



ಭಾರತ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd (A Government of India Undertaking)

Electronics Division

Mysuru Road, Bengaluru – 560 026

Tender Document for "Supply & Supervision of E&C of 3D TYPE ACOUSTIC WAVE LEVEL TRANSMITTER / SCANNER – COAL BUNKER LEVEL MONITORING SYSTEM for NTPC Karimnagar SG 2 X 800MW STPP, North Chennai (1x800MW), Uppur (2x800 MW) projects"

OPEN TENDER REFERENCE	PVR0000125
TENDER DOCUMENT AVAILABLE FROM	14th July 2018
LAST DATE AND TIME FOR SUBMISSION OF TENDER	06th August 2018 upto 13:00 Hrs
DATE AND TIME FOR TENDER OPENING	06th August 2018 13:30 Hrs

This Tender Document contains documents as follows:

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Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE:PR:001- Rev 01

INSTRUCTIONS TO BIDDERS

Bidder is requested to read the instructions carefully and submit their quotation taking into consideration of all the points:

A. GENERAL INSTRUCTIONS:

1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: CE: PR: 001 – Rev 01), General Conditions of Contract (document reference: CE: PR: 002 - Rev 01) and Special Conditions of Contract, if any, of the enquiry.
2. Any deviations from or additions to the “General Conditions of Contract” or “Special Conditions of Contract” require BHEL’s express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
3. Regret letter (either through post or by mail or by EPS) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender. Supplier shall be liable for removal as a registered vendor of BHEL when the supplier fails to quote against four consecutive tender enquiries for the same item or all enquiries in last two years for the same item, whichever is earlier.
4. Procurement directly from the manufacturers is preferred. However, if the OEM/ Principal insist on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. Agent/Representative authorized by the OEM/Principal in turn cannot further sub authorize any other firm for submitting the offer or for placement of order.

In case bids are received from the manufacturer/ supplier and his agent, bid received from the agent shall be ignored.

5. Consultant / firm (and any of its affiliates) shall not be eligible to participate in the tender/s for the related goods for the same project if they were engaged for consultancy services for the same project.
6. If an Indian representative/associate/liason office quotes on behalf of a foreign based bidder, such representative shall furnish the following documents:
 - a. Authorization letter to quote and negotiate on behalf of such foreign-based bidder.
 - b. Undertaking from such foreign based bidder that such contract will be honored and executed according to agreed scope of supply and commercial terms and conditions.
 - c. Undertaking shall be furnished by the Indian representative stating that the co-ordination and smooth execution of the contract and settlement of shortages/damages/replacement/repair of imported scope till the equipment is commissioned and handed over to customer will be the sole responsibility of the Indian representative/associates/agent/liason office.
 - d. Refer **Annexure I** on “Guidelines for Indian Agents”.
7. In case of imported scope of supply, customs clearance & customs duty payment will be to BHEL account after the consignment is received at Indian Airport /Seaport. Bidders must provide all original documents required

for completing the customs clearance along with the shipment. Warehousing charges due to incomplete or missing documentation will be to supplier's account. All offers for imported scope of supply by air, must be made from any of the gateway ports (within the country) indicated (**Refer Annexure II**).

8. The offers of the bidders who are on the banned list and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of the banned firms is available on BHEL website: http://www.bhel.com/vender_registration/vender.php
9. Business dealings with bidders will be suspended if they are found to have indulged in any malpractices/misconduct which are contrary to business ethics like bribery, corruption, fraud, pilferage, cartel formation, submission of fake/false/forged documents, certificates, information to BHEL or if they tamper with tendering procedure affecting the ordering process or fail to execute a contract, or rejection of 3 consecutive supplies or if their firms / works are under strike/lockout for a long period. Bidder may refer "Guidelines for Suspension of Business Dealings with Suppliers/ Contractors" available on www.bhel.com for more details.
10. The bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to your notice.

B. GUIDELINES FOR PREPARATION OF OFFER:

1. Quotation shall be submitted in Single Part Bid, Two Part Bid or Three Part Bid, as called for in the tender:
 - **SINGLE PART BID:** Technical and Commercial Bid with prices along with price summary & filled in BHEL Standard Commercial terms and conditions in a single sealed envelope.
 - **TWO PART BID:** Unpriced offer i.e. "Techno-commercial Bid" with filled in BHEL Standard Commercial terms and conditions in a sealed envelope **along with the copy of the "Price Bid" without the prices** should be enclosed in one cover and the cover must be super scribed "**Techno-commercial offer**) and Priced offer i.e. "Price Bid" containing price summary in a separate sealed envelope and must be super scribed "**Price Bid**". Both these envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.
 - **THREE PART BID:** Pre-qualification Bid (Part-I), Techno Commercial Bid with filled in BHEL Standard Commercial terms and conditions (Part-II), and Price Bid (Part-III). All three envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.

If any of the offers (Part I, Part II or Part III) are not submitted before the due date and time of submission (or) if any part of the offer is incomplete, the entire offer of the bidder is liable for rejection.

2. Supplier shall ensure to superscribe each envelope with RFQ number, RFQ Date, RFQ Due date and time, Item Description and Project clearly & boldly. Also mention on the envelope whether it is "Techno Commercial Bid" or "Price Bid" or "Pre-Qualification Bid". Please ensure complete address, department name and purchase executive name is mentioned on the envelope (before dropping in the tender box or handing over) so that the tender is available in time for bid opening.
3. BHEL standard Commercial Terms and Conditions (duly filled, signed & stamped) must accompany Technical-Commercial offer without fail and should be submitted in original only.
The above indicated submission of Offers in "sealed envelope/hard copy" as mentioned in points B.1-B.3 is applicable for tenders that are not floated through E-Procurement System (EPS).
4. Validity: Unless otherwise specified in SCC (special commercial conditions of contract), the offer will be valid for a period of 90 days from the date of part-I bid opening and in case of Negotiation/Counter-offer/Reverse

Auction, price validity will apply afresh for a period of _60_ days from the date of according final price by bidder (or) upto original validity period, whichever is later.

5. Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the Techno-Commercial Bid. If no deviations are brought out in the offer it will be treated as if all terms and conditions of this enquiry are accepted by the supplier without deviation.
6. Deviation to this specification/item description, if any, shall be brought out clearly indicating "DEVIATION TO BHEL SPECIFICATION" without fail, as a part of Techno-Commercial Bid. If no deviations are brought out in the offer it will be treated as if the entire specification of this enquiry is accepted without deviation.
7. Suppliers shall submit one set of original catalogue, datasheets, bill of materials, dimensional drawings, mounting details and/or any other relevant documents called in purchase specification as part of Technical Bid.
8. "Price Bid" shall be complete in all respects containing price break-up of all components along with all applicable taxes and duties, freight charges (if applicable) etc. Once submitted no modification / addition / deletion will be allowed in the "Price Bid." Bidders are advised to thoroughly check the unit price, total price to avoid any discrepancy.
9. In addition, bidder shall also quote for erection & commissioning charges/erection supervision & commissioning charges (E&C service charges) if applicable, documentation charges, testing Charges (type & routine), training charges etc. as applicable along with corresponding tax. The price summary must indicate all the elements clearly.
10. For Physical Export projects or wherever services are rendered by foreign suppliers in India, bidders should indicate "lumpsum" Erection and Commissioning (or) Erection Supervision and Commissioning charges, as applicable (including To & Fro Fare, Boarding, Lodging, Local Conveyance etc.) for carrying out E&C activity and further handing over to customer. The quotation shall clearly indicate scope of work, likely duration of commissioning, pre-commissioning checklist (if any).
11. Wherever bidders require PAC (Project Authority Certificate)/applicable certificates for import of raw materials, components required for DECC,EPCG Power Projects, Export Projects or other similar projects wherein supplies are eligible for customs duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.
12. Prices should be indicated in both figures & words. Bid should be free from correction/overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection. Any typographical error, totalling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure III** "Guidelines for dealing with Discrepancy in Words & Figures – quoted in price bid" and BHEL decision will be final.
13. Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder. However, this requirement is not mandatory for offers uploaded through E-Procurement System (EPS).

C. GUIDELINES FOR OFFER SUBMISSION:

The under-mentioned clauses 1, 2&3 will not be applicable for EPS tenders.

1. Offers / Quotations must be dropped in tender box before 13.00 Hrs. on or before due date mentioned in RFQ. The offers are to be dropped in the proper slot of the Tender Box kept in our reception area with caption "CE, SC&PV, DEFENCE". Tenders are opened on 3 days in a week (Monday/Wednesday/Friday). Tender must be deposited in the slot corresponding to the day (Monday - Box no.4/Wednesday - Box no. 6 /Friday - Box no.8) while depositing the offer.

2. E-Mail/ Internet/EDI offers received in time shall be considered only when such offers are complete in all respects. In case of offers received through E-mail, please send the offer to the email ID specified in the SCC document of the tender.
3. Offers of Vendors who already have a valid Technical/Commercial MOU with BHEL-EDN for the items of the RFQ shall mention the relevant MOU reference no. and give only such other details not covered in the MOU.
4. In cases where tender documents are bulky, or due to some reasons tender documents are required to be submitted by hand or through posts/couriers, the offers are to be handed over either of the two purchase officers whose names are mentioned in the SCC document of tender RFQ.
5. Tenders will be opened on due date, time and venue as indicated in the RFQ in the presence of bidders at the venue indicated in the RFQ. For EPS tenders, e-mail notifications will be automatically generated and forwarded to registered e-mail ID/s of bidders during opening of tenders.
6. Bidder will be solely responsible:
 - a. For submission of offers before due date and time. Offers submitted after due date and time will be treated as "Late offers" and will be rejected.
 - b. For submission of offers in the correct compartment of the tender box based on the day of due date (Monday/Wednesday/Friday). Please check before dropping your offer in the correct tender box.
 - c. For depositing offers in proper sealed condition in the tender box. If the bidder drops the tender in the wrong tender box (or) if the tender document is handed over to the wrong person, BHEL will not be responsible for any such delays.
 - d. For offers received through email etc., suppliers are fully responsible for lack of secrecy on information and ensuring timely receipt of such offers in the tender box before due date & time (This clause will not be applicable for EPS tenders).

The above indicated submission of Offers as mentioned in points 6.a-6.d is applicable for tenders that are not floated through EPS.

- e. In case of e-tender, all required documents should be uploaded before due date and time. Availability of power, internet connections, system/software requirements etc. will be the sole responsibility of the bidder. Wherever assistance is needed for submission of e-tenders, help-line numbers as available in the web-site of service provider of BHEL may be contacted.

Purchase Executive/ BHEL shall not be responsible for any of the activities relating to submission of offer.

D. PROCESSING OF OFFERS RECEIVED:

1. Any discount/ revised offer submitted by the supplier on its own shall be accepted provided it is received on or before the due date and time of offer submission (i.e. Part-I bid). The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder.
2. Changes in offers or Revised offers given after Part-I bid opening shall not be considered as a part of the original offer unless such changes/revisions are requested by BHEL. In case of withdrawal of any Technical/Commercial deviation(s) by the bidder before opening of price bids/conducting the Reverse Auction, revision of price/impact bid will not be accepted.
3. In case there is no change in the technical scope and/ or specifications and/ or commercial terms & conditions, the supplier will not be allowed to change any of their bids after Technical bids are opened (after the due date and time of tender opening).
4. In case of changes in scope and/ or technical specifications and/ or commercial terms & conditions by BHEL and it accounts for price implications from bidders, all techno-commercially acceptable bidders shall be asked

by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. Impact price will be applicable only for changes in technical specification / commercial conditions by BHEL. The impact price must be submitted on or before the cut-off date specified by BHEL and the original price bid and the price impact bid will be opened together at the time of price bid opening.

5. BHEL reserves the right to adopt Reverse Auction or standard Price Bid Opening procedure for price evaluation, at its discretion. This shall be decided after completion of techno-commercial evaluation of tender (Refer BHEL website http://www.bhel.com/vender_registration/vender.php for Guidelines of Reverse Auction). In case BHEL does not resort to Reverse Auction, the price bids and price impacts (if any) already submitted and available with BHEL shall be opened as per BHEL's standard practice.
6. Un-opened bids (including price bids) will be returned to the respective bidders after release of Purchase order. Regarding Offers for EPS tenders that get rejected on PQC/ techno-commercial grounds, the bids for the subsequent parts will not be opened i.e., both technical bid and price bid (Parts-II & III) will not be opened in case of rejection on PQC ground and price bid (Part-II/Part-III, as applicable) will not be opened in case of rejection on techno-commercial ground.
7. After receipt of Purchase Order, supplier should submit required documents viz., specified drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/Customer.
8. Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of Purchase Order, unless clarification is sought for by BHEL and agreed upon in the Purchase Order.
9. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL").

"Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and/or duties (as applicable), freight charges, taxes on Services, customs clearance charges for imported items, any other cost indicated by bidder for execution of the contract and loading factors (for non-compliance to BHEL Standard Commercial Terms & Conditions). Benefits arising out of Nil Import Duty on DEEC, EPCG, DFIA Projects, Physical Exports or such 100% exemptions (statutory benefits), project imports, customer reimbursements of statutory duties (like Basic Customs Duty and cess on customs duty), Input tax credits as applicable will also be taken into account for arriving at the Total cost to BHEL (wherever applicable and as indicated in SCC document of tender).

For EPS tenders, it shall be noted that the prices (including discounts) vis-a-vis currency quoted in EPS portal only will be considered as Final for the purpose of evaluation of the lowest bidder. Bidder shall ensure to indicate the applicable taxes against each line item in online portal, failing to which the same will be considered as inclusive/NIL.

10. For evaluation of offers in foreign currency, the exchange rate (TT selling rate of SBI) shall be taken as under:

Single part bids:	Date of tender opening
Two/three part bids:	Date of Part-I bid opening
Reverse Auction:	Date of Part-I bid opening

In case of Performance Bank Guarantee (PBG) also, exchange rate will be considered as mentioned above for converting foreign currency to Indian currency and vice versa.

If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.

11. Ranking (L-1, L-2 etc.) shall be done only for the techno-commercially acceptable offers.

E. INFORMATION ON PAYMENT TERMS:

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format (**Refer Annexure IV**) for receiving all payments through NEFT.(Applicable for Indian vendors only)
2. In case of High Sea Sales transaction, customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors. All warehousing charges due to delay in submission of complete and or correct HSS documents to BHEL will be to supplier's account only. Such recovery will be made out of any of the available bills (**Refer Annexure V**).
3. Statutory deductions, if any, will be made and the deduction certificate shall be issued. In case vendor does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.

In addition to the above, Foreign vendors shall also submit relevant details of their bankers like Swift Code, Banker's Name &Address etc.

4. Incomplete documentation will not be accepted. Delayed submission of invoice / documents may result in corresponding delay in payment. In this connection, request to also refer clause: G about invoicing & payment formalities under GST regime. Applicable documents shall be submitted to the purchaser at the time of execution of supplies/services for availing GST input credits.

F. STANDARD PAYMENT TERMS OF BHEL-EDN:

<u>PURCHASE ORDERS FOR:</u>	<u>SUPPLY WITH ERECTION & COMMISSIONING</u>	<u>SUPPLY WITH ERECTION SUPERVISION & COMMISSIONING</u>	<u>SUPPLY ONLY</u>
<u>INDIGENOUS PROCUREMENT</u>	<p>a. 90% of basic value + 100% of taxes and freight charges will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.</p> <p>Balance 10% of basic value (Retention money) will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.</p> <p><u>Note:</u> In case PBG is not furnished, only 80% payment will be released against 90% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>b. 95% of the basic value + 100% of taxes and freight charges will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.</p> <p>Balance 5% of basic value (Retention money) will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of commissioning.</p> <p><u>Note:</u> In case PBG is not furnished, only 85% payment will be released against 95% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>c. 100% of PO value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.</p>

<u>PURCHASE ORDERS FOR:</u>	<u>SUPPLY WITH ERECTION & COMMISSIONING</u>	<u>SUPPLY WITH ERECTION SUPERVISION & COMMISSIONING</u>	<u>SUPPLY ONLY</u>
<u>IMPORT PROCUREMENT</u>	<p>d. 90% of the basic value will be paid on the 45th day, against usance draft of 45 days, from the date of AWB/BOL on submission of complete set of documents.</p> <p>Balance 10% of basic value (Retention money) will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.</p> <p><u>Note:</u> In case PBG is not furnished, only 80% payment will be released against 90% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>e. 95% of the basic value will be paid on the 45th day, against usance draft of 45 days, from the date of AWB/BOL on submission of complete set of documents.</p> <p>Balance 5% of basic value (Retention money) will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of commissioning.</p> <p><u>Note:</u> In case PBG is not furnished, only 85% payment will be released against 95% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>f. 100% of PO value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents.</p>
<u>HIGH-SEA SALES PROCUREMENT</u>	<p>g. 90% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later.</p> <p>Balance 10% of basic value (Retention money) will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.</p> <p><u>Note:</u> In case PBG is not furnished, only 80% payment will be released against 90% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>h. 95% of the basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later.</p> <p>Balance 5% of basic value (Retention money) will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of commissioning.</p> <p><u>Note:</u> In case PBG is not furnished, only 85% payment will be released against 95% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>i. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later.</p>

j. Comprehensive Annual Maintenance Contract:

Evaluation methodology: Unless and otherwise specified in SCC, CAMC will be applicable for a period of 04 years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later and the total AMC value should not be less than 20% of the main supply value. In case the quoted total AMC value is less than 20% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price and apportioning towards AMC charges.

Payment terms: 100% AMC charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of AMC on yearly basis.

k. Terms of Payment for Training: 100% payment will be made in 45 days from the date of completion of Training or 15 days from the date of submission of complete set of invoice along with documentary evidence, whichever is later.

LOADING FACTORS FOR DEVIATION IN PAYMENT TERMS (APPLICABLE FOR IMPORT PROCUREMENT ONLY):

- 1) For offers received with Sight draft payment term in place of Usance draft, loading applicable will be 1.0% of basic value.
 - 2) For offers received with Letter of Credit payment term with Usance of 45 days, loading applicable will be 2.5% of basic value.
Additional loading of 2% will be applicable for payment term as Letter of Credit at Sight.
- l.** Any payment term with credit period of less than 45 days for indigenous supply/HSS and any other variation of payment terms are liable for rejection.
- m.** Standard payment terms indicated in Clauses: F (a), (b), (c), (d), (e), (f), (g), (h), (i), (j) & (k) will not attract any loading.

Note 1: Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable). Wherever the Purchase Order is split into import portion and indigenous portion of supply, the retention money will be 10% (where scope includes E&C) or 05% (where scope includes Erection supervision & Commissioning) of both purchase order values put together.

Note 2: If the E&C could not be completed till the end of the Warranty period due to reasons not attributable to the supplier, BHEL will release the retention money to the supplier against Bank Guarantee for equivalent value valid for an initial period of one year.

Note 3: In case of Physical Export projects or wherever services are rendered by foreign suppliers in India, E&C charges (if quoted separately/extra by bidder) will be paid in 15 days from the date of submission of supplementary invoice/ documents against proof of completion of E&C.

Note 4: In case of multiple packages/units in a power plant, payment of retention money/E&C charges will be processed on pro-rata basis.

Note 5: No deviation will be permitted from the duration of Guarantee/Warranty and/or Comprehensive Annual Maintenance Contract period specified in SCC.

G. Terms & Conditions to be complied under GST regime:

1. All invoices to contain BHEL-EDN (buyer) GSTIN number: 29AAACB4146P1ZB. However for CGST +SGST/UGST billing outside the state of Karnataka, invoice has to be generated with BHEL's Nodal Agency GSTIN number. Address of Nodal Agency along with GSTIN number will be provided by BHEL at the time of issuing dispatch clearance.
2. The Bidder shall mention Bidder's GSTIN number in all quotations and Invoices submitted.
3. The Bidder shall also mention HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) mandatorily in all quotations and invoices submitted.
4. Invoice submitted should be in the format as specified under GST Laws viz., all details as mentioned in Invoice Rules like GST registration number(GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST,IGST mentioned separately, HSN Code / SAC Code etc. Invoice should be submitted in original for buyer plus duplicate for credit availment.
5. Payment of GST to Vendor will be made only if it is matching with data uploaded by the Vendor in GST portal.
6. For invoices paid on Reverse charge basis – “Tax payable on reverse charge basis” to be mentioned on the invoice.
7. In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount will be recoverable from vendor along with interest levied/ leviable on BHEL.
8. In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law will be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.
9. Vendor should intimate BHEL immediately on the same date of invoicing without any delay.
10. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the supplies, within the calendar month notified by BHEL.
11. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to, as and when notified by Govt. authorities.

H. Performance bank guarantee (PBG):

Performance bank guarantee (PBG) will be applicable as called in the tender documents. Unless otherwise specified in the SCC, the PBG against performance of the contract shall be valid for a period of 24 months from the date of dispatch of goods + claim period of 03 months, for a value equal to 10 % of the basic value of the purchase order which will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable).

1. The BG issued in Indian Rupees by Banks in India is to be executed on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is

higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Bank issuing the guarantee.

2. No deviation for the duration and value of PBG will be permitted.
3. PBG shall be from any of the BHEL consortium of bankers (**refer Annexure VI**).
4. PBGs from nationalized banks are also acceptable.
5. PBG should be sent directly by the bank to the dealing executive mentioned in the purchase order located at the address mentioned in the purchase order.
6. PBG should be in the format specified (**refer Annexure VII**). No deviation to this format will be allowed. However in case BHEL changes the PBG format, bidder shall honor the same.
7. Bank Guarantee should be enforceable in Bangalore.
8. In Case of Bank Guarantees submitted by Foreign Vendors-
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in Bangalore.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)
 - b.1 Please note that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter-Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It shall be noted that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor.
 - b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at sl.no. b.1 is required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time).
9. Expired BGs / PBGs will be returned only after expiry of the claim period or on completion of the contractual obligation with respect to Purchase Order.
10. PBG shall not be applicable for spares.

I. PROVISIONS APPLICABLE FOR MSE VENDORS (MICRO AND SMALL ENTERPRISES) :

Benefits/facilities as applicable for Micro and Small Enterprises (MSEs) shall be available to MSEs registered with Government designated authorities as per the Purchase & Price Preference Policy of the Government subject to them becoming eligible otherwise.

Vendors who qualify as MSE vendors are requested to submit applicable certificates (as specified by the Ministry of Micro, Small and Medium Enterprises) at the time of vendor registration. Vendors have to submit any of the following documents along with the tender documents in the Part I / Technical bid to avail the applicable benefits:

- a. Attested copy of valid NSIC certificate or
- b. Attested copy of either Entrepreneur's Memorandum part II (EM II) certificate/Udyog Aadhar certificate having deemed validity (five years from the date of issue of acknowledgement in EM II/Udyog Aadhar) or
- c. EM II/ Udyog Aadhaar certificate along with attested copy of a CA certificate (Format enclosed at Annexure VIII where deemed validity of EM II certificate/ Udyog Aadhar certificate of five years have expired) applicable for the relevant financial year (latest audited).

Date to be reckoned for determining the deemed validity will be the date of bid opening (Part-I in case of two-part bid and three-part bid).

Documents have to be notarized/attested by a Gazetted officer and must be valid as on the date of part I bid opening for the vendors to be eligible for the benefits applicable for MSE vendors. Please note that no benefit shall be applicable if any deficiency in the above required documents are not submitted before the price bid opening/Reverse Auction. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal.

Bidders to however note the documents that shall be furnished in order to establish credentials as MSE vendor should be as per the extant statutory requirements specified by the Ministry of Micro, Small and Medium Enterprises.

PURCHASE PREFERENCE FOR MSE VENDORS:

- d. MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply up to 20% of the requirement against this tender provided
1. The MSE vendor matches the L1 price.
 2. L1 price is from a non MSE vendor.
 3. L1 price will be offered to the vendor nearest to L1 in terms of price ranking (L2 - nearest to L1). In case of non-acceptance by the MSE vendor (L2), next ranking MSE vendor will be offered who is within the L1 + 15% band (if L3 is also within 15% band).
 4. 20% of the 20% (i.e. 4% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms provided conditions as mentioned in (1) and (2) are fulfilled.
 5. In case no vendor under SC / ST category firms are meeting the conditions mentioned in (1) and (2) or have not participated in the tender, in such cases the 4% quantity will be distributed among the other eligible MSE vendors who have participated in the tender.
 6. Serial no. 1 to 5 will not be applicable wherever it is not possible to split the tendered quantity/items on account of customer contract requirement, or the items tendered are systems. Such information that tendered quantity will not be split shall be indicated in the SCC.

J. INTEGRITY COMMITMENT IN THE TENDER PROCESS, AND EXECUTION OF CONTRACTS:

1. Commitment by BHEL: BHEL commits to take all measures necessary to prevent corruption in connection with the Tender process and execution of the Contract. BHEL will, during the tender process, treat all bidder / suppliers in a transparent and fair manner, and with equity.
2. Commitment by Bidder(s)/ Contractor(s):
 - a. The Bidder(s)/ Contractor(s) commit(s) to take all measures to prevent corruption and will not directly or indirectly try to influence any decision or benefit which he is not legally entitled to.
 - b. The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding or any actions to restrict competition.
 - c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant Acts. The Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain or pass on to others, any information or document provided by BHEL as part of business relationship.
 - d. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to the relevant guidelines issued from time to time by Government of India/ BHEL.

If the Bidder(s) / Contractor(s), before award or during execution of the Contract commit(s) a transgression of the above or in any other manner such as to put his reliability or credibility in question, BHEL is entitled to disqualify the Bidder(s) / Contractor (s) from the tender process or terminate the contract and/ or take suitable action as deemed fit.

K. Integrity Pact (IP):

- a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner.
A panel of independent External Monitors (IEMs) have been appointed to oversee implementation of IP in BHEL.

The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno-commercial bid. Only those Bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

- b) Please refer Section-8 of the IP for Role and Responsibilities of IEMs (Annexure IX). In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.

Note: No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department.”

Annexure

Annexure I
Guidelines for Indian Agents

- **Definition of Indian Agent:** An Indian Agent of foreign principal is an individual, a partnership, an association of persons, a private or public company, that carries out specific obligation(s) towards processing of BHEL tender or finalization or execution of BHEL's contract on behalf of the foreign supplier.

In case of yes, vendor to note the following and reply accordingly:

- BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines - which require mandatory submission of an Agency Agreement.
- It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.
- The Agency Agreement should specify the precise relationship between the foreign OEM / foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent/ associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier/ Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.
- Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- Tax deduction at source is applicable to the agency commission paid to the Indian agent as per the prevailing rules.
- In the absence of any agency agreement, BHEL shall not deal with any Indian agent (authorized representatives / associate / consultant, or by whatever name called) and shall deal directly with the foreign principal only for all correspondence and business purposes.
- The "Guidelines for Indian Agents of Foreign Suppliers" enclosed at annexure -'A' shall apply in all such cases.

- viii. The supply and execution of the Purchase Order (including indigenous supplies/ service) shall be in the scope of the OEM/ foreign principal. The OEM/ foreign principal should submit their offer inclusive of all indigenous supplies/ services and evaluation will be based on 'total cost to BHEL'. In case OEM/ foreign principal recommends placement of order(s) towards indigenous portion of supplies/ services on Indian supplier(s)/ agent on their behalf, the credentials/ capacity/ capability of the Indian supplier(s)/ agent to make the supplies/ services shall be checked by BHEL as per the extant guidelines of Supplier Evaluation, Approval & Review Procedure (SEARP), before opening of price bids. In this regard, details may be checked as per Annexure-B (copy enclosed). It will be the responsibility of the OEM/ foreign principal to get acquainted with the evaluation requirements of Indian supplier/ agent as per SEARP available on www.bhel.com.

The responsibility for successful execution of the contract (including indigenous supplies/ services) lies with the OEM/ foreign principal. All bank guarantees to this effect shall be in the scope of the OEM/ foreign principal.

—x—

Vendor's Signature with Seal

Guidelines for Indian Agents of Foreign Suppliers

- 1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with BHEL shall apply for registration in the registration form in line with SEARP.
- 1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the Principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/ salary/ retainer ship being paid by the principal to the agent before the placement of order by BHEL.
- 1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.
- 2.0 **Disclosure of particulars of agents/ representatives in India, if any.**
- 2.1 **Tenderers of Foreign nationality shall furnish the following details in their offers:**
 - 2.1.1 The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is existing Company and details of the same shall be furnished.
 - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.
 - 2.1.3 Confirmation of the Tenderer that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by BHEL in Indian Rupees only.
- 2.2 **Tenderers of Indian Nationality shall furnish the following details in their offers:**
 - 2.2.1 The Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
 - 2.2.2 The amount of commission/ remuneration included in the price (s) quoted by the Tenderer for himself.
 - 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/ remuneration, if any, reserved for the Tenderer in the quoted price(s), may be paid by BHEL in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/ remuneration, if any payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph 2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by BHEL. Besides this there would be a penalty of banning business dealings with BHEL or damage or payment of a named sum.

ANNEXURE - II
LIST OF INTERNATIONAL GATEWAY AIRPORTS

For air based consignment, terms of delivery will be on FCA basis from following listed airports only. Vendors are requested to verify this list for use before submission of offer.

SCHEDULE NO	COUNTRY	CURRENCY CODE	AIRPORT
D01	UK	GBP	LONDON (HEATHROW)
D02	UK	GBP	NEW CASTLE
D03	UK	GBP	OXFORD. CHETLAM
D04	UK	GBP	BRISTOL. WELLINGBOROUGH
D05	UK	GBP	BIRMINGHAM
D06	UK	GBP	EAST MIDLANDS
D07	UK	GBP	MANCHESTER
D08	UK	GBP	LEEDS
D09	UK	GBP	GLASGOW
D10	FRANCE	EURO	PARIS (ROISSY) & LYON
D11	SWEDEN	EURO	STOCKHOLM
D12	SWEDEN	EURO	GOTHENBERG & MALMO
D13	ITALY	EURO	ROMA, MILAN
D14	ITALY	EURO	TURIN, BOLOGNA, FLORENCE
D15	NETHERLANDS	EURO	AMSTERDAM, ROTTERDAM
D16	AUSTRIA	EURO	VIENNA, LINZ, GRAZ
D17	BELGIUM	EURO	ANTWERP, BRUSSELS
D18	DENMARK	DKK	COPENHAGEN
D19	JAPAN	JPY	TOKYO, OSAKA
D20	SINGAPORE	SGD	SINGAPORE
D21	CANADA	CAD	TORONTO
D22	CANADA	CAD	MONTREAL
D23	USA	USD	NEW YORK, BOSTON
D24	USA	USD	CHICAGO
D25	USA	USD	SAN FRANCISCO, LOS ANGELES
D26	USA	USD	ALANTA, HOUSTON
D27	GERMANY	EURO	MUNICH, KOLN, DUSSELDORF, HANNOVER, HAMBURG, STUTTGART, DAMSTADT, MANIHIEM, NURUMBERG
D28	GERMANY	EURO	FRANKFURT
D29	GERMANY	EURO	BERLIN
D30	SWITZERLAND	SFR	BASLE, ZURICH, GENEVA
D31	SPAIN	EURO	BARCELONA
D32	AUSTRALIA	AUD	SYDNEY
D33	AUSTRALIA	AUD	MELBOURNE
D34	AUSTRALIA	AUD	PERTH
D35	CZECH	EURO	PRAGUE
D36	HONG KONG	HKD	HONG KONG
D37	NEW ZELAND	NZD	AUCKLAND
D38	RUSSIA	USD	MOSCOW
D39	SOUTH KOREA	USD	KIMPO INTERNATIONAL, INCHEON
D40	FINLAND	EURO	HELSINKI
D41	ROMANIA	EURO	BUCHAREST
D42	NORWAY	EURO	OSLO
D43	IRELAND	EURO	DUBLIN
D44	ISRAEL	USD	TEL AVIV
D45	UAE	USD	DUBAI
D46	OMAN	USD	MUSCAT
D47	EGYPT	USD	CAIRO
D48	TAIWAN	USD	TAIPEI
D49	UKRAINE	USD	KIEV
D50	CHINA	USD	SHANGHAI, SHENZHEN
D51	PHILIPINES	USD	MANILA
D52	MALAYSIA	USD	KUALALUMPUR, PE NANG
D53	CYPRUS	USD	LARNACA
D54	SOUTH AFRICA	USD	JOHANNESBERG, DURBAN
D55	SLOVAKIA	EURO	BARTISLOVA
D56	SAUDI ARABIA	SAR	RIYADH
D57	TURKEY	EURO	ISTANBUL
D58	THAILAND	USD	BANGKOK
D59	BRAZIL	USD	SAO PAULO, RIO DE JANEIRO

ANNEXURE – III
DISCREPANCY IN WORDS & FIGURES – QUOTED IN PRICE BID

Following guidelines will be followed in case of discrepancy in words & figures-quoted in price bid:

(a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.

(b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

(d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

ANNEXURE - IV
Electronic Funds Transfer (EFT) OR
Paylink Direct Credit Form

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): _____ CREATE _____ CHANGE

BHEL Vendor / Supplier Code:

Company Name :

Permanent Account Number(PAN):

Address

City: PINCODE STATE

Contact Person(s)

Telephone No:

Fax No:

e-mail id:

1 Bank Name:

2 Bank Address:

3 Bank Telephone No:

4 Bank Account No:

5 Account Type: Savings/Cash Credit

6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank

7 Bank IFSC Code(applicable for NEFT)

8 Bank IFSC code(applicable for RTGS) (Indian Financial System Code)

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Telephone No. with STD Code

Company Seal

Bank Certificate

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date:

(.....)

Place:

Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call concerned purchase executive.

ANNEXURE - V
PRESENT PROCEDURE FOR SALE IN TRANSIT (HIGH SEA SALES)

In case of High Sea Sales, vendor should submit following documents:

1. ORIGINAL HIGH SEA SALES AGREEMENT

- Sale agreement (on Rs. 200/- non-judicial stamp paper & notarised with 2 witnesses with identity) has to be signed between BHEL and the Party importing material. The date of the sale documents should be in between the date of House Air Way Bill / Bill of Lading and before landing of the goods in Indian origin.
- Following shall be included in the High Sea Sales Agreement:
"THE BUYER ALSO UNDERTAKE DISCHARGES, THE OBLIGATION AND FULFILLMENT OF CONDITIONS, IF ANY, ATTACHED TO THE IMPORTATION, ASSESSMENT AND CLEARANCE OF THE GOODS IN TERMS CUSTOMS TARIFF ACT 1975, THE CUSTOMS ACT 1962 & RULES & REGULATIONS MADE THERE UNDER AND OTHER RELEVANT ACTS, ORDERS, NOTIFICATIONS".

2. ORIGINAL INVOICES: INDIGENOUS RUPEE INVOICE & FOREIGN CURRENCY INVOICE

- Prices should be C.I.F., designated airport/seaport basis.
- I.E.C., C.S.T., K.S.T. Nos. to be mentioned.
- Description of item (Nomenclature), Unit & Quantity in both the Foreign Currency & the Indigenous Invoice in Rupee shall be exactly as per Purchase Order Description of item, Quantity and Unit. The Indigenous Invoice value shall be exactly as per Purchase Order value.
- Seller should give Foreign Currency Invoice from the original consignor. The Foreign Currency Invoice value should be at least 2% (two per cent) less than the Indigenous Rupee Invoice value in equivalent foreign currency.

4. ORIGINAL HOUSE AIR WAY BILL/ BILL OF LADING

- The sale agents should duly endorse House Air Way Bill (HAWB) for air shipments or original Bill of Lading (O.B.L.) for sea shipments and Foreign Currency Invoice in favour of BHEL-EDN.

5. ORIGINAL CARGO ARRIVAL NOTICE FROM FORWARDER.

6. ORIGINAL DELIVERY ORDER ISSUED IN NAME OF BHEL-EDN.

7. ORIGINAL PACKING LIST.

8. A LETTER TO THE COMMISSIONER OF CUSTOMS FOR EFFECTING ABOVE SALE.

9. A LETTER TO THE DEPUTY ASSESSOR (OCTROI) FOR EFFECTING ABOVE SALE IN FAVOUR OF BHEL.

REMARKS: In case vendor needs any clarifications on the above, the same may be sought in writing.

Annexure-VI

BHEL MEMBER BANKS (LIST OF CONSORTIUM BANKS)

BANK GUARANTEE (BG) SHALL BE ISSUED FROM THE FOLLOWING BANKS ONLY:

	Nationalised Banks		Nationalised Banks
1	Allahabad Bank	19	Vijaya Bank
2	Andhra Bank		Public Sector Banks
3	Bank of Baroda	20	IDBI
4	Canara Bank		Foreign Banks
5	Corporation Bank	21	CITI Bank N.A
6	Central Bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Ltd. (HSBC)
8	Indian Overseas Bank	24	Standard Chartered Bank
9	Oriental Bank of Commerce	25	J P Morgan
10	Punjab National Bank		
11	Punjab & Sindh Bank		Private Banks
12	State Bank of India	26	Axis Bank
13	State Bank of Hyderabad	27	The Federal Bank Limited
14	Syndicate Bank	28	HDFC Bank
15	State Bank of Travancore	29	Kotak Mahindra Bank Ltd
16	UCO Bank	30	ICICI Bank
17	Union Bank of India	31	IndusInd Bank
18	United Bank of India	32	Yes Bank

Note:

- All BGs must be issued from BHEL consortium banks listed above.
- This list is subject to changes. Hence vendors are requested to check this list every time before issuing BGs.
- Bank Guarantees issued by Co-Operative Banks/Financial Institutions cannot to be accepted under any circumstance.

Annexure-VII

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To
NAME
& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____¹ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at _____² hereinafter referred to as the 'Vendor / Contractor / Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs --⁶ (Rupees -----) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

WeBANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier 's liabilities.

This Guarantee shall remain in force upto and including.....⁷ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁸we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁶
- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before⁸ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ PROJECT/SUPPLY DETAILS

⁶ BG AMOUNT IN FIGURES AND WORDS

⁷ VALIDITY DATE

⁸ DATE OF EXPIRY OF CLAIM PERIOD

Annexure – VIII
(Applicable only for MSE suppliers)
Certificate by Chartered Accountant on Letter Head

This is to certify that M/s
.....(hereinafter referred to as 'Company')
having its registered office at is registered under MSMED Act 2006,
(Entrepreneur Memorandum No (Part-11 dtd
Category: (Micro/Small) (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as
per the latest audited financial year..... as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722 (E) dated October 5, 2006:
Rs.....Lacs.
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:
Rs.Lacs.

The above investment of Rs.Lacs in within permissible limit of
Rs.....Lacs for.....Micro / Small (Strike off which is not
applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (**Strike off which is not applicable**) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name:

Membership Number:

Seal of Chartered Accountant

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal

For & On behalf of the Bidder/ Contractor

(Office Seal)

(Office Seal)

Place-----

Date-----

Witness: _____

Witness: _____

(Name & Address) _____

(Name & Address) _____



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 भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE: PR: 002- Rev 01

GENERAL COMMERCIAL CONDITIONS FOR CONTRACT

These 'General Commercial Conditions for Contract for Purchase' herein after referred to as GCC apply to all enquiries, tenders, requests for quotations, orders, contracts and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliveries") to Bharat Heavy Electricals Limited and any of its units, regions or divisions (hereinafter referred to as "BHEL" or the Purchaser) or its projects/ customers.

Any deviations from or additions to these GCC require BHEL's express written consent. The general terms of business or sale of the vendor shall not apply to BHEL. Acceptance, receipt of shipments or services or effecting payment shall not mean that the general terms of business or sale of the vendor have been accepted.

Orders, agreements and amendments thereto shall be binding if made or confirmed by BHEL in writing. Only the Purchasing department of BHEL is authorized to issue the Purchase Order or any amendment thereof.

Definitions: Throughout these conditions and in the specifications, the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.

- 'The Purchaser' means Bharat Heavy Electricals Limited, Electronics division, Mysore road, Bangalore 560 026, a Unit of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the Companies Act having its registered office at BHEL House, Siri Fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- 'The vendor' means the person, firm, company or organization on whom the Purchase Order is placed and shall be deemed to include the vendor's successors, representative heirs, executors and administrator as the case may be. It may also be referred to as Seller, Contractor or Supplier.
- 'Contract' shall mean and include the Purchase Order incorporating various agreements, viz. tender/ RFQ, offer, letter of intent/acceptance/ award, the General Conditions of Contract and Special Conditions of Contract for Purchase, Specifications, Inspection/ Quality Plan, Schedule of Prices and Quantities, Drawings, if any enclosed or to be provided by BHEL or his authorized nominee and the samples or patterns if any to be provided under the provisions of the contract.
- 'Parties to the Contract' shall mean the 'The Vendor' and the Purchaser as named in the main body of the Purchase Order.

Order of Precedence:

In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI / LOA, Special Conditions of Contract and General Conditions of Contract for commercial conditions; and specific agreement on technical conditions, RFQ/offer and specification for Technical Conditions.

Interpretation:

In the contract, except where the context requires otherwise:

- words indicating one gender include all genders;
- words indicating the singular also include the plural and words indicating the plural also include the singular;

- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Applicable Conditions:

1. **Price Basis:** All prices shall be firm until the purchase order is executed / completed in all respects. No price variations / escalation shall be permitted.
2. **Ordering and confirmation of Order:** Vendor shall send the order acceptance on their company letter head/ through e-mail within a week from the date of receipt of Purchase Order or such other period as specified/ agreed by BHEL. BHEL reserves the right to revoke the order placed if the order confirmation differs from the original order placed. The acceptance of goods/services/supplies by BHEL as well as payments made in this regard shall not imply acceptance of any deviations.
The purchase order will be deemed to have been accepted if no communication to the contrary is received within one week (or the time limit as specified/agreed by BHEL) from the date of receipt of the purchase order.
3. **Documentation:** After receipt of Purchase Order, vendor should submit necessary documents (if & as applicable) like drawings specified, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/ Customer.
At any stage within the contract period, the vendor shall notify of any error, fault or other defect found in BHEL's documents / specifications or any other items for reference. If and to the extent that (taking account of cost and time) any vendor exercising due care would have discovered the error, fault or other defect when examining the documents/specifications before submitting the tender, the time for completion shall not be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the vendor's documents, they shall be corrected at his cost, notwithstanding any consent or approval.
4. **Penalty:**
 - a. **For delay in documentation:** In the event of delay in submission of complete set of specified documents ((like drawings, bill of materials, datasheets, catalogues, quality plan etc. as called in tender specifications including soft copies wherever applicable) in required sets beyond two(02) weeks (or as agreed/indicated in the SCC/Purchase Order) from the date of receipt of Purchase Order (by email), penalty at 0.5% (half percent) per week or part thereof, limited to a maximum of 5% (five percent) of the basic material value of the Purchase Order will be applicable.

Penalty for delayed documentation if applicable, shall be deducted at the time of first supply payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted. GST as applicable will be recovered along with penalty amount.
 - b. **For delay in delivery:** In the event of delay in agreed contractual delivery as per Purchase Order, penalty @ 0.5 % (half percent) per week or part thereof but limited to a max of 10% (ten percent) value of undelivered portion (basic material cost) will be applicable. Delivery will commence from the date of issue of Manufacturing clearance along with approved document. The date for which Inspection call is issued by vendor along with test certificates / test reports / Certificate of Conformance / calibration reports, as proof of completion of manufacturing will be treated as date of deemed delivery for penalty calculation. In the absence of furnishing such document indicated above as proof of completion of manufacturing along with inspection call, actual date of inspection will be considered as date of deemed delivery and BHEL will not be responsible for delay in actual date of inspection.

