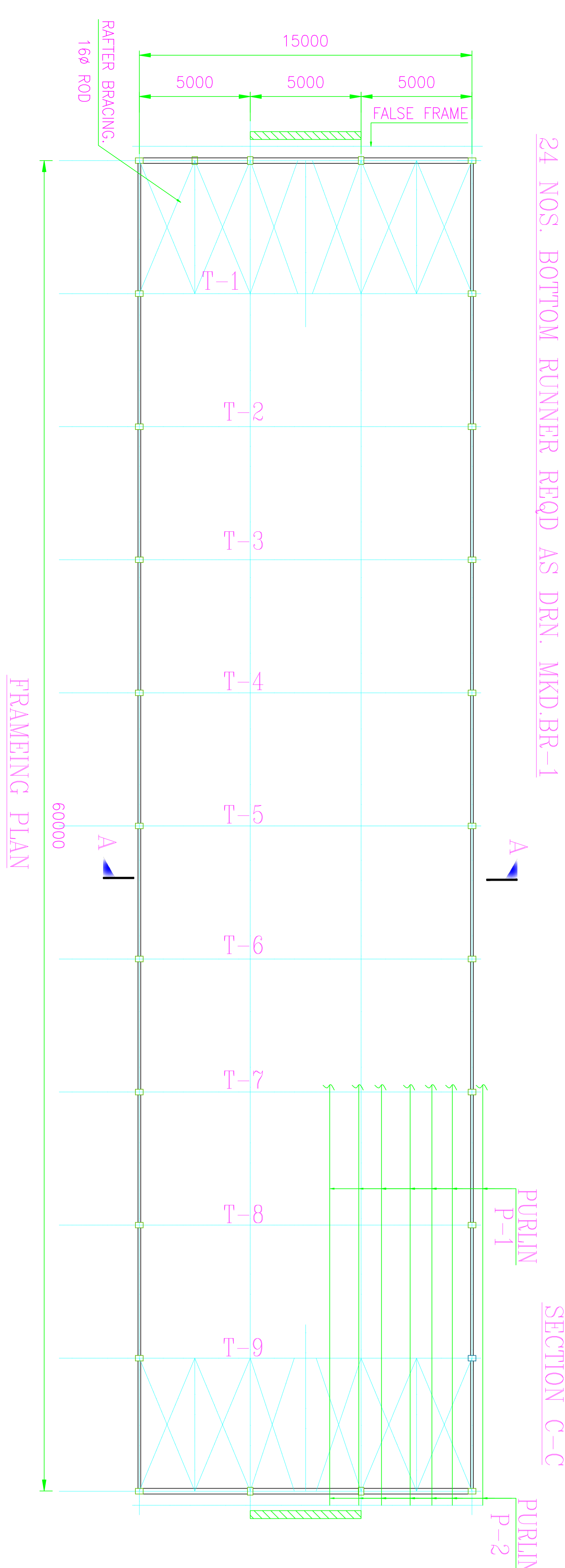
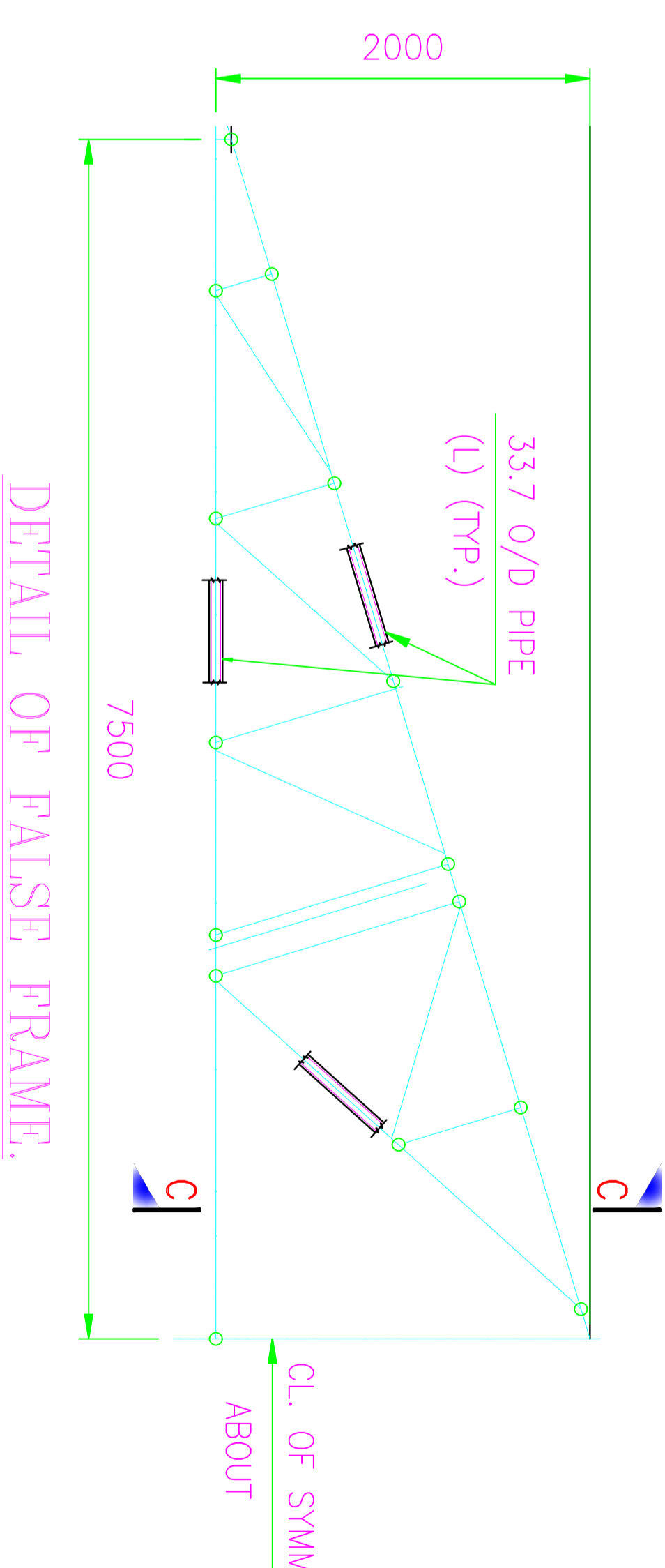