Penalty for delayed delivery if applicable, shall be deducted at the time of first supply payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted. GST as applicable will be recovered along with penalty amount.

5. Contract variations (Increase or decrease in the scope of supply): BHEL may vary the contracted scope as per requirements at site. If vendor is of the opinion that the variation has an effect on the agreed price or delivery period, BHEL shall be informed of this immediately in writing along with technical details. Where unit rates are available in the Contract, the same shall be the basis for such additional work. Vendor shall not perform additional work before BHEL has issued written instructions/ amendment to the Purchase Order to that effect. The work which the vendor should have or could have anticipated in terms of delivering the service(s) and functionality (i.e.) as described in this agreement, or which is considered to be the result of an attributable error on the vendor's part, shall not be considered additional work.
6. Inspection: Prior written notice of at least 10 days shall be given along with internal test certificates/COC and applicable test certificates. Materials will be inspected by BHEL-EDN-QS/CQS or BHEL nominated Third Party Inspection Agency (TPIA) or BHEL authorized Inspection Agency or Customer / Consultant or jointly by BHEL & Customer / consultant. All tests have to be conducted as applicable in line with approved Quality plan or QA Checklist or Purchase specification and original reports shall be furnished to BHEL-EDN, Bangalore for verification/acceptance for issue of dispatch clearance.
All costs related to inspections & re-inspections shall be borne by vendor. Whether the Contract provides for tests on the premises of the vendor or any of his Sub-contractor/s, vendor shall be responsible to provide such assistance, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by BHEL only if specifically agreed to in the purchase order.
7. Transit Insurance: Transit insurance coverage between vendor's works and project site shall be to the account of BHEL, unless specifically agreed otherwise. However, vendor shall send intimation directly to insurance agency (as mentioned in dispatch instructions issued by BHEL) through fax/courier/e-mail, immediately on dispatch of goods for covering insurance. A copy of such intimation sent by vendor to insurance agency shall be given to BHEL along with dispatch documents. Dispatch documents will be treated as incomplete without such intimation copy. BHEL shall not be responsible for sending intimations to insurance agency on behalf of the vendor.
8. Mode of dispatch:
Indigenous Scope: By road on Door Delivery Consignee Copy attached basis through your approved transporter (unless otherwise indicated in Dispatch Instructions), only on receipt of Despatch Clearance from BHEL.
Imported Scope: By Air/Sea through BHEL approved Freight Forwarder/supplier approved Consolidator respectively as per agreed contractual terms, only on receipt of Dispatch Clearance from BHEL.
9. Changes in Statutory levies:
If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the execution of Contract, which was or will be assessed on the bidder in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there from, as the case may be. However, these adjustments would be restricted to direct transactions between BHEL and the bidder /agent of foreign bidder (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the bidder /agent.
10. Availing duty/tax exemption benefits by bidder, wherever applicable: BHEL shall issue the required Certificate/s, as per relevant policies of the Govt. of India, to facilitate the bidders to avail any such benefits under the Contract. In case of failure of the bidders to receive the benefits partly or fully from the Govt. of India and/or in case of any delay in receipt of such benefits, BHEL shall neither be liable nor responsible in any manner whatsoever.

11. Taxes against sub-vendor dispatches: All taxes/levies, as applicable in respect of all components, equipments and material to be despatched directly from the sub-vendor's works to Site irrespective of the fact whether such taxes and levies are assessable and chargeable on Vendor or the BHEL, shall be to the vendor's account and no separate claim in this regard will be entertained by BHEL.
12. High Sea Sales (HSS): Customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors.
Any delay in submission of complete/correct HSS documents to BHEL may incur demurrage charges. All demurrage charges on account of incomplete /incorrect HSS documents submission by vendor will be to vendor's account and all such charges will be recovered from any of the available vendor bills with BHEL.
13. Packaging and dispatch: The Seller shall package the goods safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea/ Air / Rail/ Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures/ hooks and sling marks as may be required for easy and safe handling. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations.
The packing, shipping, storage and processing of the goods must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Any Imported/Physical Exports items packed with raw/ solid wood packing material should be treated as per ISPM – 15 (fumigation) and accompanied by Phytosanitary/ Fumigation certificate. If safety information sheets (MSDS – Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment.
Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (LxBxH) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated in the packing list.
Separate packing & identification of items should be as follows.
1. Main Scope - All items must be tagged with part no. & item description.
2. Commissioning accessories/spares - All items must be tagged with part no. & item description.
3. Mandatory spares - All items must be tagged with part no. & item description.
Nevertheless, vendor shall adhere to dispatch & packing instructions issued by BHEL at the time of dispatch.
14. Assignment of Rights & Obligations; Subcontracting: Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
15. Progress report: Vendor shall render such report as to the progress of work and in such form as may be called for by the concerned purchase officer from time to time. The submission and acceptance of such reports shall not prejudice the rights of BHEL in any manner.
16. Non-disclosure and Information Obligations: Vendor shall provide with all necessary information pertaining to the goods as it could be of importance to BHEL. Vendor shall not reveal any specified confidential information that may be divulged by BHEL to Vendor's employees not involved with the tender/ contract & its execution and delivery or to third parties, unless BHEL has agreed to this in writing beforehand. Vendor shall not be entitled to use the BHEL name in advertisements and other commercial publications without prior written permission from BHEL.
17. Cancellation /Termination of contract: BHEL shall have the right to completely or partially terminate the agreement by means of written notice to that effect. Termination of the Contract, for whatever reason, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination.
BHEL shall have the right to cancel/foreclose the Order/ Contract, wholly or in part, in case it is constrained to do so on account of any decline, diminution, curtailment or stoppage of the business.

18. Risk Purchase Clause: In case of failure of supplier, BHEL at its discretion may make purchase of the materials / services not supplied / rendered in time at the RISK & COST of the supplier. Under such situation, the supplier who fails to supply the goods in time shall be wholly liable to make good to BHEL any loss due to risk purchase.

In case of items demanding services at site like erection and commissioning, vendor should send his servicemen/representatives within 7 days from the service call. In case a vendor fails to attend to the service call, BHEL at its discretion may also make arrangements to attend such service by other parties at the **RISK & COST** of the supplier. Under such situation the supplier who fails to attend the service shall be wholly liable to make good to BHEL any loss due to risk purchase/service including additional handling charges due to the change.

19. Shortages: In the event of shortage on receipt of goods and/or on opening of packages at site, all such shortages, caused by supplier's act or omission, shall be made good at free of cost within a reasonable time that BHEL may allow from such intimation.

Transit Damages: In the event of receipt of goods in damaged condition or having found them so upon opening of packages at site, supplier shall make good of all such damages within a reasonable time from such intimation by BHEL. In case BHEL raises an insurance claim, the cost of material limited to insurance settled amount less handling charges will be reimbursed to supplier.

20. Remedial work: Notwithstanding any previous test or certification, BHEL may instruct the vendor to remove and replace materials/goods or remove and re-execute works/services which are not in accordance with the purchase order. Similarly BHEL may ask the vendor to supply materials or to execute any services which are urgently required for any safety reasons, whether arising out of or because of an accident, unforeseeable event or otherwise. In such an event, Vendor shall provide such services within a reasonable time as specified by BHEL.

21. Indemnity Clause: Vendor shall comply with all applicable safety regulations and take care for the safety of all persons involved. Vendor is fully responsible for the safety of its personnel or that of his subcontractor's men / property, during execution of the Purchase Order and related services. All statutory payments including PF, ESI or other related charges have to be borne by the vendor. Vendor is fully responsible for ensuring that all legal compliances are followed in course of such employment.

22. Product Information, Drawings and Documents: All specified drawings, technical documents or other technical information received by Vendor from BHEL or vice versa shall not, without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the Disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are binding only to the extent that they are by reference expressly included in the contract.

Vendor, as per agreed date/s but not later than the date of delivery, provide free of charge information and drawings which are necessary to permit and enable BHEL to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in as many numbers of copies as may be agreed upon.

All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the Contract shall continue to be the property of the disclosing party.

23. Intellectual Property Rights, Licenses: If any Patent, design, Trade mark or any other intellectual property rights apply to the delivery (goods/related service) or accompanying documentation shall be the exclusive property of the Vendor and BHEL shall be entitled to the legal use thereof free of charge by means of a non-exclusive, worldwide, perpetual license. All intellectual property rights that arise during the execution of the Purchase Order/ contract for delivery by vendor and/or by its employees or third parties involved by the vendor for performance of the agreement shall belong to BHEL. Vendor shall perform everything necessary to obtain or establish the above mentioned rights. The Vendor guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Vendor shall do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged)

claims by third parties. The Vendor shall indemnify BHEL against any (alleged) claims by third parties in this regard and shall reimburse BHEL for any damages suffered as a result thereof.

24. Force Majeure: Notwithstanding anything contained in the purchase order or any other document relevant thereto, neither party shall be liable for any failure or delay in performance to the extent said failures or delays are caused by the "Act of God" and occurring without its fault or negligence, provided that, force majeure will apply only if the failure to perform could not be avoided by the exercise of due care and vendor doing everything reasonably possible to resume its performance.

A party affected by an event of force majeure which may include fire, tempest, floods, earthquake, riot, war, damage by aircraft etc., shall give the other party written notice, with full details as soon as possible and in any event not later than seven (7) calendar days of the occurrence of the cause relied upon. If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.

Notwithstanding above provisions, in an event of Force Majeure, BHEL reserves for itself the right to cancel the order/ contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of deliveries and other schedules.

25. Warranty:

Wherever required, and so provided in the specifications/ Purchaser Order, the Seller shall ensure that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance.

Unless otherwise specified in SCC, warranty period shall be applicable for a period of 24 months from the date of delivery of goods or 18 months from the date of commissioning of goods, whichever is earlier.

The warranty period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery. Unless otherwise specifically provided in the Purchase Order, Vendor's liability shall be co terminus with the expiration of the applicable warranty period.

26. Limitation of Liability: Vendor's liability towards this contract is limited to a maximum of 100% of the contract value and consequential damages are excluded. However the limits of liability will have no effect in cases of criminal negligence or wilful misconduct.

The total liability of Vendor for all claims arising out of or relating to the performance or breach of the Contract or use of any Products or Services or any order shall not exceed the total Contract price.

27. Liability during warranty: Vendor shall arrange replacement / repair of all the defective materials / services under its obligation during the warranty period. The rejected goods shall be taken away by vendor and replaced / repaired. In the event of the vendor's failure to comply, BHEL may take appropriate action including disposal of rejections and replenishment by any other sources at the cost and risk of the vendor. In case, defects attributable to vendor are detected during Warranty period or where the commissioning call is issued within the warranty period, vendor shall be responsible for replacement/ repair of the goods as required by BHEL at vendor's cost even after expiry of warranty period.

Further if the equipment or any part thereof cannot be used by reason of such defect and/or making good of such defect, the warranty period of the equipment or such part, as the case may be, shall be extended by a period equal to the period during which the equipment or such part cannot be used by BHEL because of any of the aforesaid reasons. Upon correction of the defects in the facilities or any part thereof by repair/replacement, such repair/replacement shall have the warranty period for a period of twelve (12) months from the time such replacement/repair of the equipment or any part thereof has been completed.

28. Liability after warranty period: At the end of the warranty, the Vendor's liability ceases except for latent defects. For the purpose of this clause, latent defects shall be the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the warranty Period, but later. The Contractor's liability for latent defects warranty for the equipment including spares shall be limited to a period of six months from the end of the warranty period of the respective equipment including spares or first time commissioning, whichever is later but not later than one (01) year from the date of expiry of warranty period.

29. Compliance with Laws: Vendor shall, in performing the contract, comply with all applicable laws. The vendor shall make all remittances, give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the laws in relation to the execution and completion of the contract and for remedying of any defects; and the Contractor shall indemnify and hold BHEL harmless against and from the consequences of any failure to do so.
30. Settlement of Disputes: Except as otherwise specifically provided in the Purchase Order, decision of BHEL shall be binding on the vendor with respect to all questions relating to the interpretation or meaning of the terms and conditions and instructions herein before mentioned and as to the completion of supplies/work/services, other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, instructions, orders or these conditions or otherwise concerning the supply or the execution or failure to execute the order, whether arising during the schedule of supply/work or after the completion or abandonment thereof. Any disputes or differences among the parties shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration. Vendor shall continue to perform the contract, pending settlement of dispute(s).
31. Arbitration Clause in case of Contract with vendors other than Public Sector Enterprise (PSE) or a Government Department:

ARBITRATION & CONCILIATION

The parties shall attempt to settle any disputes or difference arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, or in connection with this contract through friendly discussions. In case no amicable settlement can be reached between the parties through such discussions, in respect of any dispute; then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL–EDN. Such Sole Arbitrator appointed, shall conduct the arbitration in English language.

The Arbitrator shall pass a reasoned award and the award of the Arbitration shall be final and binding upon the Parties.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bangalore.

The cost of arbitration shall be borne as decided by the Arbitrator upon him entering the reference.

Subject to the Arbitration Clause as above, the Courts at Bangalore alone shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the parties shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and efficiency in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

Arbitration Clause in case of Contract with a Public Sector Enterprise (PSE) or a Government Department:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either party for Arbitration to the Sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any Party aggrieved by such Award may make further reference for setting aside or revision of the Award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.'

32. Applicable Laws and Jurisdiction of Courts: Prevailing Indian laws both substantive and procedural, including modifications thereto, shall govern the Contract. Subject to the conditions as aforesaid, the competent courts in Bangalore alone shall have jurisdiction to consider over any matters touching upon this contract.
33. General Terms: That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents.

That the headings used in this agreement are for convenience of reference only.

That all notices etc., to be given under the Purchase order shall be in writing, type script or printed and if sent by registered post or by courier service to the address given in this document shall be deemed to have been served on the date when in the ordinary course, they would have been delivered to the addressee.



ಭಾರತ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Page 1 of 3

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

CE: PR: 003- Rev 01

PB 2606 , Mysore Road Bangalore , 560026 INDIA

SPECIAL COMMERCIAL CONDITIONS OF CONTRACT

Reference is brought to BHEL's Instructions to Bidders (Document Ref: CE: PR: 001- Rev 01) and General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 01). These documents along with required annexures are available in our website: _____ .These two documents along with Special Conditions of Contract annexed to this RFQ will form an integral part of the contract as and when the RFQ culminates into a Purchase Order / Contract.

RFQ No: PVR0000125 RFQ Date: 14-07-2018 Due Date: 06-08-2018

Customer/Project:

1. NTPC/ Karimnagar SG 2 X 800MW STPP
2. TANGEDCO/ NORTH CHENNAI 1x800MW
3. TANGEDCO/ UPPUR 2X800MW

Item Description: 3D TYPE ACOUSTIC WAVE LEVEL TRANSMITTER / SCANNER – COAL BUNKER LEVEL MONITORING SYSTEM
TYPE OF BID: SINGLE PART BID / TWO PART BID / THREE PART BID

Purchase Executives: Clarifications with regard to the tender shall be addressed to purchase officers whose e-mail IDs are given below:
poojavrao@bheledn.co.in/poojavrao@bhel.in & ilangovan@bheledn.co.in/ilangovan@bhel.in.

Submission of documents post PO viz., drawings /data sheet etc. as indicated in Cl: 04 of GCC: Within 02 weeks from the date of receipt of Purchase Order. Delay in submission of complete set of specified documents in NIT, will attract Penalty as per GCC Clause no.:04.a.

Splitting of tendered quantity to MSE vendors: The tendered quantity will/will not be split to MSE vendor/s subject to submission of relevant documents by vendors. Refer clause I of Instructions to Bidders for conditions applicable and for information on documents to be submitted.

Destination: a) For Indigenous scope of supply, items are to be directly despatched to BHEL's Site Office or Stores located at/near

1. RAMAGUNDAM, KARIMNAGAR District/City for NTPC Karimnagar SG 2 X 800MW STPP project in TELANGANA State.
2. CHENNAI District/City for NORTH CHENNAI 1x800MW project in TAMIL NADU State.
3. RAMANATHAPURAM District/City for UPPUR 2X800MW project in TAMIL NADU State.

Consignee details and Road Permit, if applicable, will be issued by BHEL along with Despatch Clearance.

b) For Imported scope of supply, destination is Bengaluru. In case of shipment by sea, port of discharge will be Chennai seaport and port of delivery shall be ICD, Bengaluru.

Project Benefits:

Imported scope of supply:

- a) DEEC / SEZ/EPCG/DFIA/ Physical Export contract: Eligible for "NIL" Basic Customs Duty.
- b) Project Imports: Eligible for Concessional Basic Custom Duty. GST IS REIMBURSABLE ON BHEL INVOICE VALUE.
- c) Basic Custom duty and Cess on Basic Custom duty are reimbursable by customer.

Terms of Delivery:

- **Indigenous scope of supply:**
Ex-works < station of dispatch > (including Packing & Forwarding charges but excluding Taxes & Duties).
- **Imported scope of supply:**
F.C.A. (for air consignments) < indicate international port of dispatch > / C.I.F. (for sea consignments) < ICD,Bangalore > (including Packing, Forwarding, Handling, Ancillary charges like processing of Sight Draft/ Letter of Credit, negotiation of bank documents, Export declaration, Country of Origin etc.).
Kindly indicate the approximate weight of the total imported consignment, which is required for calculating air-freight charges:

Merit Customs duty is applicable. General Nomenclature of merchandise for shipment: Coal Bunker Level Monitoring System. The Invoice for the imported consignment should contain the above mentioned item description. Please confirm.

Also indicate the following:

- a) Works address for both imported and indigenous portions

b) Office address

Under-mentioned details shall be provided against indigenous supplies and services:

- a. GSTIN (no.) of place of supply: _____
 b. HSN (Harmonized System of Nomenclature) code: _____
 Applicable tax and Rate: _____ & _____
 c. SAC (Service Accounting Code) no.: _____
 Applicable tax and Rate: _____ & _____
 d. If service is also involved, GSTIN (no.) of place of supply of service: _____

I. Bidders to mandatorily provide confirmation/compliance for the under-mentioned terms:

SL NO.	TERMS	BHEL ACCEPTABLE TERM	BIDDER'S CONFIRMATION	REMARKS, if any
01	Reverse Auction	Will be intimated separately to qualified bidders after finalization of techno-commercial evaluation. Non-acceptance to participate in RA may result in non-consideration of the bid, in case BHEL decides to go for RA. In case BHEL does not resort to Reverse Auction, the price bids and price impacts (if any) shall be opened as per BHEL's standard practice.	AGREE	
02	Parting of license for imported raw materials	In case of projects where Basic Custom Duty is NIL and vendor is importing any raw materials / components for the enquired item, same are eligible for Zero Customs duty. As per EXIM policy, BHEL will part the import licence with the vendors to obtain import licence by themselves and custom clear the raw materials/ components by availing zero customs duty. Hence, please furnish list of raw materials / components to be imported by you with Quantity and CIF value (for which BHEL has to share import licence). The benefit due to the above shall be passed on to BHEL and confirmed in the quotation. If there are no imported raw materials/components, same shall be confirmed in the offer.	AGREE CIF value Yes, benefit passed on to BHEL in the priced quotation. (or) We confirm that there are no imported components	
03	Delivery Period	Within 10 weeks from the date of issue of Manufacturing clearance along with approved document. Delay in contractual delivery will attract Penalty as per GCC Clause no.:04.b.	AGREE weeks	
04	Terms of Payment at the time of material supply	Refer Clause "F" of Instructions to Bidder for BHEL standard Payment terms and loading factors applicable for non-compliance against payment terms: Indigenous Scope: a) Supply with Erection & Commissioning b) Supply with Erection Supervision & Commissioning c) Supply only Imported Scope: d) Supply with Erection & Commissioning e) Supply with Erection Supervision & Commissioning f) Supply only High Sea sales: g) Supply with Erection & Commissioning h) Supply with Erection Supervision & Commissioning i) Supply only Spares: c) and/or f)/i) depending upon the scope	AGREE	

II. Bidder to note that Deviations shall not be permitted for the below mentioned terms and are deemed to be complied. In case of non-compliance/deviation, offer shall be liable for rejection:

- (1) **Validity:** The offer will be valid for a period of 120 days from the date of part-I bid opening and in case of Negotiation/ Counter-offer/Reverse Auction, price validity will apply afresh for a period of 60 days from the date of according final price by bidder (or) upto original validity period, whichever is later.
- (2) **Guarantee/ Warranty:** 36 months from the date of dispatch of goods or 24 months from the date of commissioning of goods, whichever is earlier.
- (3) **Performance Bank Guarantee (PBG):** PBG will be applicable for a period of 36 months from the date of dispatch of goods + claim period of 03 months, for a value equal to 10% of the basic value of the purchase order. Refer Clause "H" of Instructions to Bidders. Also note that PBG should be in the format specified in Annexure VII of ITB and no deviation to this format will be allowed.
Note: In case PBG is not furnished, the 10% basic amount will be withheld from the supply invoice. This withheld amount will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.
- (4) **Despatch Documents:** Complete set of despatch documents (original + 1 photocopy set) as per Purchase Order shall be forwarded to Purchase Executive/BHEL directly. Depending upon the project/customer demands, despatch documents may include one or more documents from the following: Invoice (02 sets of original), Lorry Receipt (L/R), Packing List, Air Way Bill (AWB)/Bill Of Lading (BOL), Copy of High Sea Sales (HSS) agreement, Country of origin certificate, NIL Short Shipment Certificate, Original Performance Bank Guarantee (directly from issuing bank to BHEL), insurance intimation letter, POD (Proof of Delivery) on L/R.
The precise list of despatch documents needed for the project will be specified in the Purchase Order.
One set of Invoice, Packing List and L/R or AWB shall be e-mailed/faxed immediately to BHEL-EDN after despatch.
- (5) **Freight Charges (for indigenous scope of supply):** Freight charges shall be to vendor's account. Vendor to quote reasonable lump sum Freight charges separately, with applicable tax in priced offer.
- (6) **Evaluation criteria for tendered item/s:**
- Project-wise evaluation of tendered item. **(All items covered in each project will be processed separately as a package on a single vendor i.e. L1 (Lowest bidder), who is technically and commercially meeting BHEL requirements. However, Purchase Orders and Manufacturing Clearance will be issued separately for main supply and mandatory spares.)**
 - ~~Items will not be split on item-wise lowest offer. Items shall be evaluated and procured as a combined package.~~
- (7) ~~**Integrity Pact:** Execution of Integrity Pact is applicable for this tender (Refer clause "K" of Instructions to Bidders)~~

~~Details of IEM for this tender are mentioned below:~~

Name: _____ Address: _____ Email: _____

~~**(8) Comprehensive Annual Maintenance Contract :**~~

~~CAMC will be applicable for a period of 04 years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later.~~

~~In case the quoted total AMC value is less than 20% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price and apportioning towards AMC charges.~~

~~Refer Sl. no. 'j' under Clause 'F' of Instructions to Bidder for Payment term.~~

With this, we hereby confirm that all the terms & conditions as indicated in Instructions to Bidders (Document Ref: CE: PR: 001- Rev 01) & General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 01) are accepted without any deviation.


Vendor's Signature with Seal

Note B:

1. For EPS tenders, bidder should necessarily fill the corresponding columns of "SPECIAL COMMERCIAL CONDITIONS OF CONTRACT" in EPS portal and the confirmation provided by bidder against these commercial terms in EPS portal will only be considered by BHEL.

2. For the tenders that are not floated through EPS, the above filled-in and signed-sealed document (in original) shall be furnished as part of Part-I Bid without fail.

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: PVR0000125 RFQ DATE : 14.JUL.2018	Due Date 06.AUG.2018 Time: 13:00 HRS VENUE : NEW ENGG. BLDG
MMI:PU:RF:003	(for all correspondence) Purchase Executive : POOJA V RAO Phone : 26989640 E-mail: poojavrao@bheledn.co.in		

Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no.and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.PLEASE REFER C. GUIDELINES FOR OFFER SUBMISSION IN INSTRUCTIONS TO BIDDERS.**

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	FREIGHT-CHARGE FREIGHT CHARGES FOR UPPUR - MAIN SUPPLY & MANDATORY SPARES	1	AU	1	AS PER SCC
2	FREIGHT-CHARGE FREIGHT CHARGES FOR NORTH CHENNAI - MAIN SUPPLY & MANDATORY SPARES	1	AU	1	AS PER SCC
3	FREIGHT-CHARGE FREIGHT CHARGES FOR KARIMNAGAR - MAIN SUPPLY & MANDATORY SPARES	1	AU	1	AS PER SCC
4	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - KARIMNAGAR UNIT-I 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
5	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY KARIMNAGAR UNIT-I Certificate Of Conformance	1	ST	1	AS PER SCC
6	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - KARIMNAGAR UNIT-II 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
7	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY KARIMNAGAR UNIT-II Certificate Of Conformance	1	ST	1	AS PER SCC
8	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - KARIMNAGAR MANDATORY SPARES 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
9	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY KARIMNAGAR MANDATORY SPARES Certificate Of Conformance	1	ST	1	AS PER SCC
10	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - NORTH CHENNAI MAIN SUPPLY 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
11	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY NORTH CHENNAI MAIN SUPPLY Certificate Of Conformance	1	ST	1	AS PER SCC
12	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - NORTH CHENNAI MANDATORY SPARES Certificate Of Conformance	1	ST	1	AS PER SCC
13	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY NORTH CHENNAI MANDATORY SPARES Certificate Of Conformance	1	ST	1	AS PER SCC

For and On behalf of BHEL.

Page 1 OF 2

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: PVR0000125 RFQ DATE : 14.JUL.2018	Due Date 06.AUG.2018 Time: 13:00 HRS VENUE : NEW ENGG. BLDG
MMI:PU:RF:003			

	(for all correspondence) Purchase Executive : POOJA V RAO Phone : 26989640 E-mail: poojavrao@bheledn.co.in
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Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no. and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
14	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - UPPUR UNIT-I 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
15	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY UPPUR UNIT-I Certificate Of Conformance	1	ST	1	AS PER SCC
16	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - UPPUR UNIT-II 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
17	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY UPPUR UNIT-II Certificate Of Conformance	1	ST	1	AS PER SCC
18	PR0770000100 3D TYPE COAL BUNKER LEVEL - MAIN - UPPUR MANDATORY SPARES 3D TYPE CBLMS - MAIN ITEMS Certificate Of Conformance	1	ST	1	AS PER SCC
19	PR0770000118 3D TYPE COAL BUNKER LEVEL ACCESSORY UPPUR MANDATORY SPARES Certificate Of Conformance	1	ST	1	AS PER SCC

Total Number of Items - 19

Please note that the tender will be opened in the presence of the bidders or his authorised representatives (maximum two per organisation) who choose to be present with authorisation letters. Refer annexure for the terms and conditions.

Preference will be given to vendors who accepts our standard payment terms - REFER SCC.

Please specify Terms of delivery, GST details, Ex-works, P&F, Freight and other taxes very clearly .

For evaluation, exchange rate (TT selling rate of SBI) as on scheduled date of tender opening (Part-I bid in case of three part bid) shall be considered.

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com

- i). This is only RFQ not an order.
- ii). In all correspondence quote RFQ No. & due date.
- iii). In Quotation BHEL material code / RFQ SI. No. should be mentioned clearly.
- iv). Quotation Envelope not superscribed with RFQ No. and due date is liable for rejection.
- v). Quotation should remain valid for a minimum period of 120 days from due date.
- vi). If a bidder has not quoted in last four consecutive tender enquiries or all enquiries in last two years whichever is earlier, he will be liable for removal as a registered vendor of BHEL.
- vii). All Prices should be written in words and numbers.

THREE PART BID - Please refer B. GUIDELINES FOR PREPARATION OF OFFER in INSTRUCTIONS TO BIDDERS (Common for all RFQs).

For and On behalf of BHEL.

Page 2 OF 2

SPECIAL TERMS

PURCHASE SPECIFICATIONS:

- 1) Please quote as per the attached purchase specifications - REF.: CE/416/CBLMS-3D/OT-III/PS.
- 2) Please submit point-wise compliance to Pre-Qualification Requirement in Part-I bid.
- 3) Please submit point-wise compliance to project-wise technical requirement in Part-II bid. Please ensure to mention the manufacturing works address/make in your technical offer. Please ensure that your TECHNICAL OFFER does NOT contain any commercial term.
- 4) Please attach price break-up in line with Clause 8 in Page 5 of specifications in Part-III bid.

COMMERCIAL CONDITIONS:

- 1) Please ensure to submit your PRE-QUALIFICATION (PQ) BID, TECHNICAL OFFER and duly filled SPECIAL COMMERCIAL CONDITIONS OF CONTRACT (SCC). If your offer does NOT contain either of the three documents, your offer is LIABLE FOR PQR (PQ REQUIREMENT), TECHNICAL AND COMMERCIAL REJECTION RESPECTIVELY.
- 2) Any additional commercial term or deviation in commercial term should be clearly brought out in SCC. Any additional commercial term or deviation in commercial term mentioned anywhere else in the offer will not be considered for evaluation.
- 3) Please quote separate Freight Charges for Indigenous scope of supply for each project.
- 4) Delivery period mentioned in the SCC is only indicative. Please quote the earliest and best possible lead time.
- 5) Please note that the commercial terms and conditions shall be valid for one year from the date of technical bid opening.



REF.: CE/416/CBLMS-3D/OT-III/PS

REV.: 00

PAGE: 1 of 6

COPY RIGHT AND CONFIDENTIAL

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

PURCHASE SPECIFICATION

FOR

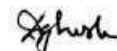
3D TYPE ACOUSTIC WAVE LEVEL TRANSMITTER / SCANNER –

COAL BUNKER LEVEL MONITORING SYSTEM

REVISIONS: 00

APPROVED BY

PREPARED BY


D. Ghosh

ISSUED

416

DATE

17/05/2018

CONTENTS

SECTION	DESCRIPTION	PAGE NO.
A	GENERAL INSTRUCTIONS TO BIDDERS	03
B	PRE-QUALIFICATION REQUIREMENTS	04 – 05
C	CONTENT SHEET FOR PROJECT-WISE PURCHASE SPECIFICATIONS	06
C1	PURCHASE SPECIFICATION FOR TELANGANA STPP PHASE-I (2X800 MW) REF.: CE/416/CBLMS/TnSTPP/PS	ENCLOSURE
C2	PURCHASE SPECIFICATION FOR NORTH CHENNAI (1X800 MW) STAGE-III STPP REF.: CE/416/CBLMS/NC/PS	ENCLOSURE
C3	PURCHASE SPECIFICATION FOR UPPUR (2x800 MW) STPP REF.: CE/416/CBLMS/UPPUR/PS	ENCLOSURE

SECTION- A

GENERAL INSTRUCTIONS TO BIDDERS:

All required documents against this Tender/Specification shall be submitted in English only.

Introduction: Bidders are required to offer Coal Bunker level System –3D in Power Plant applications.

In order to accept the Technical offers / proposals from Bidders for the project mentioned in this Specification (refer Sections C & its subsequent sub-sections), certain Pre-qualification criteria are required to be met by Bidder.

Pre-qualification requirements are clearly mentioned in Section-B AA of this Specification. Bidder to read the same carefully and submit the details required for BHEL's acceptance.

In case Bidder does not submit the compliance to Pre-qualification requirements, their offer will be summarily rejected and Bidder's Technical offers will not be evaluated.

Evaluation methodology: BHEL shall initially open Bidder's PQR documents only as per Section-B of this specification for review & acceptance. Only after acceptance of PQR documents, BHEL shall open Bidder's technical offers for evaluation. Commercial bids of only accepted/approved Bidders by End users/Customers, shall be considered by BHEL for further processing.

Bidders are required to submit offers as detailed below:

- aa. Documents pertaining to Pre-Qualification requirement (CI AA of Section B of this Specification) shall be in a separate cover / soft-folder with reference no. "CI AA of Section B" marked on it.
- bb. Documents pertaining to Pre-Qualification requirement (CI BB of Section B of this Specification) shall be in a separate cover / soft-folder with reference no "CI BB of Section B" marked on it.
- cc. Technical offers/ proposals separate for each Project, whose requirements are mentioned in Sections C and its subsequent sub-sections will be submitted in a separate cover / soft-folder with Project name & Reference marked on it.

Note 1:-Whenever required during evaluation of PQR and Technical offers/bids, vendor is required to be present at BHEL Electronic Division, Bangalore, for discussions. Further in the event of order, during approval of the vendor documents by End users/Customers, vendor shall accompany BHEL representative for discussions.

Note 2:- Deviations (if any) shall be discussed with only those bidders who quote for this tender.

SECTION- B

AA. Pre-Qualification Requirements (PQR) of Bidders for Coal Bunker level System – 3D type:

1. The bidder should have executed/ completed work of “Design, supply, supervision of erection & commissioning of Coal Bunker level System –3D type in Power Plant of 200 MW or above capacity / similar solid medium silo application in Industries for at least 1 units within preceding Five (5) years as on the date of PQ bid opening.
2. Original Equipment Manufacturers based outside India, who are making offer for this tender shall have authorized representatives in India for support related to Documentation, Erection, Commissioning & any other co-ordination work.
3. Submit Reference List of Projects wherein offered system is supplied & commissioned.
4. For Bidders offering upgraded / latest models, PQR of equivalent previous models is acceptable. OEM shall certify that offered model is upgraded version of previous existing model.
5. OEM shall furnish an undertaking that in case of change in Indian representative / agent, OEM shall continue to support supplies w.r.t to field service and supply of spare parts.
6. Bidder should be authorized and he should have capacity to commission the system in India. The bidder should have the team of experienced service engineers on pay role located at various parts of INDIA. (With documentary evidence).
7. Bidder shall have optimum inventory of critical components like sensors/ electronic modules.
8. BHEL shall issue call for service / commissioning with 15 days’ notice. Bidder shall agree to visit BHEL project sites within above notice period.
9. BHEL shall submit bidder credentials to customer and await customer’s decision for one month from the date of PQ bid opening. If approval is not received within above period, BHEL shall treat the offer as “NOT Meeting PQ” criteria and offer shall be rejected.

Important note: In case Bidder does not submit details mentioned in above clauses or meet the requirements of Pre-qualification requirements, Offers will be summarily rejected and Bidder’s Technical offers/proposals will not be evaluated.

BB. Along with the details related to PQR above, following additional documents shall also be included in the Offer for reference:

1. Technical literature / Manuals of offered Sensors/ System/ Accessories.
2. In the event of technical specification not indicated in Technical literature, confirmation from OEM is acceptable. Such confirmations shall be suitably supported by certificates like Type test / Routine test certificates.
3. Submit Unpriced Purchase Order copies for executed projects in the past five (5) years.
4. Submit List of Projects for which Erection & Commissioning has been carried out in the past five years & minimum one system. Also, submit reports of successful erection & commissioning Protocols & Minutes of the meetings for handing over of Coal Bunker level System – 3D type system for these projects.
5. Name & registered address of the Indian branch office or Indian representative for support of E&C and after sales service with Organization chart.
6. Bidder shall have facility in India for Engineering activities, preparation of Documents, trouble shooting and calibration of the system. Submit these details.
7. If Bidder is not Original Equipment Manufacturer (OEM), then Bidder to include Authorization letter from OEM for Design, Engineering, Manufacture, Testing, supply, Erection, Commissioning and Servicing of the offered System. This Authorization letter provided by OEM to Bidder shall indicate the Type and Duration of Validity of the agreement.
8. Bidders shall confirm to submit unit price of each components for each project as quoted; which shall be used for addition / deletion of items and mandatory spares supply, valid for the tenure of purchase order from the date of bid opening, for the commercially successful offer.

Bidder has to submit PQR checklist / tabulation sheet mentioning the page numbers / references from their submitted offer against Section-B (sub-section AA & BB).

SECTION- C

**CONTENT SHEET FOR
PROJECT-WISE PURCHASE SPECIFICATIONS**

S	PROJECT NAME	CUSTOMER	PROJECT CONSULTANT	SPECIFICATION REFERENCE	NO. OF PAGES
C 1	TELANGANA STPP PHASE-I (2X800 MW)	M/s NTPC	---	CE/416/CBLMS/ TnSTPP/PS	8
C 2	NORTH CHENNAI (1X800 MW) STAGE-III STPP	M/s TANGEDCO	M/s FICHTNER CONSULTING ENGINEERS (I) PVT. LTD	CE/416/CBLMS/ NC/PS	8
C 3	UPPUR (2x800 MW) STPP	M/s TANGEDCO	M/s TRACTEBEL ENGINEERING PVT. LTD.	CE/416/CBLMS/ UPPUR/PS	9



REF.: CE/416/CBLMS/TnSTPP/PS

REV.: 00

PAGE: 1 of 8

CUSTOMER : M/S NTPC

PROJECT : TELANGANA (2×800 MW) STPP

**PURCHASE SPECIFICATION
FOR
3D TYPE ACOUSTIC WAVE LEVEL SCANNER
FOR COAL BUNKER LEVEL MONITORING**

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REVISIONS: 00

APPROVED BY


S. K. TOPPO

PREPARED BY

ISSUED

DATE


D. GHOSH

416

10/05/2018



Purchase Specification for 3D type Acoustic Wave Level Scanner for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/TnSTPP/PS
REV. NO.: 00
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AA Project Synopsis: NTPC – Telangana STPP Phase-I (2x800 MW)

- TnSTPP is located at about 51 km from district headquarter Karimnagar and at about 1 km near Ramagundam village.
- The site is well connected through NH-07 and NH-16 through (Hyderabad-Mancherial Road popularly known as Rajiv Rahadari).
- Nearest railway station Ramagundam is about 5 km from the plant which lies on the main Kazipet-Balarshah Broad Gauge line of South Central Railway.
- The nearest commercial airport Hyderabad is at a distance of about 210 km.

BB Product Description:

3D type acoustic wave level transmitter with all required accessories for – Total **2 (two) units** of the Coal fired Thermal Power Plant **each unit with 9 (nine) bunkers**.

CC Scope of Supply & Services:

Complete Level Monitoring System comprising of Acoustic Frequency Based 3D Level Scanners, PC, electronic modules, splitters, modems, junction boxes, mounting kit, enclosures, interconnecting cables, software and all other accessories required to make the system complete and fully functional, shall be provided for continuous level measurement and monitoring of level of each coal bunker as per technical requirement specified further.

Instrumentation cable required for transmitting the signals from Local Indicator Enclosure/s to DDCMIS or LMS PC will be supplied by BHEL.

Scope of Supply shall include Engineering, Manufacturing & Testing, and Services for sensor installation, Supervision of balance Erection activity, Commissioning & Training activities as per this specification.

DD Technical Requirement:

1.0 3 D TYPE ACOUSTIC WAVE LEVEL SCANNER

Type	:	One Set of Non-Contact Acoustic Frequency Waves Based 3D Level Scanner for each Coal Bunker
Protection Class	:	IP-65 or Better
Housing and Antenna	:	Die-Cast Aluminium
Accuracy	:	1% or Better
Measurement Range	:	Empty to Full (Coal Bunker)
Power Supply	:	24V DC for 3D Level Scanner, 230V AC for LMS PC
Local Indicator (Applicable for Coal Bunker)	:	For Each Bunker Bay, One Set of Local Indicators mounted at Tripper Floor for respective coal bunkers in that Bay. Above Local Indicators shall display Average Level of each Coal Bunker. Local Indicator shall be mounted inside an Enclosure with Transparent Window for Viewing. Degree of Protection of Enclosure – IP55 or Better



Purchase Specification for 3D type Acoustic Wave Level Scanner for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/TnSTPP/PS
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LMS PC	:	1 No. PC Per Unit (in Programmer Room in Main Plant CCR/CR) for Coal Bunkers. Above PC shall display Average Level, Maximum Level, Minimum Level, Volume, Mass and Real Time Complete 3D Profile of each Coal Bunker.
<p>4-20 mA signal shall be hardwired to DDCMIS for displaying Average Level of each Coal Bunker.</p> <p>In addition to the information available in LMS PC, the vendor shall provide all required hardware and software to display the respective information on OWS located at Main Plant CCR/CR and separate OWS located in CHP DDCMIS. Instrumentation cable required for transmitting the signals will be supplied by BHEL. The vendor has to include all other required hardware, modems, connectors etc.</p>		

2.0 Specification of Enclosure for mounting Local Indicators

- a. Panel shall be made up of 2 mm thick CRCA steel sheet.
- b. Anti-vibration pad of about 15 mm shall be provided.
- c. Panel protection class shall be IP – 55 or better
- d. Door shall be provided of 2 mm thick CRCA steel sheet.
- e. Front door shall have a toughened glass for viewing local indicator/s.
- f. 3 point locking system
- g. Paint shade/s shall be :
Front & Rear = RAL 9002 (Semi Glossy)
End Panel side = RAL 5012 (Semi Glossy)
Internal colour shall be same as external colour
- h. Panel painting shall be powder coated 100 microns thick or more.
- i. Cutout with cable-gland plates shall be provided on the bottom of the Panel, for Cabling.
- j. Suitable Lifting Hooks shall be provided on the Panel.
- k. Provision shall be made in the Panel to accept one 24V DC power supply feeder, one 240 V AC UPS feeder and one 240 V AC Non-UPS feeder with required MCB's.
- l. Terminals shall be Clip-on type for cable termination. 20 % spare terminals shall be offered.
- m. Illumination shall be provided in the panel.

3.0 Specifications for LMS PC

- a. Minimum Intel core I5 processor
- b. 800 x 600 Graphic resolution
- c. 24" Colour LCD monitor
- d. 4 GB RAM, 1000 GB HDD
- e. DVD ROM
- f. Windows 8 or Windows 10 as compatible with the system
- g. Adobe Acrobat, Latest MS-Office (Word, Excel, PowerPoint, Outlook)
- h. Antivirus software with IPS (Mcafee or equivalent)
- i. 2 Ethernet ports, 2 USB ports
- j. Keyboard and optical mouse
- k. Any other communication ports / Hardware as per 3 D level scanner requirement.
- l. Preferred Makes: DELL, HP COMPAQ, NEC & IBM.



Purchase Specification for 3D type Acoustic Wave Level Scanner for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/TnSTPP/PS
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4.0 Interconnecting cable

- a. All interconnecting cables supplied by vendor shall be immune to environment, RFI and magnetic interference normally prevalent in the plant area. The interconnecting cables shall not be an integral part of the transmitter. The interconnecting cable shall have minimum 1 no. spare pair.
- b. Vendor shall include 25 meters of interconnecting cable (armoured type) for each 3D transmitter up to Local Indicator Enclosure/s.

5.0 Mandatory Spares

Coal Bunker Level Indicating System		
(a)	Acoustic 3D Level scanner	10% of each type, make and model or 1 no. whichever is more.
(b)	Local indicator	2 nos. per unit

Note: Vendor to offer above listed mandatory spares with unit prices.

EE Documentation Requirements:

1. Documents to be furnished, with the offer:-
 - 1.1. Datasheets / Drawings of offered items / system
 - 1.2. Technical Literature / Catalogs
2. Documents to be furnished, for Approval, in the event of order:-
 - 2.1. System Architecture & Write-up
 - 2.2. GA drawing of Enclosure showing overall dimension & layout of items housed inside.
 - 2.3. Scanner location and installation drawing.
 - 2.4. Datasheets, Component Drawings and BOM of offered items.
 - 2.5. Electrical Schemes with Termination details for Power & Signal Wiring.
 - 2.6. Technical Literature
 - 2.7. Manufacturers Quality Assurance Plan.