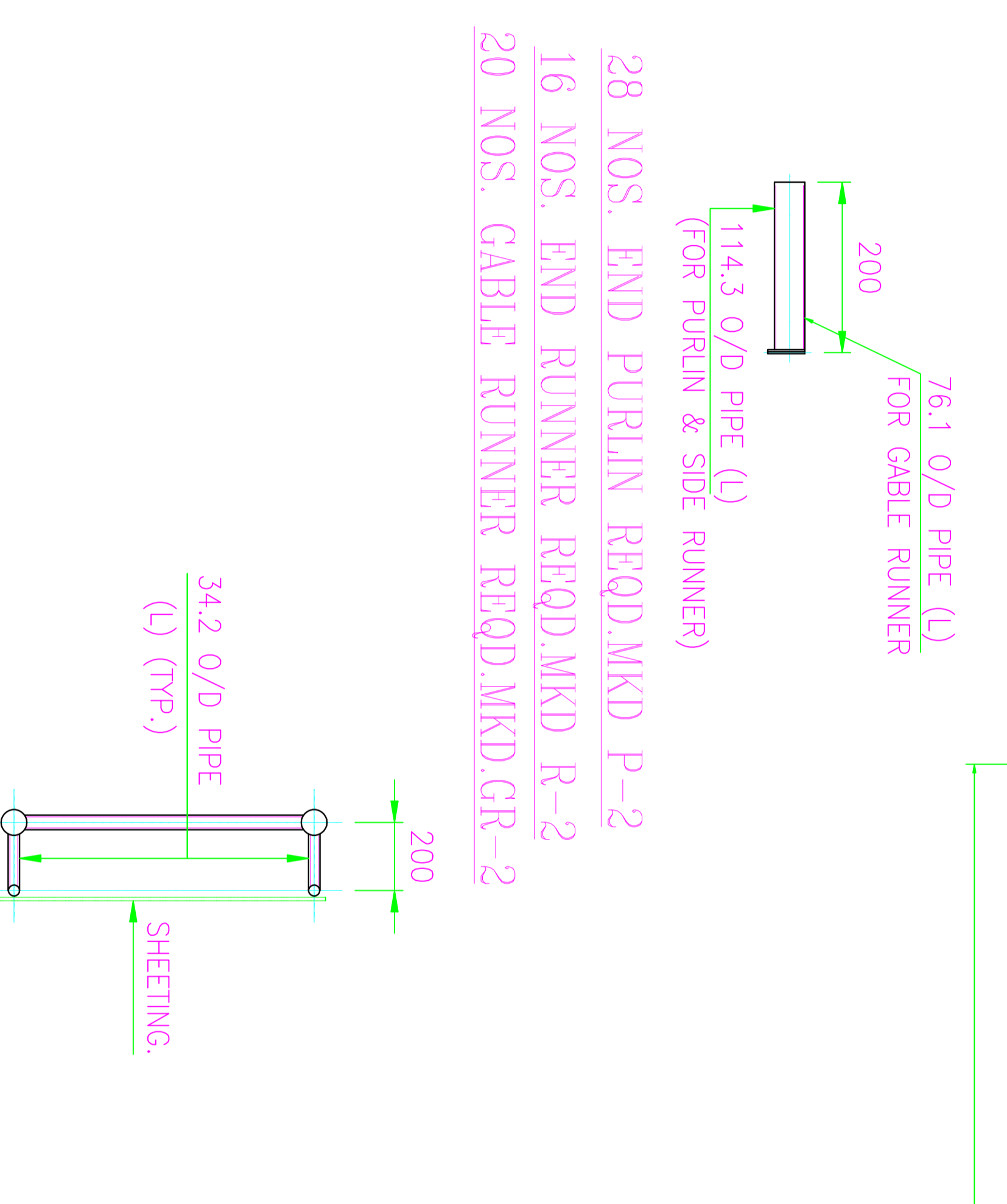
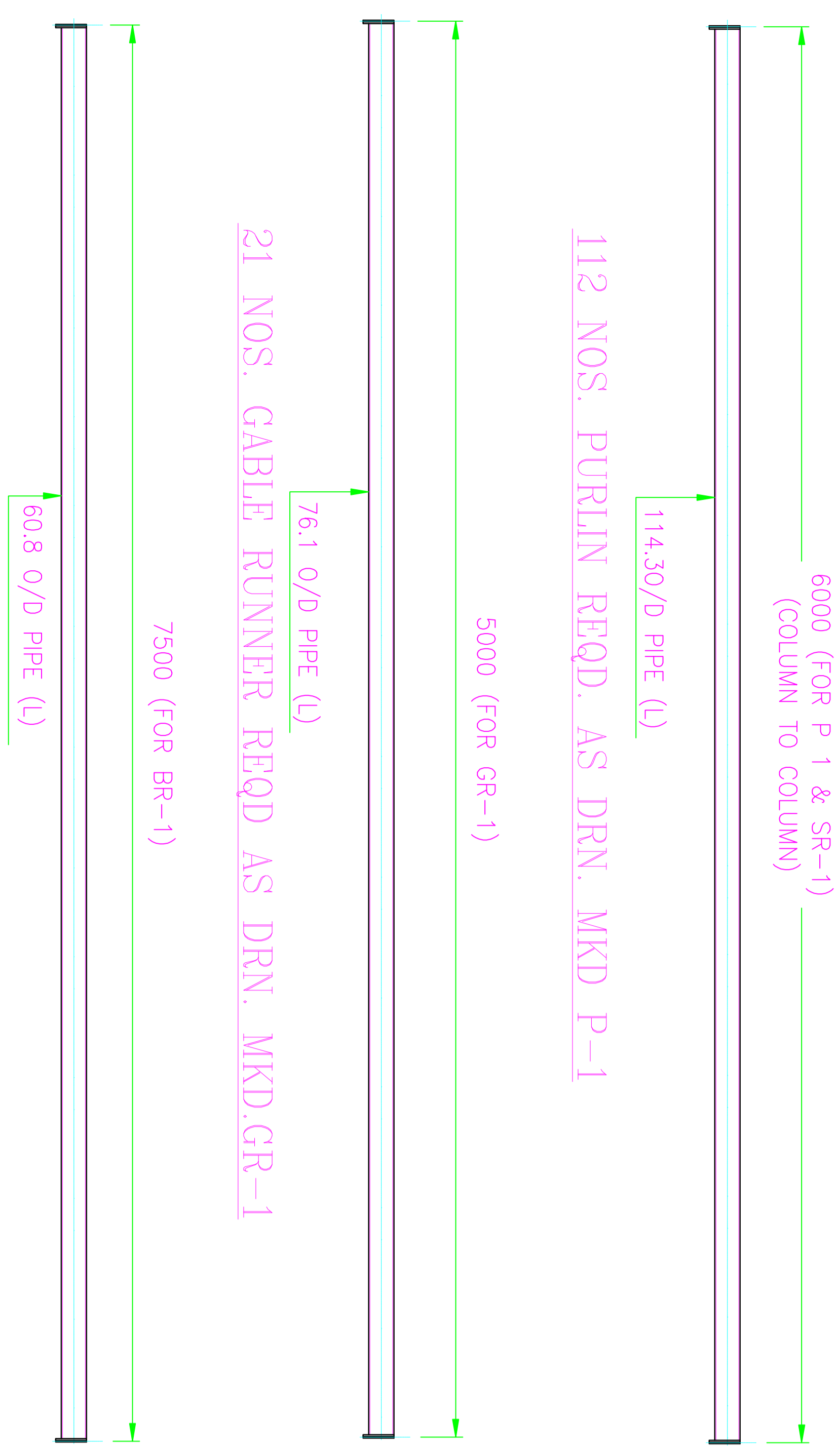
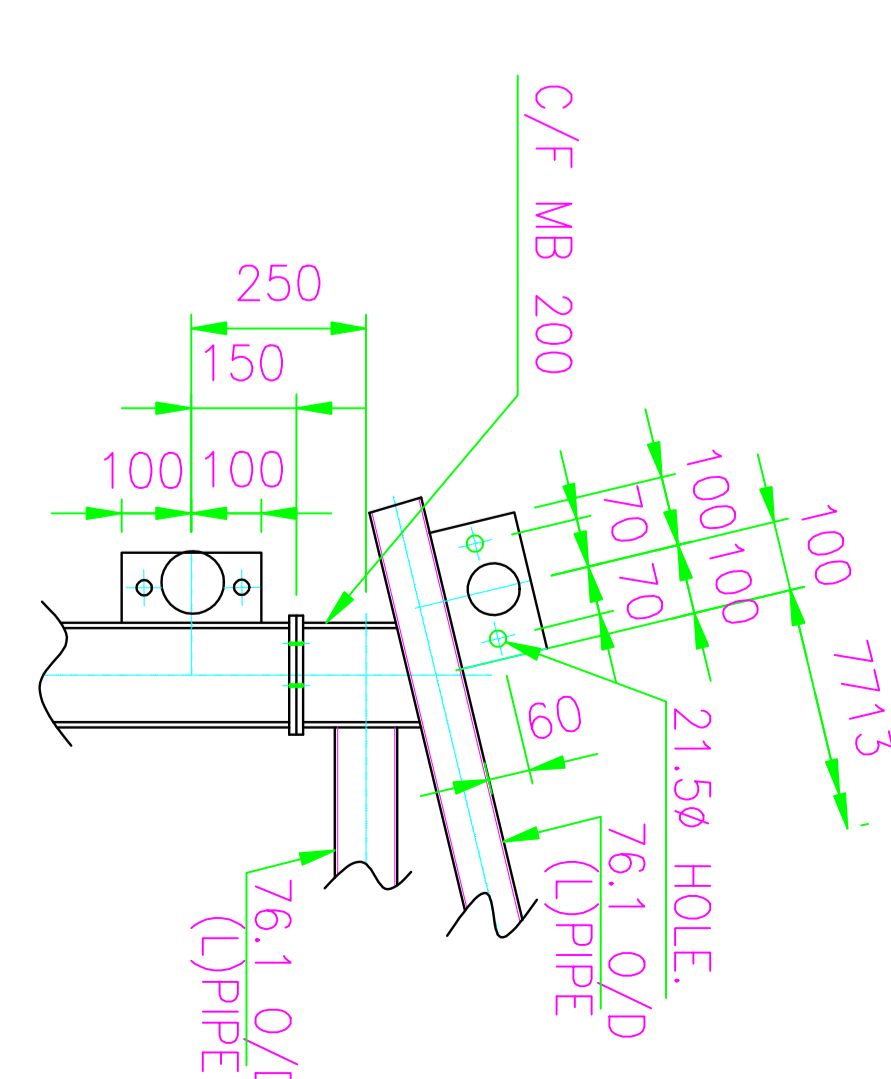