The datasheet shall include the filled-up format, as below:

A.	Bunker Level Indicators	
A.1	Type & Make of main bunker level indicator	:
A.2	Total number of 3D type acoustic wave level transmitter provided	: (Nos.)
A.3	Accuracy (guaranteed)	:
A.4	Type & Make of level indicator as back-up [for main bunker level indicator] for high/high level	:
A.5	Accuracy of back-up level indicator (guaranteed)	:
A.6	Total number of back-up level indicator provided	: (Nos.)
A.7	Location of annunciation & indication provided (for above level indicators)	: (Yes/No)

Note: All above documents shall be submitted in 2 sets of hardcopies. Also a Soft copy in "pdf" format of all the above documents shall be furnished.



**Purchase Specification for
3D type Acoustic Wave Level Scanner for Coal
Bunker Level Monitoring**

REF.: CE/416/CBLMS/TnSTPP/PS
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-
3. Quality Documents to be submitted for approval, in the event of order:-
Test Certificates and Calibration Reports, for approval, before dispatch of items. The calibration reports shall correspond to range of the Transmitter.
 4. Operation and Maintenance (O & M) Manual:-
4 sets hardcopies (2 sets to BHEL-EDN & 2 sets with consignment to site). Also, a soft copy of O&M manual to be provided.

FF Erection & Commissioning Requirements:

1. Erection and Commissioning Training requirement for offered System
 - 1.1 A representative of bidder shall visit site with approved BOM for validation of supplies made
 - 1.2 Supervision of Erection of Transducer on Top of each Bunker.
 - 1.3 Supervision of Erection of balance items
 - 1.4 Total Commissioning and handing over of the offered systems offered to Owner / End user.
 - 1.5 Bidder to include one site visit of min. 5 man-days during Performance Availability Test.
 - 1.6 Three days of Training to Site Engineer/s at Site.
-

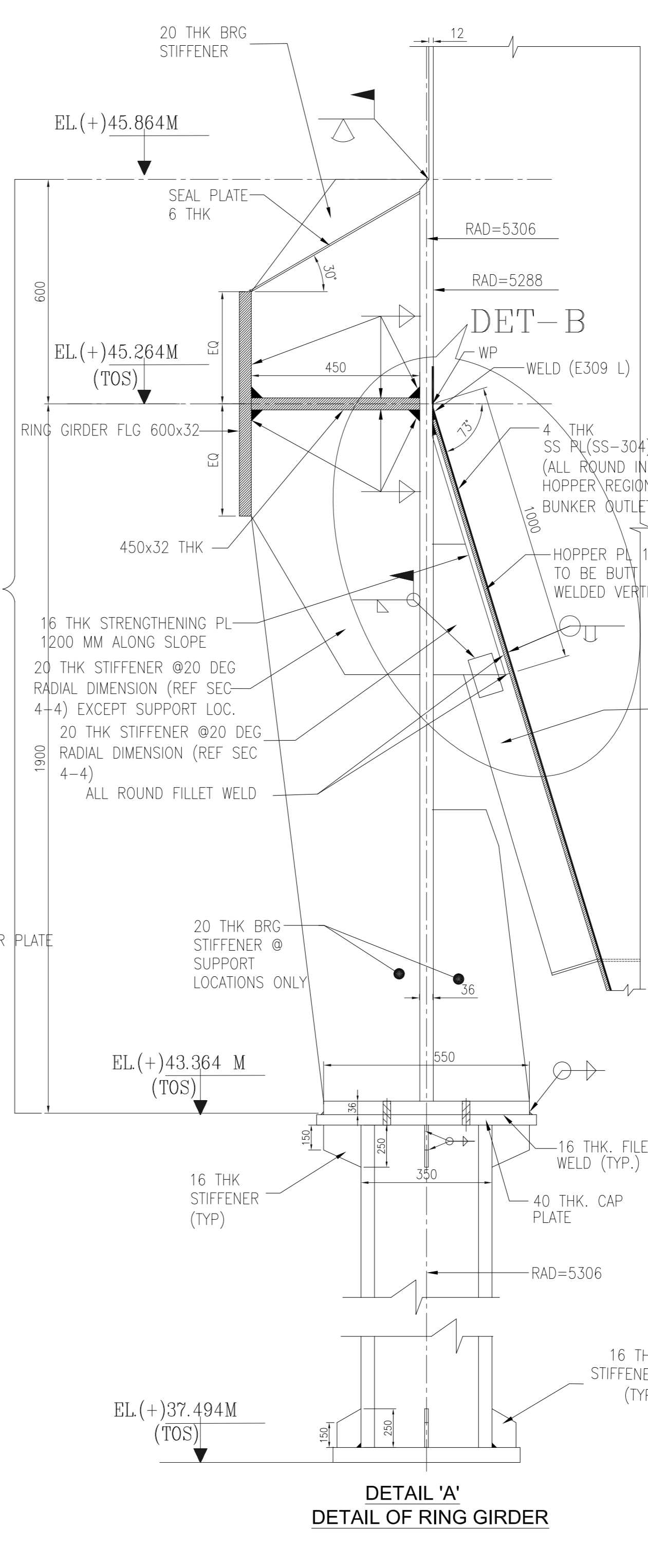
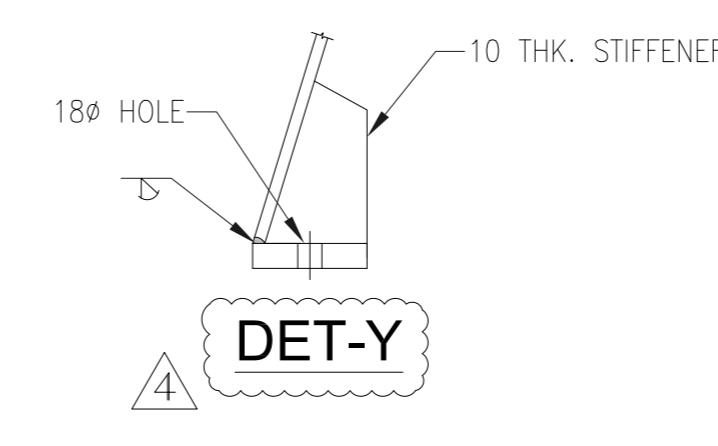
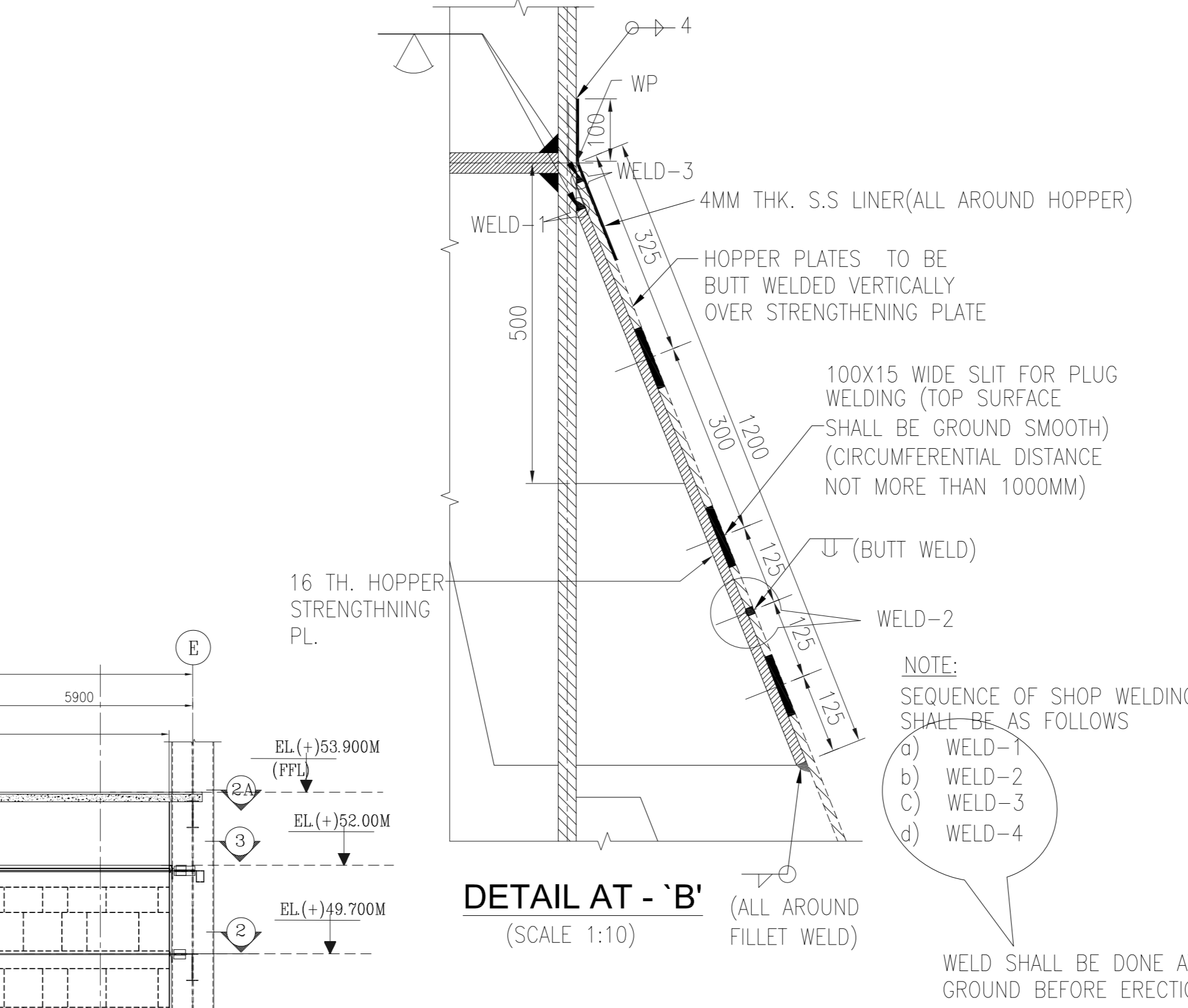
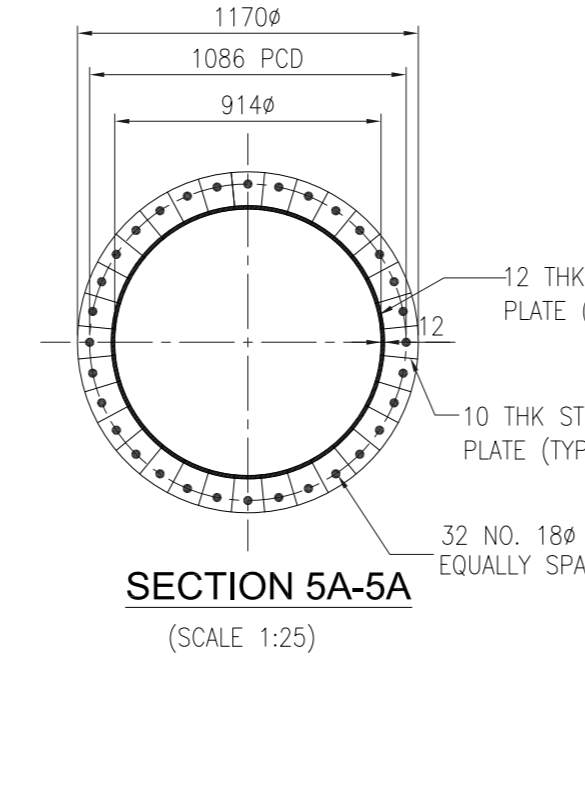
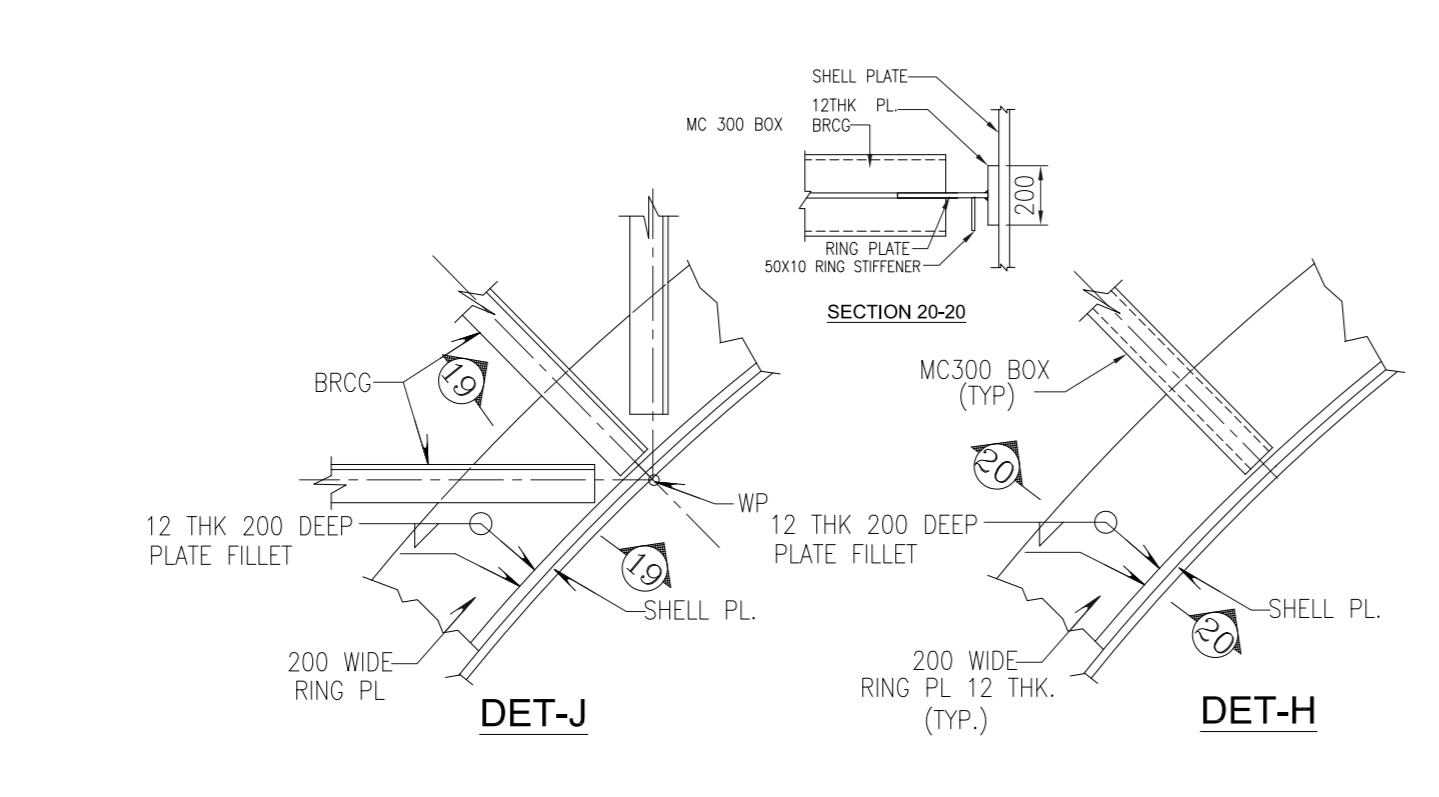
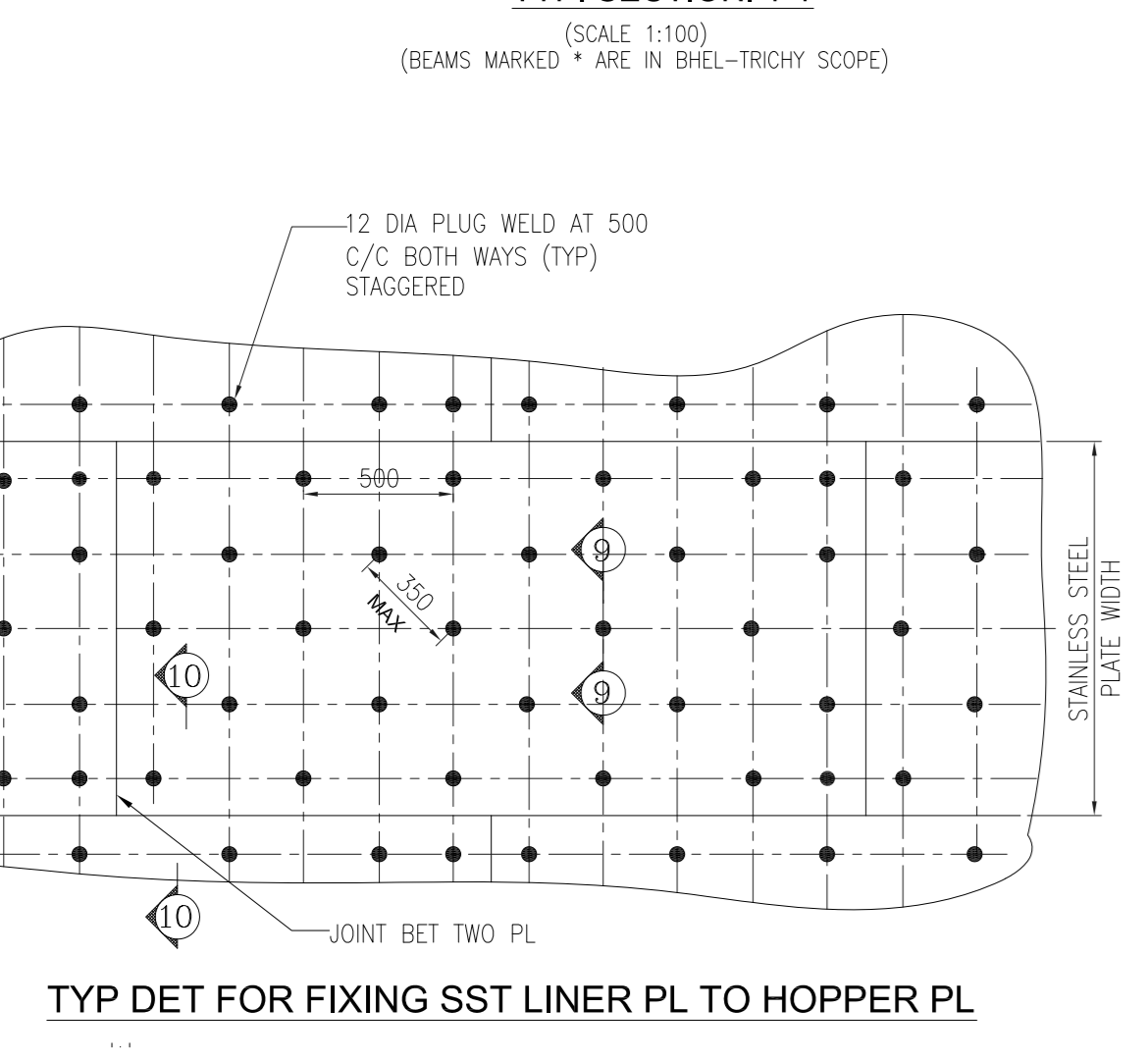
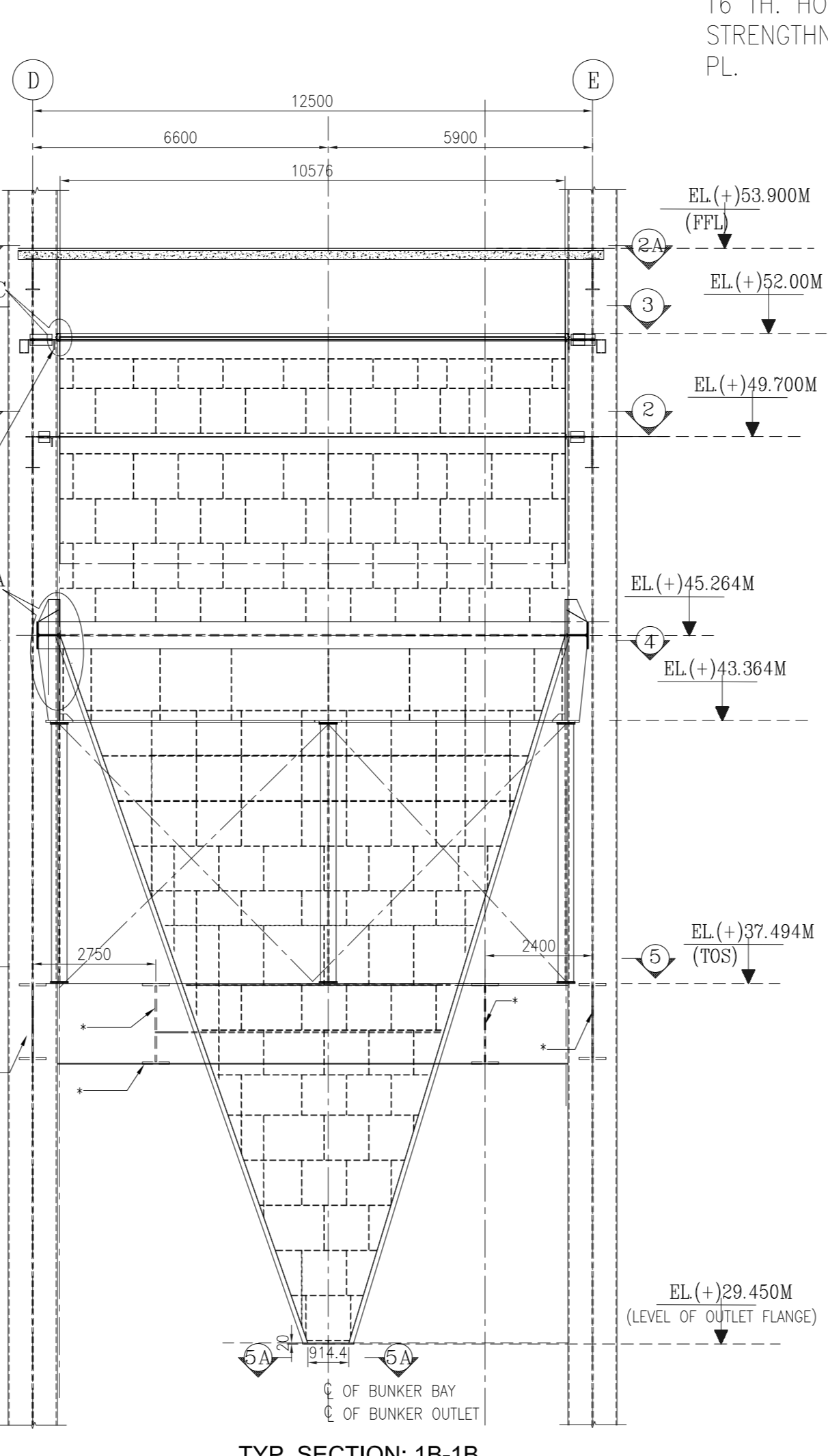
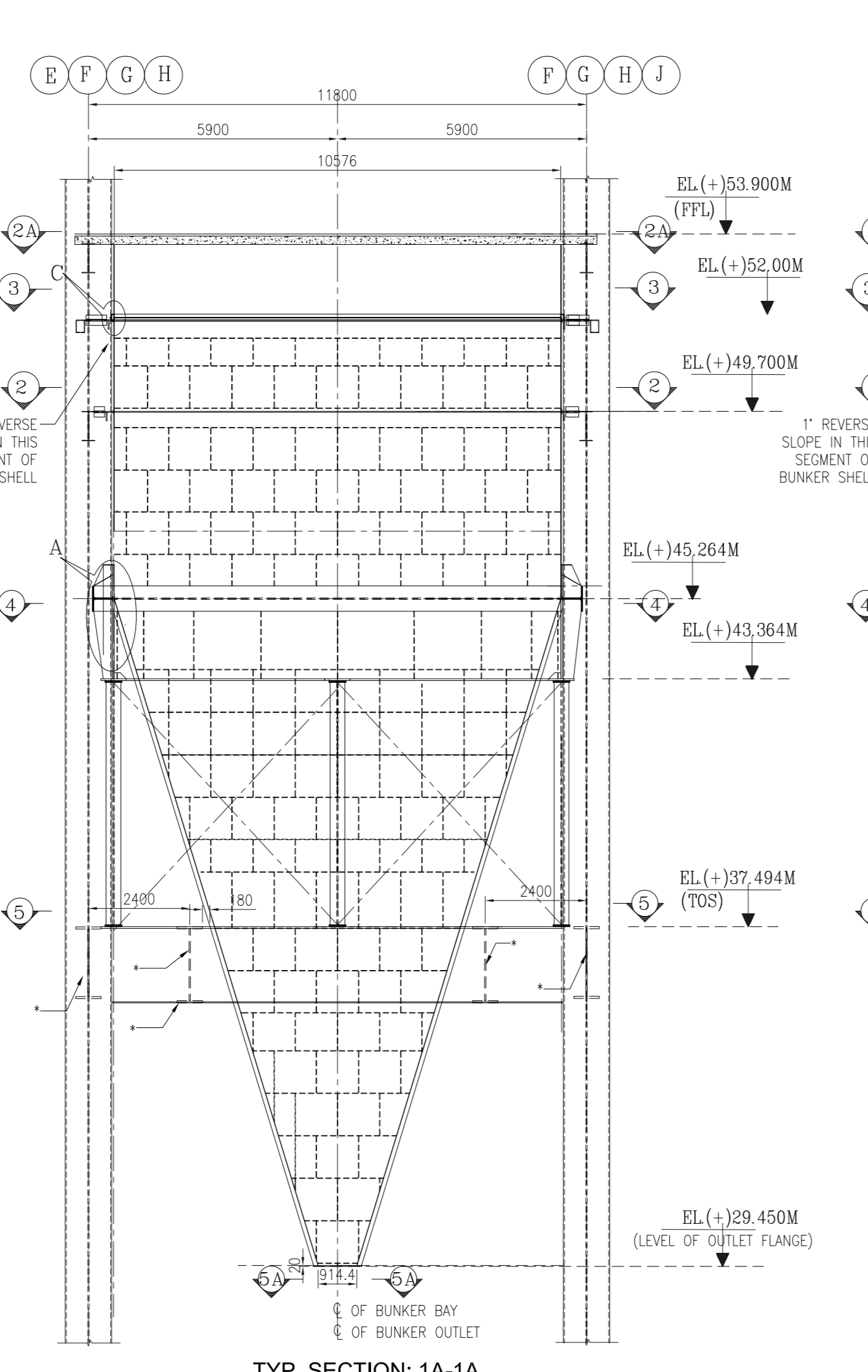
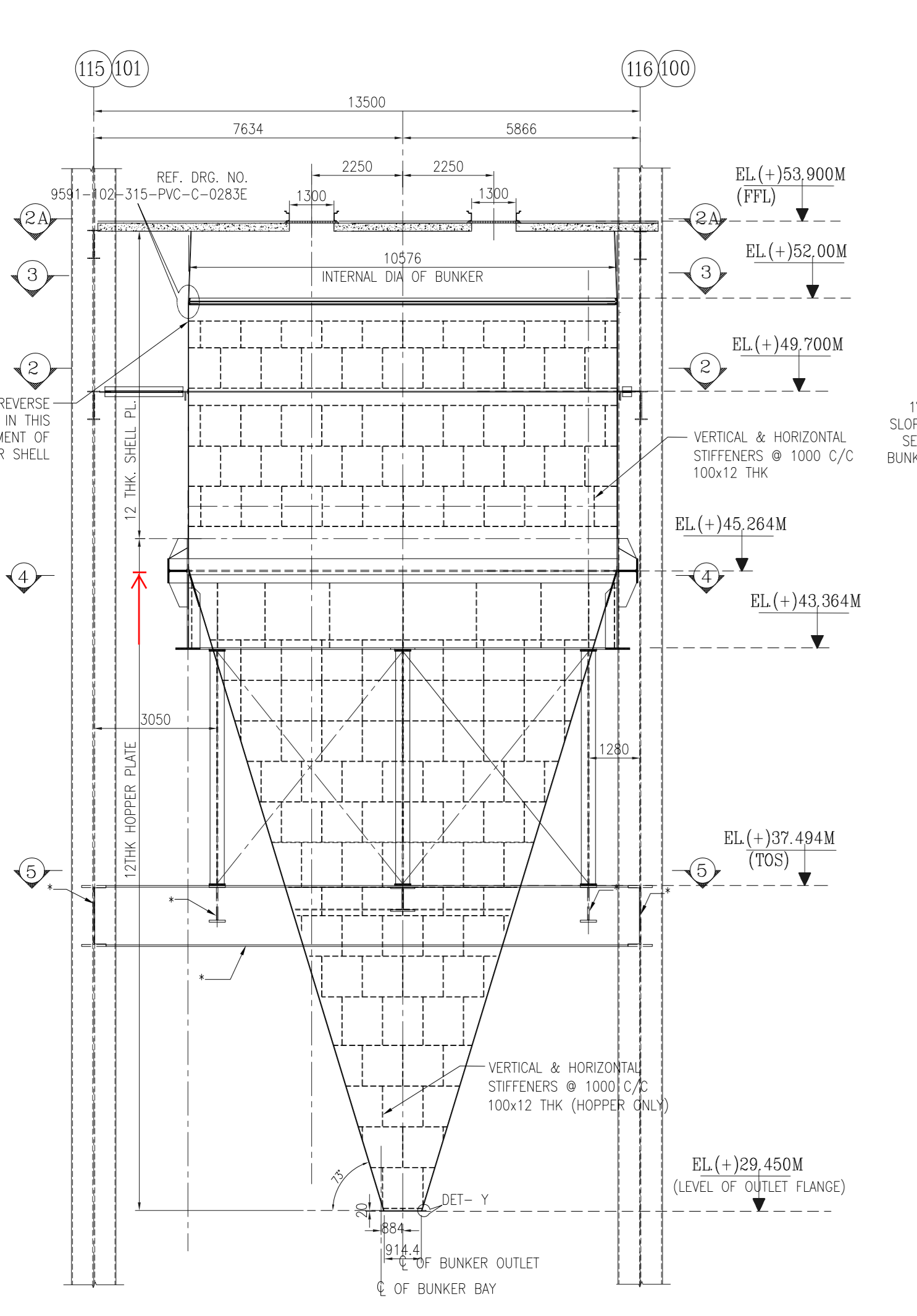
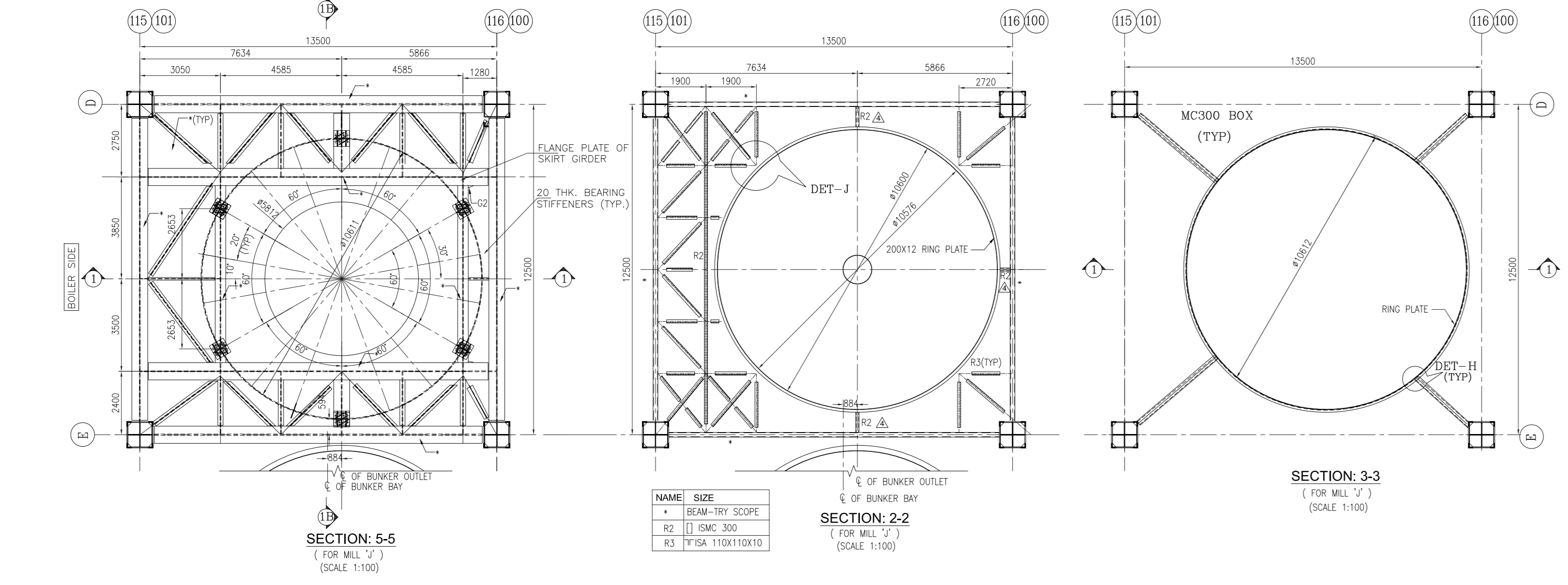
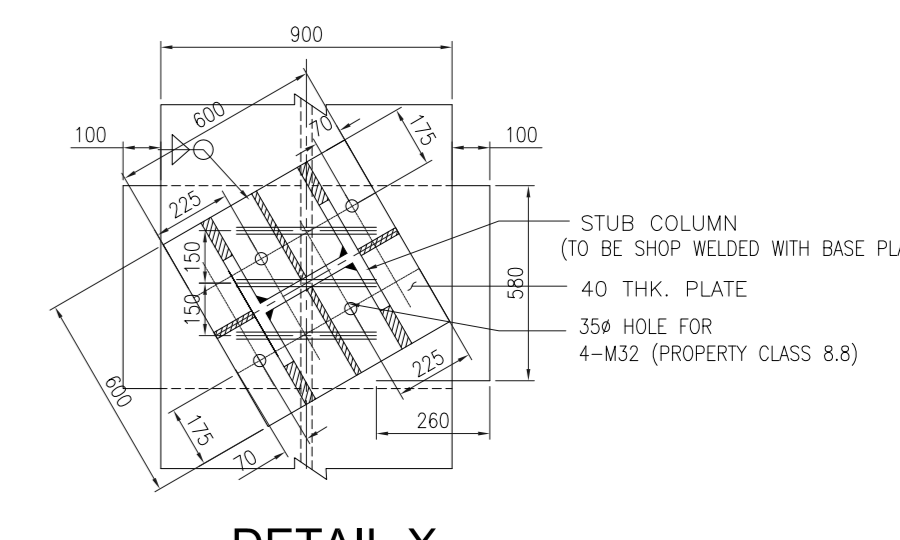
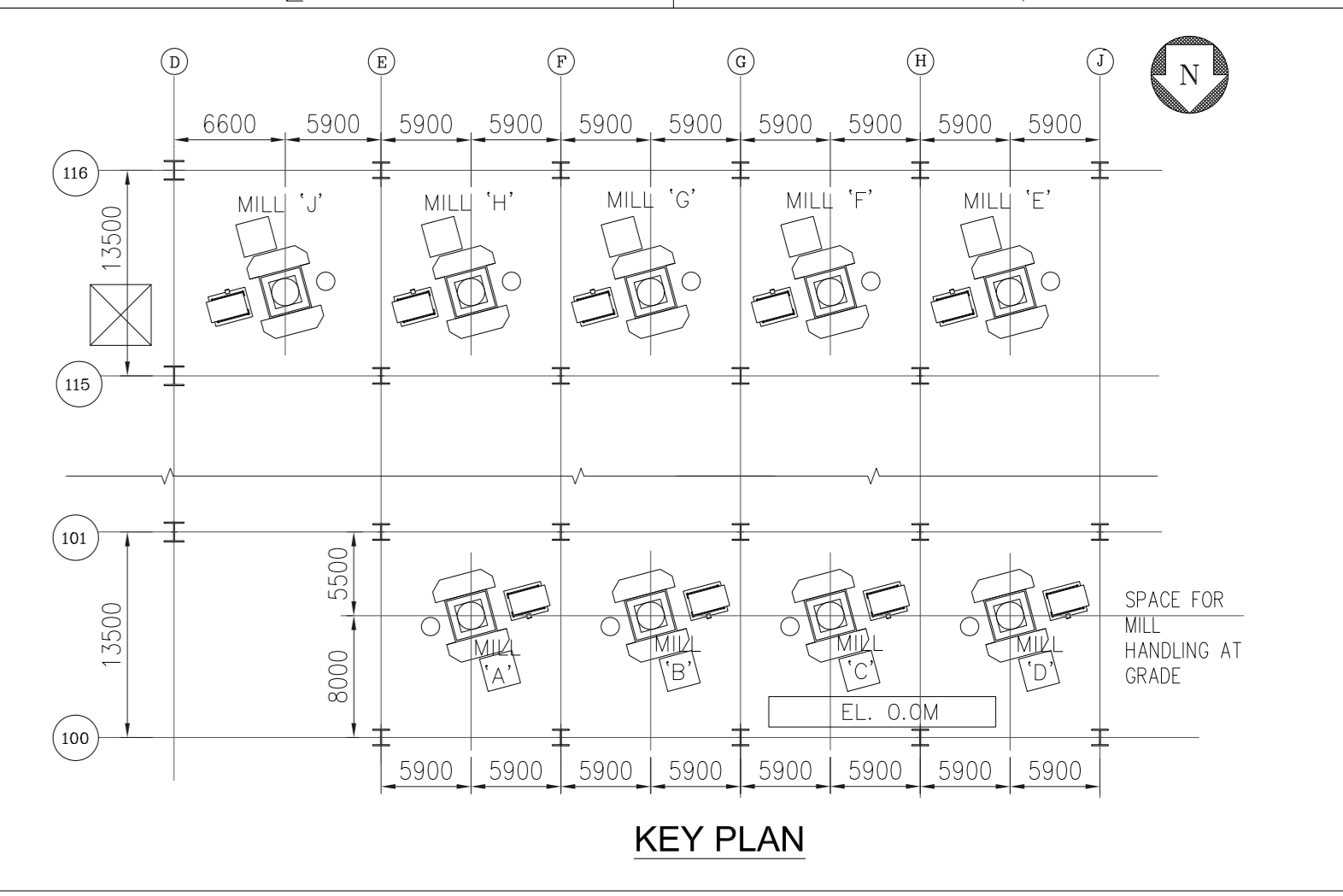
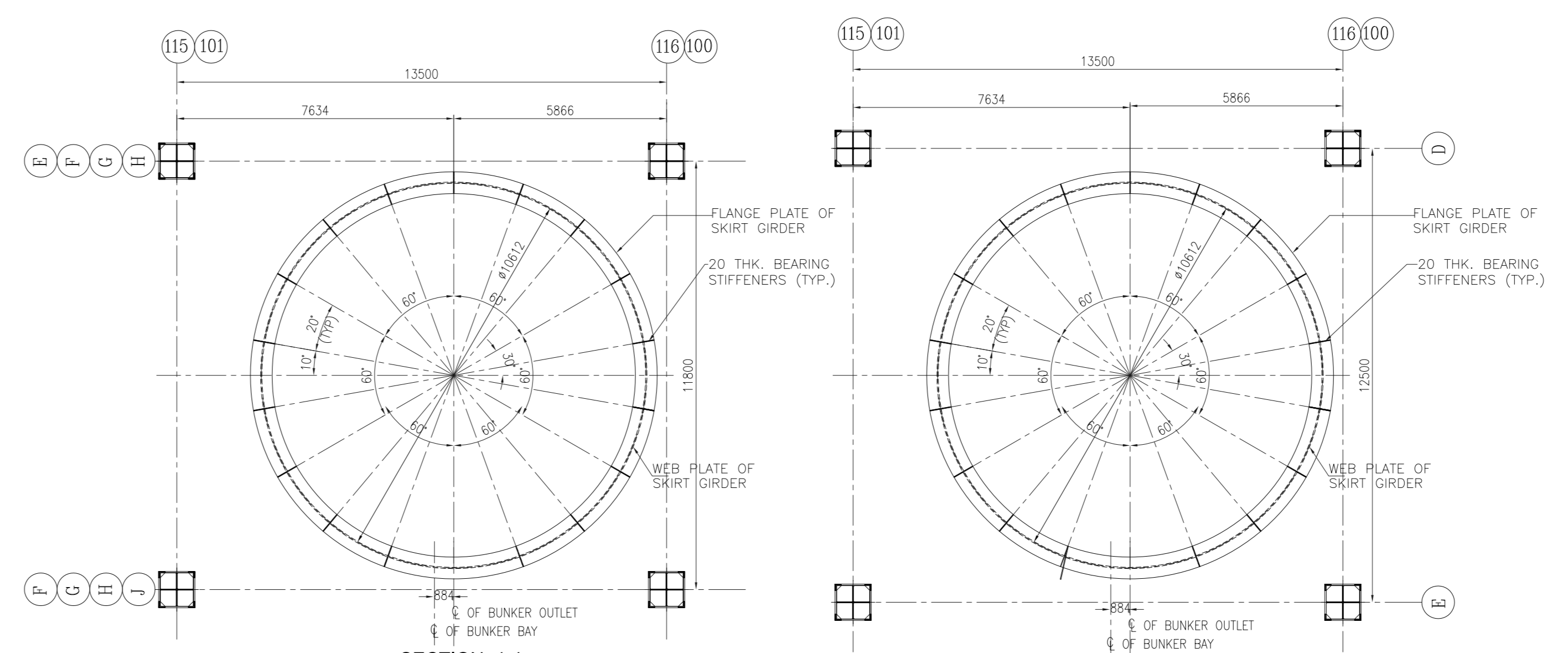
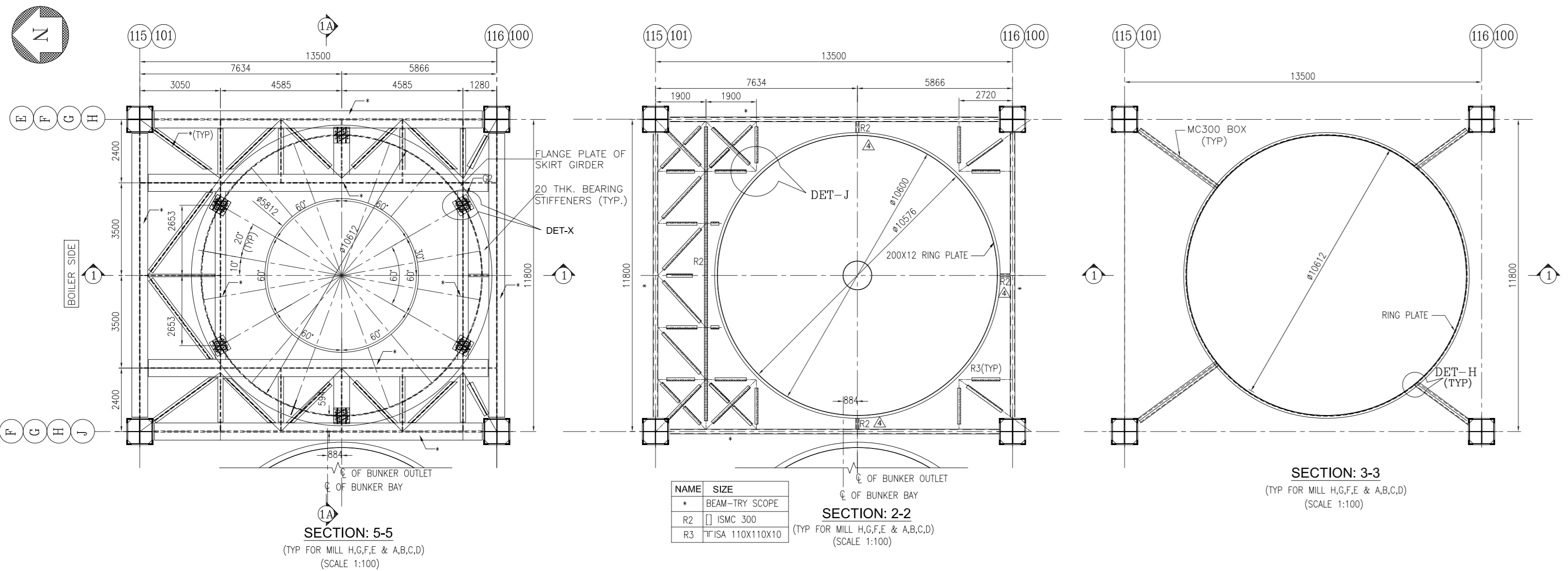


**Purchase Specification for
3D type Acoustic Wave Level Scanner for Coal
Bunker Level Monitoring**

REF.: CE/416/CBLMS/TnSTPP/PS
REV. NO.: 00
PAGE: 6 of 8

GG – BUNKER DRAWINGS

PE-DG-424-616-C014
DRAWING NO.