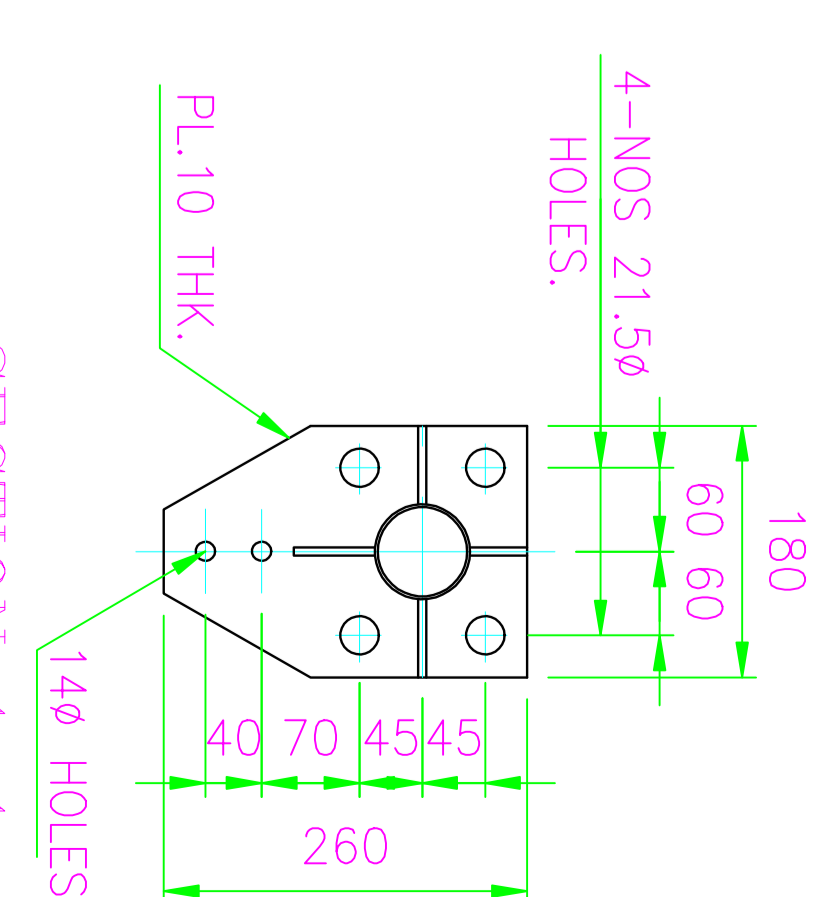
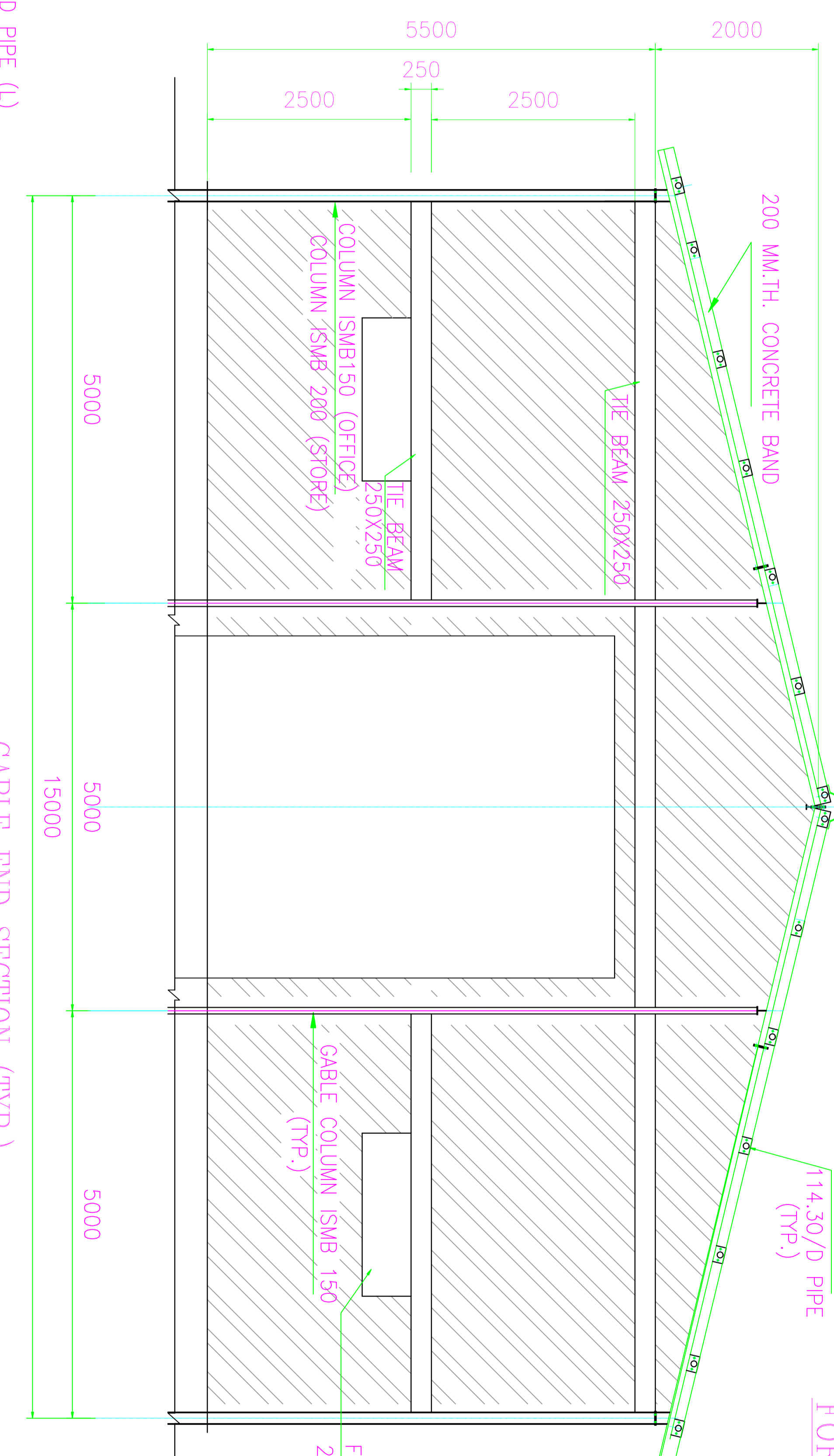