- NOTES:-
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, SPECIFICATIONS AND SCHEDULE OF ITEMS.
 2. ALL ELEVATION LEVELS ARE REFERRED TO THE FINISHED GROUND FLOOR LEVEL OF POWER HOUSE BUILDING AS 0.0M WHICH CORRESPONDS TO RL 149.0M ABOVE SEA LEVEL.
 3. ALL DIMENSIONS ARE IN MILLIMETRE AND ALL LEVELS ARE IN METRE.
 4. PROPER CARE SHALL BE TAKEN IN WELDING OF BUNKER PLATES, HORIZONTAL & VERTICAL JOINTS IN BUNKER & HOPPER SHALL BE SUBJECT TO NDT AS PER FOP.
 5. VERTICAL JOINTS IN BUNKER PL SHALL BE STAGGERED.
 6. PLATE SHALL BE CUT TO MAX WIDTH TO REDUCE NUMBER OF JOINTS.
 7. BEFORE COMMENCING REGULAR FABRICATION OF THE BUNKER TRIAL ASSEMBLY AT SITE OF THE BUNKER INCLUDING HOPPER SHALL BE MADE ATLEAST FOR ONE BUNKER.
 8. ALL END CONNECTIONS FOR BRCS SHALL BE DESIGNED FOR FULL TENSILE STRENGTH OF MEMBERS.
 9. STAINLESS STEEL LINER IN THE COAL HOPPER & SLD SHALL BE OF 4MM THICKNESS OF GRADE S-304 TYPE 304 CONFORMING TO ASTM A 240 WITH MILL FINISH 2B, COLD ROLLED, ANNEALED AND DESCALED (DICKLEDE) & SIKN PASSED MATERIAL & SHALL BE PROVIDED ON THE INNER FACE OF INCLINED PORTION OF HOPPERS UP TO MOUTH OF THE HOPPERS, WITHOUT ALLOWING ANY PROJECTIONS IN COAL FLOW PATH.
 10. PLUG WELD IN SST LINER PLATE SHALL BE GROUND SMOOTH TO MATCH WITH PLATE PROFILE.
 11. ALL BUTT WELD OF BUNKER SUPPORTING STRUCTURE SHALL BE 100% RADIOGRAPHED. ELECTRODE E308L FOR WELD JOINTS BET SST PLATES & E309L FOR WELD JOINTS BETWEEN SST PL & MS PLATE.
 12. SPOT RADIOGRAPHY FOR BUTT WELDS SHALL BE CARRIED OUT IN TENSION ZONE AND IN COMPRESSION ZONE AS PER FOP.
 13. ALL SITE FILET WELDS OF BUNKER AND BUNKER SUPPORTING ORDERS/BEAMS AS PER FOP.
 14. ADEQUATE TEMPORARY STIFFENER TO BE PROVIDED TO AVOID BUCKLING DISTORTION OF BUNKER STRUCTURE DURING FABRICATION, HANDLING AND ERECTION STAGE.
 15. VERTICAL JOINT IN SIDE PLATE SHALL BE STAGGERED.
 16. BEAMS MARKED "A" ARE IN BHFL TROCHY SCOPE.
- NOTE: DIMENSIONS ON HOLD DUE TO NON AVAILABILITY OF VENDOR DRG.

LEGEND:

BOS - BOTTOM OF STEEL
C/C - CENTRE TO CENTRE
CL - CENTER LINE
EL - ELEVATION
LVL - LEVEL
TOS - TOP OF STEEL
TYP - TYPICAL
UNO - UNLESS NOTED OTHERWISE

S.NO.	BILL OF MATERIAL (FOR FABRICATION)	(MT)
1	4 MM THK. SS LINER	8.42
2	6 MM THK.	0.801
3	10 MM THK.	0.443
4	12 MM THK.	1.10
5	16 MM THK.	8.83
6	20 MM THK.	1.61
7	32 MM THK.	9.42
8	36 MM THK.	32.9
9	40 MM THK.	1.35
10	MC 300	0.844
11	ISA 110X110X10	3.3
12	MC 200 BOX	4.42
13	ISA 75X75X8	0.29
	TOTAL	182.628

THIS DRG. IS READ IN CONJUNCTION WITH DRG. 9991-102-315-C-0283E

BHEL-PROJECT ENGINEERING MANAGEMENT(CIVIL)

THIS DRAWING MARKED (✓) IS RELEASED FOR

COMMENTS/APPROVAL

PLANNING/INFORMATION

CONSTRUCTION

STAMP ALL PREVIOUS REVISION AS SUPERSEDED

ISSUED BY: PRADEEP PAUL

SIGNATURE: [Signature]

DATE: 14 MARCH 2018

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD
4	14.03.18	YK	PRADEEP	MKP	3	24.07.17	YK	PRADEEP	MKP	2	15.04.17	YK	PRADEEP	MKP

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DRG. REVISED AS PER NTPC COMMENTS RECEIVED ON 27/03/2017. CHANGES MKD. IN CLOUD/ ☒

DRG. REVISED AS PER NTPC COMMENTS RECEIVED ON 28/02/2017. CHANGES MKD. IN CLOUD/ ☒

NTPC DRG. No. 9591-102-315-C-0283C

CUSTOMER: **NTPC**

OWNER: **NTPC Limited**
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

CUSTOMER'S CONSULTANT

TELANGANA SUPER THERMAL POWER PROJECT
PHASE-I (2X800MW)
STEAM GENERATOR PACKAGE

JOB NO. 424

STATUS: CONTRACT

DISTRIBUTION

TO: [List of recipients]

DEPT. CODE: C

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT.	DRN	YK	NAME	SIGN	DATE
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	CHD	RP	SD/-	10.02.2017	
	APPD	MKP	SD/-	10.02.2017	

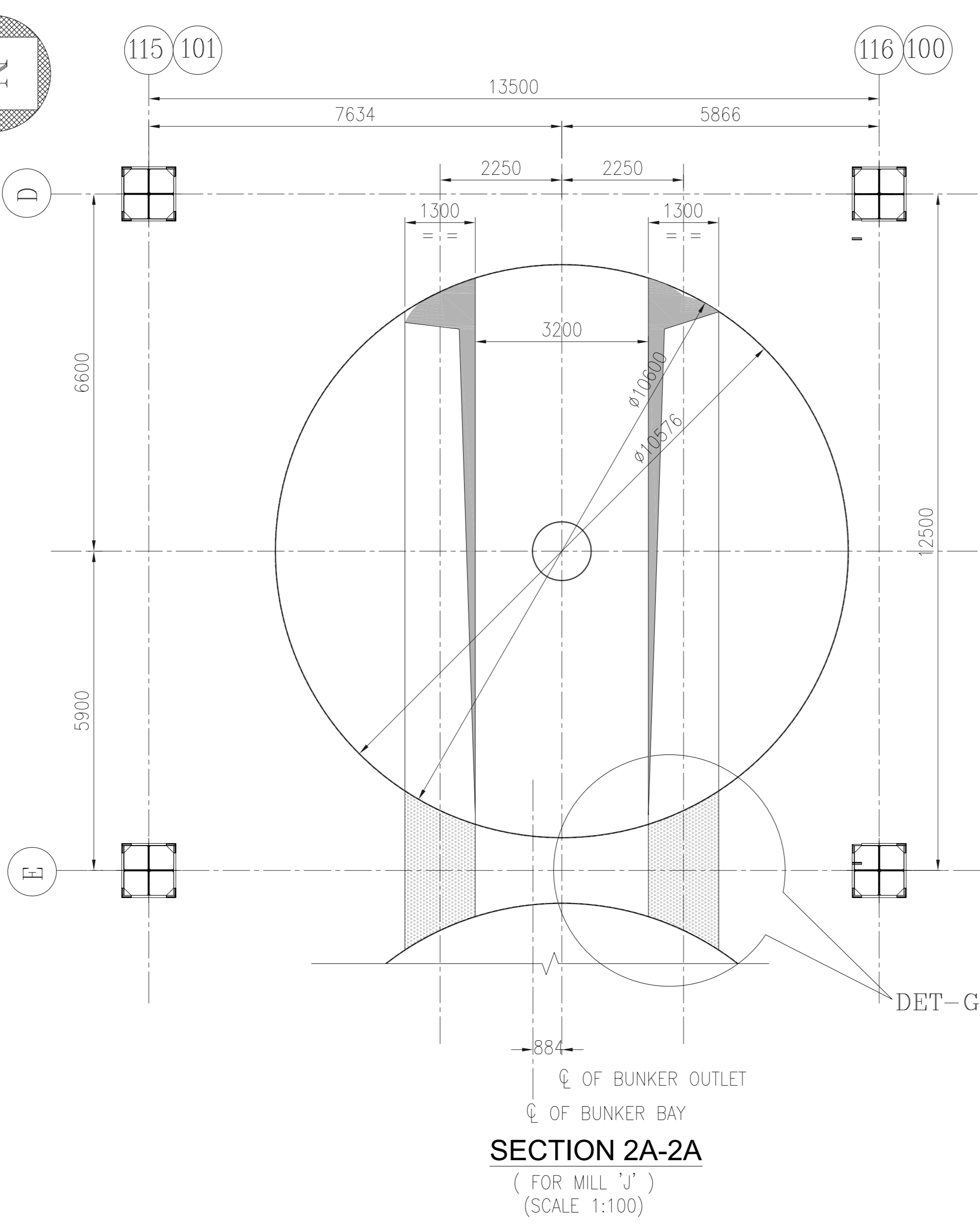
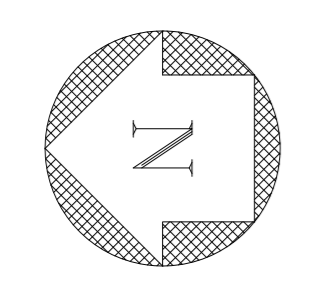
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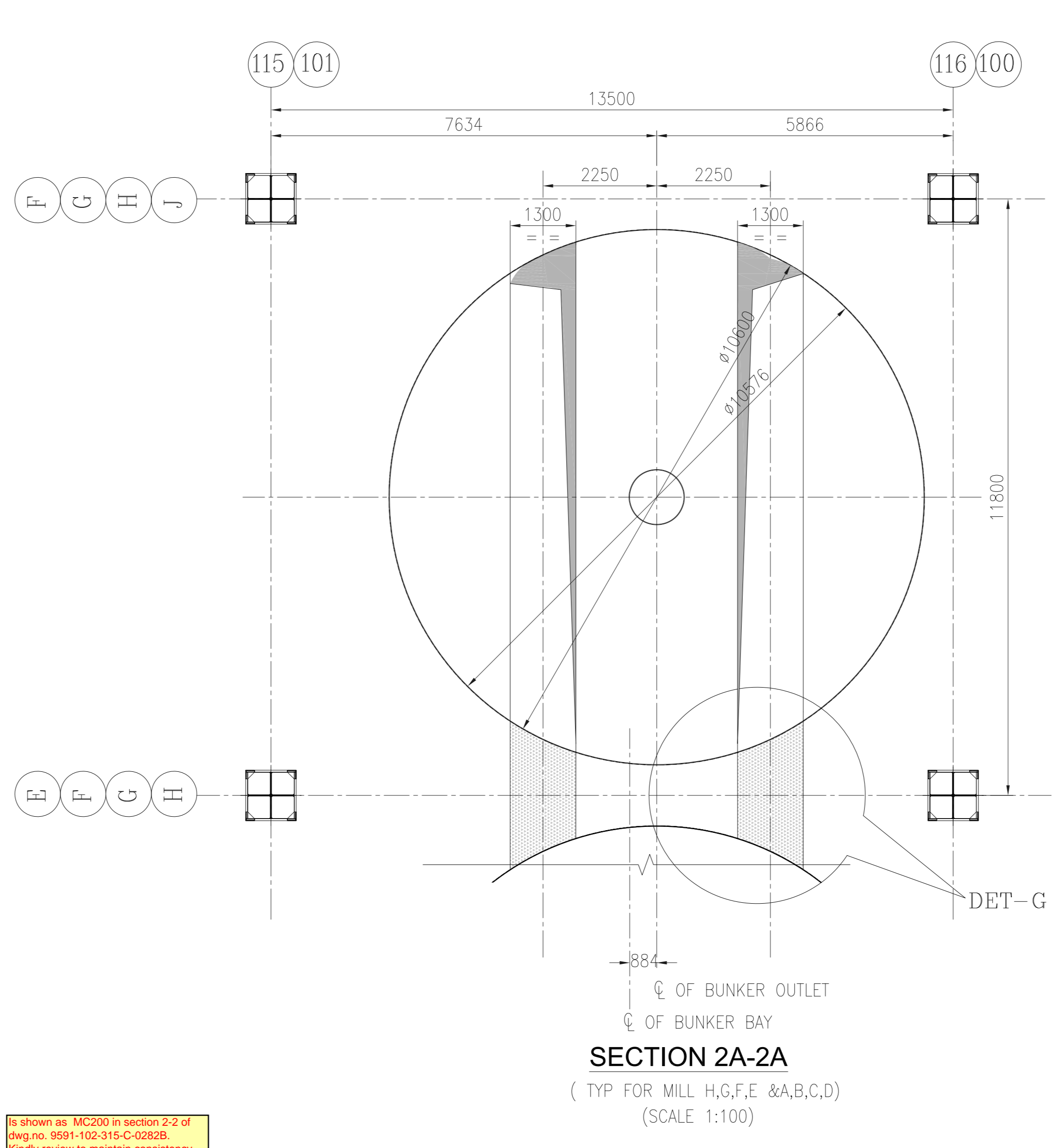
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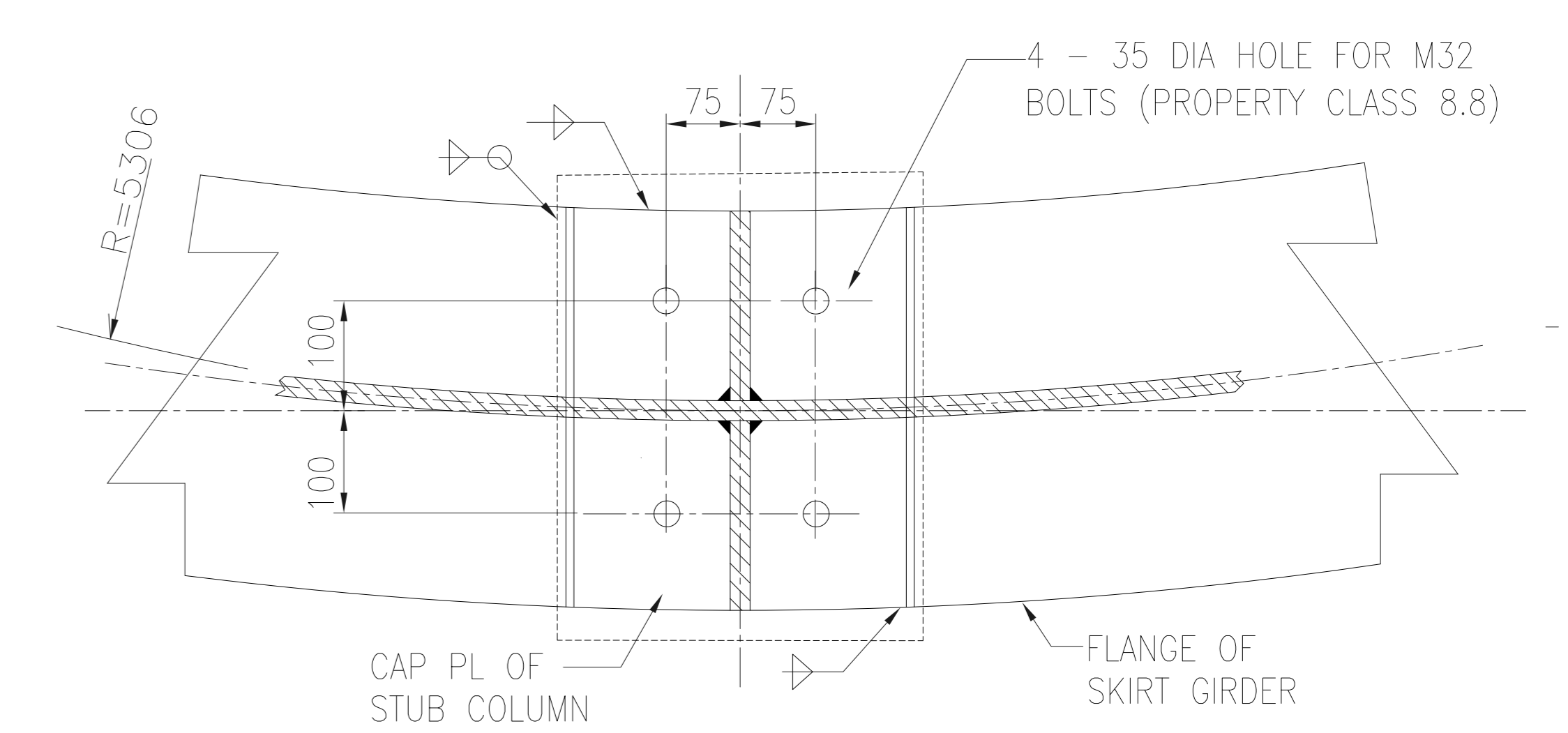
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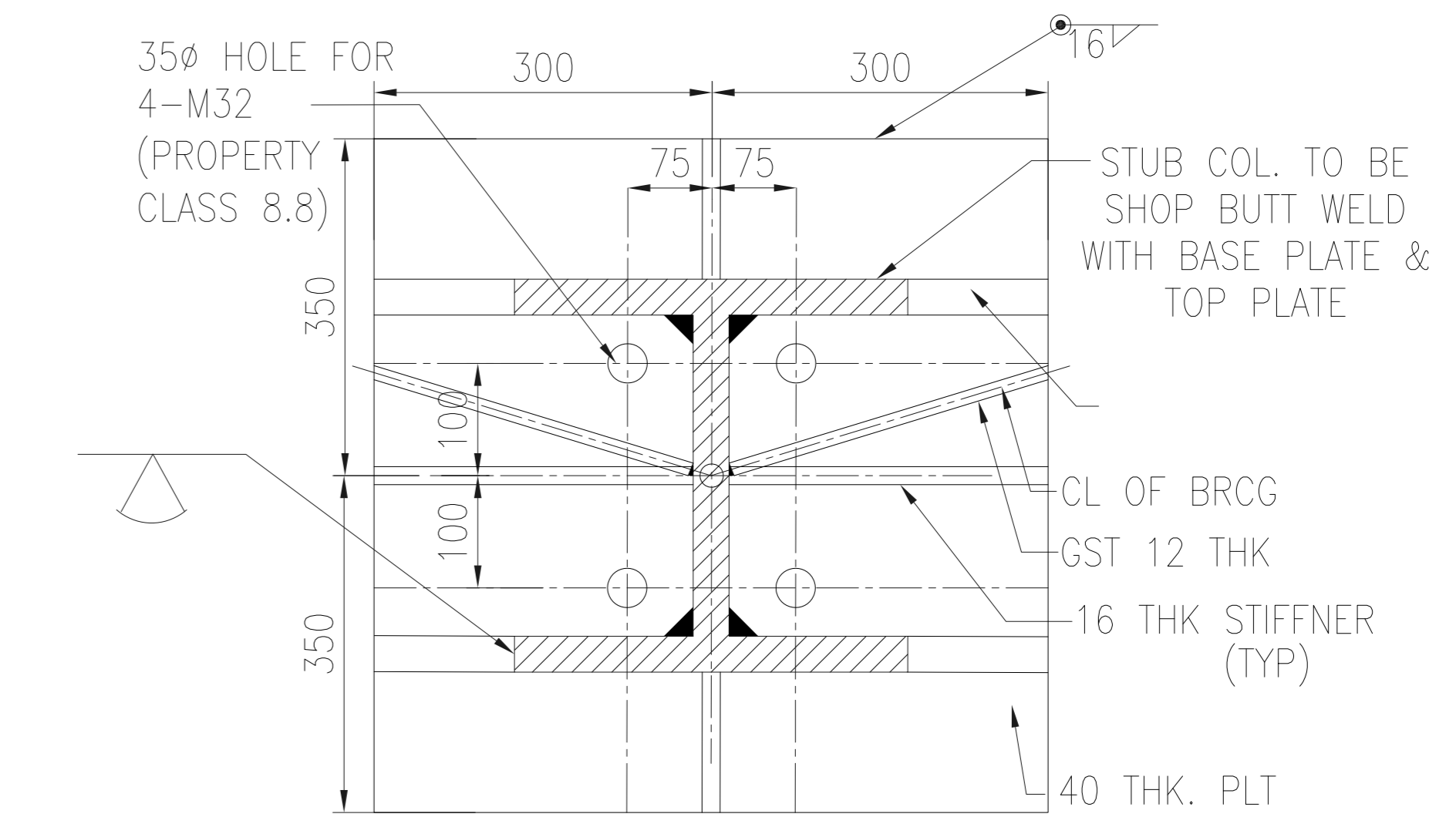
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(FOR MILL 'J')
(SCALE 1:100)



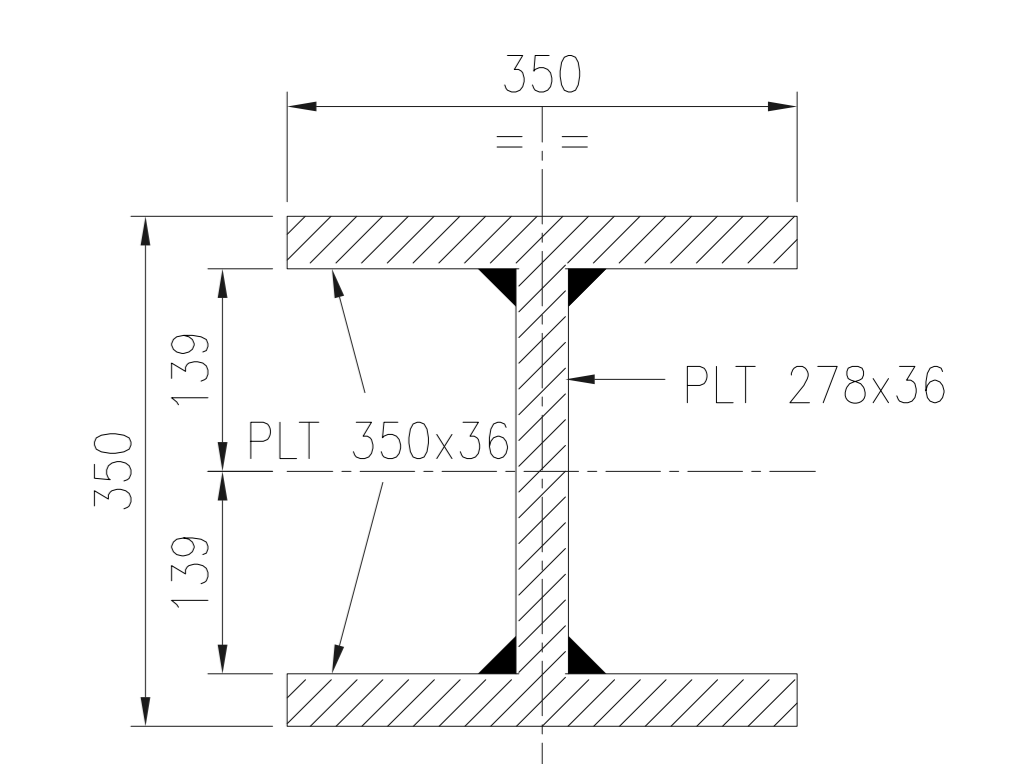
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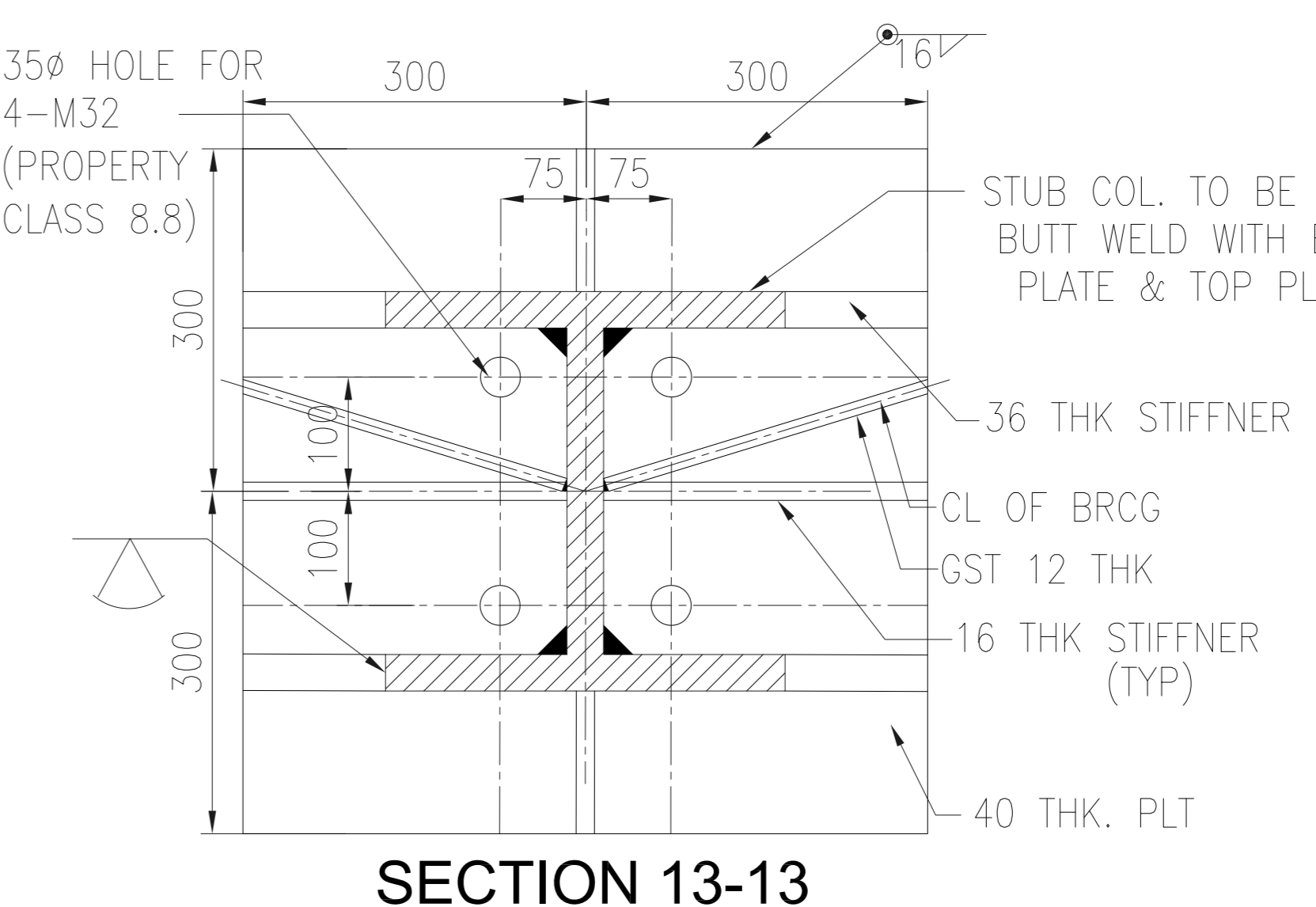
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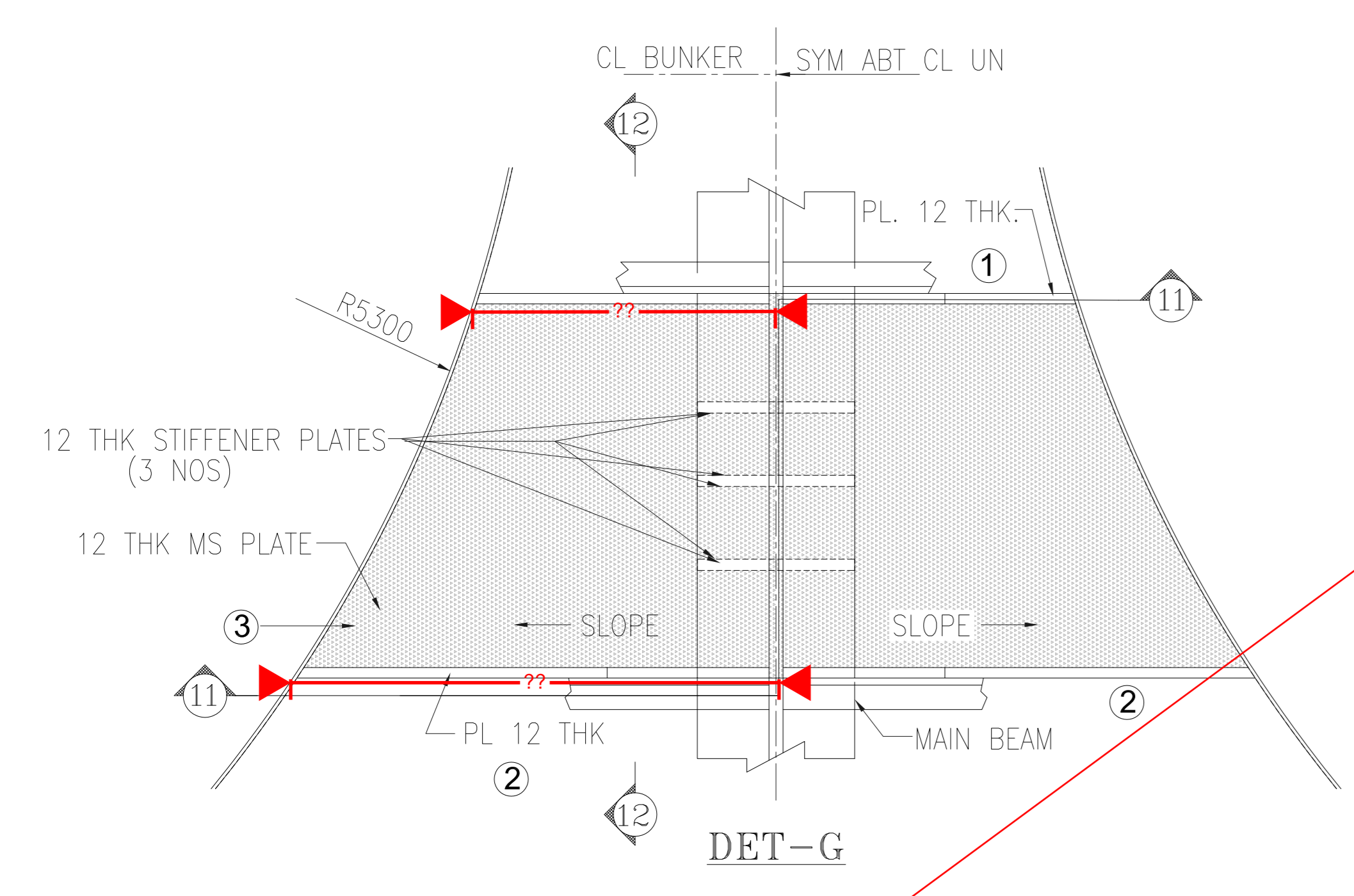
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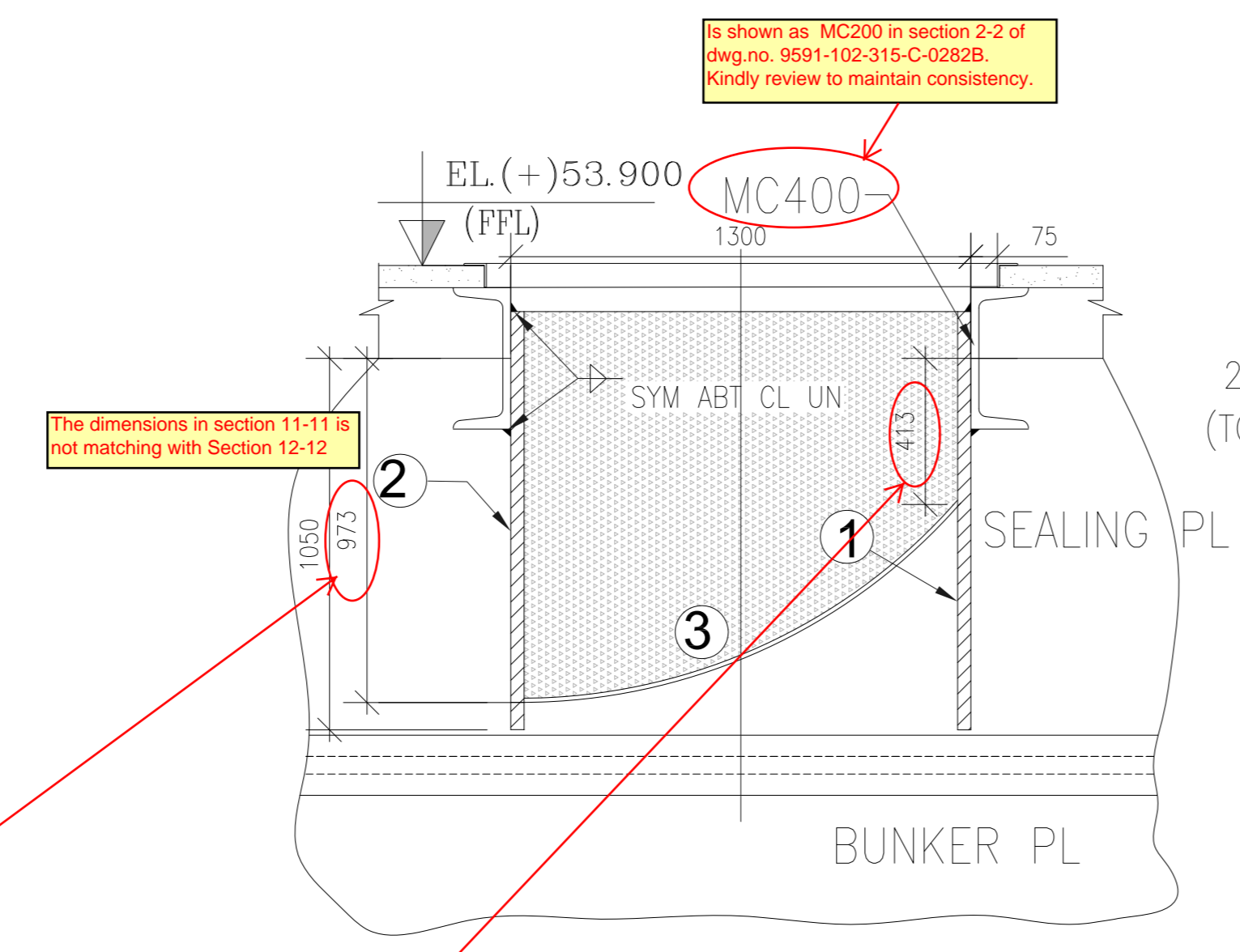
SECTION 14-14
DETAIL OF STUB COLUMN
(TYPICAL)



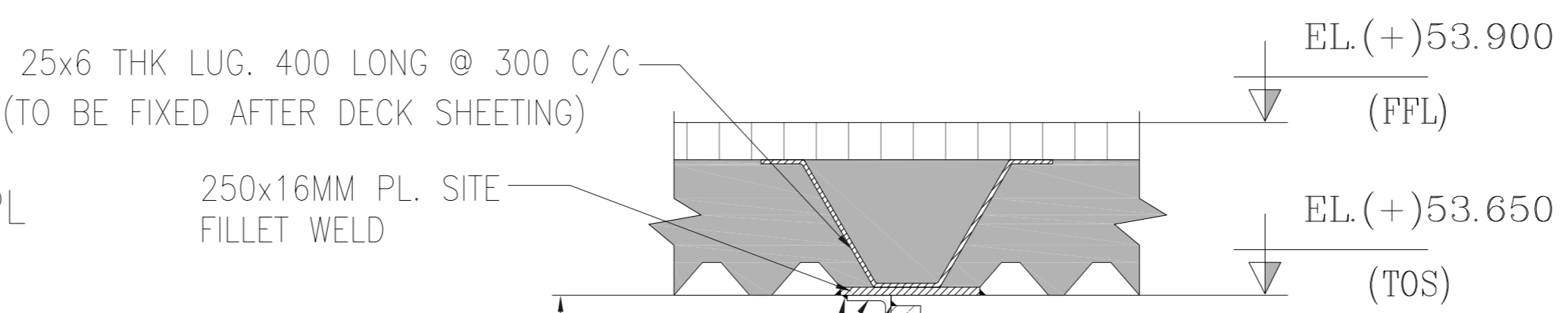
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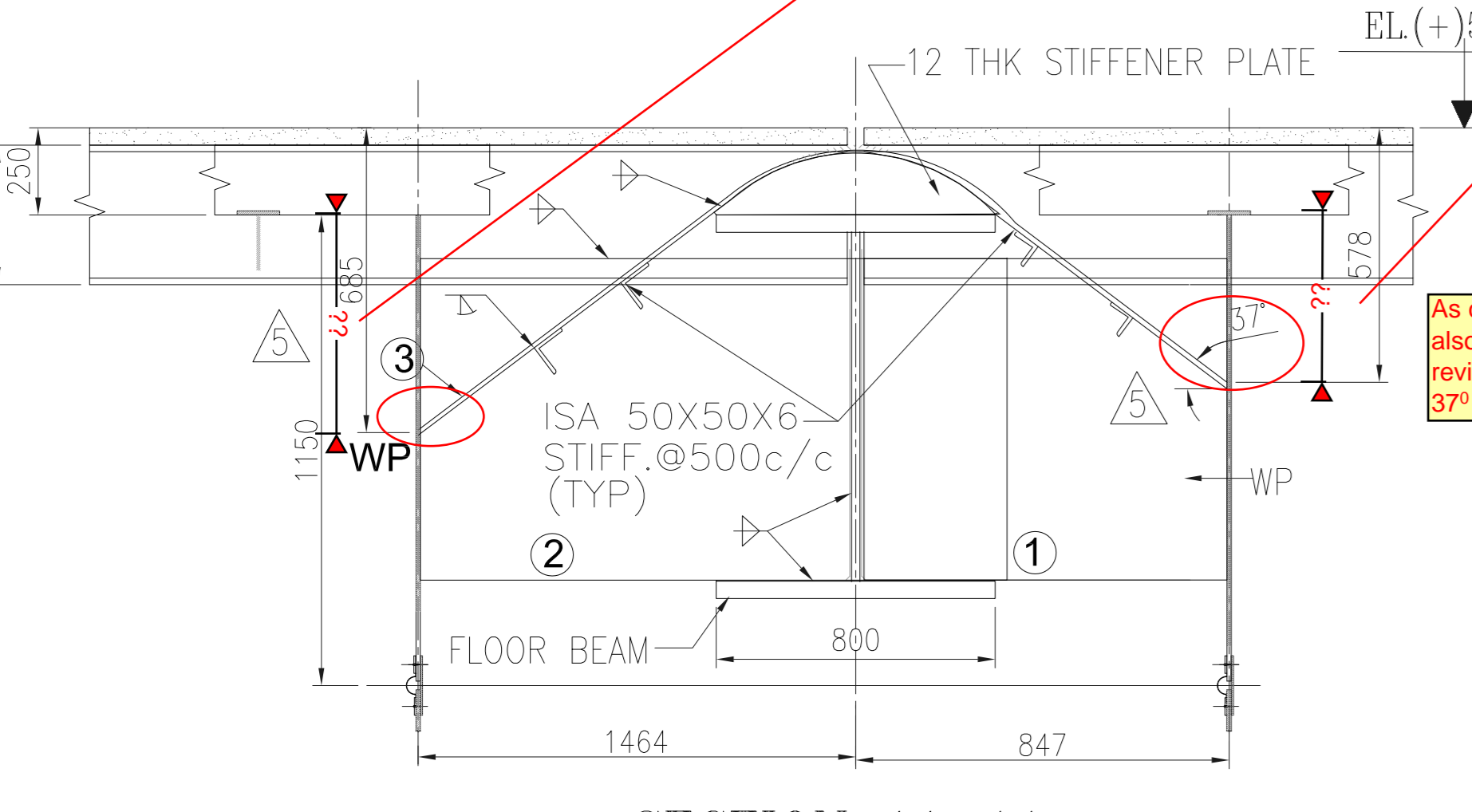
DET-G



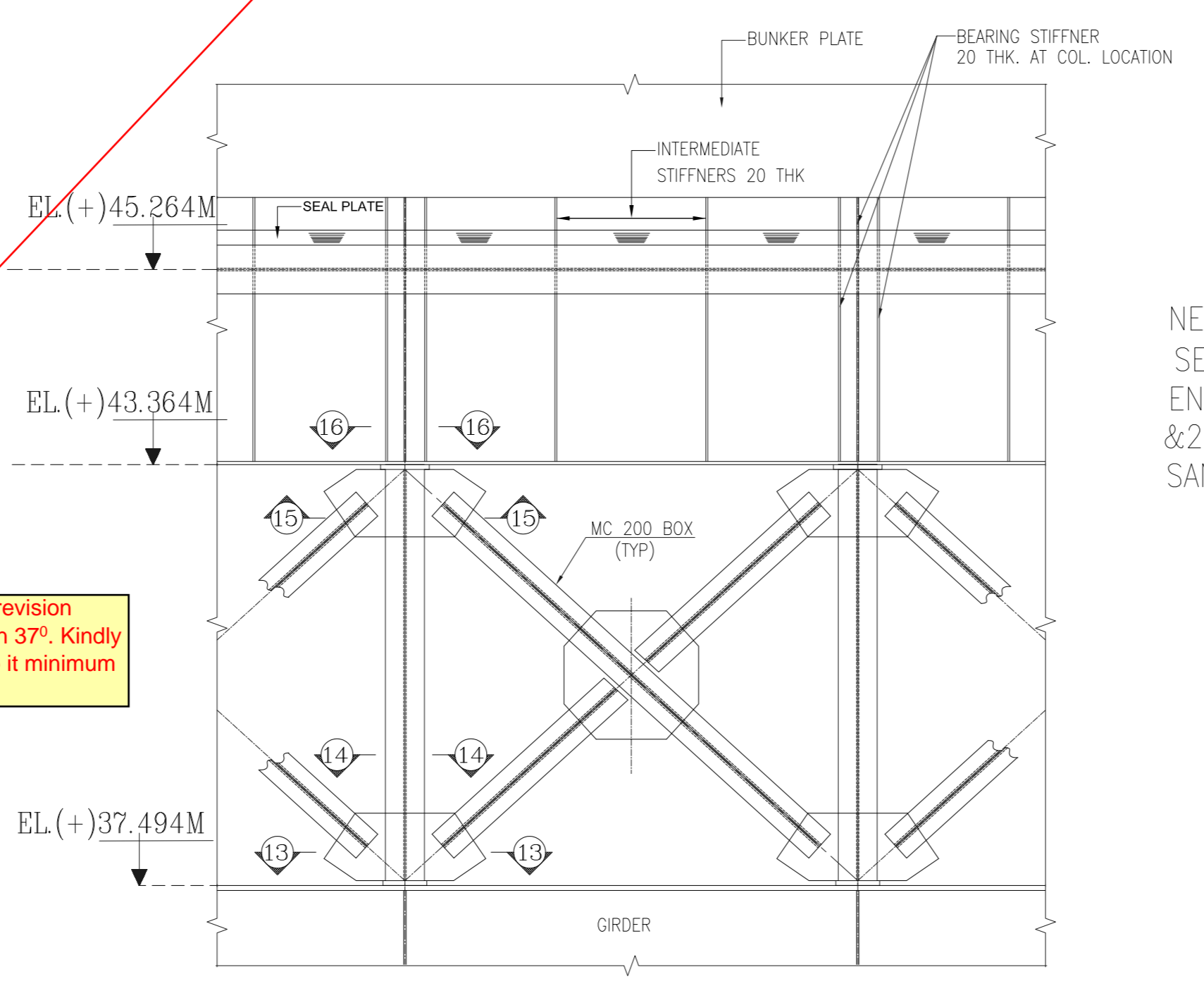
SECTION 12-12



DETAIL-C



SECTION 11-11



DEVELOPED VIEW OF SKIRT GIRDER WITH SUPPORT COLUMNS

The dimensions in section 11-11 is not matching with Section 12-12

is shown as MC200 in section 2-2 of the no. 9591-102-315-C-0283C. Kindly review to maintain consistency.

As commented in earlier revision also, Angle is still less than 37°. Kindly review and revise to keep it minimum 37°

THIS DRG. IS READ IN CONJUNCTION WITH DRG. 9591-102-315-C-0283C

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD
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DRG. REVISED AS PER NTPC COMMENTS VIDE TRANSMITTAL NO. NULL 102:11524 DATED 30/03/18. CHANGES MKD. IN CLOUD/					DRG. REVISED AS PER NTPC COMMENTS VIDE TRANSMITTAL NO. NULL 102:4659 DATED 30/08/17. CHANGES MKD. IN CLOUD/					DRG. REVISED AS PER NTPC COMMENTS VIDE TRANSMITTAL NO. NULL 102:2570 DATED 01/05/17. CHANGES MKD. IN CLOUD/					DRG. REVISED AS PER NTPC COMMENTS RECEIVED ON 28/02/2017. CHANGES MKD. IN CLOUD/				

CUSTOMER एन टी सी NTPC		OWNER NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE) ENGINEERING DIVISION	
CUSTOMER'S CONSULTANT		TELANGANA SUPER THERMAL POWER PROJECT PHASE-I (2X800MW) STEAM GENERATOR PACKAGE	
JOB NO.	424	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NEW DELHI	
STATUS	CONTRACT	DEPT CODE DRN YK DESN CHD RP APPD MKP	
DISTRIBUTION		NAME SIGN DATE	
TO		SIGNATURE DATE	
No. OF		DATE	
REV.		DATE	
ALTD		DATE	
CHD		DATE	
APPD		DATE	
TITLE DETAILS OF BUNKER & SUPPORTING DETAILS			
MPL	ELEC	C&I	MSE
MAX	DEPT.	SCALE	NTS
SIGN	DATE	DRAWING NO. PE-DG-424-616-C015	
SHEET 1 OF 1		REV. 5	

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REF.: CE/416/CBLMS/NC/PS

REV.: 00

PAGE: 1 of 8

CUSTOMER : M/S TANGEDCO

**PROJECT : NORTH CHENNAI (1 X 800 MW)
STAGE-III STPP**

**PURCHASE SPECIFICATION
FOR
3D TYPE ACOUSTIC WAVE LEVEL
TRANSMITTER FOR
COAL BUNKER LEVEL MONITORING**

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REVISIONS: 00

APPROVED BY


S. K. TOPPO

PREPARED BY

ISSUED

DATE


D. GHOSH

416

17/05/2018



Purchase Specification for 3D type Acoustic Wave Level Transmitter for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/NC/PS
REV. NO.: 00
PAGE: 2 of 8

AA Project Synopsis: TANGEDCO – North Chennai (1x800 MW) Stage-III STPP

The project site for main power plant is located near Ennore port (approx 5 km) and also 35 km from Chennai City.

All weather road from Pattamandri on the Thiruvotriyur-Ponneri highway is the nearest road access.

The nearest Railway station is at Athipattu Pudunagar (approx 5 km).

The site for main power plant is located near Ennore port (approx 5 kms)

The nearest airport is at Chennai at a distance of 60 km.

BB Product Description:

3D type acoustic wave level transmitter with all required accessories for – Total **1 (one) unit** of the Coal fired Thermal Power Plant **with 9 (nine) bunkers**.

CC Scope of Supply & Services:

Scope of Supply shall include Engineering, Manufacturing & Testing, and Services for sensor installation, Supervision of balance Erection activity, Commissioning & Training activities as per this specification.

DD Technical Requirement:

1.0 For measuring bunker level, 3D Acoustic type level Transmitters with local indicators on bunker floor shall be provided and indication shall be available on main CHP control system & plant DDCMIS. Bidder to make suitable arrangement (signal splitter & terminals) in the Local control panel for taking two (2 nos.) separate 4-20mA DC output signals, one to CHP control system & the other to plant DDCMIS.

2.0 3 D TYPE ACOUSTIC WAVE LEVEL TRANSMITTER

Type	:	Acoustic Wave Level Transmitter (3 D type)
Application	:	Two nos. of 3 D type Acoustic wave type level transmitter for each coal bunker located above coal pulverizers measuring Level, Volume & Mass.
Temperature compensation	:	Required for high temp applications
Operating Principle	:	Non - Intrusive acoustic wave transmission & Reflection
Frequency Range	:	3 – 10 KHz
Measurement Range	:	Empty to full
Accuracy	:	+/- 0.25 % for even surface & + 0.5% for uneven surface.
Resolution	:	1 mm
Output	:	4-20mA DC with HART to CHP control system and to Main plant DDCMIS
Display Unit:		
Type	:	Head mounted LCD Display with Engg. Units
Location	:	Suitable location at bunker operating floor area
Protection Class	:	IP 65 or better// flame proof (IEC-79.1, Part I) As applicable.



Purchase Specification for 3D type Acoustic Wave Level Transmitter for Coal Bunker Level Monitoring

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Material of construction:	
Housing	: Polypropylene /Aluminum/SS
Flange	: Polypropylene/Aluminum/SS
Sizes:	
Flange Size	: 2" ANSI 300 # RF SS
Electrical connection size	: 1/2" NPT (F)
Accessories	: <ul style="list-style-type: none">i. Double compression type Nickel Plated Cable glandsii. Suitable Mating Flange, necessary gaskets,iii. Local display unit and Suitable mounting brackets, necessary mounting hardware for Local display unit.iv. Complete software as required to have 3 D view on monitors.v. One number each Integral Operating Work station for unit control room for coal bunkersvi. Above OWSs shall display Average level, Maximum level, Minimum level, Volume, Mass and real time complete 3D profile of each coal bunkers.vii. In addition to the information available in above OWS, the bidder shall provide all required hardware and software to display the respective information on OWS provided with Plant DCS.viii. 1 no. laptop each with necessary digital connectivity cable, hardware/software for configuration, calibration, maintenance, analysis of 3D images at the installation sites shall be supplied.

3.0 Specification for Local Control Panel (LCP)

- 3.1 All the required control devices like control and selector switches, push buttons, indicating instruments, lamps, contactors, relays, timer, fuses, Mimic, HW Annunciation etc. shall be provided with the control panel, fully installed & wired.
- 3.2 Fire / smoke detector, neoprene / silicon Gasket, space heating, vibration isolation pads, double compression cable glands, grounding, ventilation louvers & filters shall be provided in the control panels.
- 3.3 The local control panel enclosure shall be constructed of 2 mm thick steel plate. The enclosures shall preferably be of modular construction and with two end plate assembly bolted to the frame.
- 3.4 The enclosure shall of suitable to allow easy access to the internals. Doors with three point locking arrangement shall be provided and shall be arranged for maximum possible access to the interior.
- 3.5 Doors shall have concealed quick removal type pinned hinges and locking handles.
- 3.6 Neoprene material Gaskets shall be used between all mating sections to achieve dust proof enclosure rating and IP-65 waterproof and dust tight rating on the terminal boxes.
- 3.7 The sealing of panel bottom with bottom plate. Double compression cable glands and suitable sealing material to prevent entry of dust shall be in the vendor's scope. Suitable arrangement for preventing fire propagation through cable entry points like fire seals etc. shall also be provided at cable entry points.
- 3.8 All internal wirings and/or data bus connections, if any, between the transmitters / indicators and terminal junction box shall run through flexible dust tight conduits connected to the terminal box hub. No exposed wirings within transmitter / indicators, both open and closed type, is admissible.
- 3.9 Panel shall be provided with universal type power receptacle, light fixture & LED lamps with wire guard and lighting switch etc. Lighting switches shall be door actuated & mounted inside the panel. Outlet box, switch box and device covers shall be of galvanized stamped steel. Light switches and power receptacles shall be installed inside the enclosure on the wall near the latch side of the enclosure door. Light fixtures shall be installed on the ceilings of the enclosures.
- 3.10 Power Supplies for miscellaneous devices shall be provided with 2P MCB located within the enclosures. MCB shall be mounted in Fuse blocks. Nameplates shall be furnished above the MCB blocks, identifying the devices being served.



Purchase Specification for 3D type Acoustic Wave Level Transmitter for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/NC/PS
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-
- 3.11 Bidder shall supply all required transformers, regulators and other power supply equipment to adapt one number 240 V AC UPS source and one number 240 V AC Non-UPS source of power to the requirements of the enclosure mounted equipment. This shall include but not be limited to internal instrument illumination transformers. The circuits shall be separately isolated with MCBs.
 - 3.12 Degree of protection of the panel shall be suitable for application IP55 / IP65.
 - 3.13 Paint shall be stoving epoxy based powder coated,
Exterior Colour: Light Grey to Shade RAL 7035 (Semi Glossy)
Interior Colour: Brilliant White (Glossy).
 - 3.14 Quantity:
1 No. LCP for Mill-A, B, C & D.
1 No. LCP for Mill-E, F, G, H & J.

4.0 Specifications for Engineering Work Stations

- 4.1 On board Intel – Xeon quad core, 3.46 GHz processor with 1066 MHz bus with Hyper threading or higher.
- 4.2 4GB DDR3 RAM (min.)
- 4.3 1 x 1000 GB IDE Hard Disc Drive of 7200 RPM or higher
- 4.4 1024 MB Graphic Accelerator
- 4.5 System chipset: Intel Express
- 4.6 2 x RS – 232 ports
- 4.7 1 x parallel port
- 4.8 4 nos. USB ports. (2 nos. on front side)
- 4.9 1 x 52 X DVD / CD Read Drive
- 4.10 16 X DVD R / W Drive
- 4.11 2 x Ethernet (10 / 100 / 1000MB) cards (Industrial Grade)
- 4.12 UXGA graphics and monitor 1920 X 1248, 256 colours with MRPII compliant, viewing Angle 178° vertical & Horizontal and fastest response time.
- 4.13 1 x windows XP/7 Professional or latest & proven version of Windows OS Professional with Multimedia
- 4.14 Ethernet adapter
- 4.15 Third party operating system, graphical users interface and software, if required.
- 4.16 2 nos. graphic output cards minimum
- 4.17 Optical mouse
- 4.18 Sound card
- 4.19 Internal speakers
- 4.20 Wireless internet & Blue tooth Interface
- 4.21 Redundant power supply (In built)
- 4.22 General MS Windows latest, MS-Office Professional, Adobe Acrobat, anti-virus McAfee or equivalent, AutoCAD etc.
- 4.23 Any other communication ports / Hardware as per 3 D level scanner requirement.
- 4.24 Quantity: **1 No.**
- 4.25 Preferred Makes: DELL, HP COMPAQ, NEC & IBM.

5.0 Interconnecting cable

- 5.1 All interconnecting cables supplied by vendor shall be immune to environment, RFI and magnetic interference normally prevalent in the plant area. The interconnecting cables shall not be an integral part of the transmitter.
 - 5.1 Vendor shall include 25 meters of interconnecting cable (armoured type) for each 3D transmitter up to Local control panel.
-



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3D type Acoustic Wave Level Transmitter for
Coal Bunker Level Monitoring**

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6.0 Mandatory Spares

Coal Bunker Level Indicating System		
(i)	Sensors of each type	20% of total quantity or 2 nos. of each type whichever is more.
(ii)	Electronic Cards of each types, model	10% of total quantity or 2 nos. of each type and model whichever is more.
(iii)	Panel indicators/displays for Bunker Level	20% of total quantity or 2 nos. of each type whichever is more.

EE Documentation Requirements:

1. Documents to be furnished, with the offer:-
 - 1.1. Datasheets / Drawings of offered items / system
 - 1.2. Technical Literature / Catalogs
2. Documents to be furnished, for Approval, in the event of order:-
 - 2.1. System Architecture & Write-up
 - 2.2. GA drawing of Local control panel showing overall dimension & layout of items housed inside.
 - 2.3. Scanner location and installation drawing.
 - 2.4. Datasheets, Component Drawings and BOM of offered items.
 - 2.5. Electrical Schemes with Termination details for Power & Signal Wiring.
 - 2.6. Technical Literature
 - 2.7. Manufacturers Quality Assurance Plan.

The datasheet shall include the filled-up format, as below:

A.	Bunker Level Indicators	
A.1	Type & Make of main bunker level indicator	:
A.2	Total number of 3D type acoustic wave level transmitter provided	: (Nos.)
A.3	Accuracy (guaranteed)	:
A.4	Type & Make of level indicator as back-up [for main bunker level indicator] for high/high level	:
A.5	Accuracy of back-up level indicator (guaranteed)	:
A.6	Total number of back-up level indicator provided	: (Nos.)
A.7	Location of annunciation & indication provided (for above level indicators)	: (Yes/No)

Note: All above documents shall be submitted in 2 sets of hardcopies. Also a Soft copy in "pdf" format of all the above documents shall be furnished.

3. Quality Documents to be submitted for approval, in the event of order:-
Test Certificates and Calibration Reports, for approval, before dispatch of items. The calibration reports shall correspond to range of the Transmitter.
4. Operation and Maintenance (O & M) Manual:-
4 sets hardcopies (2 sets to BHEL-EDN & 2 sets with consignment to site). Also, a soft copy of O&M manual to be provided.



**Purchase Specification for
3D type Acoustic Wave Level Transmitter for
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FF Erection & Commissioning Requirements:

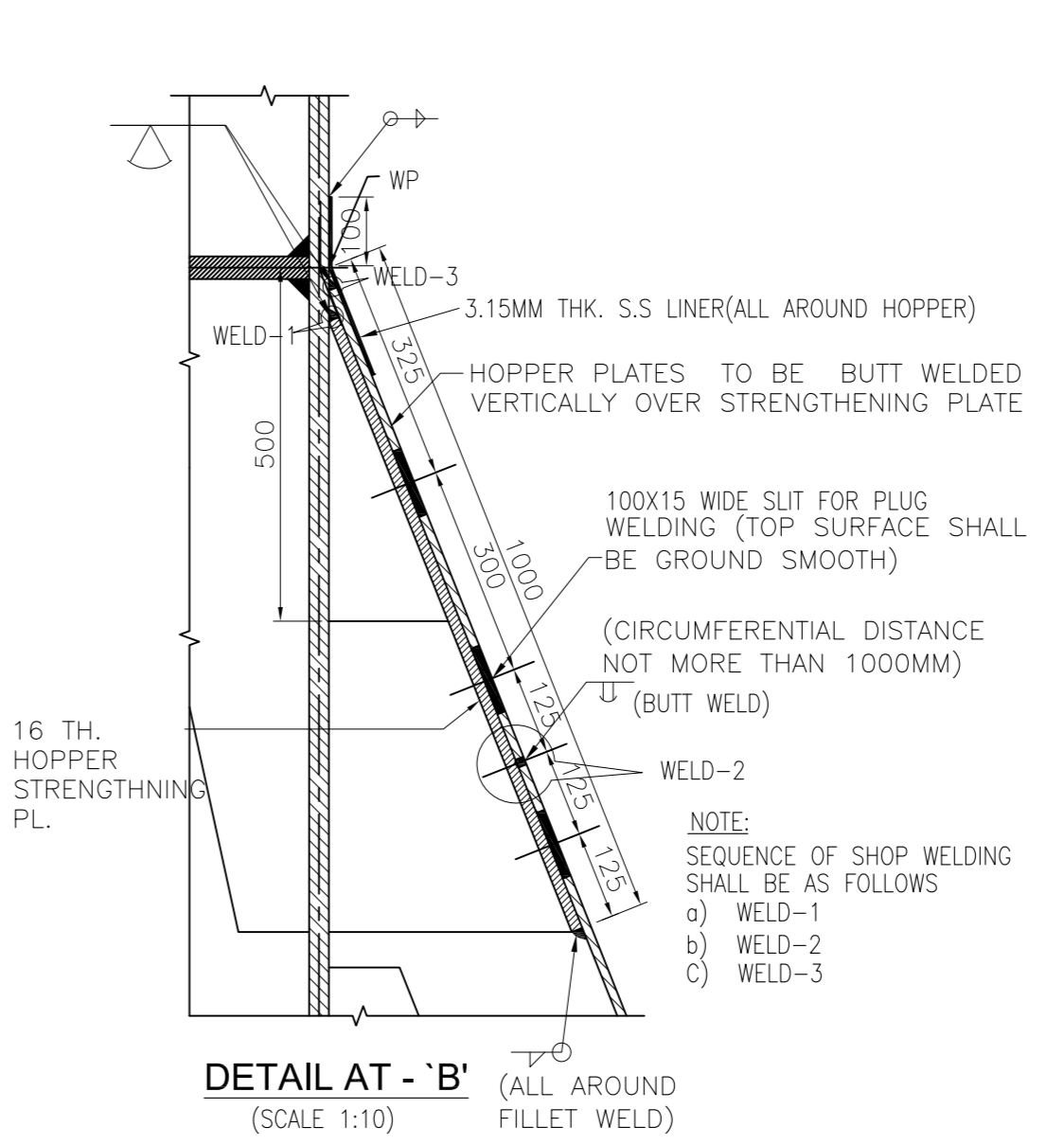
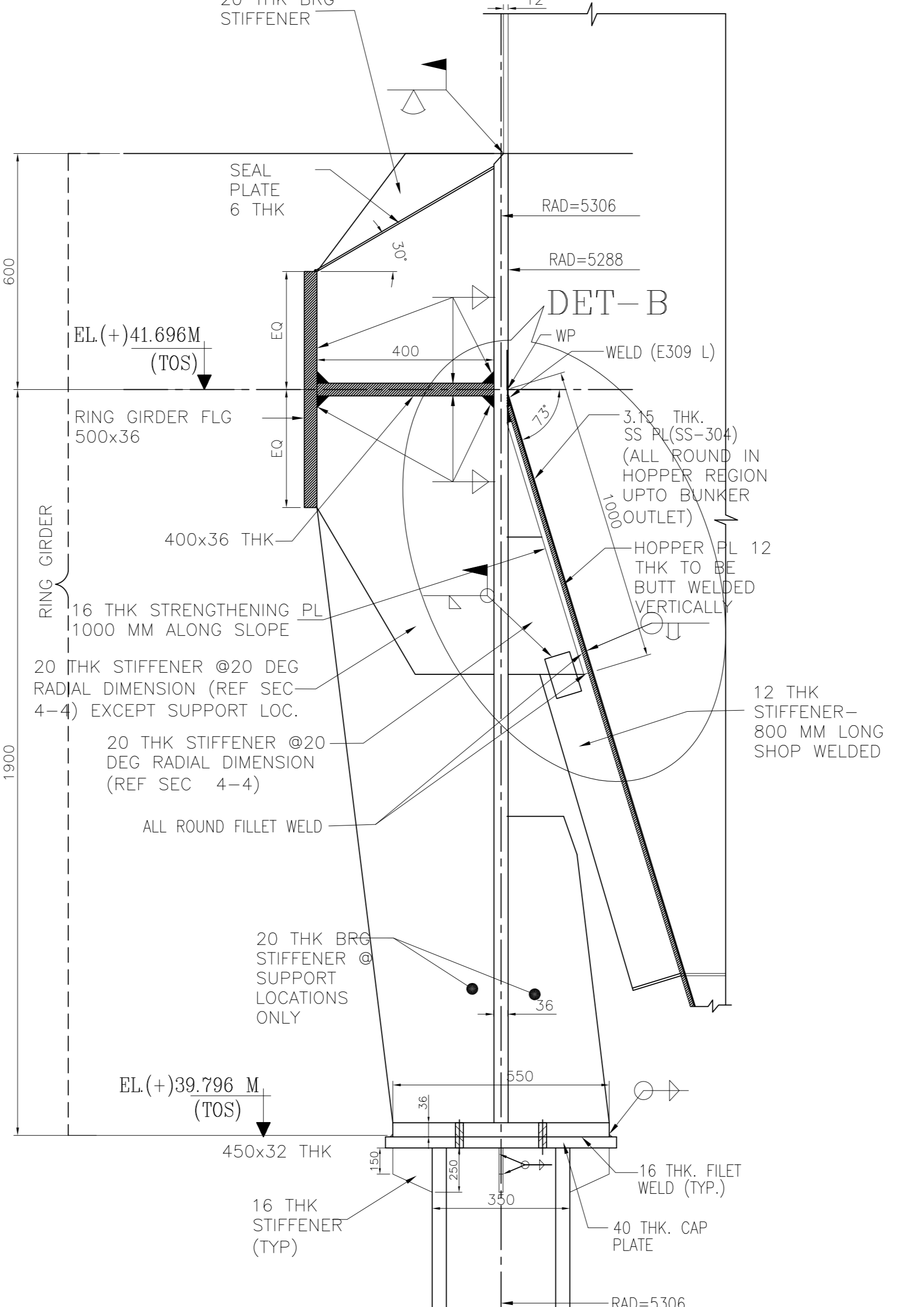
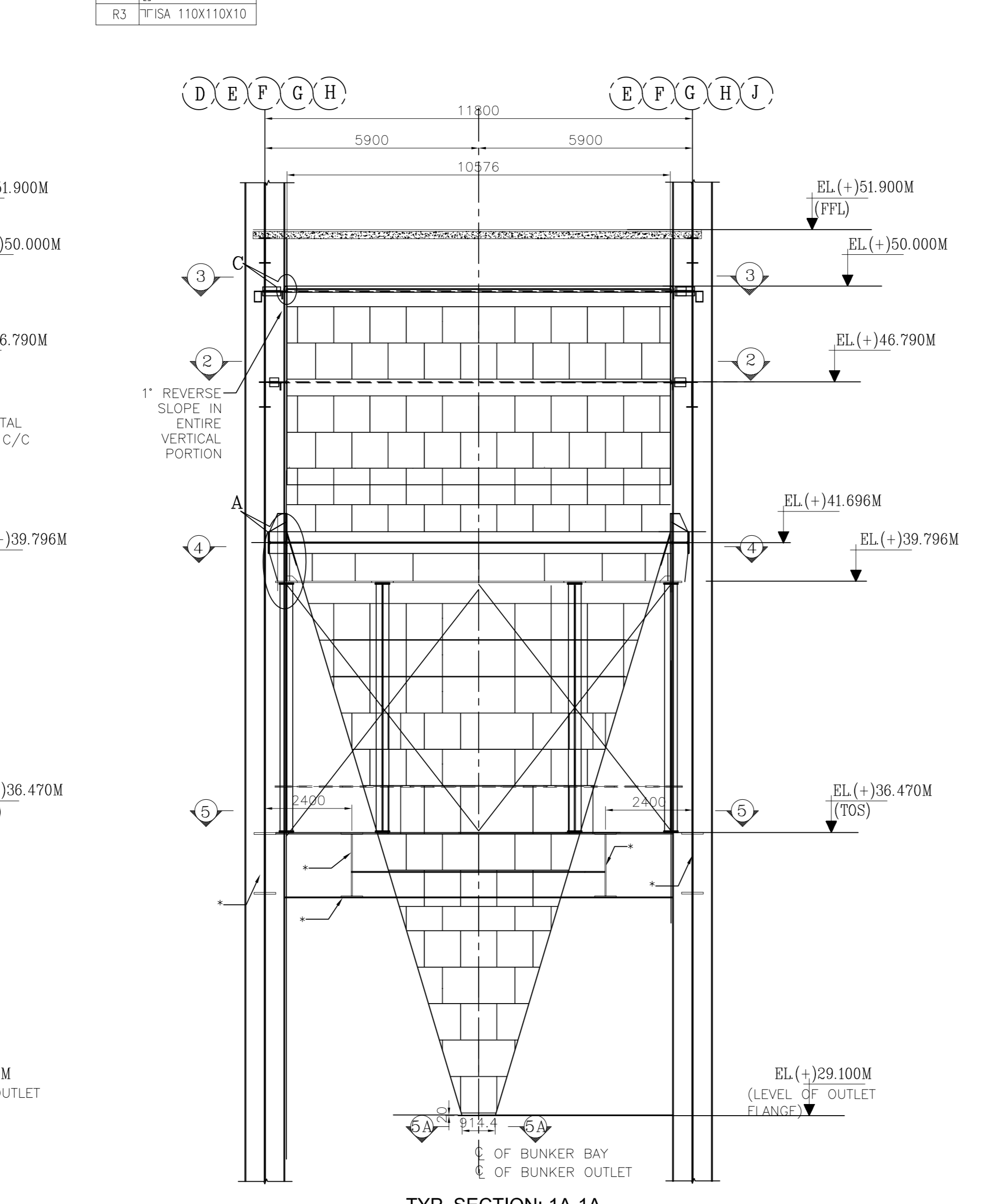
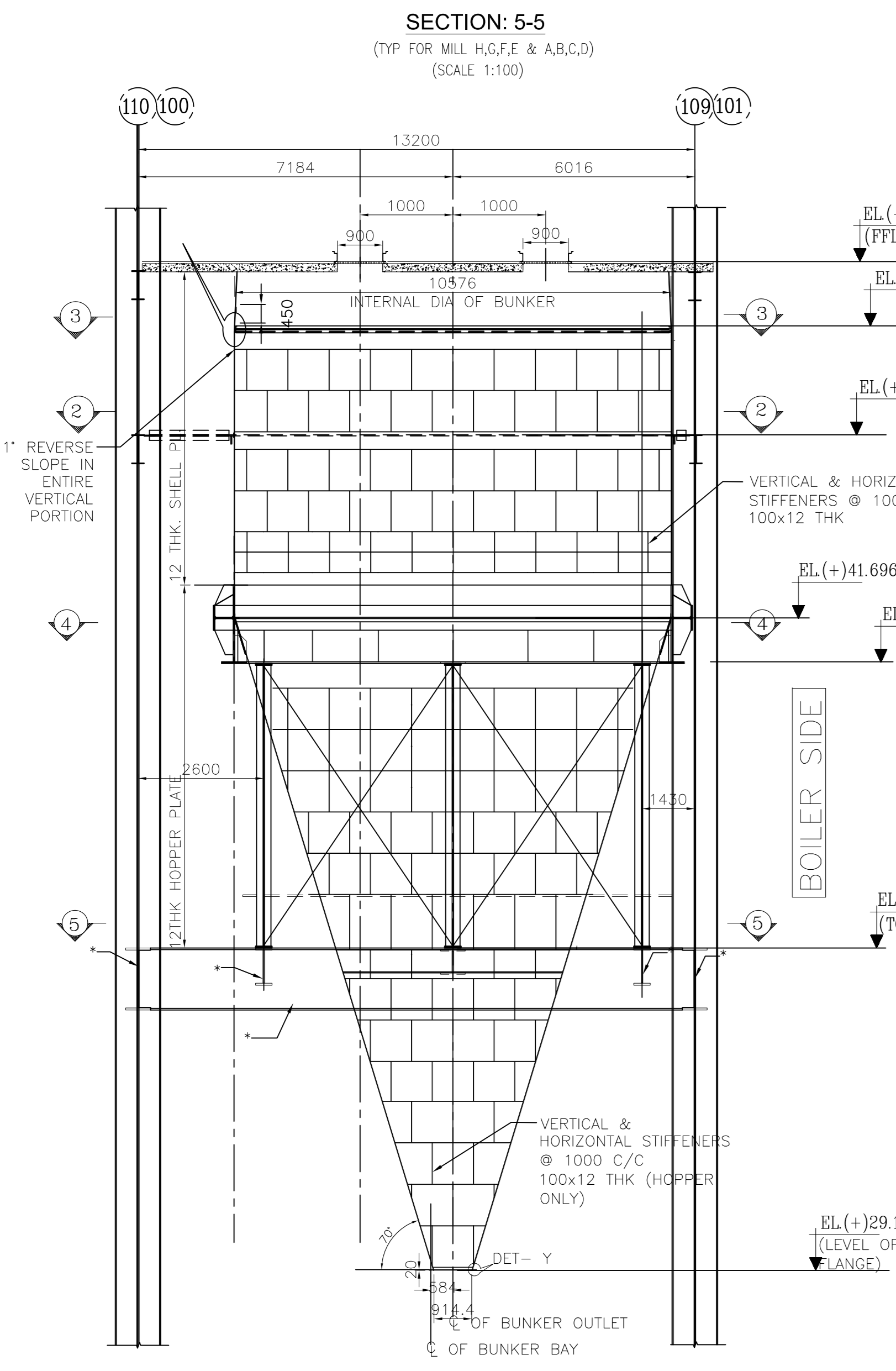
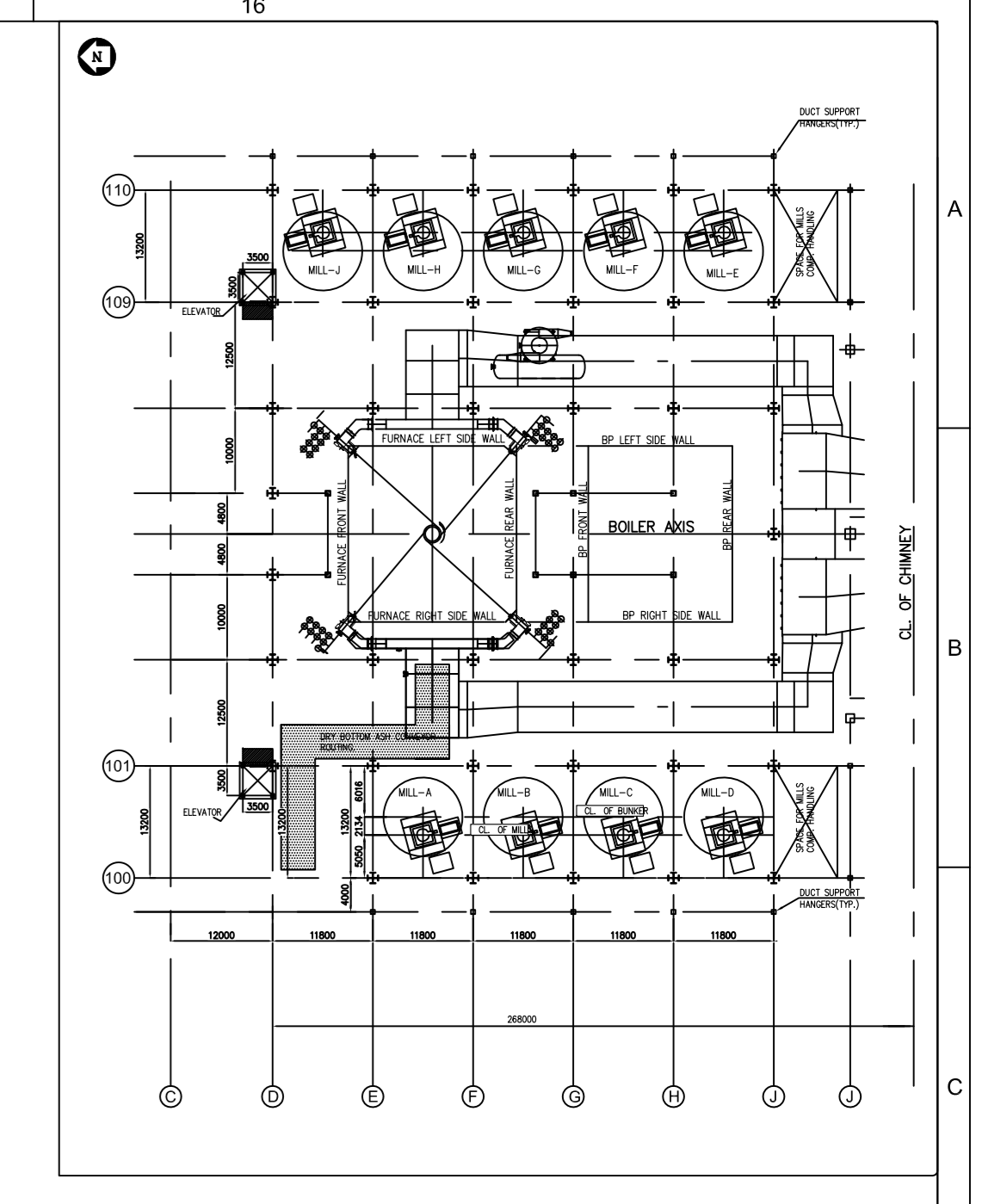
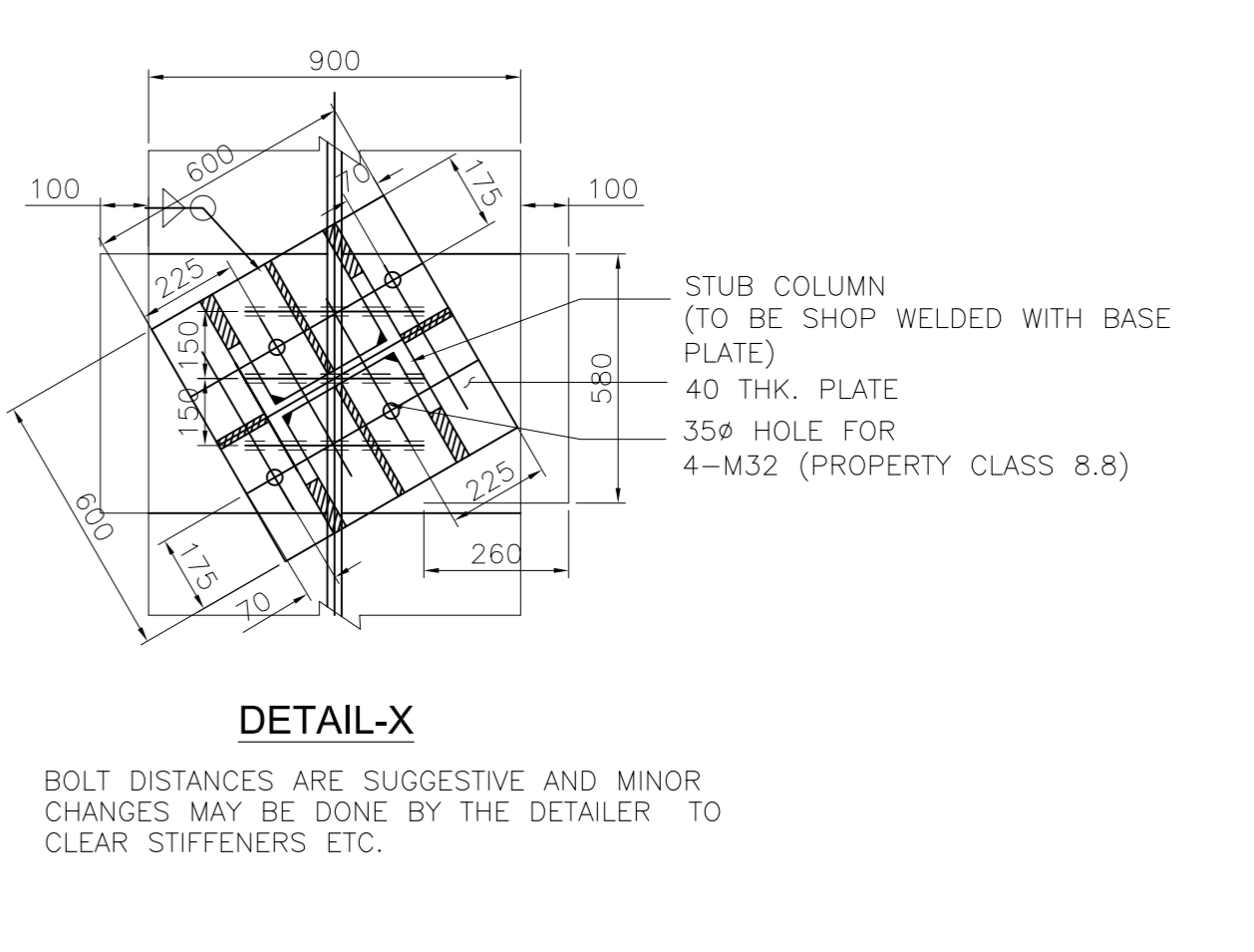
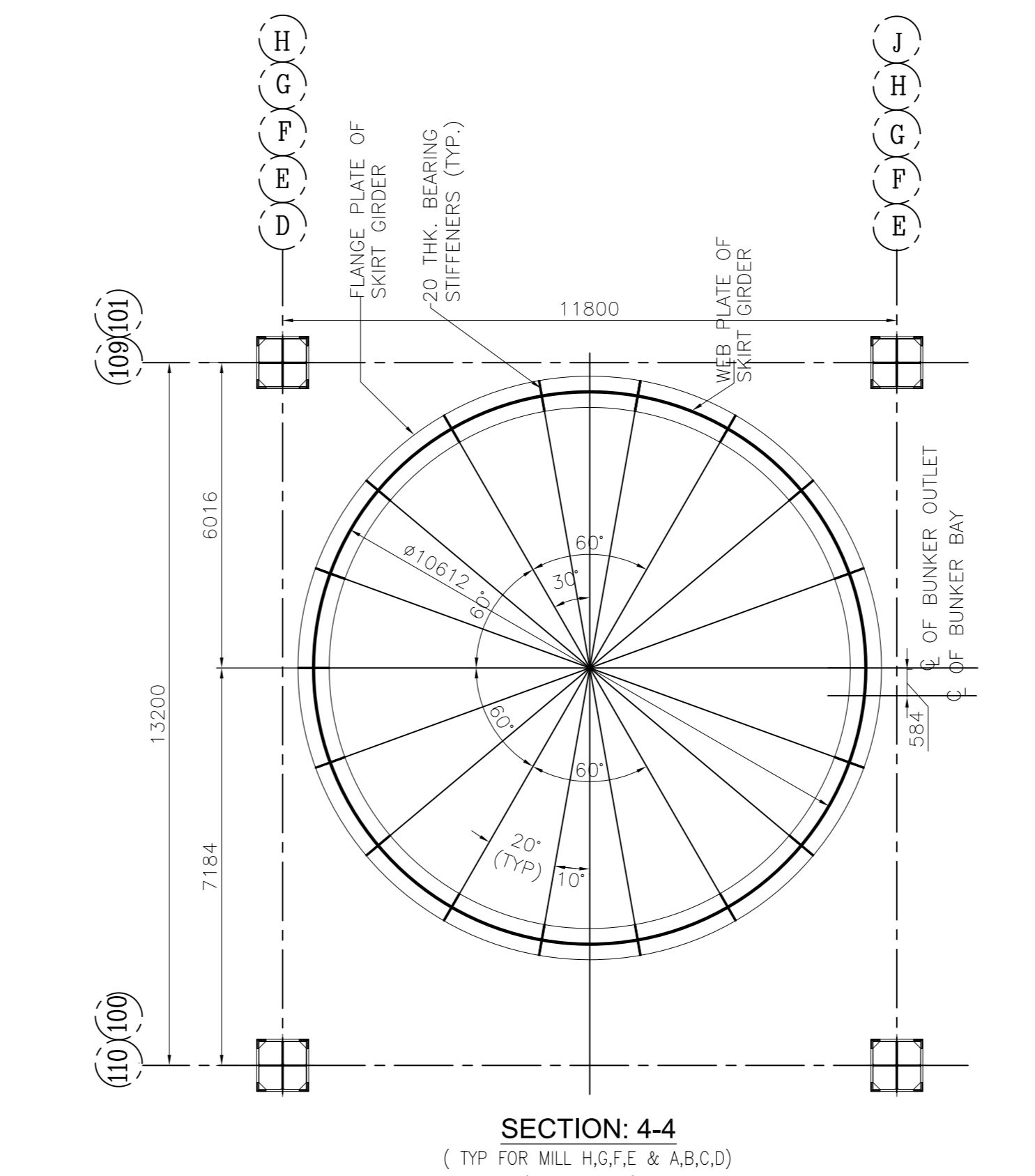
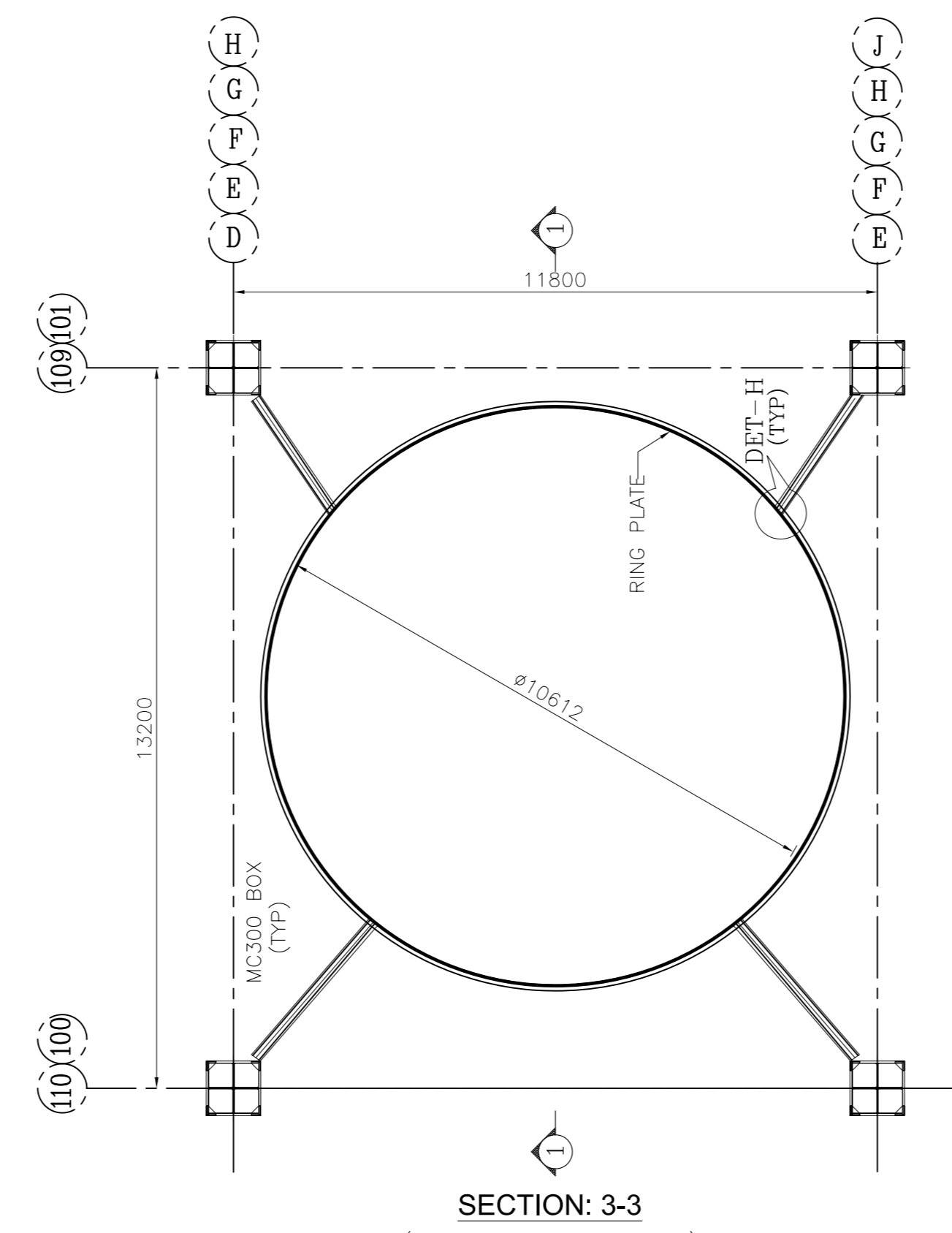
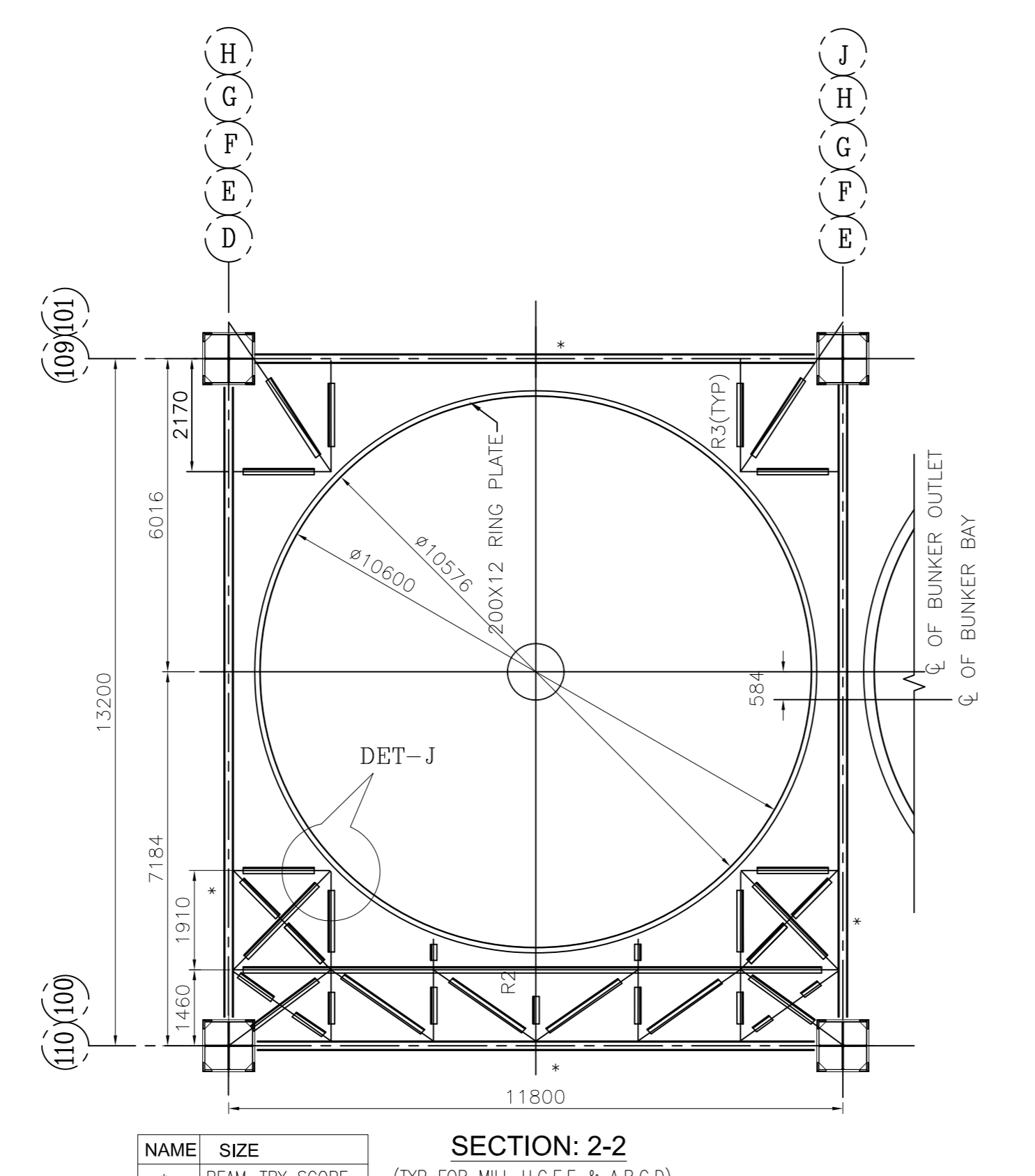
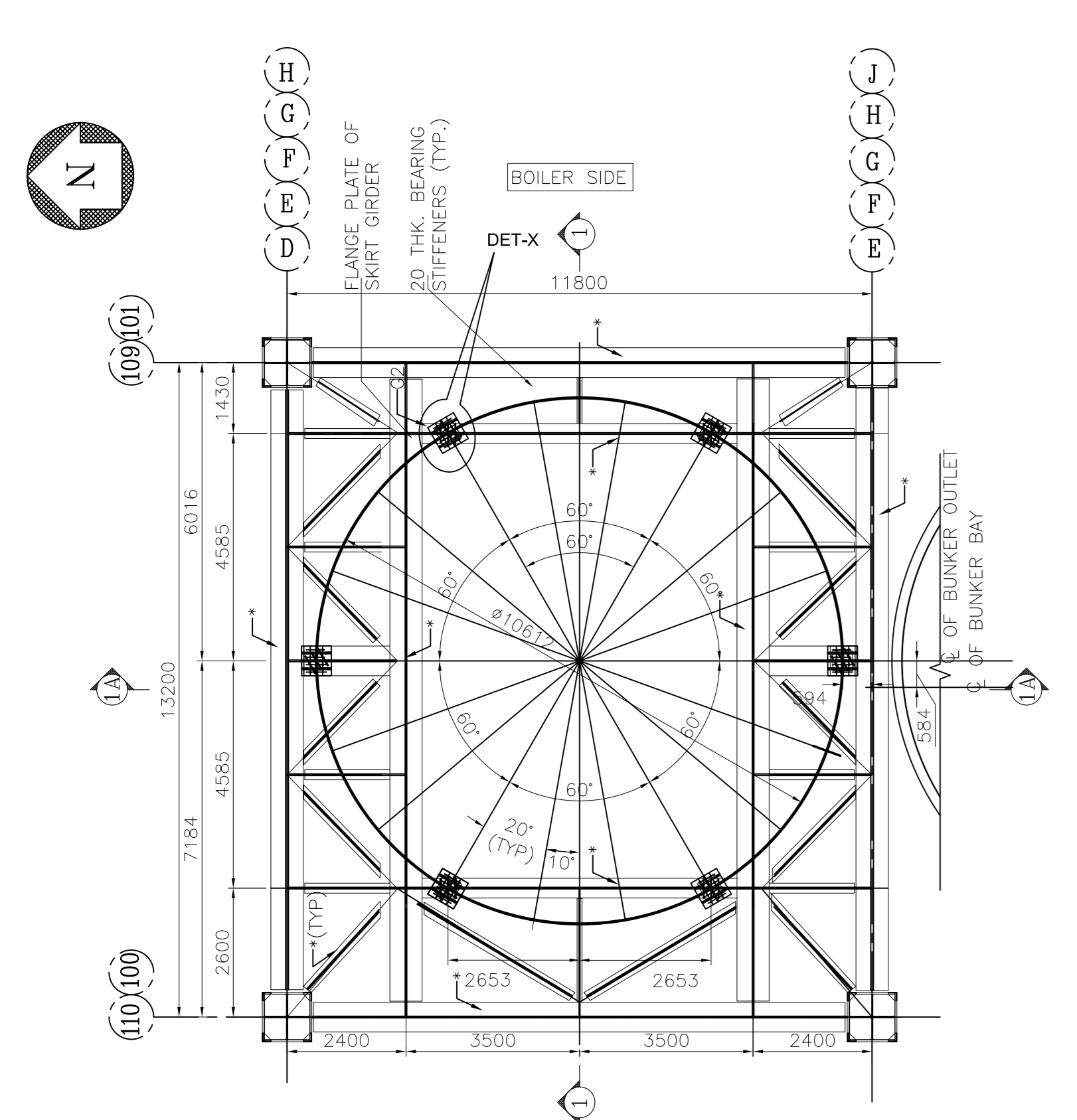
1. Erection and Commissioning Training requirement for offered System
 - 1.1 A representative of bidder shall visit site with approved BOM for validation of supplies made
 - 1.2 Supervision of Erection of Transducer on Top of each Bunker.
 - 1.3 Supervision of Erection of balance items
 - 1.4 Total Commissioning and handing over of the offered systems offered to Owner / End user.
 - 1.5 Bidder to include one site visit of min. 5 man-days during Performance Availability Test.
 - 1.6 Three days of Training to Site Engineer/s at Site.
-