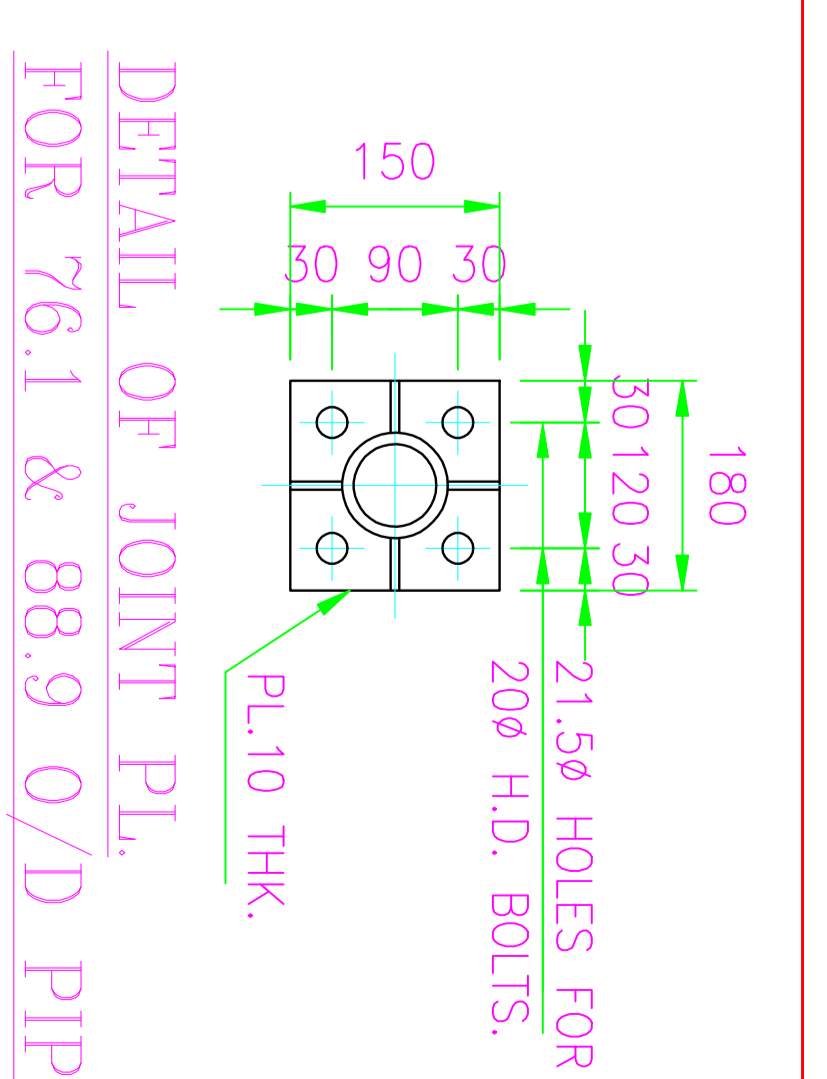
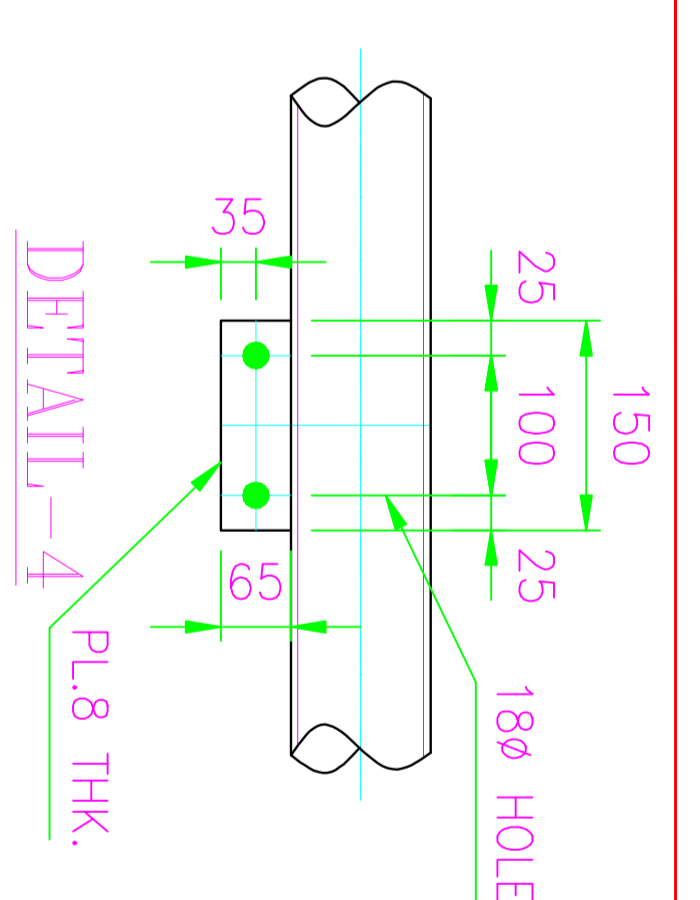
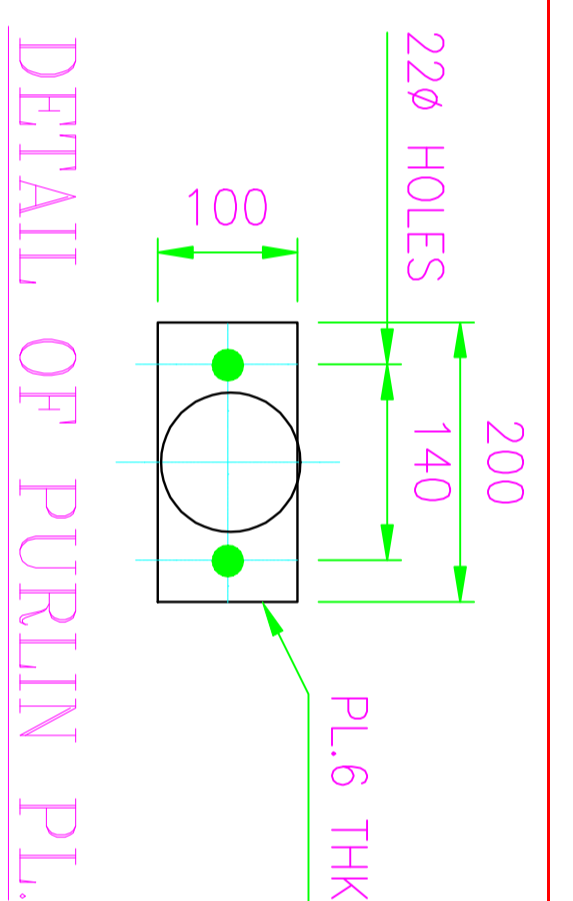