**Purchase Specification for
3D type Acoustic Wave Level Transmitter for
Coal Bunker Level Monitoring**

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GG – BUNKER DRAWING



S.NO.	BILL OF MATERIAL	(MT)
1	3.15 MM THK. SS LINER	5.88
2	6 MM THK.	0.801
3	10 MM THK.	0.443
4	12 MM THK.	69.40
5	16 MM THK.	8.83
6	20 MM THK.	1.51
7	32 MM THK.	9.42
8	36 MM THK.	37.80
9	40 MM THK.	1.35
10	MC 300	0.844
11	ISA 110X110X10	3.3
12	ISA 150X150X15	6.63
13	ISA 75X75X8	0.29
	TOTAL	146.598

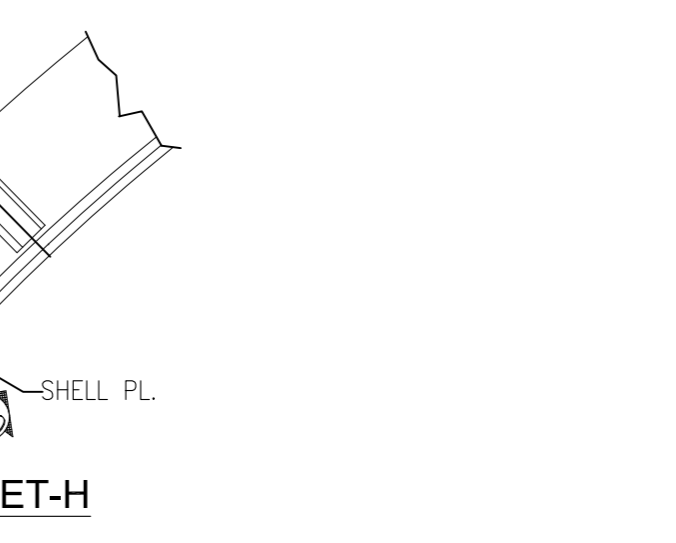
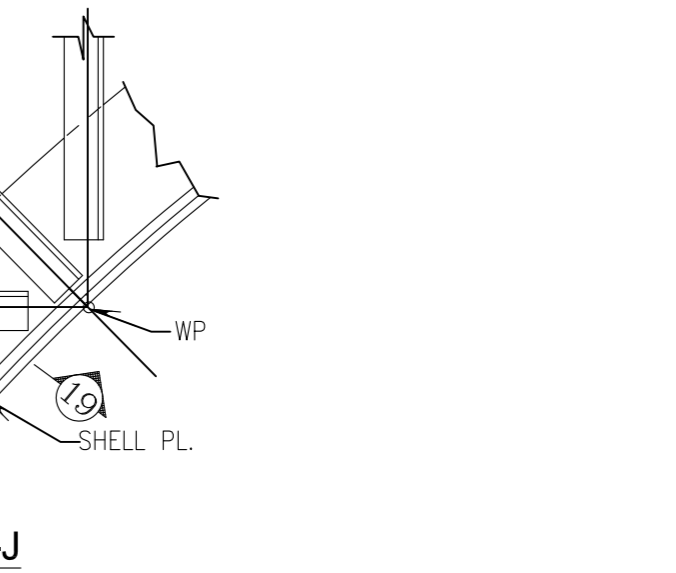
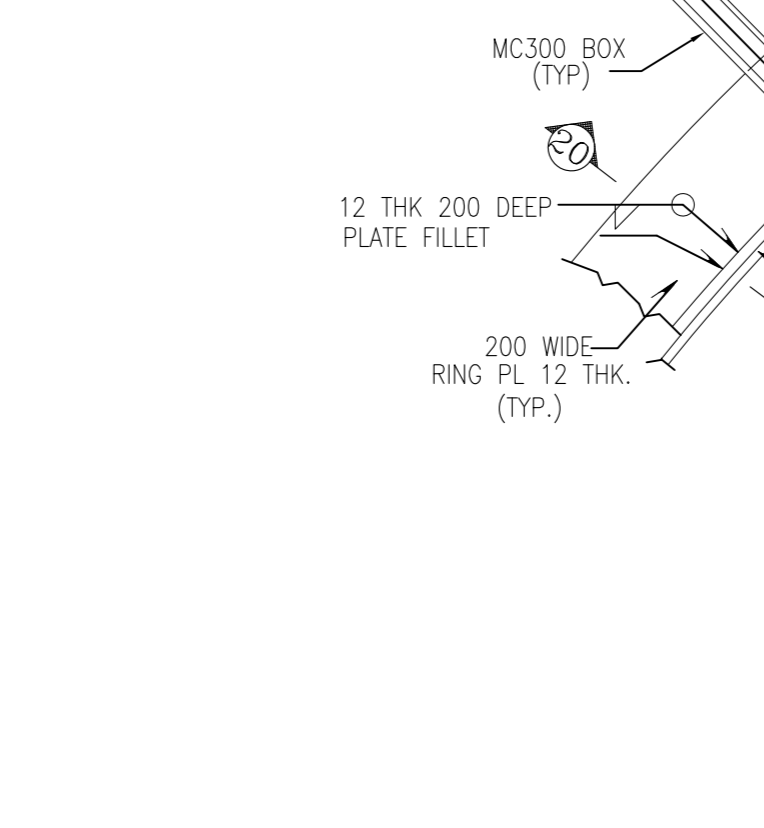
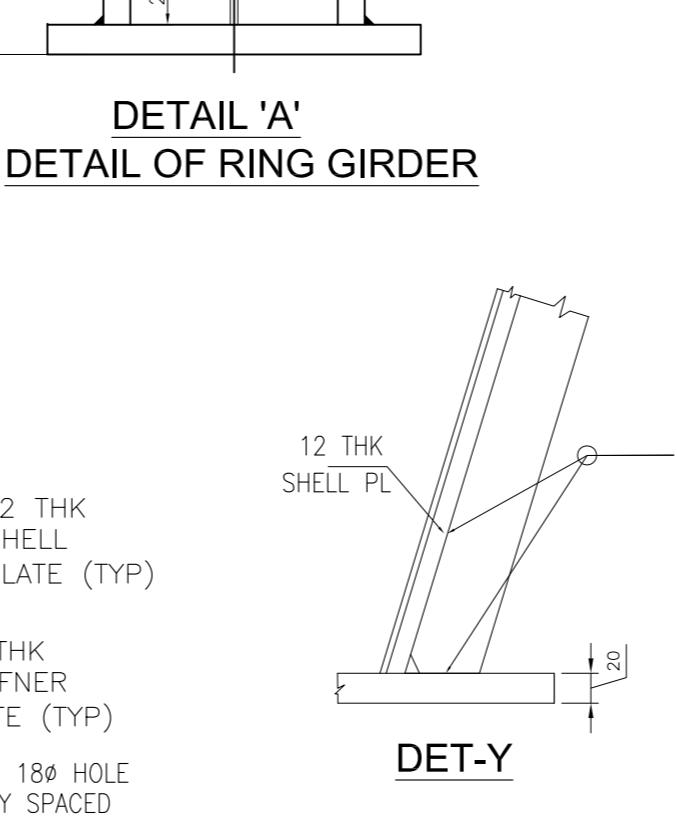
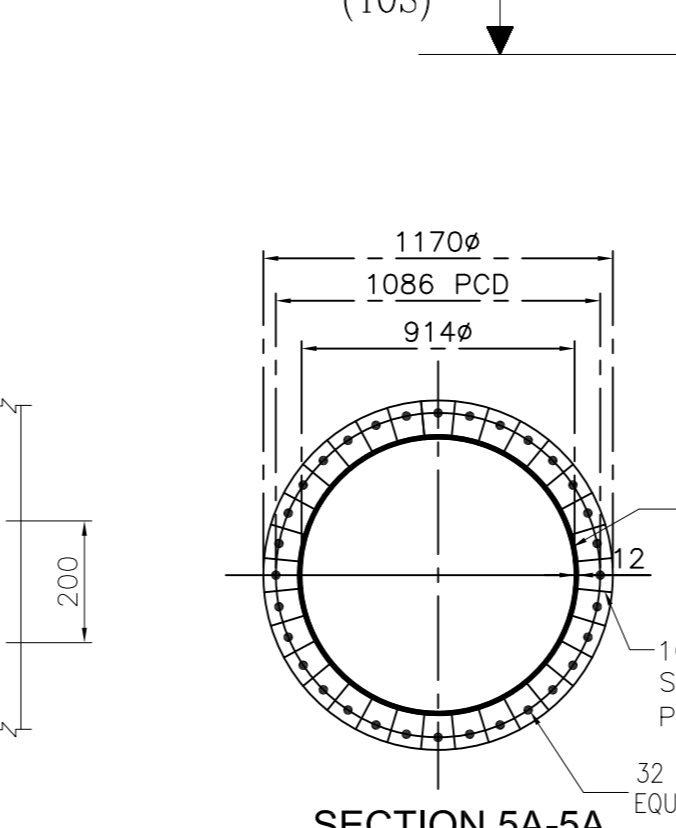
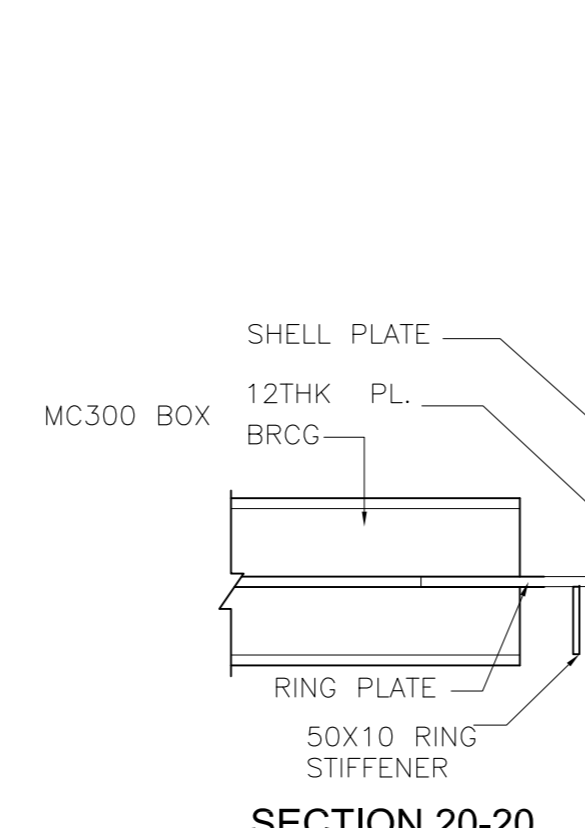
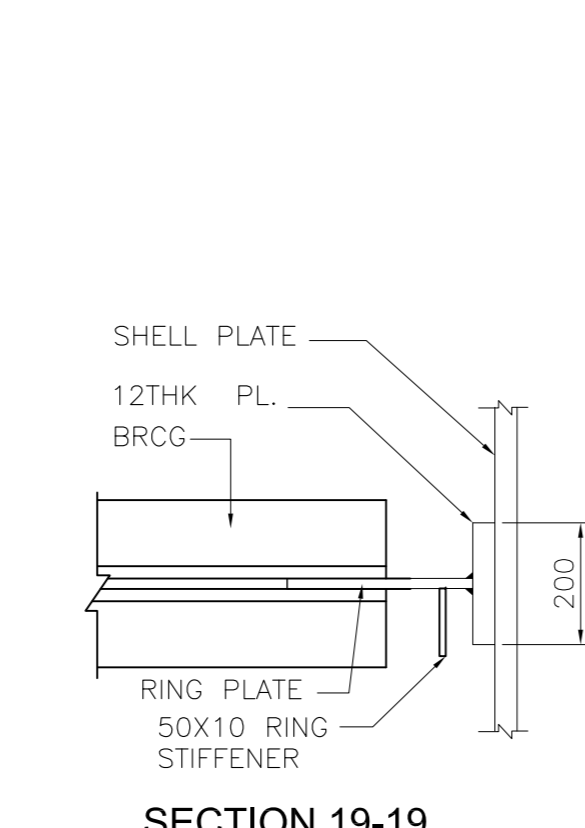
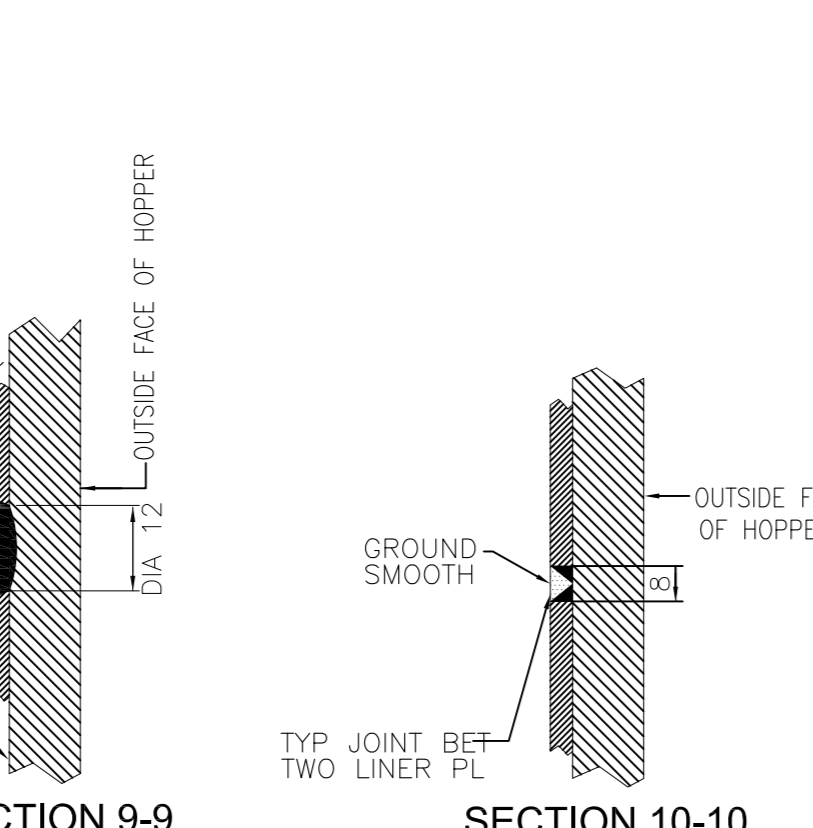
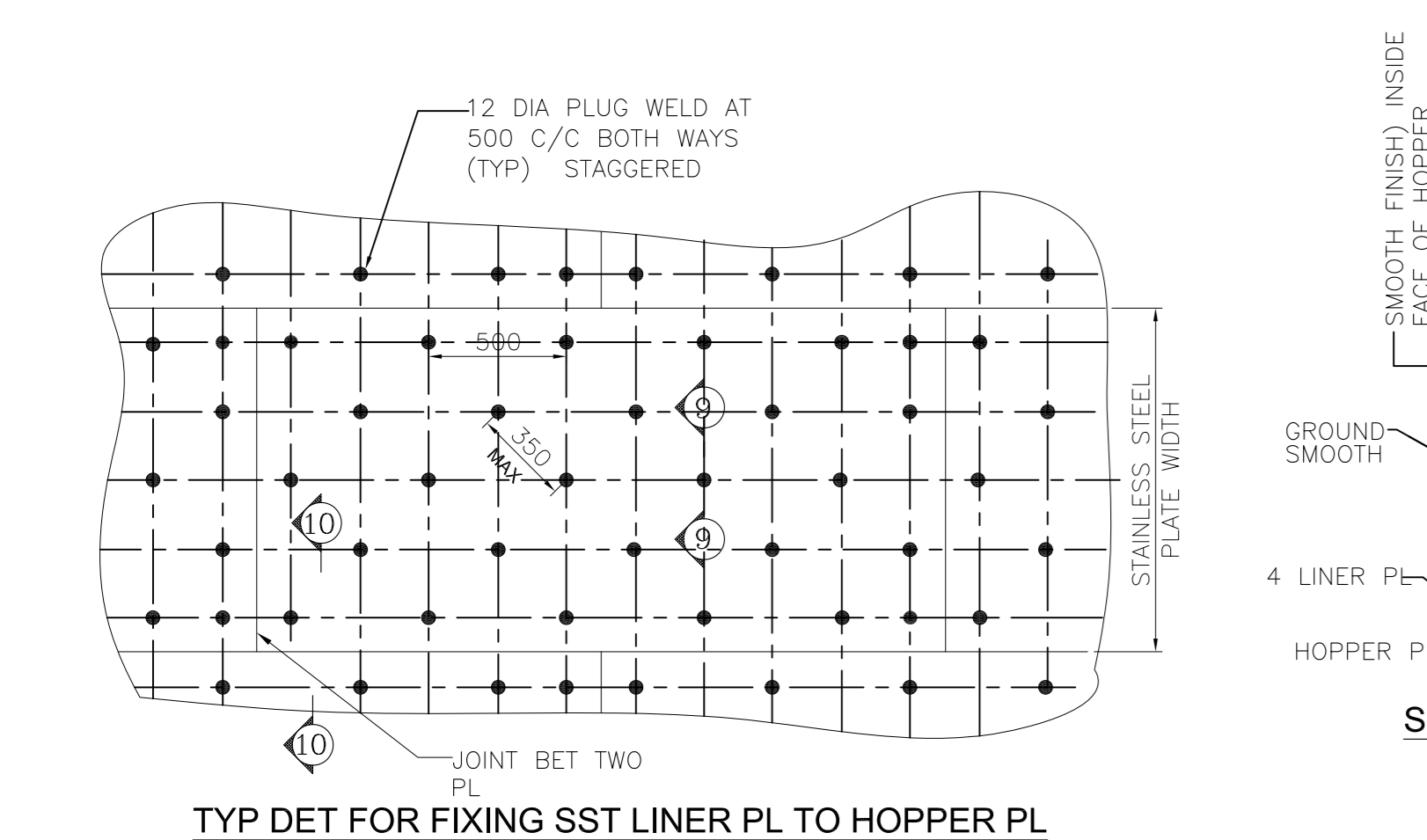
- LEGEND :**
- BOS - BOTTOM OF STEEL
 - C/C - CENTRE TO CENTRE
 - ℄ - CENTER LINE
 - EL - ELEVATION
 - LVL - LEVEL
 - TOS - TOP OF STEEL
 - TYP - TYPICAL
 - UNO - UNLESS NOTED OTHERWISE
- NOTES :-**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, SPECIFICATIONS AND SCHEDULE OF ITEMS.
 - ALL ELEVATION LEVELS ARE REFERRED TO THE FINISHED GROUND FLOOR LEVEL OF POWER HOUSE BUILDING AS 0.0M WHICH CORRESPONDS TO RL 10.0M ABOVE SEA LEVEL.
 - ALL DIMENSIONS ARE IN MILLIMETRE AND ALL LEVELS ARE IN METRE.
 - PROPER CARE SHALL BE TAKEN IN WELDING OF BUNKER PLATES, HORIZONTAL & VERTICAL JOINTS IN BUNKER & HOPPER SHALL BE SUBJECT TO NDT AS PER FOP.
 - VERTICAL JOINTS IN BUNKER PL SHALL BE STAGGERED.
 - PLATE SHALL BE CUT TO MAX WIDTH TO REDUCE NUMBER OF JOINTS.
 - BEFORE COMMENCING REGULAR FABRICATION OF THE BUNKER TRIAL ASSEMBLY AT SITE OF THE BUNKER INCLUDING HOPPER SHALL BE MADE ATLEAST FOR ONE BUNKER.
 - ALL END CONNECTIONS FOR BRCC SHALL BE DESIGNED FOR FULL TENSILE STRENGTH OF MEMBERS.
 - STAINLESS STEEL LINER IN THE COAL HOPPER & SILO SHALL BE OF 3.15MM THICKNESS OF GRADE S-304 TYPE 304 CONFIRMING TO ASTM A 240 WITH MILL FINISH 2B, COLD ROLLED, ANNEALED AND DESCALED (PICKLED) & SKIN PASSED MATERIAL & SHALL BE PROVIDED ON THE INNER FACE OF INCLINED PORTION OF HOPPERS UP TO MOUTH OF THE HOPPERS, WITHOUT ALLOWING ANY PROJECTIONS IN COAL FLOW PATH.
 - PLUG WELD IN SST LINER PLATE SHALL BE GROUND SMOOTH TO MATCH WITH PLATE PROFILE.
 - ALL BUTT WELD OF BUNKER SUPPORTING STRUCTURE SHALL BE 100% RADIOGRAPHED, ELECTRODE E308L FOR WELD JOINTS BET SST PLATES & E309L FOR WELD JOINTS BETWEEN SST PL & MS PLATE.
 - SPOT RADIOGRAPHY FOR BUTT WELDS SHALL BE CARRIED OUT IN TENSION ZONE AND IN COMPRESSION ZONE AS PER FOP.
 - ALL SITE FILLET WELDS OF BUNKER AND BUNKER SUPPORTING GIRDERS/BEAMS AS PER FOP.
 - ADEQUATE TEMPORARY STIFFENER TO BE PRORATED TO AVOID BUCKLING DISTORTION OF BUNKER STRUCTURE DURING FABRICATION, HANDLING AND ERECTION STAGE.
 - VERTICAL JOINT IN SIDE PLATE SHALL BE STAGGERED.
 - BEAMS MARKED '*' ARE IN BHEL TRICHY SCOPE.
- NOTE: DIMENSIONS ON HOLD DUE TO NON AVAILABILITY OF VENDOR DRG.

CONSTRUCTION DRGS. :-

1. PE-DG-423-600-C002-----PH BLDG.- GENERAL NOTES FOR STRUCTURAL STEEL WORKS

ENGINEERING REFERENCE DRAWINGS :-

1. PE-DG-423-100-M002-----MAIN EQUIPMENT PLANT LAYOUT



	CUSTOMER	TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED 5th Floor, Western Wing, NPKRR Maaligai, 44, Anna Salai, Chennai-600002
	CUSTOMER'S CONSULTANT	FICHTNER CONSULTING ENGINEERS (INDIA) PRIVATE LIMITED, Chennai.
PROJECT	1X800 MW TANGEDCO NORTH CHENNAI TPP STAGE III-BTG	
JOB NO.	423	
STATUS	CONTRACT	
DISTRIBUTION		BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA
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DEPT. CODE: _____ NAME: _____ SIGN: _____ DATE: _____ DESK: _____ NAME: _____ SIGN: _____ DATE: _____ CHECK: _____ NAME: _____ SIGN: _____ DATE: _____ APPRO: _____ NAME: _____ SIGN: _____ DATE: _____		
TITLE: GA OF BUNKER & SUPPORTING DETAILS		
DEPT. SIGN	SCALE: 1:100	DRAWING NO. PE-DG-423-616-C014
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CUSTOMER : M/S TANGEDCO

PROJECT : UPPUR (2 X 800 MW) STPP

**PURCHASE SPECIFICATION
FOR
3D TYPE ACOUSTIC WAVE LEVEL
TRANSMITTER FOR
COAL BUNKER LEVEL MONITORING**

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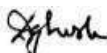
APPROVED BY


S. K. TOPPO

PREPARED BY

ISSUED

DATE


D. GHOSH

416

17/05/2018



Purchase Specification for 3D type Acoustic Wave Level Transmitter for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/UPPUR/PS
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AA Project Synopsis: TANGEDCO – UPPUR (2x800 MW) STPP

The proposed site for main power plant is located at Uppur in Ramnathpuram District of Tamil Nadu. The nearest Railway station is Thiruppalaikudi Railway Station, 3Kms from site. ECR Connecting Ramanathapuram and Pattukottai is the nearest road access. The nearest airport is at Madurai at a distance of 140 km. The nearest port is Tuticorin located at a distance of 130 km.

BB Product Description:

3D type acoustic wave level transmitter with all required accessories for – Total **2 (two) units** of the Coal fired Supercritical Thermal Power Plant **with 9 (nine) bunkers for each unit.**

CC Scope of Supply & Services:

Scope of Supply shall include Engineering, Manufacturing & Testing, and Services for sensor installation, Supervision of balance Erection activity, Commissioning & Training activities as per this specification.

DD Technical Requirement:

1.0 For measuring bunker level, 3D Acoustic type level Transmitters with local indicators on bunker floor shall be provided and indication shall be available on main CHP control system & plant DDCMIS. Bidder to make suitable arrangement (signal splitter & terminals) in the Local control panel for taking two (2 nos.) separate 4-20mA DC output signals, one to CHP control system & the other to plant DDCMIS.

2.0 3 D TYPE ACOUSTIC WAVE LEVEL TRANSMITTER

Type	:	Acoustic Wave Level Transmitter (3 D type)
Application	:	Two nos. of 3 D type Acoustic wave type level transmitter for each coal bunker located above coal pulverizers measuring Level, Volume & Mass.
Temperature compensation	:	Required for high temp applications
Operating Principle	:	Non - Intrusive acoustic wave transmission & Reflection
Frequency Range	:	3 – 10 KHz
Measurement Range	:	Empty to full
Accuracy	:	+/- 0.25 % for even surface & + 0.5% for uneven surface.
Resolution	:	1 mm
Output	:	4-20mA DC with HART to CHP control system and to Main plant DDCMIS
Display Unit:		
Type	:	Head mounted LCD Display with Engg. Units
Location	:	Suitable location at bunker operating floor area
Protection Class	:	IP 65 or better// flame proof (IEC-79.1, Part I) As applicable.



Purchase Specification for 3D type Acoustic Wave Level Transmitter for Coal Bunker Level Monitoring

REF.: CE/416/CBLMS/UPPUR/PS
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Material of construction:	
Housing	: Polypropylene /Aluminum/SS
Flange	: Polypropylene/Aluminum/SS
Sizes:	
Flange Size	: 2" ANSI 300 # RF SS
Electrical connection size	: 1/2" NPT (F)
Accessories	: <ul style="list-style-type: none">i. Double compression type Nickel Plated Cable glandsii. Suitable Mating Flange, necessary gaskets,iii. Local display unit and Suitable mounting brackets, necessary mounting hardware for Local display unit.iv. Complete software as required to have 3 D view on monitors.v. One number each Integral Operating Work station for unit control room for coal bunkers Above OWSs shall display Average level, Maximum level, Minimum level, Volume, Mass and real time complete 3D profile of each coal bunkers. In addition to the information available in above OWS, the bidder shall provide all required hardware and software to display the respective information on OWS provided with Plant DCS.vi. 1 no. laptop each with necessary digital connectivity cable, hardware/software for configuration, calibration, maintenance, analysis of 3D images at the installation sites shall be supplied.

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- 3.1 All the required control devices like control and selector switches, push buttons, indicating instruments, lamps, contactors, relays, timer, fuses, Mimic, HW Annunciation etc. shall be provided with the control panel, fully installed & wired.
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- 3.4 The enclosure shall of suitable to allow easy access to the internals. Doors with three point locking arrangement shall be provided and shall be arranged for maximum possible access to the interior.
- 3.5 Doors shall have concealed quick removal type pinned hinges and locking handles.
- 3.6 Neoprene material Gaskets shall be used between all mating sections to achieve dust proof enclosure rating and IP-65 waterproof and dust tight rating on the terminal boxes.
- 3.7 The sealing of panel bottom with bottom plate. Double compression cable glands and suitable sealing material to prevent entry of dust shall be in the vendor's scope. Suitable arrangement for preventing fire propagation through cable entry points like fire seals etc. shall also be provided at cable entry points.
- 3.8 All internal wirings and/or data bus connections, if any, between the transmitters / indicators and terminal junction box shall run through flexible dust tight conduits connected to the terminal box hub. No exposed wirings within transmitter / indicators, both open and closed type, is admissible.
- 3.9 Panel shall be provided with universal type power receptacle, light fixture & LED lamps with wire guard and lighting switch etc. Lighting switches shall be door actuated & mounted inside the panel. Outlet box, switch box and device covers shall be of galvanized stamped steel. Light switches and power receptacles shall be installed inside the enclosure on the wall near the latch side of the enclosure door. Light fixtures shall be installed on the ceilings of the enclosures.
- 3.10 Power Supplies for miscellaneous devices shall be provided with 2P MCB located within the enclosures. MCB shall be mounted in Fuse blocks. Nameplates shall be furnished above the MCB blocks, identifying the devices being served.



Purchase Specification for 3D type Acoustic Wave Level Transmitter for Coal Bunker Level Monitoring

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-
- 3.11 Bidder shall supply all required transformers, regulators and other power supply equipment to adapt one number 240 V AC UPS source and one number 240 V AC Non-UPS source of power to the requirements of the enclosure mounted equipment. This shall include but not be limited to internal instrument illumination transformers. The circuits shall be separately isolated with MCBs.
 - 3.12 Degree of protection of the panel shall be suitable for application IP55 / IP65.
 - 3.13 Paint shall be stoving epoxy based powder coated,
Exterior Colour: Light Grey to Shade RAL 7035 (Semi Glossy)
Interior Colour: Brilliant White (Glossy).
 - 3.14 Quantity:
1 No. LCP for Mill-A, B, C & D for each Unit.
1 No. LCP for Mill-E, F, G, H & J for each Unit.

4.0 Specifications for Engineering Work Stations

- 4.1 On board Intel – Xeon quad core, 3.46 GHz processor with 1066 MHz bus with Hyper threading or higher.
- 4.2 4GB DDR3 RAM (min.)
- 4.3 1 x 1000 GB IDE Hard Disc Drive of 7200 RPM or higher
- 4.4 1024 MB Graphic Accelerator
- 4.5 System chipset: Intel Express
- 4.6 2 x RS – 232 ports
- 4.7 1 x parallel port
- 4.8 4 nos. USB ports. (2 nos. on front side)
- 4.9 1 x 52 X DVD / CD Read Drive
- 4.10 16 X DVD R / W Drive
- 4.11 2 x Ethernet (10 / 100 / 1000MB) cards (Industrial Grade)
- 4.12 UXGA graphics and monitor 1920 X 1248, 256 colours with MRPII compliant, viewing Angle 178° vertical & Horizontal and fastest response time.
- 4.13 1 x windows XP/7 Professional or latest & proven version of Windows OS Professional with Multimedia
- 4.14 Ethernet adapter
- 4.15 Third party operating system, graphical users interface and software, if required.
- 4.16 2 nos. graphic output cards minimum
- 4.17 Optical mouse
- 4.18 Sound card
- 4.19 Internal speakers
- 4.20 Wireless internet & Blue tooth Interface
- 4.21 Redundant power supply (In built)
- 4.22 General MS Windows latest, MS-Office Professional, Adobe Acrobat, anti-virus McAfee or equivalent, AutoCAD etc.
- 4.23 Any other communication ports / Hardware as per 3 D level scanner requirement.
- 4.24 Quantity: 1 No. for each unit = 2 Nos. total**
- 4.25 Preferred Makes: DELL, HP COMPAQ, NEC & IBM.

5.0 Interconnecting cable

- 5.1 All interconnecting cables supplied by vendor shall be immune to environment, RFI and magnetic interference normally prevalent in the plant area. The interconnecting cables shall not be an integral part of the transmitter.
 - 5.1 Vendor shall include 25 meters of interconnecting cable (armoured type) for each 3D transmitter up to Local control panel.
-



**Purchase Specification for
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Coal Bunker Level Monitoring**

REF.: CE/416/CBLMS/UPPUR/PS
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6.0 Mandatory Spares

Coal Bunker Level Indicating System		
(i)	Sensors of each type	20% of total quantity or 2 nos. of each type whichever is more.
(ii)	Electronic Cards of each types, model	10% of total quantity or 2 nos. of each type and model whichever is more.
(iii)	Panel indicators/displays for Bunker Level	20% of total quantity or 2 nos. of each type whichever is more.

EE Documentation Requirements:

1. Documents to be furnished, with the offer:-
 - 1.1. Datasheets / Drawings of offered items / system
 - 1.2. Technical Literature / Catalogs
2. Documents to be furnished, for Approval, in the event of order:-
 - 2.1. System Architecture & Write-up
 - 2.2. GA drawing of Local control panel showing overall dimension & layout of items housed inside.
 - 2.3. Scanner location and installation drawing.
 - 2.4. Datasheets, Component Drawings and BOM of offered items.
 - 2.5. Electrical Schemes with Termination details for Power & Signal Wiring.
 - 2.6. Technical Literature
 - 2.7. Manufacturers Quality Assurance Plan.

The datasheet shall include the filled-up format, as below:

A.	Bunker Level Indicators	
A.1	Type & Make of main bunker level indicator	:
A.2	Total number of 3D type acoustic wave level transmitter provided	: (Nos.)
A.3	Accuracy (guaranteed)	:
A.4	Type & Make of level indicator as back-up [for main bunker level indicator] for high/high level	:
A.5	Accuracy of back-up level indicator (guaranteed)	:
A.6	Total number of back-up level indicator provided	: (Nos.)
A.7	Location of annunciation & indication provided (for above level indicators)	: (Yes/No)

Note: All above documents shall be submitted in 2 sets of hardcopies. Also a Soft copy in "pdf" format of all the above documents shall be furnished.

3. Quality Documents to be submitted for approval, in the event of order:-
Test Certificates and Calibration Reports, for approval, before dispatch of items. The calibration reports shall correspond to range of the Transmitter.
4. Operation and Maintenance (O & M) Manual:-
4 sets hardcopies (2 sets to BHEL-EDN & 2 sets with consignment to site). Also, a soft copy of O&M manual to be provided.



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Coal Bunker Level Monitoring**

REF.: CE/416/CBLMS/UPPUR/PS
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FF Erection & Commissioning Requirements:

1. Erection and Commissioning Training requirement for offered System
 - 1.1 A representative of bidder shall visit site with approved BOM for validation of supplies made
 - 1.2 Supervision of Erection of Transducer on Top of each Bunker.
 - 1.3 Supervision of Erection of balance items
 - 1.4 Total Commissioning and handing over of the offered systems offered to Owner / End user.
 - 1.5 Bidder to include one site visit of min. 5 man-days during Performance Availability Test.
 - 1.6 Three days of Training to Site Engineer/s at Site.