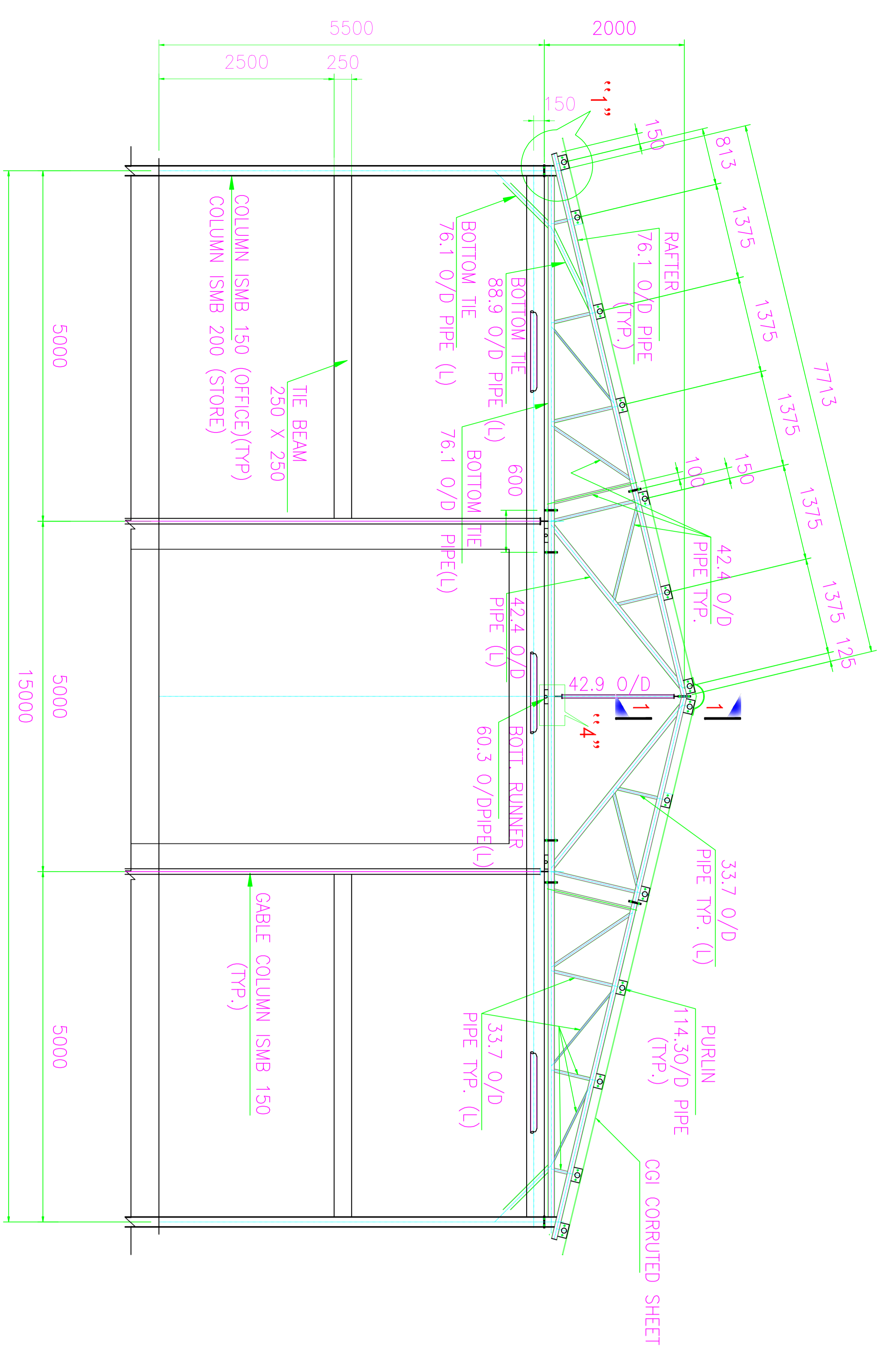
SL NO.	ST NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	(b)	©	(d)	(e)	(f)	(g)=(d)x(f)
132						
133	2800	Quote % above or % below or at par for items not covered as above of this schedule. The rate shall be derived from Delhi schedule of rate 2007.				