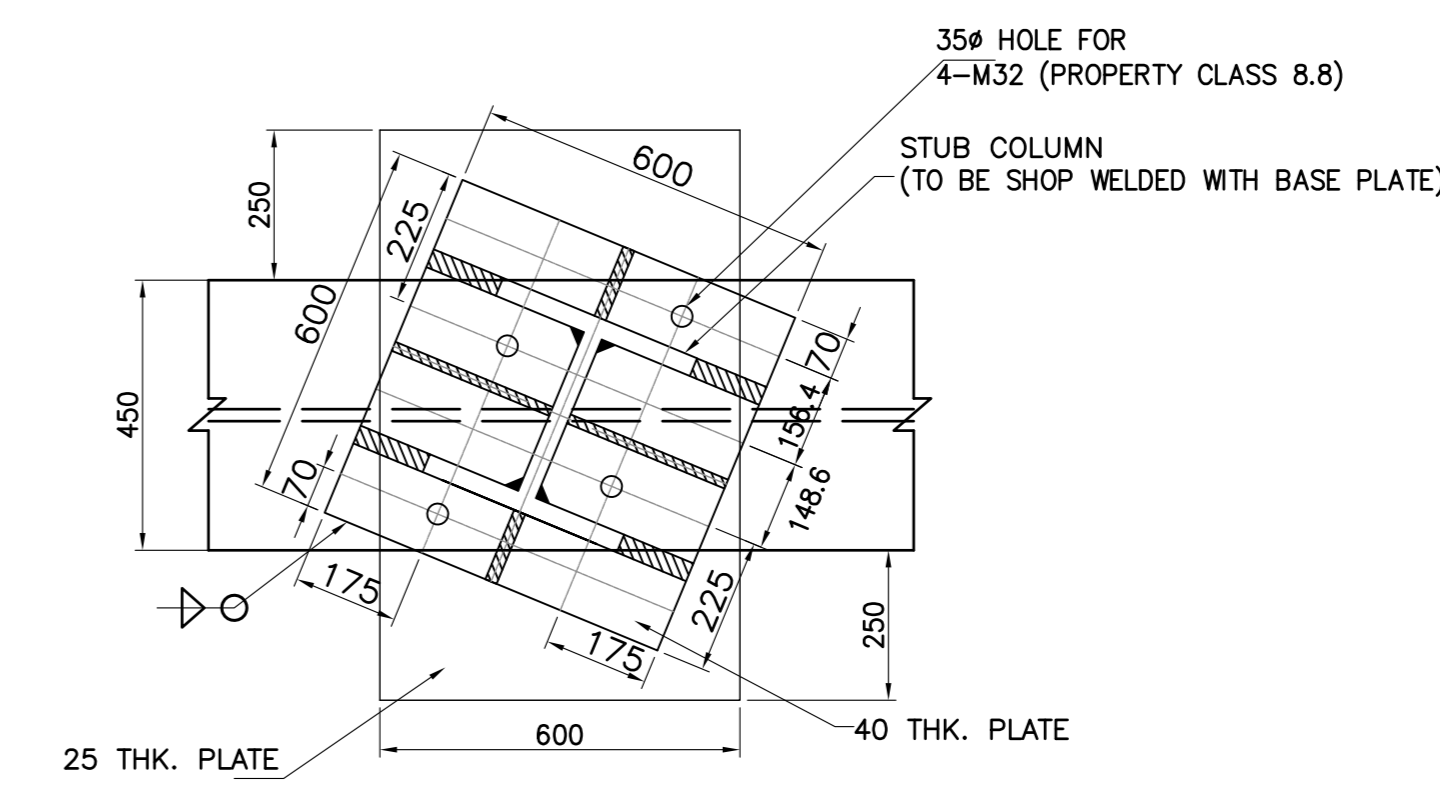
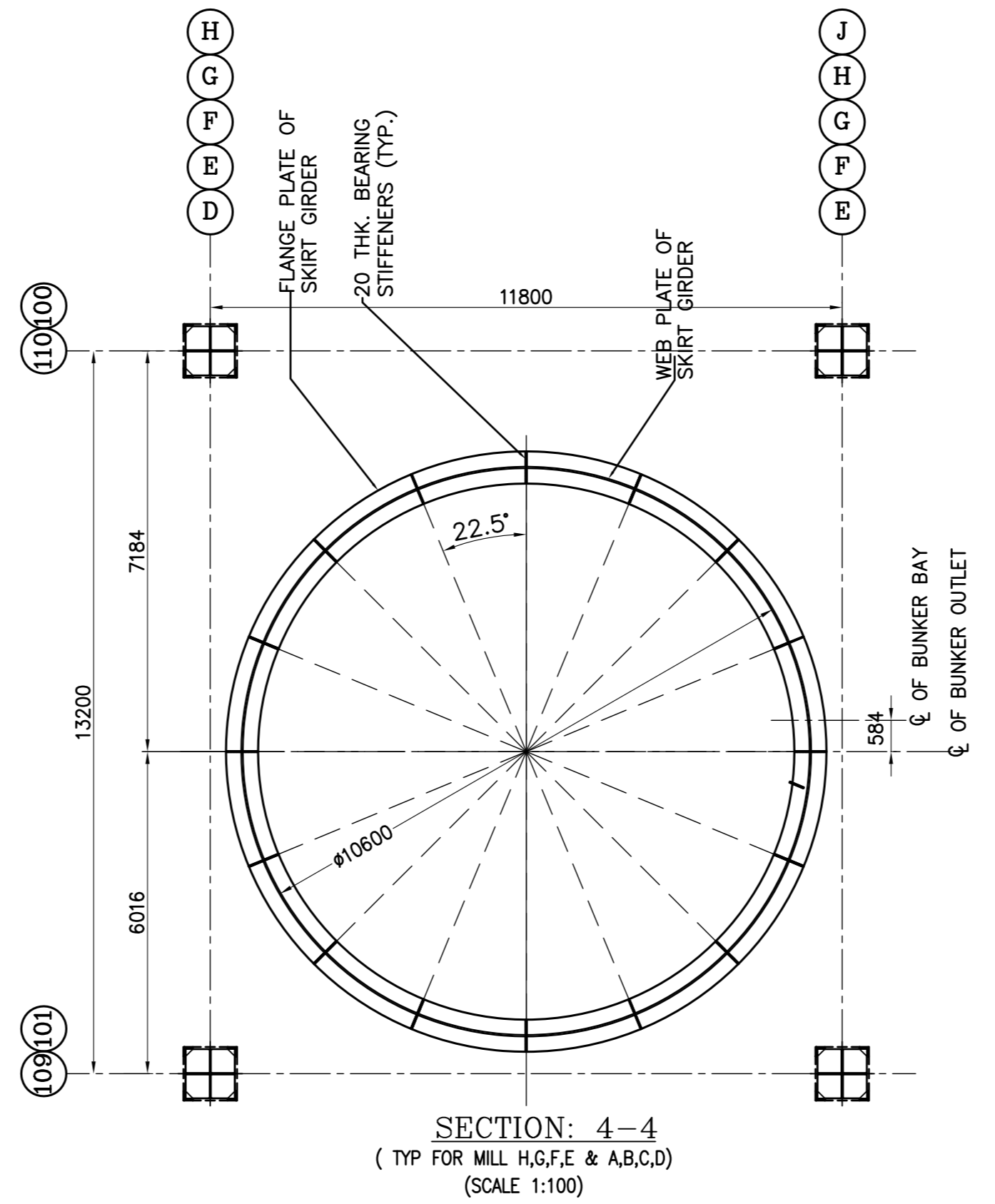
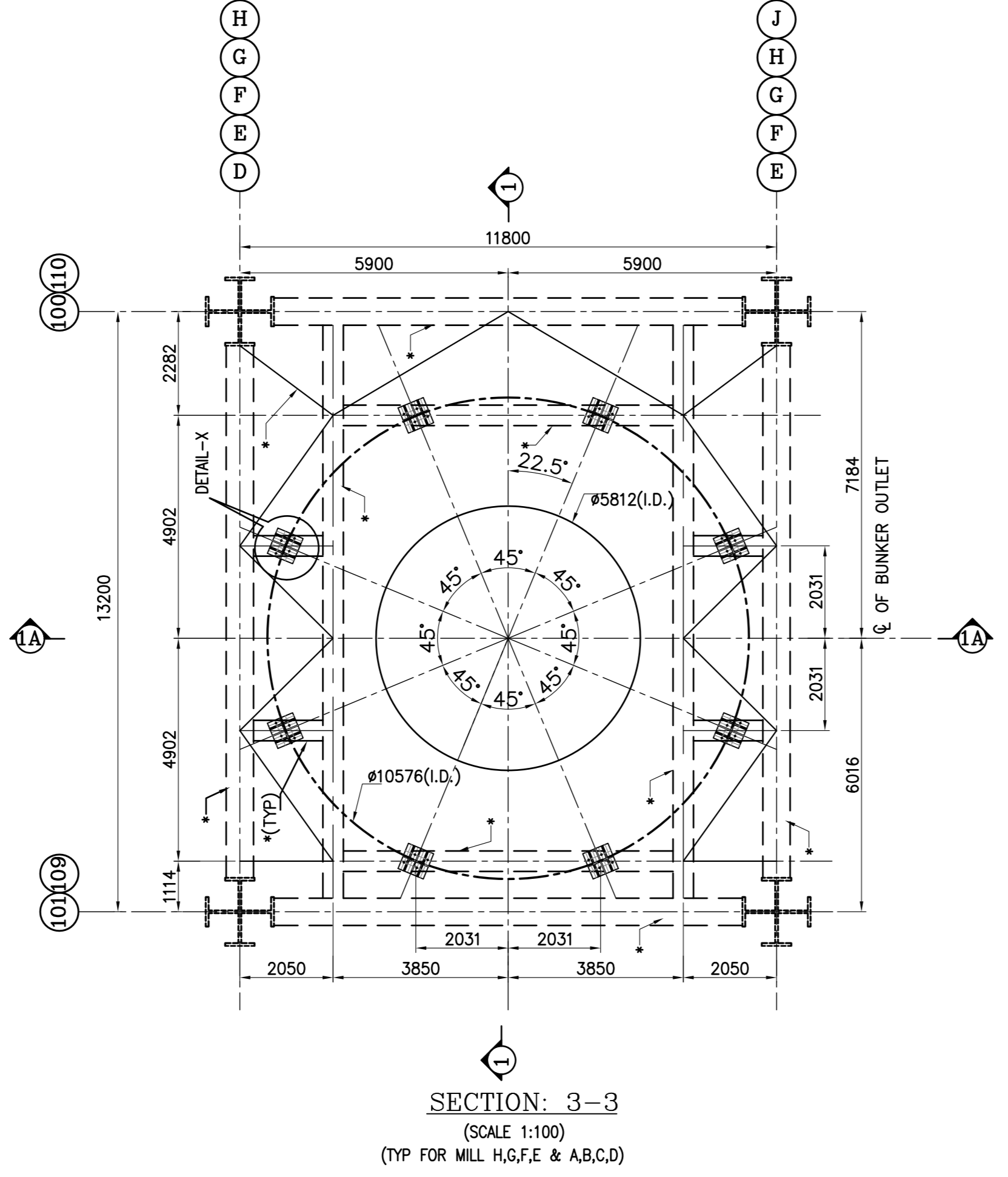
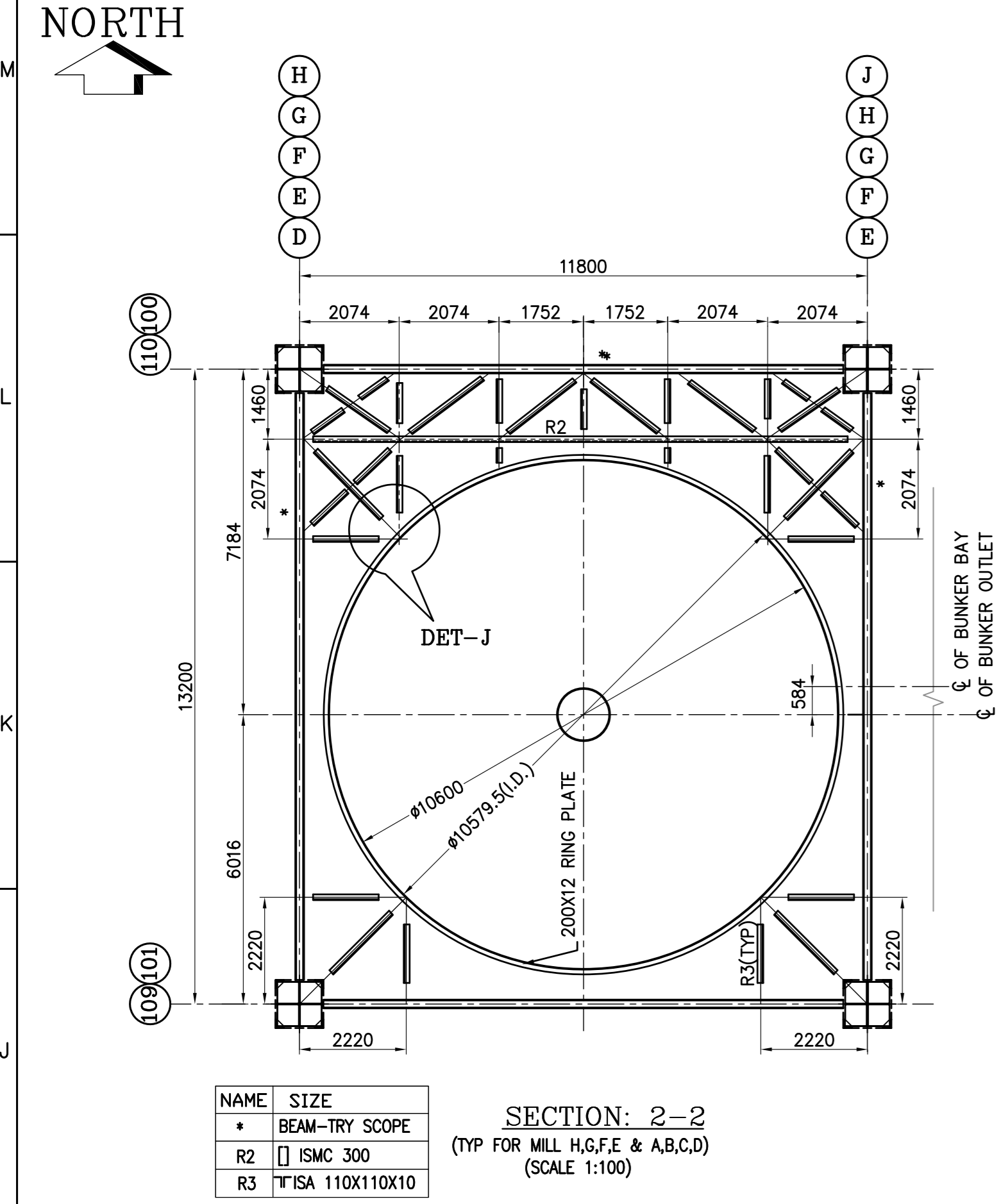




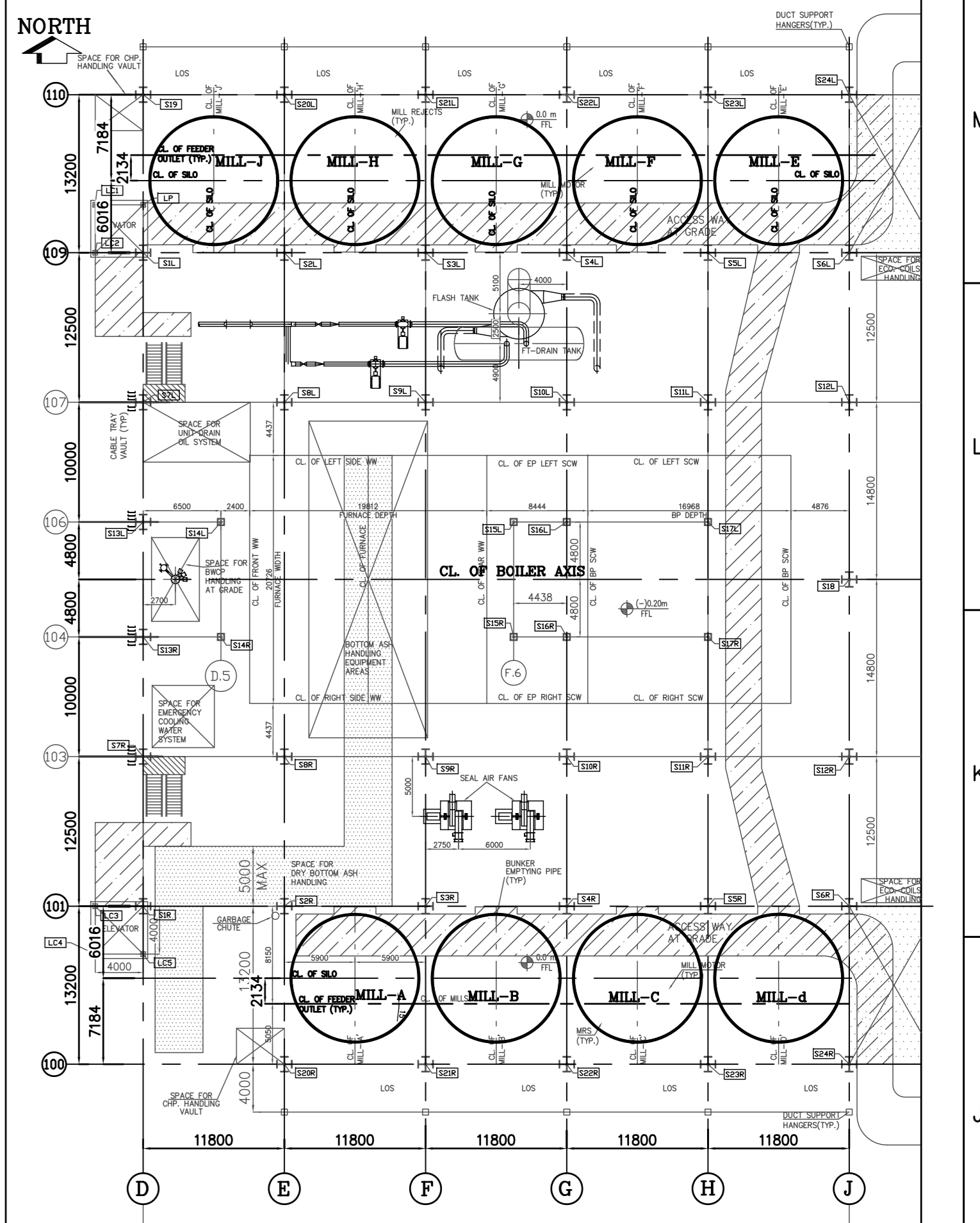
**Purchase Specification for
3D type Acoustic Wave Level Transmitter for
Coal Bunker Level Monitoring**

REF.: CE/416/CBLMS/UPPUR/PS
REV. NO.: 00
PAGE: 7 of 9

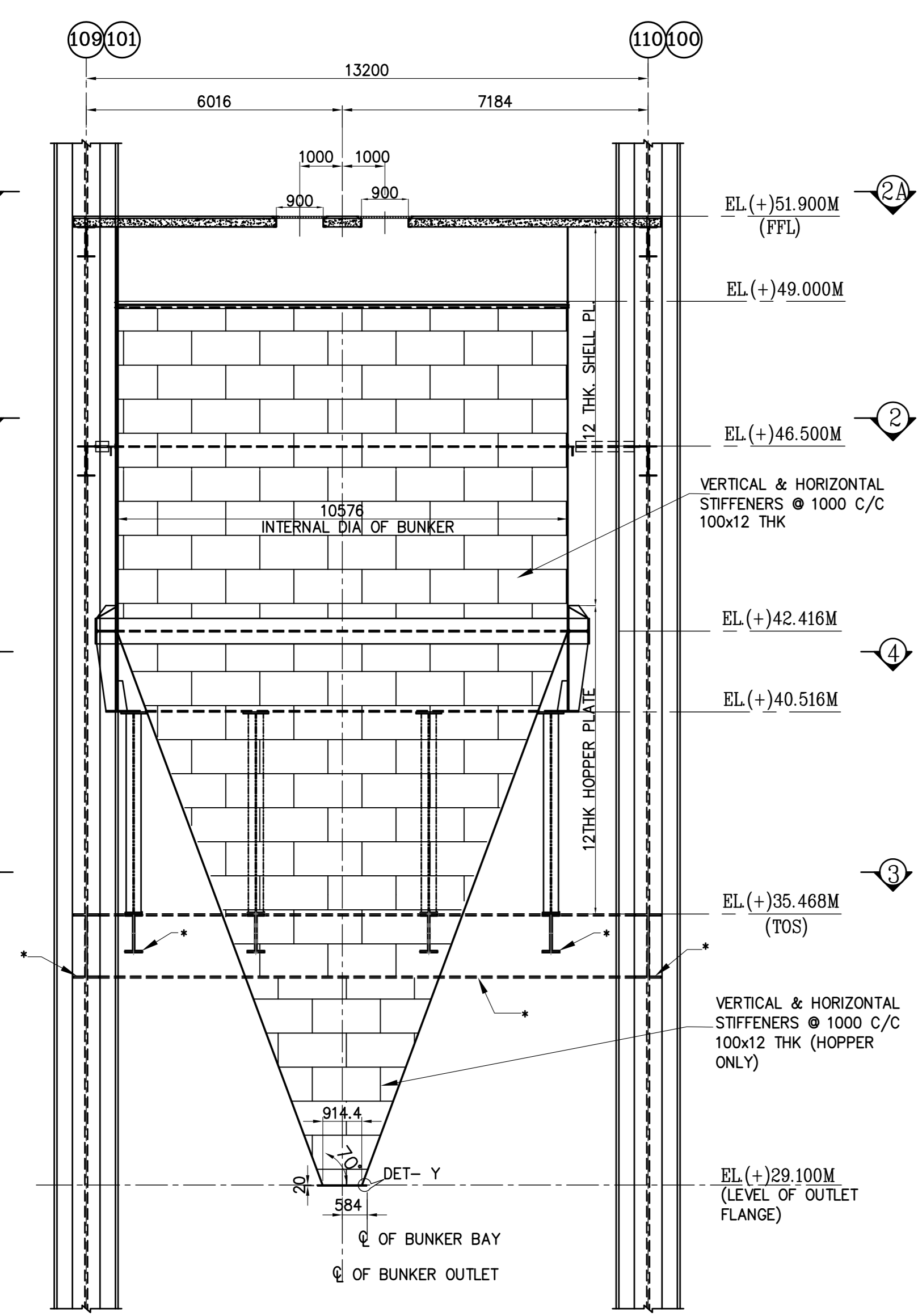
GG – BUNKER DRAWINGS



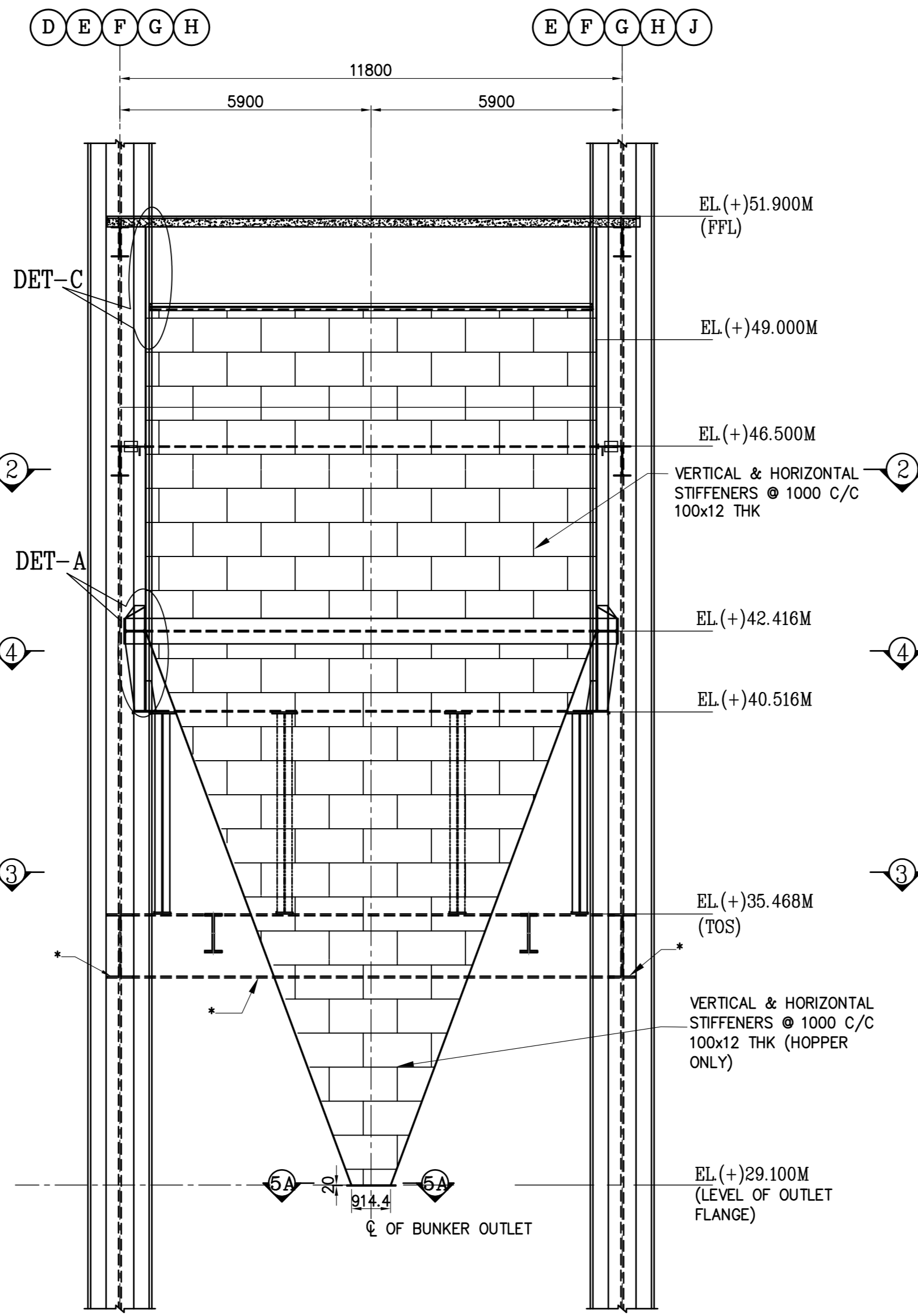
DETAIL-X
BOLT DISTANCES ARE SUGGESTIVE AND MINOR CHANGES MAY BE DONE BY THE DETAILER TO CLEAR STIFFENERS ETC.



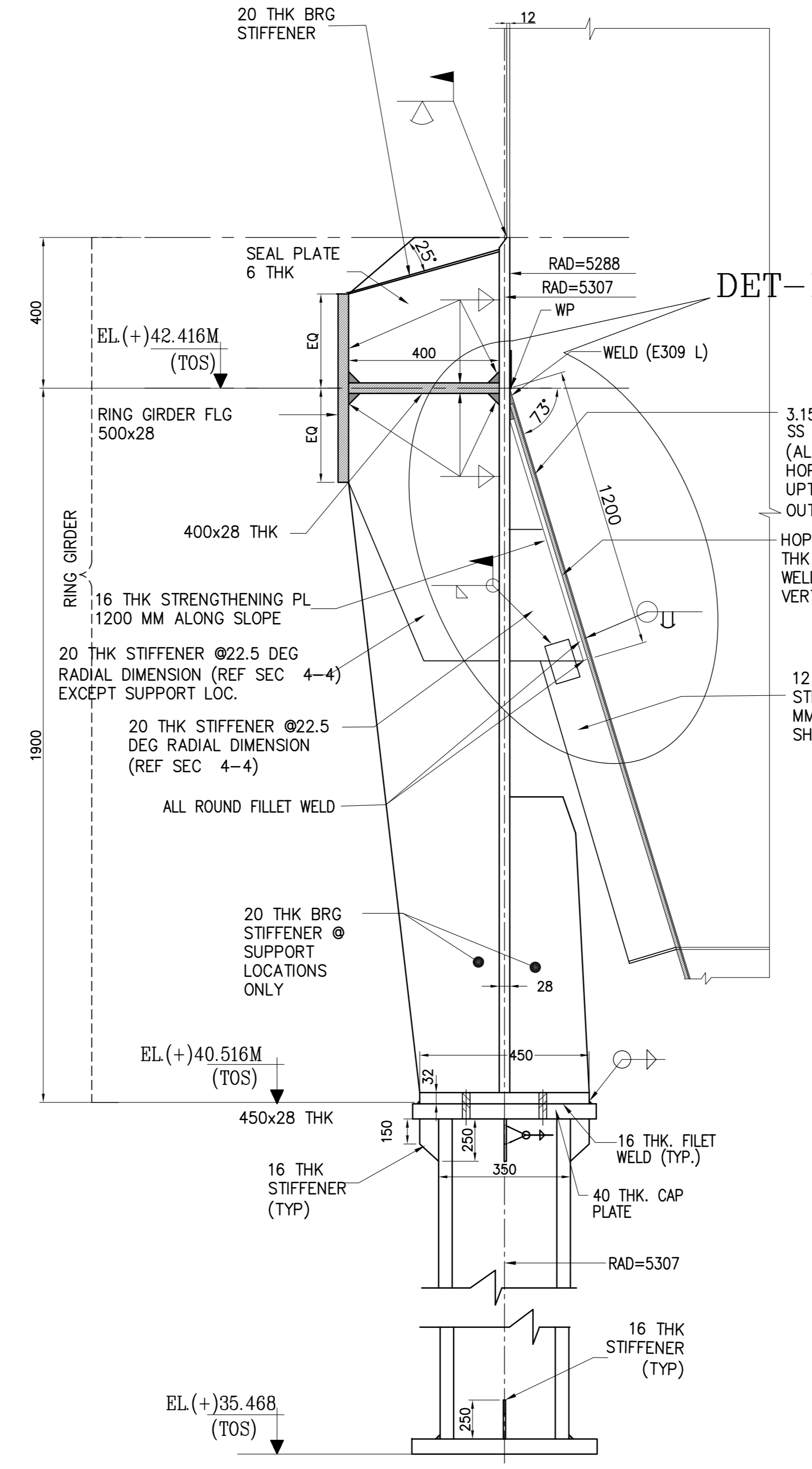
KEY PLAN



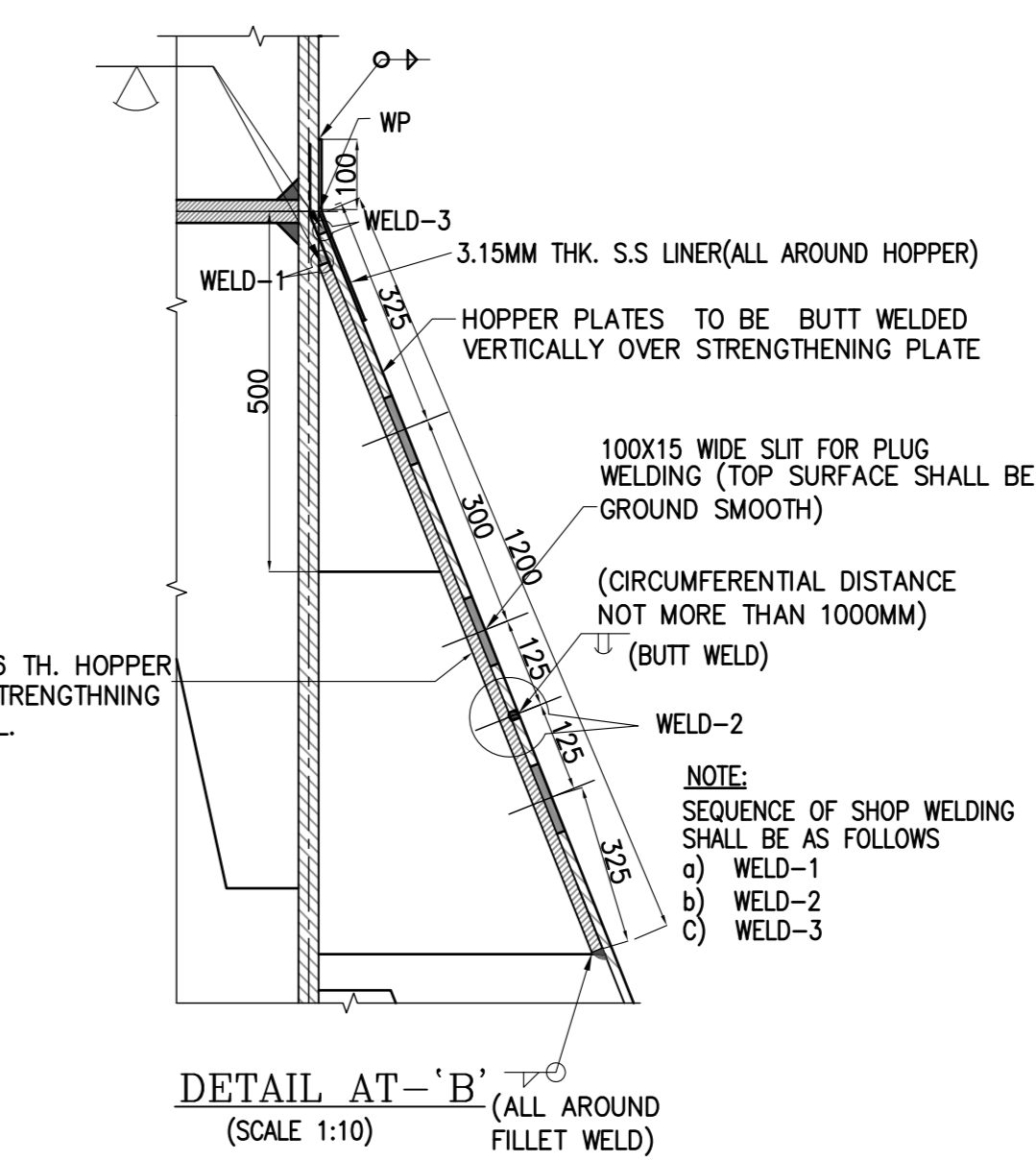
TYP. SECTION: 1-1
(SCALE 1:100)
(BEAMS MARKED * ARE IN BHFL-TRICHY SCOPE)



TYP. SECTION: 1A-1A
(SCALE 1:100)
(BEAMS MARKED * ARE IN BHFL-TRICHY SCOPE)



DETAIL 'A'
DETAIL OF RING GIRDER



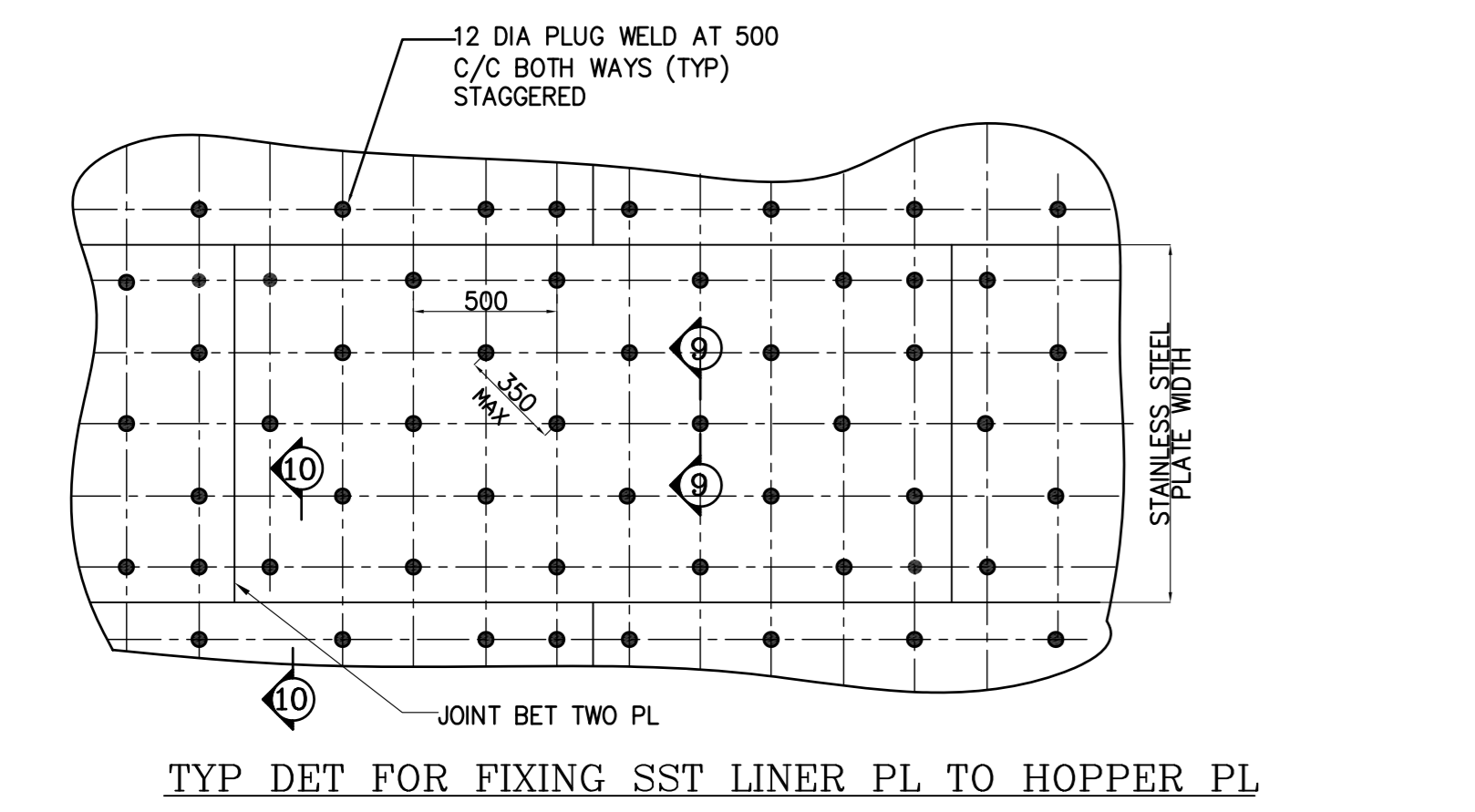
DETAIL AT 'B'
(SCALE 1:10)

Table with 3 columns: S/NO, BILL OF MATERIAL (FOR 18 SILLO), and (MT). It lists materials like 3.15 MM THK. SS LINER, 6 MM THK., 10 MM THK., 12 MM THK., 16 MM THK., 20 MM THK., 32 MM THK., 40 MM THK., MC 300, ISA 110X110X10, ISA 150X150X15, and ISA 75X75X8.