134		(a) Rate of complete item	%			
135		(b) Rate of supply of material at site only	%			
136		(c) Rate for execution complete excluding supply of materials.	%			
137		TOTAL				

TENTATIVE BAR BENDING SCHEDULE

SL NO	DESCRIPTION	DIA	NO	CUTTING LENGTH (APPROX)	SHAPE	REMARKS
1.	Foundation base.					
a.	Main Rod	16	15	1800M		
b.	Distribution Rod.	12	11	2.5 M		
2.	Column (450x500) MM For covered/Semi covered store					
a.	Main Rod.	25	8	2.272M (Varies)		
b.i)	Stirrup	8	14 (Varies)	1.844 M		
ii)	Stirrup	8	14 (Varies)	1.344 M		
3.	Column (350x450)					
a.	For office. Main Rod	25	8	2.272M (Varies)		
b.i)	For office Stirrup	8	14 (Varies)	1.544 M		
ii)	Stirrup	8	14 (Varies)	1.144 M		

TENTATIVE BAR BENDING SCHEDULE

SLNO	DESCRIPTION	DIA	NO	CUTTING LENGTH (APPROX)	SHAPE	REMARKS
4.	R.C.C. Plinth Beam (250x400) MM					
i)	Main Rod.	16	5			
ii)	Stirrup	8	950	1.344 M		
5.	R.C.C. Beam (250x250) MM					
i)	Main Rod.	12	6			
ii)	Stirrups	8	950	0.944 M		



NOTES:-

1. ALL DIMENSION ARE IN MILLIMETRE UNLESS OTHERWISE NOTED.
 2. ALL FILLET WELDS ARE IN 3 MM. FOR TUBULAR
 3. ALL MEMBER LENGTHS ARE TO BE CHECKED BY FULL SCALE SHOPE LAYOUT.
 4. STRUCTURAL DESIGN & DRAWING VETTED BY PROF. SAIBAL KR. GHOSH/REC/HOD CIVIL.
 5. OFFICE BUILDING HEIGHT IS 3 M.
 6. FOUNDATION, COLUMN, BEAMS ETC. SHALL BE OF RCC PROPORTION 1:1.5:3.
 7. FLOOR CONCRETING SHALL BE 1:2:4.
 8. ALL LEAN CONCRETE SHALL BE 1:4:8.
 9. PUNTH LEVEL OF BUILDING SHALL BE 500 MM HIGHER THAN EXISTING G.L.(G.L.).
 10. OUT SIDE PLASTERING WITH WATER PROOFING PAINT SHALL BE DONE.
- COVERED STORE/SEMI COVERED STORE (EXCEPTION)
1. INSIDE WALL PLASTERING NOT ENVIAGED, ONLY WHITE WASHING HAS BEEN CONSIDERED.
 2. STEEL FIXED WINDOW SHALL BE PLACED AT ALTERNATE SPAN CENTRE POSITION, JUST BELOW UNTEL BEAMS, SIZE OF EACH FIXED WINDOW SHALL BE 2M X 600 MM
 3. COVERED STORE HEIGHT IS 5.5 M.
 4. SEMI-COVERED STORE HEIGHT IS 3.2 M.

TENTATIVE DRAWINGS FOR TENDER PURPOSE

BHARAT HEAVY ELECTRICALS LIMITED.

CONTRACTOR :-

DRN.		<p>TITLE: ENABLING DRAWINGS FOR STORE, DRAIN, ROAD, OFFICE ETC.</p>	<p>REV.</p>
CHKD.			
APPVD.			
SCALE			
DRG. NO.			