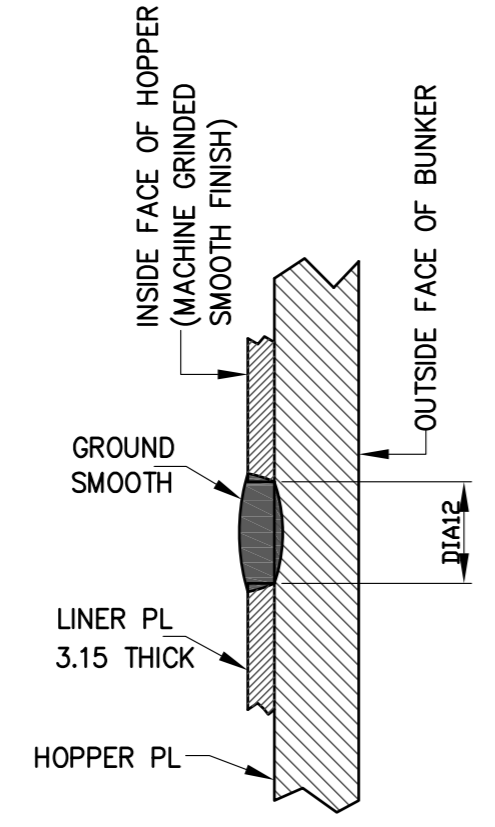
- NOTES:-
1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. ALL ELEVATIONS ARE REFERRED TO THE FINISHED FLOOR LEVEL OF POWER HOUSE BUILDING AS EL. 0.00 M WHICH CORRESPONDS TO RL(+5) 8.00 M.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
4. FOR OTHER NOTES AND STD. DETAILS REF. DRG. PE-DG-425-600-C002
5. CONNECTION DETAILS SHOWN ARE INDICATIVE ONLY. SIZE & THICKNESS OF GUSSETS, NO. & DIA. OF CONNECTION BOLTS ETC. SHALL BE SHOWN IN CORRESPONDING FABRICATION DRG.
6. FOR GROUING OF BASE PL. REF. DRG. NO PE-DG-425-611-C001
7. ALL ELEVATIONS ARE TO THE TOP OF STEEL (U.N.O.)
8. ALL BOLTED FIELD CONNECTIONS ARE TO BE DONE WITH HSFG BOLTS OF PROPERTY CLASS 8.8.(U.N.O)
9. PROPER CARE SHALL BE TAKEN IN WELDING OF BUNKER PLATES. HORIZONTAL & VERTICAL JOINTS IN BUNKER & HOOPER SHALL BE SUBJECT TO NDT AS PER FOP.
10. VERTICAL JOINTS IN BUNKER PL SHALL BE STAGGERED.
11. PLATE SHALL BE CUT TO MAX WIDTH TO REDUCE NUMBER OF JOINTS.
12. BEFORE COMMENCING REGULAR FABRICATION OF THE BUNKER TRAIL ASSEMBLY AT SITE OF THE BUNKER INCLUDING HOOPER SHALL BE MADE ATLEAST FOR ONE BUNKER.
13. ALL END CONNECTIONS FOR BRG SHALL BE DESIGNED FOR FULL TENSILE STRENGTH OF MEMBERS.
14. STAINLESS STEEL LINER IN THE COAL HOOPER & SILO SHALL BE OF 3.15MM THICKNESS OF GRADE S-304 TYPE 304 CONFORMING TO ASTM A 240 WITH MILL FINISH 2B, COLD ROLLED, ANNEALED AND DESCALE (PICKLED) & SIKN PASSED MATERIAL & SHALL BE PROVIDED ON THE INNER FACE OF INCLINED PORTION OF HOOPPERS UP TO MOUTH OF THE HOOPPERS, WITHOUT ALLOWING ANY PROJECTIONS IN COAL FLOW PATH.
15. PLUS WELD IN SST LINER PLATE SHALL BE GROUND SMOOTH TO MATCH WITH PLATE PROFILE.
16. ALL BUTT WELD OF BUNKER SUPPORTING STRUCTURE SHALL BE 100% RADIOGRAPHED. ELECTRODE E308L FOR WELD JOINTS BET SST PLATES & E309L FOR WELD JOINTS BETWEEN SST PL & MS PLATE.
17. SPOT RADIOGRAPHY FOR BUTT WELDS SHALL BE CARRIED OUT IN TENSION ZONE AND IN COMPRESSION ZONE AS PER FOP.
18. ALL SITE FILLET WELDS OF BUNKER AND BUNKER SUPPORTING GIRDERS/BELMS AS PER FOP.
19. ADEQUATE TEMPORARY STIFFENER TO BE PROVIDED TO AVOID BUCKLING DISTORTION OF BUNKER STRUCTURE DURING FABRICATION, HANDLING AND ERECTION STAGE.
20. VERTICAL JOINT IN SIDE PLATE SHALL BE STAGGERED.
21. BEAMS MARKED "*" ARE IN BHFL TRICHY SCOPE REFER DWG. NO. 0-34-200-01043

- ENGINEERING REFERENCE DRAWINGS :-
1. PE-DG-425-100-M002 - MAIN EQUIPMENT PLANT LAYOUT
2. PE-DG-425-600-C002 - GENERAL NOTES FOR STRUCTURAL STEEL WORKS

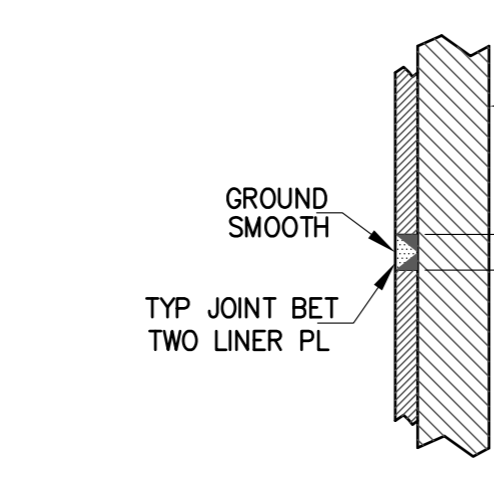
LEGEND:
1. TOS = TOP OF STEEL
2. TYP. = TYPICAL
3. PL = PLATE
4. TH. = THICK
5. BOS = BOTTOM OF STEEL
6. C/C = CENTRE TO CENTRE
7. CL = CENTER LINE
8. EL. = ELEVATION
9. LVL. = LEVEL
10. UNO = UNLESS NOTED OTHERWISE



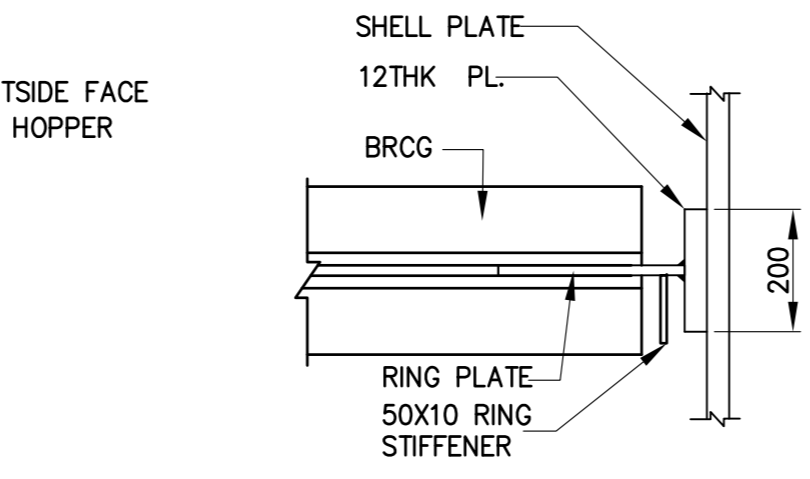
TYP DET FOR FIXING SST LINER PL TO HOOPER PL



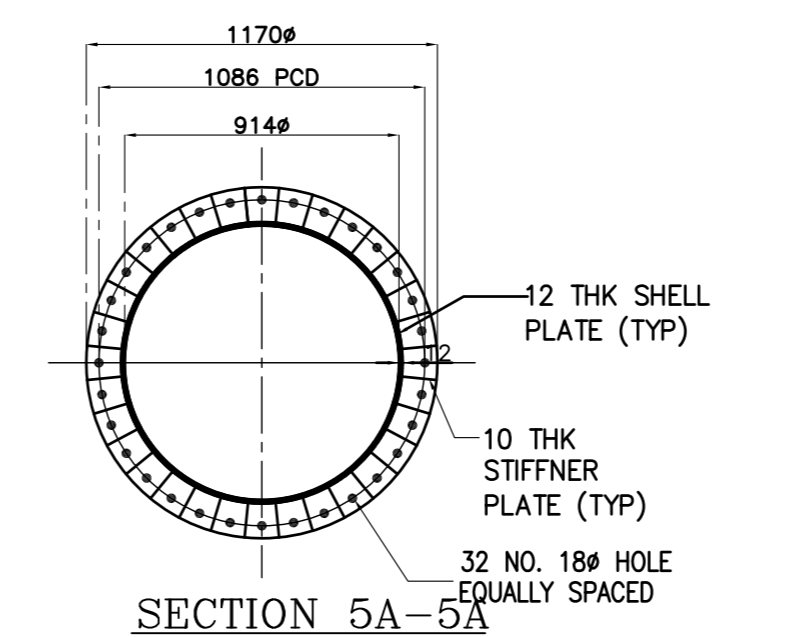
SECTION 9-9



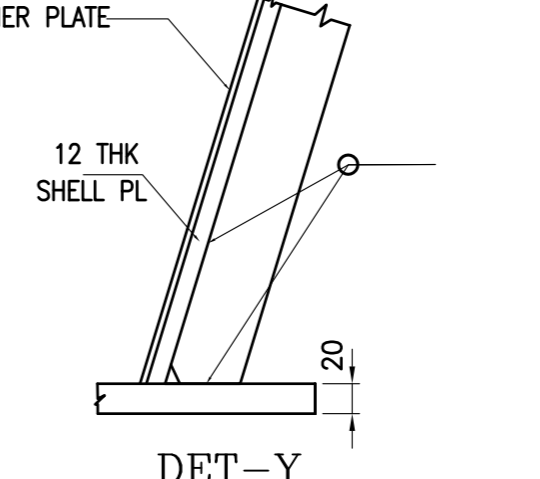
SECTION 10-10



SECTION 19-19



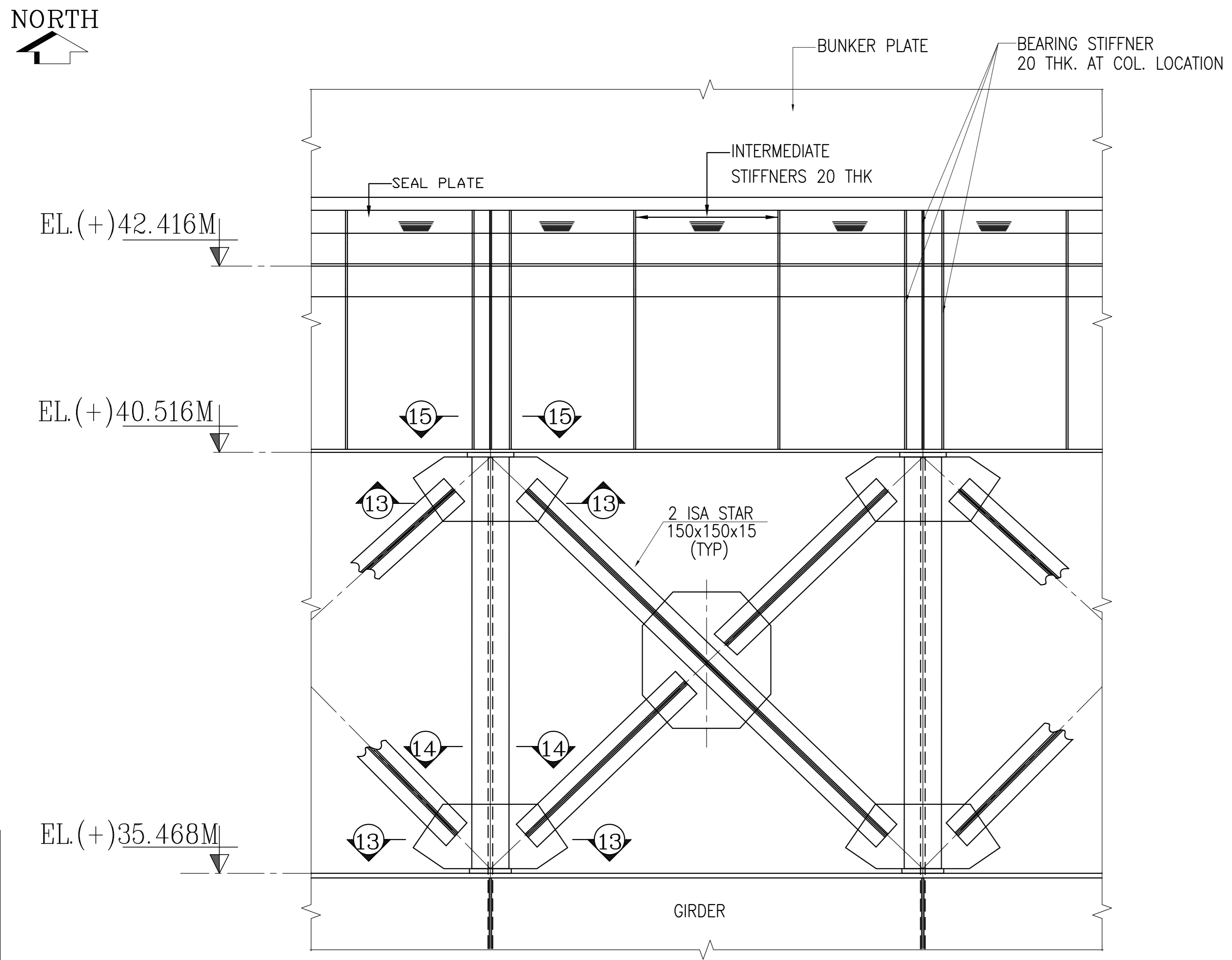
SECTION 5A-5A



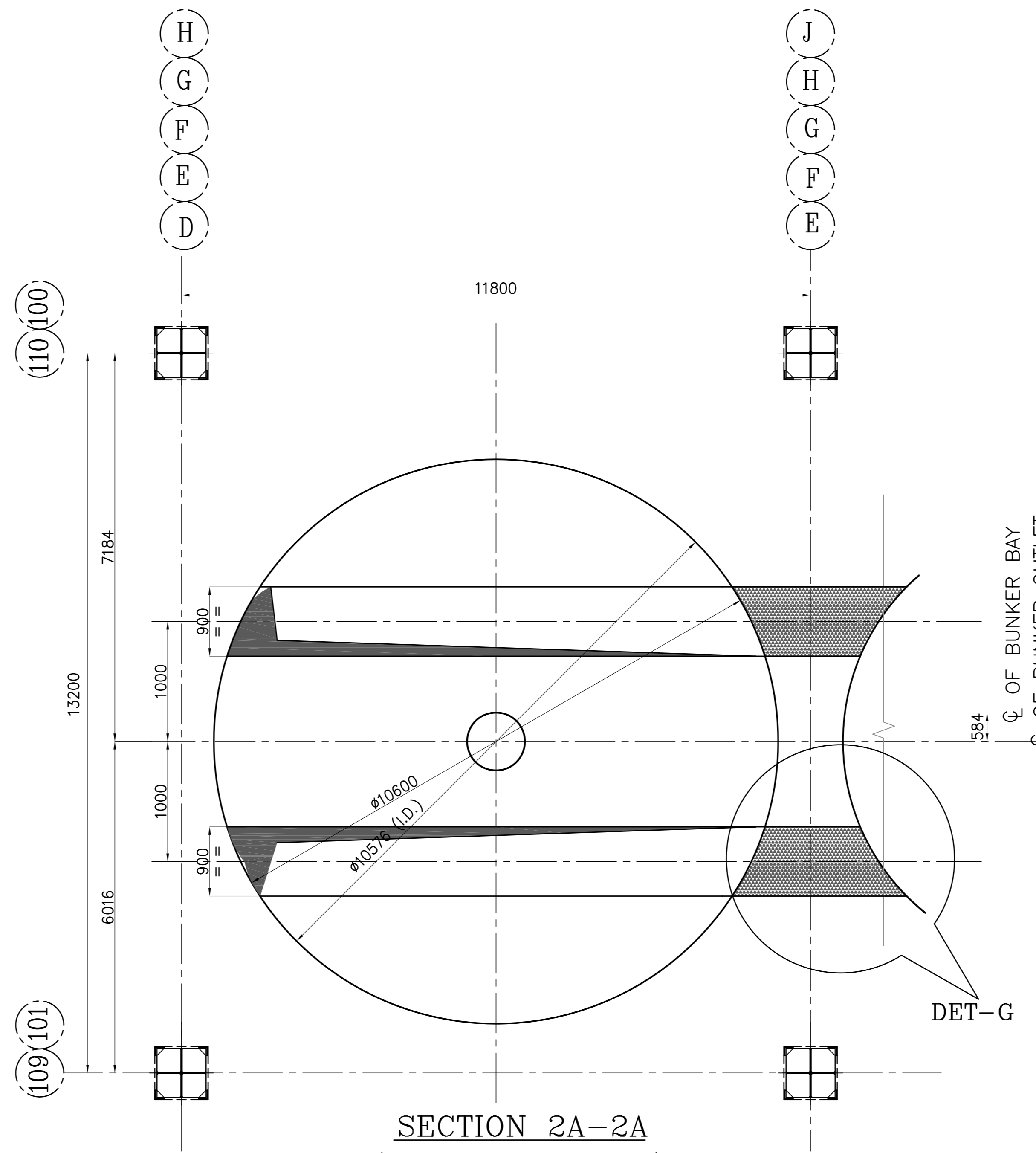
DETAIL-Y

CUSTOMER: TAMILNADU GENERATION AND DISTRIBUTION CORPORATION LIMITED
CUSTOMER'S CONSULTANT: TRACTEBEL ENGINEERING PVT. LTD.
JOB NO.: 425
STATUS: CONTRACT
DISTRIBUTION: BHARAT HEAVY ELECTRICALS LTD
PROJECT: POWER SECTOR ENGINEERING MANAGEMENT Noida
TITLE: MILL & BUNKER BUILDING BUNKER AND SUPPORTING DETAIL
DEPT. SCALE: DRAWING NO. PE-DG-425-616-C014
SHEET 1 OF 1 REV. 00

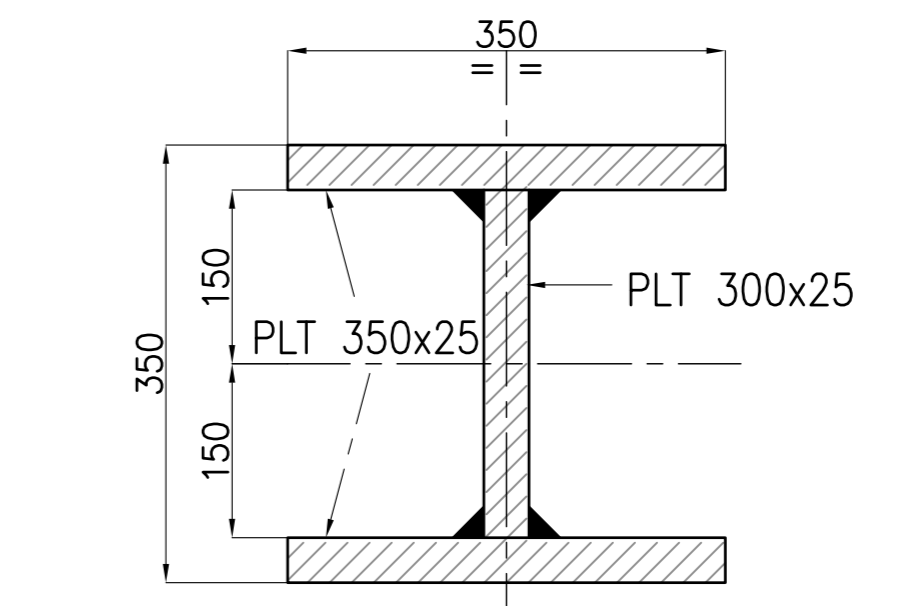
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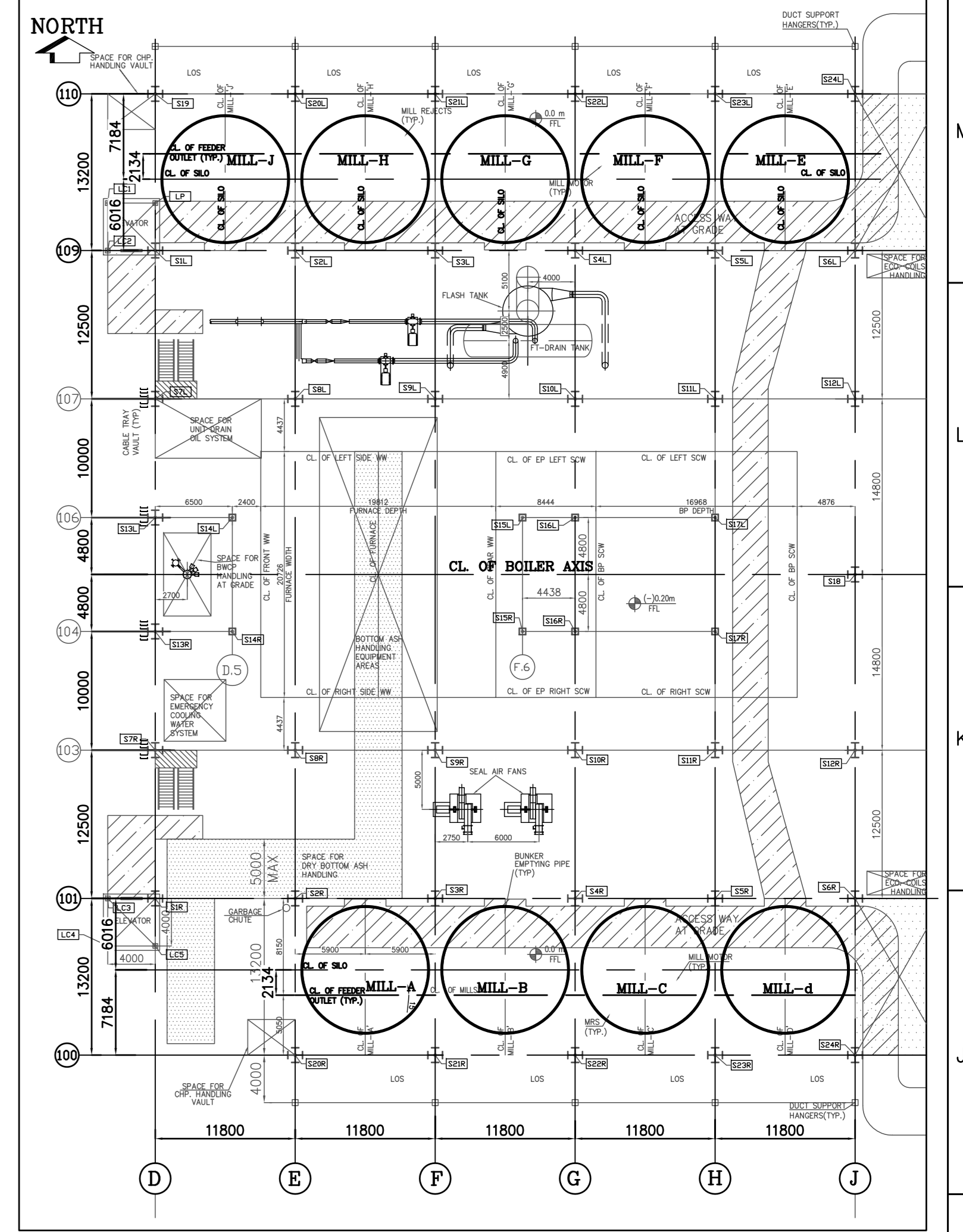
DEVELOPED VIEW OF SKIRT GIRDER WITH SUPPORT COLUMNS



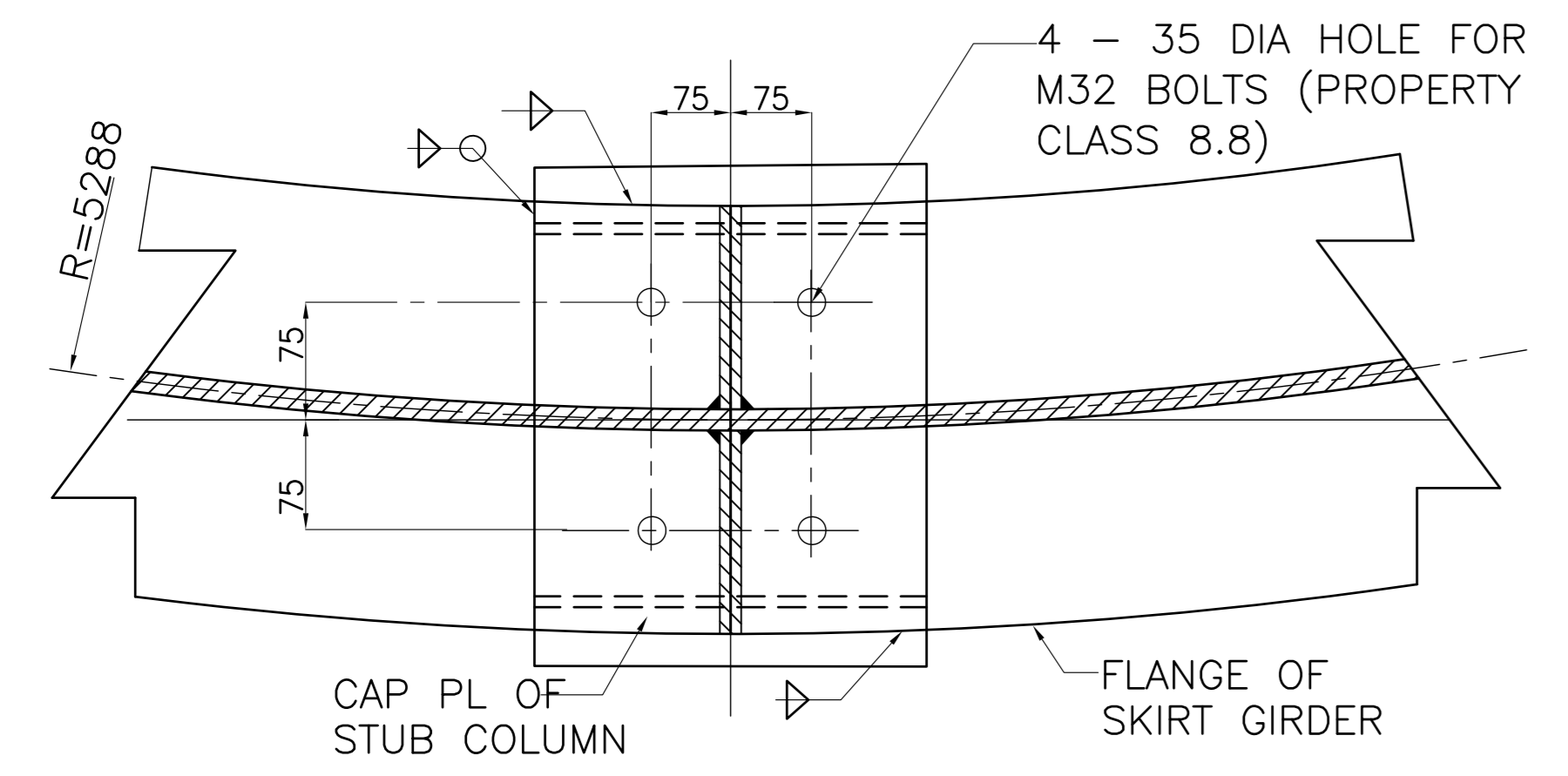
SECTION 2A-2A (TYP FOR MILL H,G,F,E & A,B,C,D) (SCALE 1:100)



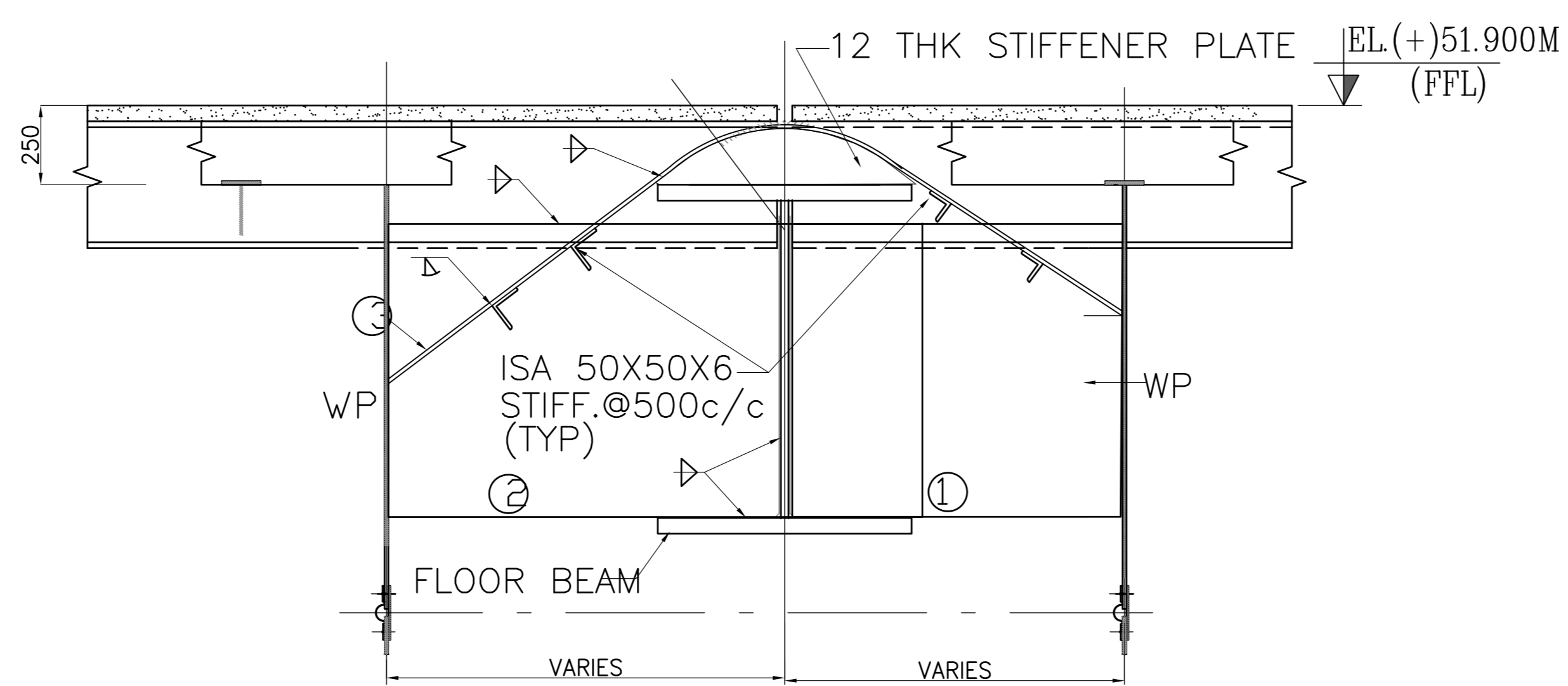
DETAIL OF STUB COLUMN (TYPICAL)



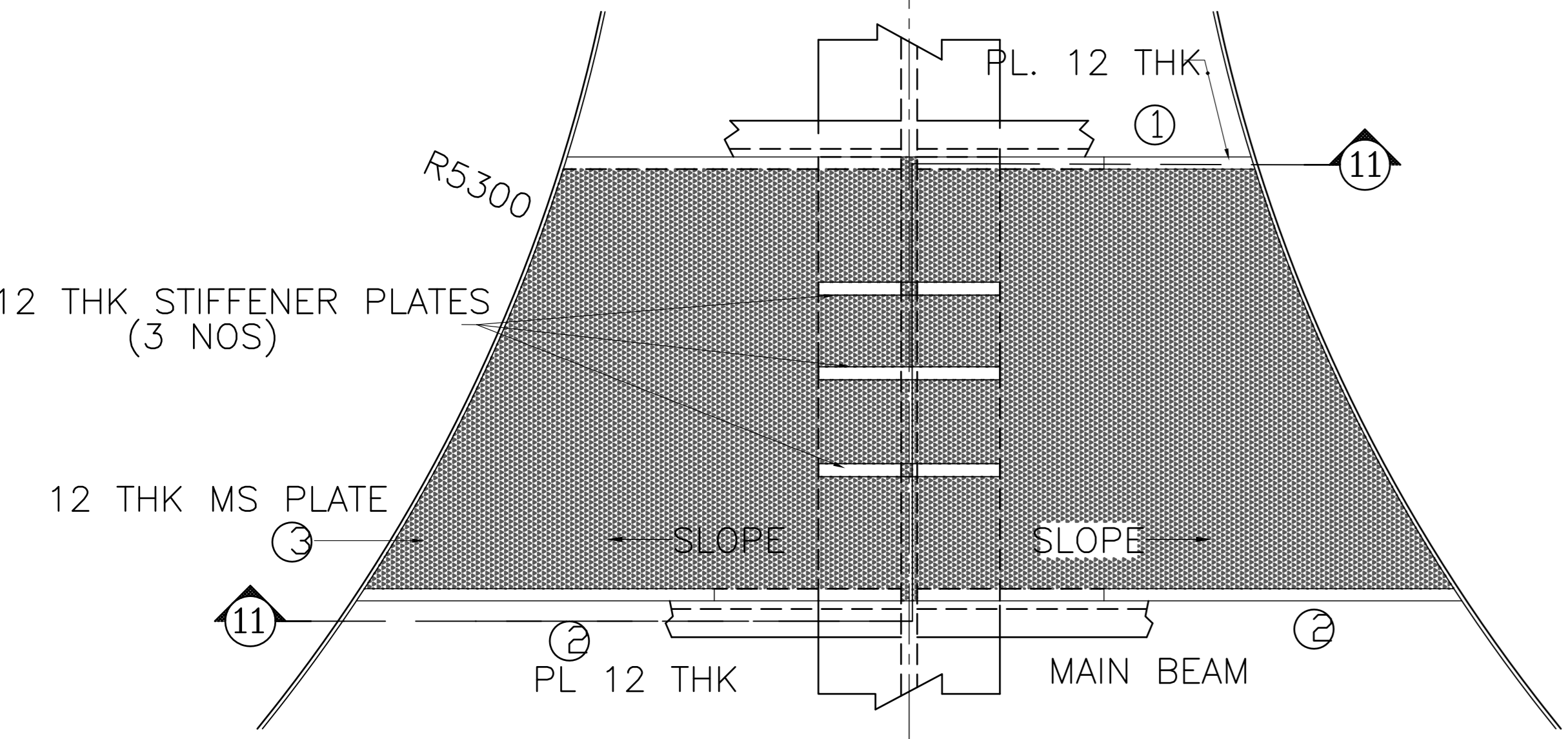
KEY PLAN



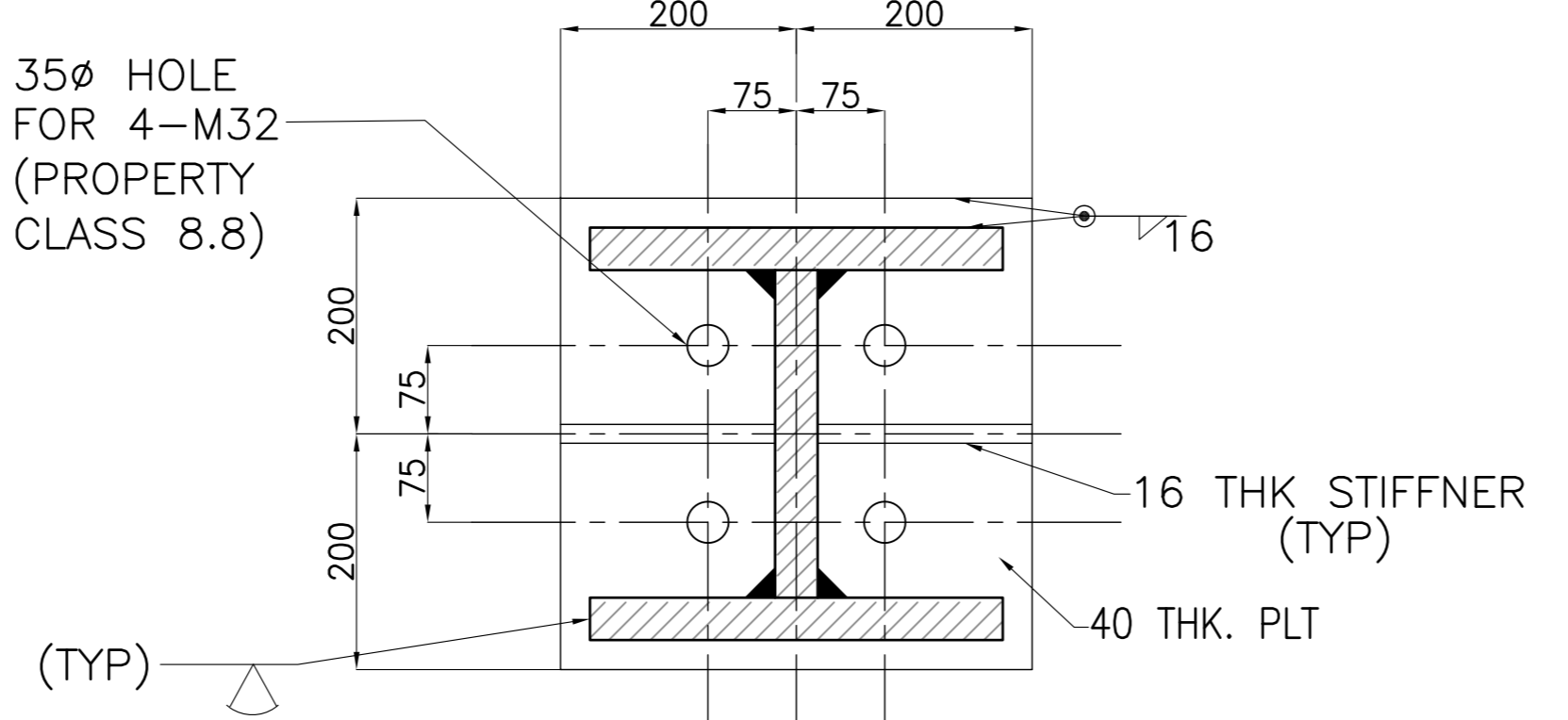
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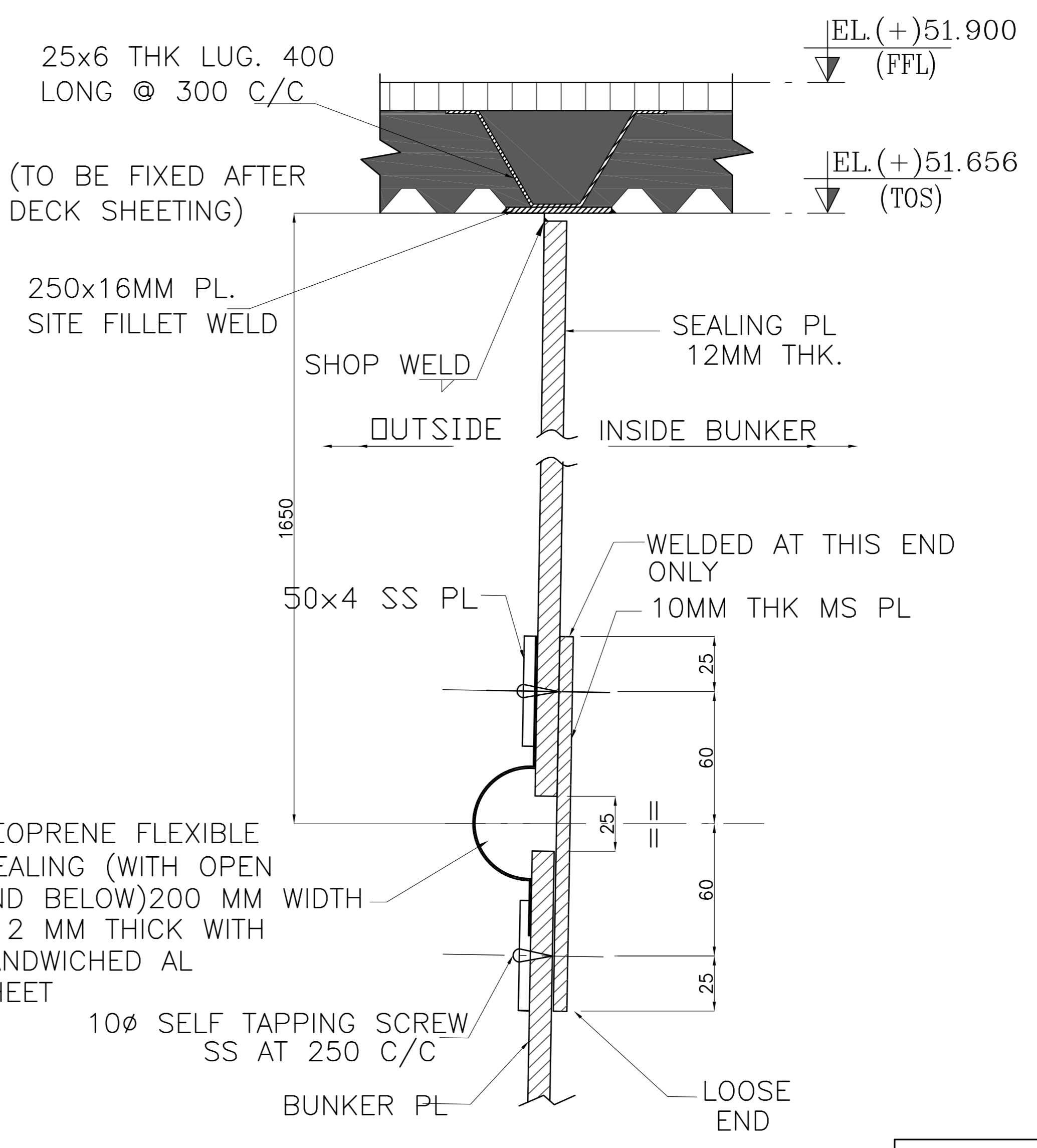
SECTION 11-11



DET-G



SECTION 13-13



DETAIL-C

- NOTES:-**
1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
 2. ALL ELEVATIONS ARE REFERRED TO THE FINISHED FLOOR LEVEL OF POWER HOUSE BUILDING AS EL. 0.00 M WHICH CORRESPONDS TO RL.(+) 5.800 M.
 3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
 4. FOR OTHER NOTES AND STD. DETAILS REF. DRG. PE-DG-425-600-C002
 5. CONNECTION DETAILS SHOWN ARE INDICATIVE ONLY. SIZE & THICKNESS OF GUSSETS, NO. & DIA. OF CONNECTION BOLTS ETC. SHALL BE SHOWN IN CORRESPONDING FABRICATION DRG.
 6. FOR GROUTING OF BASE PL. REF. DRG. NO PE-DG-425-611-C001
 7. ALL ELEVATIONS ARE TO THE TOP OF STEEL (U.N.O.)
 8. ALL BOLTED FIELD CONNECTIONS ARE TO BE DONE WITH HSFG BOLTS OF PROPERTY CLASS 8.8.(U.N)
 9. PROPER CARE SHALL BE TAKEN IN WELDING OF BUNKER PLATES. HORIZONTAL & VERTICAL JOINTS IN BUNKER & HOPPER SHALL BE SUBJECT TO NDT AS PER FQP.
 10. VERTICAL JOINTS IN BUNKER PL. SHALL BE STAGGERED.
 11. PLATE SHALL BE CUT TO MAX WIDTH TO REDUCE NUMBER OF JOINTS.
 12. BEFORE COMMENCING REGULAR FABRICATION OF THE BUNKER TRIAL ASSEMBLY AT SITE OF THE BUNKER INCLUDING HOPPER SHALL BE MADE ATLEAST FOR ONE BUNKER.
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 14. STAINLESS STEEL LINER IN THE COAL HOPPER & SILO SHALL BE OF 3.15MM THICKNESS OF GRADE S-304 TYPE 304 CONFORMING TO ASTM A 240 WITH MILL FINISH 2B, COLD ROLLED, ANNEALED AND DESCALED (PICKLED) & SKIN PASSED MATERIAL & SHALL BE PROVIDED ON THE INNER FACE OF INCLINED PORTION OF HOPPERS UP TO MOUTH OF THE HOPPERS, WITHOUT ALLOWING ANY PROJECTIONS IN COAL FLOW PATH.
 15. PLUG WELD IN SST LINER PLATE SHALL BE GROUND SMOOTH TO MATCH WITH PLATE PROFILE.
 16. ALL BUTT WELD OF BUNKER SUPPORTING STRUCTURE SHALL BE 100% RADIOGRAPHED. ELECTRODE E308L FOR WELD JOINTS BET SST PLATES & E309L FOR WELD JOINTS BETWEEN SST PL & MS PLATE.
 17. SPOT RADIOGRAPHY FOR BUTT WELDS SHALL BE CARRIED OUT IN TENSION ZONE AND IN COMPRESSION ZONE AS PER FQP.
 18. ALL SITE FILLET WELDS OF BUNKER AND BUNKER SUPPORTING GIRDERS/BEAMS AS PER FQP.
 19. ADEQUATE TEMPORARY STIFFENER TO BE PRORATED TO AVOID BUCKLING DISTORTION OF BUNKER STRUCTURE DURING FABRICATION, HANDLING AND ERECTION STAGE.
 20. VERTICAL JOINT IN SIDE PLATE SHALL BE STAGGERED.
 21. BEAMS MARKED "*" ARE IN BHEL TRICHY SCOPE.

- ENGINEERING REFERENCE DRAWINGS :-**
1. PE-DG-425-100-M002 - MAIN EQUIPMENT PLANT LAYOUT
 2. PE-DG-425-600-C002 - GENERAL NOTES FOR STRUCTURAL STEEL WORKS

LEGEND:

1. TOS = TOP OF STEEL	1. BHEL-PROJECT ENGINEERING MANAGEMENT(CIVIL)
2. TYP. = TYPICAL	THIS DRAWING MARKED (✓) IS RELEASED FOR
3. PL = PLATE	✓ COMMENTS/APPROVAL
4. TH = THICK	✓ FABRICATION
5. BOS = BOTTOM OF STEEL	✓ PURCHASING
6. C/C = CENTRE TO CENTRE	✓ CONSTRUCTION
7. CL = CENTER LINE	✓ AS BUILT DRAWING
8. EL. = ELEVATION	STAMP ALL PREVIOUS REVISION AS SUPERSEDED
9. LVL. = LEVEL	ISSUED BY
10. UNO = UNLESS NOTED OTHERWISE	SIGNATURE
	DATE

CUSTOMER		TAMILNADU GENERATION AND DISTRIBUTION CORPORATION LIMITED	
CUSTOMER'S CONSULTANT		TRACTEBEL ENGINEERING PVT. LTD.	
JOB NO.	425	2X800MW UPPUR STPP (UNIT#1&2)	
STATUS	CONTRACT	IN RAMANATHAPURAM DISTRICT, TAMILNADU	
DISTRIBUTION			
TO		BHARAT HEAVY ELECTRICALS LTD	DEPT. NAME
NO. OF		POWER SECTOR	ENGINEERING MANAGEMENT
REV.		PROJECT ENGINEERING MANAGEMENT	NOIDA
DATE			
ALTD			
CHD			
APPO			
TITLE			
MILL & BUNKER BUILDING BUNKER AND SUPPORTING DETAIL			
DEPT.	SCALE:	DRAWING NO.	PE-DG-425-616-C015
SIGN		SHEET	1 OF 1
DATE		REV.	00

The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must be used directly or indirectly in any form without the consent of the company.

ELECTRONIC FILE NAME: