

NATIONAL GRID COMPANY OF PAKISTAN (NGCP)



Tender No. CE/CIVIL/NGC/13(R)/2025-26

**CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS,
PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS,
SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION
QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA**

UNDER NGC'S OWN RESOURCES

SINGLE STAGE TWO ENVELOPE

**VOLUME-1
(Commercial & Technical Conditions)**

**PREPARED BY:
OFFICE OF
CHIEF ENGINEER (CIVIL) NGC**



**BIDDING DOCUMENTS
FOR
TENDER NO.
CE/CIVIL/NGC/13(R)/2025-26**

**CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS,
PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS,
SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION
QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA**

Name and address of the
contractor to whom
these Tender Documents are issued
for tendering: -

Signature of NGC Officer who issue
These Tender Documents to the above
Tenderer: -

Name (in Block Letter) designation and ()
address of NGC's above officer

Chief Engineer (MP&M) NGC
8th Floor Shaheen Complex,
Edgerton Road Lahore.
Postal Code: 71000
Telephone: +92-22-99202597
Fax number: +92-42-99202173
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INVITATION FOR BID

Bid Reference No. CE/CE/CIVIL/NGC/13(R)/2025-26

1. National Grid Company of Pakistan (NGC) “the Employer”, responsible for development and control of power transmission system in the country, invites sealed bids for: **“CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA**
2. ” through “Single Stage Two Envelope Procedure” on National Competitive Bidding (NCB) basis from eligible firms registered with Federal and Provincial Income Tax and Sales Tax Departments and who are on Active Taxpayers List of the Federal Board of Revenue and relevant Provincial Revenue Authority.
3. The Employer invites sealed bids from eligible firms or persons licensed by the Pakistan Engineering Council in the appropriate category for the Works.
4. Bidders may obtain further information from, inspect at and acquire the Bidding Documents from the Office of the Employer

**Chief Engineer (MP&M) NGC,
8th Floor Shaheen Complex, Edgerton Road Lahore.**

Postal Code: 54000

Telephone: +92-42-99202597

Fax number: +92-42-99202173

E-mail: cempm@ntdc.com.pk

5. A complete set of Bidding Documents may be purchased by an interested bidder on submission of a written application to the above office and upon payment of a non-refundable fee of PKR 5,000 (Pak Rupees Five thousand only) up to **20-05-2026**, during working hours. The method of payment for purchase of Bidding Documents will be in the form of pay order, bank draft or banker’s/cashier’s Cheque in favor of **Chief Engineer (MP&M) NGC, Lahore** for Tender No. **CE/CIVIL/NGC/13(R)/2025-26**.
6. The documents may be collected in person or may be sent by courier services sent for an additional fee of Rs. 2,000/-. No liability will be accepted for loss or late delivery in such case. Bidding Document can also be downloaded from NGC website i.e. www.ntdc.com.pk free of cost, however, purchase of Bidding Document is compulsory for participation
7. All bids must be accompanied by **Bid Security amounting to PKR 7.0 Million**. The Bid Security shall be in the form of Deposit at Call or a Bank Guarantee issued by a Scheduled Bank in Pakistan in favor of the **Chief Engineer (MP&M) NTDC** valid for a period up to Twenty Eight (28) days beyond the bid validity date.

8. The bids must be submitted through e-PADS only on or before **21-05-2026 11:00AM PST** however, Bid Security is required to be submitted in Original (hard copy) before bids closing deadline. Technical Bids will be opened at **11:30AM PST** on the same day, in the presence of Bidder's representatives who choose to attend at the same address.
9. The bids must be received by the Employer through **e-PADS only** before the bid submission deadline.
10. The bidders must quote for the complete scope of work. Bids covering only a part of the work shall be rejected.
11. All bidders must fill in check list before submission of bid in their own interest as per Instructions to Bidders which is a mandatory requirement.
12. The Competent Authority reserves the right to reject all bids and to annul bidding process at any time prior to contract award as defined in Clause 33(1) of Public Procurement Rules 2004.

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SECTION-I**INSTRUCTIONS TO BIDDERS**

(Note: These Instructions to Bidders along with Bidding Data will not be part of the Contract and will cease to have effect once the Contract is signed.)

A. GENERAL**IB.1 Scope of Bid**

- 1.1 The Employer as defined in the Bidding Data hereinafter called “the Employer” wishes to receive bids for the construction and completion of works as described in these Bidding Documents, and summarized in the Bidding Data hereinafter referred to as the “Works”.
- 1.2 The successful bidder will be expected to complete the Works within the time specified in Appendix-A to Bid.

IB.2 Source of Funds

- 2.1 The Employer has applied for/received a loan/credit from the source (s) indicated in the Bidding Data in various currencies towards the cost of the project specified in the Bidding Data and it is intended that part of the proceeds of this loan/credit will be applied to eligible payments under the Contract for which these Bidding Documents are issued.

IB.3 Eligible Bidders

- 3.1 This Invitation for Bids is open to all bidders meeting the following requirements:
 - a. Duly licensed by the Pakistan Engineering Council (PEC) in the category relevant to the value of the Works.
 - b. Duly prequalified/enlisted with the Employer.

IB.4 One Bid per Bidder

- 4.1 Each bidder shall submit only one bid either by himself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid (other than alternatives pursuant to Clause IB.16) will be disqualified.

IB.5 Cost of Bidding

- 5.1 The bidders shall bear all costs associated with the preparation and submission of their bids and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

IB.6 Site Visit

- 6.1 The bidders are advised to visit and examine the Site of Works and its surroundings and obtain for themselves on their own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. All cost in this respects shall be at the bidder's own expense.
- 6.2 The bidders and any of their personnel or agents will be granted permission by the Employer to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the bidders, their personnel and agents, will release and indemnify the Employer, his personnel and agents from and against all liability in respects thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of such inspection.

B. BIDDING DOCUMENTS**IB.7 Contents of Bidding Documents**

- 7.1 The Bidding Documents, in addition to invitation for bids, are those stated below and should be read in conjunction with any Addenda issued in accordance with Clause IB.9.
1. Instructions to Bidders.
 2. Bidding Data.
 3. General Conditions of Contract, Part-I (GCC).
 4. Particular Conditions of Contract, Part-II (PCC).
 5. Specifications – Special Provisions.
 6. Specifications - Technical Provisions.
 7. Form of Bid & Appendices to Bid.
 8. Bill of Quantities
 9. Form of Bid Security.
 10. Form of Contract Agreement.
 11. Forms of Performance Security and Mobilization Advance Guarantee/Bond.
 12. Drawings.

- 7.2 The bidders are expected to examine carefully the contents of all the above documents. Failure to comply with the requirements of bid submission will be at the Bidder's own risk. Pursuant to Clause IB.26, bids which are not substantially responsive to the requirements of the Bidding Documents will be rejected.

IB.8 Clarification of Bidding Documents

- 8.1 Any prospective bidder requiring any clarification (s) in respects of the Bidding Documents may notify the Employer in writing at the Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification which he receives earlier than 28 days prior to the deadline for submission of bids.

Copies of the Employer's response will be forwarded to all Employers of the Bidding Documents, including a description of the enquiry but without identifying its source.

IB.9 Amendment of Bidding Documents

- 9.1 At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the Bidding Documents by issuing addendum.
- 9.2 Any addendum thus issued shall be part of the Bidding Documents pursuant to Sub-Clause 7.1 hereof and shall be communicated in writing to all Employers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.
- 9.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may extend the deadline for submission of bids in accordance with Clause IB.20

C. PREPARATION OF BIDS

IB.10 Language of Bid

- 10.1 The bid and all correspondence and documents related to the bid exchanged by a bidder and the Employer shall be in the bid language stipulated in the Bidding Data and Particular Conditions of Contract. Supporting documents and printed literature furnished by the bidders may be in any other language provided the same are accompanied by an accurate translation of the relevant parts in the bid

language, in which case, for purposes of evaluation of the bid, the translation in bid language shall prevail.

IB.11 Documents Accompanying the Bid

11.1 Each bidder shall:

- (a) submit a written power of attorney authorizing the signatory of the bid to act for and on behalf of the bidder;
- (b) update the information indicated and listed in the Bidding Data and previously submitted with the application for prequalification, and continue to meet the minimum criteria set out in the prequalification documents which as a minimum, would include the following:
 - (i) Evidence of access to financial resources along with average annual construction turnover;
 - (ii) Financial predictions for the current year and the two following years including the effect of known commitments;
 - (iii) Work commitments since prequalification;
 - (iv) Current litigation information; and
 - (v) Availability of critical equipment.

and

- (c) furnish a technical proposal taking into account the various Appendices to Bid specially the following:

Appendix-E to Bid	Proposed Construction Schedule
Appendix-F to Bid	Method of Performing the Work
Appendix-G to Bid	List of Major Equipment
Appendix-M to Bid	Organization Chart for Supervisory Staff

and other pertinent information such as mobilization programme etc.;

11.2 Bids submitted by a joint venture of two (2) or more firms shall comply with the following requirements:

- (a) the bid and in case of a successful bid, the Form of Contract Agreement shall be signed so as to be legally binding on all partners;
- (b) one of the joint venture partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners;

- (c) the partner-in-charge shall always be duly authorized to deal with the Employer regarding all matters related with and/or incidental to the execution of Works as per the terms and Conditions of Contract and in this regard to incur any and all liabilities, receive instructions, give binding undertakings and receive payments on behalf of the joint venture;
 - (d) all partners of the joint venture shall at all times and under all circumstances be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and a statement to this effect shall be included in the authorization mentioned under Sub-Para(b) above as well as in the Form of Bid and in the Form of Contract Agreement (in case of a successful bid); and
 - (e) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid stating the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the Contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. No amendments / modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the Employer.
- 11.3 Bidders shall also submit proposals of work methods and schedule, in sufficient detail to demonstrate the adequacy of the Bidders' proposals to meet the technical specifications and the completion time referred to in Sub-Clause 1.2 hereof.

IB.12 Bid Prices

- 12.1 Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole of the Works as described in Sub-Clause 1.1 hereof, based on the unit rates and / or prices submitted by the bidder.
- 12.2 The bidders shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by a bidder will not be paid for by the Employer when executed and shall be deemed covered by rates and prices for other items in the Bill of Quantities.
- 12.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to the

deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a bidder.

Additional / reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed / deducted as per Sub-Clause 70.2 of the General Conditions of Contract Part-I.

- 12.4 The rates and prices quoted by the bidders are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 70 of the Conditions of Contract. The bidders shall furnish the prescribed information for the price adjustment formulae in Appendix-C to Bid, and shall submit with their bids such other supporting information as required under the said Clause.

IB.13 Currencies of Bid and Payment

- 13.1 The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees. A bidder expecting to incur expenditures in other currencies for inputs to the Works supplied from outside the Employer's country (referred to as the "Foreign Currency Requirements") shall indicate the same in Appendix-B to Bid. The proportion of the Bid Price (excluding Provisional Sums) needed by him for the payment of such Foreign Currency Requirements either (i) entirely in the currency of the Bidder's home country or, (ii) at the bidder's option, entirely in Pak rupees provided always that a bidder expecting to incur expenditures in a currency or currencies other than those stated in (i) and (ii) above for a portion of the foreign currency requirements, and wishing to be paid accordingly, shall indicate the respective portions in his bid.
- 13.2 The rates of exchange to be used by the bidder for currency conversion shall be the TT&OD Selling Rates published or authorized by the State Bank of Pakistan prevailing on the date 28 days prior to the deadline for submission of bids.

For the purpose of payments, the exchange rates used in bid preparation shall apply for the duration of the Contract.

IB.14 Bid Validity

- 14.1 Bids shall remain valid for the period stipulated in the Bidding Data after the Date of Bid Opening specified in Clause IB.23.

- 14.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his Bid Security for the period of the extension, and in compliance with Clause IB.15 in all respects.

IB.15 Bid Security

- 15.1 Each bidder shall furnish, as part of his bid, a Bid Security in the amount stipulated in the Bidding Data in Pak Rupees or an equivalent amount in a freely convertible currency.
- 15.2 The Bid Security shall be, at the option of the bidder, in the form of Deposit at Call or a Bank Guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan in favor of the Employer valid for a period 28 days beyond the Bid Validity date.
- 15.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer as non-responsive.
- 15.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, but not later than 28 days after the expiration of the period of Bid Validity.
- 15.5 The Bid Security of the successful bidder will be returned when the bidder has furnished the required Performance Security and signed the Contract Agreement.
- 15.6 The Bid Security may be forfeited:
- (a) if the bidder withdraws his bid except as provided in Sub-Clause 22.1;
 - (b) if the bidder does not accept the correction of his Bid Price pursuant to Sub-Clause 27.2 hereof; or
 - (c) if the bidder is involved in Corrupt and/or fraudulent practices.

- (d) In the case of successful bidder, if he fails within the specified time limit to:
 - (i) furnish the required Performance Security; or
 - (ii) sign the Contract Agreement.

IB.16 Alternate Proposals by Bidder

- 16.1 Should any bidder consider that he can offer any advantages to the Employer by a modification to the designs, specifications or other conditions, he may, in addition to his bid to be submitted in strict compliance with the Bidding Documents, submit any Alternate Proposal(s) containing (a) relevant design calculations; (b) technical specifications; (c) proposed construction methodology; and (d) any other relevant details / conditions, provided always that the total sum entered on the Form of Bid shall be that which represents complete compliance with the Bidding Documents.
- 16.2 Alternate Proposal(s), if any, of the lowest evaluated responsive bidder only may be considered by the Employer as the basis for the award of Contract to such bidder.

IB.17 Pre-Bid Meeting

- 17.1 The Employer may, on his own motion or at the request of any prospective bidder(s), hold a pre-bid meeting to clarify issues and to answer any questions on matters related to the Bidding Documents. The date, time and venue of pre-bid meeting, if convened, is as stipulated in the Bidding Data. All prospective bidders or their authorized representatives shall be invited to attend such a pre-bid meeting.
- 17.2 The bidders are requested to submit questions, if any, in writing so as to reach the Employer not later than seven (7) days before the proposed pre-bid meeting.
- 17.3 Minutes of the pre-bid meeting, including the text of the questions raised and the replies given, will be transmitted without delay to all Employers of the Bidding Documents. Any modification of the Bidding Documents listed in Sub-Clause 7.1 hereof which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause IB.9 and not through the minutes of the pre-bid meeting.

- 17.4 Absence at the pre-bid meeting will not be a cause for disqualification of a bidder.

IB.18 Format and Signing of Bid

- 18.1 Bidders are particularly directed that the amount entered on the Form of Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.
- 18.2 All appendices to Bid are to be properly completed and signed.
- 18.3 No alteration is to be made in the Form of Bid nor in the Appendices thereto except in filling up the blanks as directed. If any such alterations be made or if these instructions be not fully complied with, the bid may be rejected.
- 18.4 Each bidder shall prepare by filling out the forms completely and without alterations one (1) original and number of copies, specified in the Bidding Data, of the documents comprising the bid as described in Clause IB.7 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.
- 18.5 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, Photostats are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder pursuant to Sub- Clause 11.1(a) hereof. All pages of the bid shall be initialed and stamped by the person or persons signing the bid.
- 18.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Employer, or as are necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.
- 18.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper addresses at which notices may be legally served on them and to which all correspondence in connection with their bids and the Contract is to be sent.
- 18.8 Bidders should retain a copy of the Bidding Documents as their file copy.

D. SUBMISSION OF BIDS**IB.19 Sealing and Marking of Bids**

- 19.1 Each bidder shall submit his bid as under:
- (a) ORIGINAL and each copy of the Bid shall be separately sealed and put in separate envelopes and marked as such.
 - (b) The envelopes containing the ORIGINAL and copies will be put in one sealed envelope and addressed / identified as given in Sub-Clause 19.2 hereof.
- 19.2 The inner and outer envelopes shall:
- (a) be addressed to the Employer at the address provided in the Bidding Data;
 - (b) bear the name and identification number of the contract as defined in the Bidding Data; and
 - (c) provide a warning not to open before the time and date for bid opening, as specified in the Bidding Data.
- 19.3 In addition to the identification required in Sub-Clause 19.2 hereof, the inner envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared "late" pursuant to Clause IB.21
- 19.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.

IB.20 Deadline for Submission of Bids

- 20.1 (a) Bids must be received by the Employer at the address specified no later than the time and date stipulated in the Bidding Data.
- (b) Bids with charges payable will not be accepted, nor will arrangements be undertaken to collect the bids from any delivery point other than that specified above. Bidders shall bear all expenses incurred in the preparation and delivery of bids. No claims will be entertained for refund of such expenses.

- (c) Where delivery of a bid is by mail and the bidder wishes to receive an acknowledgment of receipt of such bid, he shall make a request for such acknowledgment in a separate letter attached to but not included in the sealed bid package.
 - (d) Upon request, acknowledgment of receipt of bids will be provided to those making delivery in person or by messenger.
- 20.2 The Employer may, at his discretion, extend the deadline for submission of bids by issuing an amendment in accordance with Clause IB.9, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

IB.21 Late Bids

- 21.1 (a) Any bid received by the Employer after the deadline for submission of bids prescribed in Clause IB.20 will be returned unopened to such bidder.
- (b) Delays in the mail, delays of person in transit, or delivery of a bid to the wrong office shall not be accepted as an excuse for failure to deliver a bid at the proper place and time. It shall be the bidder's responsibility to determine the manner in which timely delivery of his bid will be accomplished either in person, by messenger or by mail.

IB.22 Modification, Substitution and Withdrawal of Bids

- 22.1 Any bidder may modify, substitute or withdraw his bid after bid submission provided that the modification, substitution or written notice of withdrawal is received by the Employer prior to the deadline for submission of bids.
- 22.2 The modification, substitution, or notice for withdrawal of any bid shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause IB.19 with the outer and inner envelopes additionally marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" as appropriate.
- 22.3 No bid may be modified by a bidder after the deadline for submission of bids except in accordance with Sub-Clauses 22.1 and 27.2.

- 22.4 Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the Bid Security in pursuance to Clause IB.15.

E. BID OPENING AND EVALUATION

IB.23 Bid Opening

- 23.1 The Employer will open the bids, including withdrawals, substitution and modifications made pursuant to Clause IB.22, in the presence of bidders' representatives who choose to attend, at the time, date and location stipulated in the Bidding Data. The bidders' representatives who are present shall sign a register evidencing their attendance.
- 23.2 Envelopes marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause IB.22 shall not be opened.
- 23.3 The bidder's name, total Bid Price and price of any Alternate Proposal(s), any discounts, bid modifications, substitution and withdrawals, the presence or absence of Bid Security, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening of bids.
- 23.4 Employer shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with the Sub-Clause 23.3.

IB.24 Process to be Confidential

- 24.1 Information relating to the examination, clarification, evaluation and comparison of bid and recommendations for the award of a contract shall not be disclosed to bidders or any other person not officially concerned with such process before the announcement of bid evaluation report which shall be done at least ten (10) days prior to issue of Letter of Acceptance. The announcement to all Bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of such bidder's bid.

Whereas any bidder feeling aggrieved may lodge a written complaint not later than fifteen (15) days after the announcement of the bid evaluation report; however mere fact of lodging a complaint shall not warrant suspension of the procurement process.

IB.25 Clarification of Bids

- 25.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with Clause IB.28.

IB.26 Examination of Bids and Determination of Responsiveness

- 26.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.
- 26.2 A substantially responsive bid is one which (i) meets the eligibility criteria; (ii) has been properly signed; (iii) is accompanied by the required Bid Security; and (iv) conforms to all the terms, conditions and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect in any substantial way the scope, quality or performance of the Works; (ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Employer's rights or the bidder's obligations under the Contract; or (iii) adoption/rectification whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 26.3 If a bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

IB.27 Correction of Errors

- 27.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

- (a) where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and
 - (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rate will be corrected.
- 27.2 The amount stated in the Form of Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected Bid Price, his Bid will be rejected, and the Bid Security shall be forfeited in accordance with Sub-Clause 15.6(b) hereof.

IB.28 Evaluation and Comparison of Bids

- 28.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause IB.26.
- 28.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
- (a) making any correction for errors pursuant to Clause IB.27;
 - (b) excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities, but including competitively priced Daywork; and
 - (c) making an appropriate adjustment for any other acceptable variation or deviation.
- 28.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
- 28.4 If the Bid of the successful bidder is seriously unbalanced in relation to the Employer's estimate of the cost of work to be performed under the Contract, the Employer may require the bidder to produce detailed price analyses for any or all items of the Bill of Quantities to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the Performance Security set forth in

Clause IB.32 be increased at the expense of the successful bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the Contract.

F. AWARD OF CONTRACT

IB.29 Award

29.1 Subject to Clauses IB.30 and IB.34, the Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such bidder has been determined to be eligible in accordance with the provisions of Clause IB.3 and qualify pursuant to Sub-Clause IB 29.2.

29.2 The Employer, at any stage of the bid evaluation, having credible reasons for or *prima facie* evidence of any defect in supplier's or contractor's capacities, may require the suppliers or contractors to provide information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not:

Provided that such qualification shall only be laid down after recording reasons therefor in writing. They shall form part of the records of that bid evaluation report.

IB.30 Employer's Right to Accept any Bid and to Reject any or all Bids

30.1 Notwithstanding Clause IB.29, the Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidders or any obligation except that the grounds for rejection of all bids shall upon request be communicated to any bidder who submitted a bid, without justification of grounds. Rejection of all bids shall be notified to all bidders promptly.

IB.31 Notification of Award

31.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing ("Letter of Acceptance") that his Bid has been accepted. This letter shall name the sum which the Employer will pay the Contractor in consideration of the execution and completion of the Works by the Contractor as prescribed by the Contract (hereinafter and in the

Conditions of Contract called the “Contract Price”).

- 31.2 No Negotiation with the bidder having evaluated as lowest responsive or any other bidder shall be permitted, however, Employer may have clarification meetings to get clarify any item in the bid evaluation report.
- 31.3 The notification of award and its acceptance by the bidder will constitute the formation of the Contract, binding the Employer and the bidder till signing of the formal Contract Agreement.
- 31.4 Upon furnishing by the successful bidder of a Performance Security, the Employer will promptly notify the other bidders that their Bids have been unsuccessful and return their bid securities.

IB.32 Performance Security

- 32.1 The successful bidder shall furnish to the Employer a Performance Security in the form and the amount stipulated in the Bidding Data and the Conditions of Contract within a period of 28 days after the receipt of Letter of Acceptance.
- 32.2 Failure of the successful bidder to comply with the requirements of Sub-Clause IB.32.1 or Clauses IB.33 or IB.35 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

IB.33 Signing of Contract Agreement

- 33.1 Within 14 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Employer will send the successful bidder the Contract Agreement in the form provided in the Bidding Documents, incorporating all agreements between the parties.
- 33.2 The formal Agreement between the Employer and the successful bidder shall be executed within 14 days of the receipt of the Contract Agreement by the successful bidder from the Employer.

IB.34 General Performance of the Bidders

The Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts/works. The Employer may in case of consistent poor performance of any Bidder as reported by the employers of the previously awarded contracts, inter alia, reject his bid and/or refer the case

to the Pakistan Engineering Council (PEC). Upon such reference, PEC in accordance with its rules, procedures and relevant laws of the land take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for similar works.

IB.35 Integrity Pact

The Bidder shall sign and stamp the Integrity Pact provided at Appendix-O to Bid in the Bidding Documents for all Federal Government procurement contracts exceeding Rupees ten million. Failure to provide such Integrity Pact shall make the bidder non-responsive.

IB.36 Instructions not Part of Contract

Bids shall be prepared and submitted in accordance with these Instructions which are provided to assist bidders in preparing their bids, and do not constitute part of the Bid or the Contract Documents.

Section II

Bid Data Sheet

The following specific data for the Works to be bided shall complement, amend, or supplement the provisions in the Instructions to Bidders. Wherever there is a conflict, the provisions herein shall prevail over those in the Instructions to Bidders.

IB 1.1	Name and address of the Employer: Name: National Grid Company of Pakistan (NGC) Represented by: Chief Engineer (MP&M) NGC Address: 8th Floor Shaheen Complex, Edgerton Road Lahore. Postal Code: 54000 Telephone: +92-42-99202597 Fax number: +92-42-99202173 E-mail: <i>cempm@ntdc.com.pk</i>
IB 1.1	The bidding is open to <i>National Competitive Bidding (NCB)</i>
IB 1.1	The name of the NCB is: CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA. The identification number of the NCB is: TENDER NO. CE/CIVIL/NGC/13(R)/2025-26 The scope of work is as follows: Construction Of Boundary Wall, Security Barracks, Security Office, Watch Towers (06 Nos), Hydraulic Road Blocker, Concrete Road Blockers, Submersible Bore/Pump & Water Supply Network, HDPE Water Tank, 6 Meter Wide Road, Patrolling Path and Paved Area, Sewerage Line, Septic Tanks and Drain for Water Channel.
IB 2.1	Source of Funding: <i>NGC own Resources</i>
IB 3.1 (a)	The existing sub clause 3.1(a) is deleted and replaced with following:

	The Invitation for Bids is open to all bidders in their sole capacity or as joint venture meeting the following requirements: i) The Bidder shall be duly licensed by the Pakistan Engineering Council (PEC) minimum in C-3 with codes CE 01, 09 & 10 or had applied for renewal of license before submission of its bid. In case of Joint Venture, all the partners shall be duly licensed by PEC and the sum total of the limit of construction cost permitted by the categories of the individual licensees shall not be less than limit of construction cost permitted by the category required here above. ii) Constructor shall be on Active Taxpayers List of the Federal Board of Revenue and relevant Provincial Revenue Authority. iii) The Bidder shall not be blacklisted by NTDC/WAPDA/DISCOs/any Government/Public department/Donor Agencies at the time of submission of bids. The Bidder should provide details of previous black listing, if any. An affidavit is to be provided by the Bidder that the Bidder is not black listed by NTDC/WAPDA/DISCOs/any Government/Public department/Donor Agencies at the time of submission of bids. Further, the bidder shall submit an undertaking along with his bid that he has read and accepts the provisions of NGC Policy for Blacklisting of Contractors (copy of policy attached with the bidding documents). Non-submission of this undertaking may result in the rejection of the bid. The undertaking will subsequently become part of the Contract Agreement as well <i>[Note: NGC's SOP for blacklisting of Contractors is included in this document for information as to general mechanism. However, this will be strictly interpreted to the extent of the mechanism defined in PPRA Rules (revised 2021) and ITB 38 of Section-II (BDS) of this document.]</i> iv) The bidder shall submit dully filled/complete Beneficial Ownership Declaration Performa as per S.R.O 592(I)/2022 available at https://www.ppra.org.pk/doc/sro592.pdf
IB 3.1(b)	Delete IB 3.1(b) and replace it with the following. Qualification of the Bidder To be qualified for award of a contract, the Bidder shall meet the qualification criteria delineated herein below: 1. Construction Experience: The bidder as single entity should have executed at least two similar nature of works.

The Bidder must have successfully completed similar nature of work contract(s) within the last ten (10) years, having total value of contract(s) (i.e. sum of value of multiple contracts) at least equivalent to the amount of **PKR 338.00 Million**. The Bidder shall submit with the bid evidence in this regard including interalia copies (with English translation) of the contract agreement(s) and completion certificate(s)/delivery document(s) (bills of lading, inspection certificates etc.) for the contract(s).

In case of JV, all JV partners shall combined meet the said required experience.

- i. Satisfactory completion certificates from the clients/utilities indicating their names, addresses, fax numbers and Web Site E-mail addresses must be submitted with the bid. For verification of the past performance, the copies of the contract agreement for the projects indicated in the works record of the bidder pertaining to the specified and comparable works submitted with the bid.
- ii. The bidder as main contractor (a joint venture partner) must have completed construction contract of at least one (01) similar nature of works within the last ten (10) years comprising of Civil Works.
- iii. In case the bid is submitted by a joint venture, Lead Partner shall meet the above experience criteria. However, each partner, other than the Lead Partner, shall have experience of execution of construction contracts of at least one similar nature of work as main contractor or as approved subcontractor during last ten (10) years.

The bidder should provide details of its current contract commitments on the form QF-4: Section-III of the bidding document.

2. Key Personnel:

The Bidder shall have the personnel for the key positions to be deployed for meeting the following requirements: (Information to be submitted in Appendix-G to Bid given in Section-III of the Bidding Documents).

Civil Engineer/Project Manager with valid PEC license having at least 05 years of relevant experience

Site Supervisor (DAE) having at least 05 years of relevant experience

The above personnel shall be graduate engineers or equivalent**[Any relevant qualification may be specified depending upon the role of the person]*.

** Note: The rejection of key personnel shall not result in rejection of the bid, however, bidder shall undertake to replace the key personnel with the acceptable to the Employer in case of award of contract.*

3. Bidder's Financial Capability:

The Employer will take into account the following criteria to verify the financial qualification of the Bidder.

- i. The audited Financial "Standalone" Statements (Balance Sheet along with Notes, Profit & Loss Accounts and Cash Flow Statement) audited by Chartered Accountant for the last five (05) years shall be submitted by the Bidder. The Bidder's Financial Statements for the last One year of the audited accounts should show that it has positive "NET WORTH" calculated as a difference between total assets and total liabilities (Information to be submitted in prescribed Form QF-5 of Appendix-N to Bid given in Section-III of the Bidding Documents). In case of JV, each JV partner shall meet the aforementioned criteria.
- ii. Minimum average annual turnover of **PKR 169.00 Million** calculated as best of three years total certified payments received for contracts in progress or completed, within the last 05 years. The average annual turnover may include turnover of affiliates and subsidiaries to the extent of shareholding percentage of the Bidding company provided the turnover is accrued from similar business activity as the Bidding company.
(Information to be submitted in prescribed Form QF-6 of Appendix-N to Bid given in Section-III of the Bidding Documents).

In case of JV, all the JV partners shall combinedly meet the requisite criteria with the lead partner and other partner(s) meeting not less than 40% and 25% respectively of the said criteria.

- iii. The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, lines of credit (issued specifically for the project), and other financial means to meet the total cash flow demands of this contract which is being considered equal to **PKR 84.50 Million plus 25% of the Bidder's commitments** for running contracts.
(Information to be submitted in prescribed Form QF-7 of Appendix-P to Bid given in Section-III of the Bidding Documents).

Notes:

- In case of JV, all the JV partners shall combinely meet the requisite criteria with the lead partner and other partner(s) meeting not less than 40% and 25% respectively of the said criteria.

The Bidder shall provide his current work commitments in form QF-4 of Appendix-P to Bid given in Section-III of the Bidding Documents.

- The Bidder shall provide his current work commitments in form specified in the Bidding Documents.
- The bidder shall provide bank certificate for his lines of credit on the prescribed Form specified in the Bidding Documents.
- *[Note: Credit Lines submitted after opening of bids shall not be acceptable. Any withdrawal of the credit lines from the bidder's creditors during validity of bid shall be considered a withdrawal of bid.]*
- The bidder shall provide bank certificate for his lines of credit on the prescribed Form QF-8 of Appendix-P to Bid given in Section-III of the Bidding Documents.

In case of more than one Lot(s), Bidder is determined to be lowest evaluated substantially responsive in more than one Lot(s), qualification of the Bidder shall be assessed to meet the aggregate requirements for award of multiple Lots. [If, in this instant, the bidder qualifies for multiple Lots, Purchaser will have right to open price bids for all lots and consider most economical offer/bid/combination at its discretion].

4. **Bidder's Litigation History**

Bidders are required to submit details of all litigation, arbitration and other claims whether pending, threatened or resolved in the last five years. The Employer may disqualify bidder in the event that the total amount of pending or threatened litigation, arbitration or other claims represents fifty percent (50%) of the Bidder's net worth. Details in this regard should be submitted in the prescribed Form QF-9 given in Appendix-P of Section-III of Bidding Document.

Construction Experience of subsidiaries or parent/sister/affiliate companies shall not be considered for qualification of the Bidder.

The Qualification of the Bidders will be based on meeting the pass/fail criteria as demonstrated by the Bidders' responses in the respective Appendices.

The above stated requirements are the minimum and the Employer reserves the right to request for any additional information. The Employer also reserves the right to reject the proposal of any Bidder, if in the opinion of the Employer the qualification details are incomplete, ambiguous or the Bidder is found not qualified to satisfactorily perform the Contract.

The above stated Appendices should be completed as per prescribed format and submitted along with required attachments. The missing or incomplete information/ documents may render the bid substantially non-responsive. In this regard, the Employer does not have an obligation to request any document/certificates.

IB 3.2	The following sub clause is added after 3.1: A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if, including but not limited to: (i) they have controlling shareholders in common; or (ii) they receive or have received any direct or indirect subsidy from any of them; or (iii) they have the same legal representative for purposes of this bid; or (iv) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (v) A Bidder or any affiliated entity, participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the bid.
IB 6.1	The Bidder shall inspect the site, examine and obtain all information required and satisfy himself regarding matters and things such as access to site, communication, transport, right of way, the type and number of equipment and facilities required for the satisfactory completion of work, the quantity of various sections of the work, the availability of local labor, availability and rates of materials, local working conditions, uncertainties of weather, obstructions and hindrances that may arise etc., which may affect the work or cost thereof, before submission of his bid. Ignorance of site conditions shall not be accepted by the Employer as basis for any claim for compensation. The submission of a bid by the bidder will be construed as evidence that such an examination was made and any later claims/disputes in regard to rates quoted shall not be entertained or considered by the Employer.
IB 7.2	The Bidders should ensure that they have received the Bidding Documents including Addenda (if any) complete in all respects. The Employer accepts no responsibility for any Bidder lacking a complete set of Bidding Documents including Addenda (if any). The complete Bidding Document including Addenda (if any) will also be available on Employer's website i.e. www.ntdc.com.pk and on e-PADS.
IB 8.1	The Sub-Clause 8.1 is amended to the following extent: No request for clarification will be entertained which will be received later than 14 days prior to the date fixed for submission of Bids. The Purchaser's response will be made not later than 7 days prior to the date fixed for submission of Bids.

	Moreover, the bidders may also submit their request for clarification through e-PADS. Further, the mere request for clarification from the bidders shall not be a ground for seeking extension in the deadline for submission of Bids.																																							
IB 10.1	The bid with all accompanying documents and all communications in relation to or concerning the bidding Process shall be in English language and strictly on the forms provided in the bidding Documents. In case any of these Documents is in another language, it must be accompanied by an accurate translation of the relevant passages in English, in which case, for all purposes of interpretation of the bid, the translation in English shall prevail. Any portions of Bids that are not in English may not be evaluated. Failure to comply with this may disqualify a bid.																																							
IB 11.1	Documents Comprising the Bid Delete the text of this Sub-Clause and substitute with the following: The Bidder shall submit the bid through e-PADS only in 2 separate pdf files, one to be referred as “Technical Bid” and the other to be referred as “Price Bid” comprising the following documents in the respective pdf files, however, Bid Security is required to be submitted in original before bids submission deadline: I. Technical Bid a) Duly filled-in Form of Technical Bid with following Appendices to Bid: <table><tr><td>i)</td><td>Appendix-A to Bid</td><td>Special Stipulations</td></tr><tr><td>ii)</td><td>Appendix-C to Bid</td><td>Price Adjustment (under Clause 70)</td></tr><tr><td>iii)</td><td>Appendix-E to Bid</td><td>Proposed Construction Schedule</td></tr><tr><td>iv)</td><td>Appendix-F to Bid</td><td>Method of Performing the Work</td></tr><tr><td>v)</td><td>Appendix-G to Bid</td><td>Proposed Personnel</td></tr><tr><td>vi)</td><td>Appendix-H to Bid</td><td>List of Major Equipment-Related Items</td></tr><tr><td>vii)</td><td>Appendix-I to Bid</td><td>Construction Camp and Housing Facilities</td></tr><tr><td>viii)</td><td>Appendix-J to Bid</td><td>Organizational Chart of the Supervisory Staff and Labor</td></tr><tr><td>ix)</td><td>Appendix-K to Bid</td><td>List of Sub-Contractors</td></tr><tr><td>x)</td><td>Appendix-L to Bid</td><td>Source of Materials</td></tr><tr><td>xi)</td><td>Appendix-N to Bid</td><td>Deviations</td></tr><tr><td>xii)</td><td>Appendix-O to Bid</td><td>Integrity Pact</td></tr><tr><td>xiii)</td><td>Appendix-P to Bid</td><td>Bidder’s Qualification Forms</td></tr></table> b) Bid Security as per IB Clause 15.1 c) Written Power of Attorney, duly notarized, authorizing the signatory of the bid to act for and on behalf of the Bidder; d) Copies of Original Documents defining the constitution or legal status, place of registration and principal place of business of the bidder and JV partners;	i)	Appendix-A to Bid	Special Stipulations	ii)	Appendix-C to Bid	Price Adjustment (under Clause 70)	iii)	Appendix-E to Bid	Proposed Construction Schedule	iv)	Appendix-F to Bid	Method of Performing the Work	v)	Appendix-G to Bid	Proposed Personnel	vi)	Appendix-H to Bid	List of Major Equipment-Related Items	vii)	Appendix-I to Bid	Construction Camp and Housing Facilities	viii)	Appendix-J to Bid	Organizational Chart of the Supervisory Staff and Labor	ix)	Appendix-K to Bid	List of Sub-Contractors	x)	Appendix-L to Bid	Source of Materials	xi)	Appendix-N to Bid	Deviations	xii)	Appendix-O to Bid	Integrity Pact	xiii)	Appendix-P to Bid	Bidder’s Qualification Forms
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	e) An affidavit that the Bidder has not been blacklisted pursuant to Sub-Clause 3.1(iv); f) An Affidavit that the Bidder has read and accepts NGC's SOP for blacklisting of Contractors pursuant to Sub-Clause 3.1(iv) & ITB 38 of Bid Data Sheet of this document. g) Proof of purchase of Bidding Documents from the Employer; h) Beneficial Ownership Declaration Performa duly filled by the Bidder as per S.R.O 592(I)/2022 available at https://www.ppra.org.pk/doc/sro592.pdf. i) PEC license pursuant to Sub-Clause 3.1(a); and j) Any other document required to be submitted in accordance with these Bidding Documents. II. Price Bid a) Duly filled-in Form of Price Bid with following Appendices to Bid: i) Appendix-B to Bid Foreign Currency Requirements (Not Used) ii) Appendix-D to Bid Bill of Quantities iii) Appendix-M to Bid Estimated Progress Payments b) Any other document required to be submitted in accordance with these Bidding Documents.
IB 11.2	Following is added at the end of Sub-Clause IB.11.2: “(f) The maximum J.V. partners shall not be more than three (03).”
IB 12.4	Delete clause 12.4 and replace it with the following. The rates and prices quoted by the bidders are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 70 of the Conditions of Contract. The bidders shall be given price adjustment for the items as per factors provided in Appendix-C.
IB 12.5	The prices and bid evaluation should be without PST (Note: - There is no need to give separate column or line item for this purpose in BOQ / Price Schedule.
IB 12.6	Add the following new Sub-Clause IB 12.6: The cost of project is [_____]for calculating insurance charges.
IB 13	Clause IB.13 is substituted with the following: “The unit rates and prices shall be quoted by the Bidder entirely in Pak Rupees. All payments under the contract shall be made in Pak Rupees only. Bidders expecting to incur expenditures in currency(ies) other than Pak Rupees shall manage foreign currency(ies) at their own arrangement. The exchange risk in this

	regard, if any, shall be deemed to be included in unit rates and prices quoted by the Bidder."
IB 14.1	The period for Bid validity shall be minimum 150 Days after the date of Bid opening i.e. till 17-11-2026
IB 15.1	The amount of Bid Security shall be PKR 7.00 million
IB 15.2	Sub-Clause IB.15.2 is substituted with the following: "The Bid Security shall be, at the option of the Bidder, in the form of Deposit at Call or a Guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan in favor of Chief Engineer (MP&M) NTDC on the prescribed Form annexed to these Documents valid for a period 28 days beyond the Bid Validity date i.e till 14-11-2026. The Bid Security of Joint Venture/consortium shall be in the name of Joint Venture/consortium submitting the Bid. For avoidance of doubt, a Bid Security issued by a foreign bank but not counter guaranteed by a Scheduled Bank in Pakistan shall not be acceptable and rejected as non-responsive." Moreover, the bid shall be considered non-responsive in case of non-receipt of original Bid Security (in hard copy) in accordance with ITB 15.1 or 15.2 before the bids closing deadline. <i>[Any mode for submission of bid security apart from aforementioned like Swift Code or Crossed Cheque shall not be acceptable]</i> If a bidder submits a Bid Security that has following discrepancies (to the extent mentioned against each), the Procuring Agency shall request the Bidder to submit a complaint bid security within fourteen (14) days of receiving such request. Failure to provide a complaint bid security within the prescribed period of receiving such a request shall cause the rejection of the bid. Any bid accompanied by bid security with deviation greater than the extent mentioned below shall be rejected: i. Bid Security amount is short within 10% of Bid Security amount; and/or ii. Bid Security validity period is short by a maximum of two days iii. Any changes with respect to format/text which does not hurt the right of employer for encashment of the guarantee and does not limit the obligation of the bidder as required in the Bidding Document/Bid Security Format.
IB 15.6	The following is added at the end of Sub-Clause IB.15.6: "(d) If the Bidder is found involved in corrupt and fraudulent practices."

IB 17.1	Pre-bid meeting will be held as per the following schedule: Date:11-05-2026 Time: 10:30AM, PST. Venue: 8th Floor Shaheen Complex, Egerton Road Lahore.
IB 18.4	Text of ITB-18.4 is deleted and replaced it with the following: Each bidder shall prepare by filling out the forms completely and without alterations of the documents comprising the bid as described in Clause IB.7.
IB.19.1	Sub-Clause 19.1 is substituted by the following: (a)Firms are required to submit their bids through e-PADS only. However, Bid Security is required to be submitted in original before bids submission deadline. (b)The Technical bid should be submitted as a single PDF file named "Tender [Tender Number] - TECHNICAL BID - [Name of Proposing Firm]". (c)The Financial bid should be submitted as a single PDF file named "Tender [Tender Number] - FINANCIAL BID - [Name of Proposing Firm]". (d)The Procuring Agency shall reject the bid, if the bid submitted through e-PADS found corrupt, unreadable or contains a virus.
IB 19.2	Deleted
IB 19.3	Deleted
IB 19.4	Deleted
IB 20.1 (a)	Sub-Clause 20.1 (a) is substituted by the following: Firms are required to submit their bids through e-PADS only on or before bid submission deadline. However, Bid Security is required to be submitted in original before bids submission deadline. Deadline for Submission of bid: Date: 21-05-2026 Time: 11:00 AM Employer's address for the purpose of Bid Security submission: Chief Engineer (MP&M) NGC, 8th Floor Shaheen Complex, Egerton Road Lahore, Pakistan Telephone No. 92-42-99202597 E-mail address: cemppm@ntdc.com.pk

IB 20.1 (b)	Deleted
IB 20.1 (c)	Deleted
IB 20.1 (d)	Deleted
IB 21.1 (a)	Sub-Clause 21.1 (a) is substituted by the following: The Procuring Agency shall not consider for evaluation any Bids that arrive after the deadline for submission of bids including but not limited to following situations; i) Against which the Bid Security in original is received after the deadline for submission of Bids. ii) Against which bids are not received through e-PADS within bid submission deadline. iii) Against which the bid/pdf file received through e-PADS is found corrupt, unreadable or contains a virus.
IB 21.1 (b)	Deleted
IB 22.1	Deleted
IB 22.2	Deleted
IB.23 23.1	Bid Opening: Sub-Clause IB.23.1 is substituted by the following: The Employer shall open the Technical Bids in public at the address, on the date, and time specified herein in the presence of Bidder's designated representatives who choose to attend. The Bidders' representatives who are present shall sign a register evidencing their attendance. Date: 21-05-2026 Time: 11:30 AM, PST Address: Venue: Office of Chief Engineer (MP&M) NTDC 8th Floor Shaheen Complex, Edgerton Road Lahore. Postal Code: 54000 Telephone: +92-42-99202597 Fax number: +92-42-99202173 E-mail: cepm@ntdc.com.pk Further the attendance will also be marked through e-PADS.
IB.23.2	Sub-Clause 23.2 is substituted by the following: The date and time of the opening of Price Bids will be advised in writing and through e-PADS by the Employer. If the Price Bid is submitted alongwith the

	Technical bid, the Employer shall reject the entire Bid and record at the time of opening of the Technical Bids.
IB.23.3	Deleted.
IB.23.4	Deleted.
IB.23.5	Sub-Clause 23.5 is inserted as follows: The Technical Bids, except the Bids rejected pursuant to Sub-Clause IB.23.2, shall be opened one at a time, and the following read out and recorded: (a) the name of the Bidder; (b) the receipt of Original Bid Security; and any other details as the Employer may consider appropriate.
IB.23.6	Sub-Clause 23.6 is inserted as follows: At the end of the evaluation of the Technical Bids, the Employer will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice of the opening of Price Bids.
IB.23.7	Sub-Clause 23.7 is inserted as follows: The Employer will notify Bidders in writing and through e-PADS who have been rejected on the grounds of being substantially nonresponsive to the requirements of the Bidding Documents.
IB.23.8	Sub-Clause 23.8 is inserted as follows: The Employer will notify Bidders in writing who have been rejected on the grounds of being substantially nonresponsive to the requirements of the Bidding Documents.
IB.23.9	Sub-Clause 23.9 is inserted as follows: The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, on the date, and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance. Further the attendance will also be marked through e-PADS.
IB.23.10	Sub-Clause 23.10 is inserted as follows: All Price Bids shall be opened one at a time and the following read out and

	recorded (a) the name of the Bidder; (b) the Bid Prices, including any discounts, cross discounts and alternative offers; (c) any other details as the Employer may consider appropriate. Only Price Bids, discounts, cross discounts and alternative offers (if allowed under Sub-Clause IB.16 hereof) read out and recorded during the opening of Price Bids shall be considered for evaluation. Unless otherwise specified in the Bidding Data, the Form of Price Bid and Price Schedules are to be initialed by nominated representatives of the Employer attending the bid opening.
IB.23.11	Sub-Clause 23.11 is inserted as follows: The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum: the name of the Bidder, the Bid Price (per lot if applicable), any discounts, cross discounts, and any alternative offers. A copy of the record shall be distributed to all Bidders present at the time of Bid opening.
IB 24.2	Add the following new Sub Clause after IB 24.1: 24.2 Bidders and their respective agents, suppliers, sub-contractors, representatives and anyone else on behalf of the bidder will not communicate or attempt to communicate directly or indirectly with the Employer, including any employees, directors, officer, agents or representatives of any of them during any part of the Competitive Bidding Process, except as expressly directed or permitted by the Employer. Bidders will also not engage in any form of political or other lobbying whatsoever with respect to their Bids, or otherwise attempt to influence the outcome of the Competitive Bidding Process. In the event of any such communications or lobbying, Employer may at any time reject any Bid by that Bidder without further consideration.
IB 25.1	Add the following at the end of Sub-Clause 25.1: The Employer may, at his discretion, ask any Bidder for confirmation/submission of missing information to clarify its Bid. However, the Employer does not have an obligation to request any additional information or clarification with respect to missing or deficient information in a Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered.
IB 25.2	Add the following new Sub-Clause: If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.

IB 26.1	Sub-Clause 26.1 is substituted by the following: “The Employer will determine whether Bid is substantially responsive to the requirements of the Bidding Documents.”
IB 26.2	Sub-Clause 26.2 is substituted by the following: “A substantially responsive Technical Bid is one which (i) meets the eligibility criteria; (ii) has been properly signed; (iii) meets the qualification criteria delineated at Sub-Clause IB.3.1 (a) & 3.1(b) and (iv) conforms to all the terms, conditions and specifications of the Bidding Documents, without material deviation or reservation. A substantially responsive Price Bid is one which (i) has been properly signed; and (ii) conforms to all the terms, conditions and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect in any substantial way the scope, quality or performance of the Works; (ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Employer’s rights or the Bidder’s obligations under the Contract; or (iii) adoption/rectification whereof would affect unfairly the competitive position of other Bidders presenting substantially responsive bids. Any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation may be waived by the Employer, provided such waiver does not prejudice or affect the relative ranking of any Bidder.”
IB 26.4	Following Sub-Clauses are added at the end of Sub-Clause 26.3: The Employer may reject any Bid as non-responsive if found materially incomplete, obscure, irregular or omits any material information required to be submitted by the Bidding Documents. Further, the Procuring Agency shall reject the bid, if the bid submitted through e-PADS found corrupt, unreadable or contains virus.
IB 27.3	Following Sub Clause is added after Sub Clause 27.2: If as a result of arithmetic correction, the Bid Price is increased substantially, the Bidder may be asked to increase the amount of its Bid Security accordingly by submitting its amendment within fifteen (15) days from issuing date of such notification. If the Bidder fails to provide the requisite amendment of the Bid Security within the stipulated period, his Bid will be held substantially non-responsive and will be rejected.
IB 28.1	In case of Lots only Following Para is added at the end of the Sub-Clause 28.1: “The Works will be evaluated and compared on Lot basis.”
IB 28.2	In case of Lots only Following Para is added after the Para (c) of IB. 28.2:

	(d) applying cross discount in case of combination of Lots to arrive at least cost combination
IB 28.4	Following is added at the end of Sub-clause IB 28.4: “or the employer may require the successful Bidder to balance his bid.” In case of front-end loading or unbalanced price of any BOQ item, the Employer reserve the right to adjust the price with other BOQ items provided that ceiling of overall price remains the same.
IB 28.5	Following new Sub Clause is added after IB 28.4: The Employer will evaluate the Bids, including all clarifications, additional information, modifications and negotiated changes, by applying the Eligibility and Qualification Criteria. Without limiting the particular criteria, the Employer may take into account the following in the Evaluation of Bids: i. Non-performance by a Bidder on previous contracts with Employer or others; ii. The quality of a Bidder’s performance on previous contracts with Employer or others; iii. Anticipated or ongoing claims with or in connection with a Bidder; iv. Any security of safety concerns which Employer may have in respect of a Bidder or its facilities, subcontractors or suppliers; v. The results of any interview with a Bidder or supplied references; or vi. Any knowledge of or experience with a Bidder or its principals, directions, officer and employees. The Employer may independently verify any information (including conducting credit, reference and other checks with respect to a Bidder) and consider such findings in its evaluation. Employer is not required to inform Bidders of how Bids were ranked in the evaluation process.
IB 28.6	Add the following new Sub-Clause IB 12.5: The Employer’s evaluation of a Bid will exclude and not take into account Provincial sales Tax (PST).
IB 29.1	Add the words “for the respective Lot(s)” after the words “evaluated Bid Price” in 3rd line of this Sub-Clause. Add the following at the end of this Sub-Clause: “Provided further in case a Bidder is determined to be the lowest evaluated substantially responsive in more than one Lot, the aggregate requirements delineated under Sub-Clause IB.3 hereof shall apply.”
IB 29.2	Following text is added at the end of Sub Clause 29.2

	The Employer reserves the right to assess the capacity and capability of the Bidder, to successfully execute the scope of work covered under the Bidding Documents within stipulated completion period. This assessment may interalia include for (i) document verification; (ii) details of work executed, work in hand, anticipated in future; (iii) details of tools & plant; (iv) availability of requisite key personnel (v) financial resources; (vi) details of quality system in place; (vii) past experience and performance; (viii) customer feedback (ix) Bank's feedback etc.
IB 30.1	The Employer reserves the right to reject any bid on the following accounts, apart from those mentioned in the bidding documents: i. Bidding Documents are not purchased by the bidder. ii. Bid is not received by the due date and time specified. iii. Cost of the bidding documents is not remitted. iv. Bid is not accompanied by Bid security as specified in the document; Bid security is inadequate; Bid guarantee is not in the specified format. v. Bid does not cover the complete scope of work. vi. Bid does not contain all required particulars as per Schedules & Forms prescribed in the bidding documents. vii. Deviations, conditionality or reservations have been introduced to any part of the bidding documents which may not be acceptable to the Employer in its sole discretion. viii. Bidder does not respond promptly and thoroughly to the request for supplementary information required for the evaluation of his Bid. ix. Bid does not meet minimum acceptable standards of completeness, consistency and detail. x. Bid received from any Black listed Firm / Contractor. If at any time it is found that a material misrepresentation of facts is made or uncovered; the information submitted by the bidder concerning his qualification was false and materially inaccurate or incomplete. If the bidder is the Lead Member of a consortium, then the entire consortium may be disqualified/ rejected.
IB 32.1	The Bidder shall furnish an unconditional Performance Security, equal to ten percent (10%) of the Contract Price in the form prescribed in the conditions of Contract.
IB 33	Text of Clause IB.33 is deleted and substituted as follows: Within fourteen (14) days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the successful bidder shall depute its representative duly authorized for formal signing of the Contract Agreement, Form of which is provided in the Bidding Documents.

IB 37	The following clause is hereby added: - (GRIEVANCE REDRESSAL & COMPLAINT REVIEW MECHANISM)
37.1	Any party can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the prequalification or bidding documents found contrary to provision of Procurement Regulatory Framework, and the same shall be addressed by the GRC well before the bid submission deadline.
37.1	Any Bidder feeling aggrieved by any act of the procuring agency after the submission of his bid may lodge a written complaint concerning his grievances not later than seven days of the announcement of technical evaluation report and five days after issuance of final evaluation report.
37.2	In case, the complaint is filed against the technical evaluation report, the GRC shall suspend the procurement proceedings.
37.3	In case, the complaint is filed after the issuance of the final evaluation report, the complainant cannot raise any objection on technical evaluation of the report: Provided that the complainant may raise the objection on any part of the final evaluation report in case where single stage one envelope bidding procedure is adopted.
37.4	The GRC, in both the cases shall investigate and decide upon the complaint within ten days of its receipt.
37.5	Any bidder or the procuring agency not satisfied with the decision of the GRC may file Appeal before the Appellate Committee of the Authority on prescribed format after depositing the Prescribed fee.
37.6	The Committee, upon receipt of the Appeal against the decision of the GRC complete in all respect shall serve notices in writing upon all the parties to appeal.
37.7	The committee shall call the record from the concerned procuring agency or the GRC as the case may be, and the same shall be provided within prescribed time.
37.8	The committee may after examination of the relevant record and hearing all the concerned parties, shall decide the complaint within fifteen (15) days of receipt of the Appeal.
37.9	The decision of the Committee shall be in writing and shall be signed by the Head and each Member of the Committee. The decision of the committee shall be final
IB 38	The following Clause is hereby inserted: - (Mechanism of Blacklisting) 38.1. The Procuring Agency shall bar for not more than the time prescribed in Rule-19 of the Public Procurement Rules, 2004, from participating in their respective procurement proceedings, bidder or contractor who either: i. Involved in corrupt and fraudulent practices as defined in Rule-2 of Public Procurement Rules; ii. Fails to perform his contractual obligations;

	iii. Fails to abide by the its securing declaration; and iv. Submits false information (or) hides information on Beneficial Ownership Declaration Performa under S.R.O 592(I)/2022.
38.2	The show cause notice shall contain: (a) precise allegation, against the bidder or contractor; (b) the maximum period for which the Procuring Agency proposes to debar the bidder or contractor from participating in any public procurement of the Procuring Agency; and (c) the statement, if needed, about the intention of the Procuring Agency to make a request to the Authority for debarring the bidder or contractor from participating in public procurements of all the procuring agencies.
38.3	The procuring agency shall give minimum of seven days to the bidder or contractor for submission of written reply of the show cause notice
38.4	In case, the bidder or contractor fails to submit written reply within the requisite time, the Procuring Agency may issue notice for personal hearing to the bidder or contractor/ authorize representative of the bidder or contractor and the procuring agency shall decide the matter on the basis of available record and personal hearing, if availed.
38.5	In case the bidder or contractor submits written reply of the show cause notice, the Procuring Agency may decide to file the matter or direct issuance of a notice to the bidder or contractor for personal hearing.
38.6	The Procuring Agency shall give minimum of seven days to the bidder or contractor for appearance before the specified officer of the Procuring Agency for personal hearing. The specified officer shall decide the matter on the basis of the available record and personal hearing of the bidder or contractor, if availed
38.7	The procuring Agency shall decide the matter within fifteen days from the date of personal hearing unless the personal hearing is adjourned to a next date and in such an eventuality, the period of personal hearing shall be reckoned from the last date of personal hearing.
38.8	The Procuring Agency shall communicate to the bidder or contractor the order of debarring the bidder or contractor from participating in any public procurement with a statement that the bidder or contractor may, within thirty days, prefer a representation against the order before the Authority.
38.9	Such blacklisting or barring action shall be communicated by the procuring agency to the Authority and respective bidder or bidders in the form of decision containing the grounds for such action. The same shall be publicized by the Authority after examining the record whether the procedure defined in blacklisting and debarment mechanism has been adhered to by the procuring agency.
38.10	The bidder may file the review petition before the Review Petition Committee Authority within thirty days of communication of such blacklisting or barring action after depositing the prescribed fee and in accordance with "Procedure of

	filing and disposal of review petition under Rule-19(3) Regulations, 2021". The Committee shall evaluate the case and decide within ninety days of filing of review petition
38.11	The committee shall serve a notice in writing upon all respondent of the review petition. The notices shall be accompanied by the copies of review petition and all attached documents of the review petition including the decision of the procuring agency. The parties may file written statements along with essential documents in support of their contentions. The Committee may pass such order on the representation may deem fit.
38.12	The Authority on the basis of decision made by the committee either may debar a bidder or contractor from participating in any public procurement process of all or some of the procuring agencies for such period as the deemed appropriate or acquit the bidder from the allegations. The decision of the Authority shall be final.

Annexure - 1 to Bidding Data Sheet

FORMAT FOR POWER OF ATTORNEY FOR SIGNING OF BID**POWER OF ATTORNEY**

Know all men by these presents, we _____ (name and address of the registered office of the Bidder) do hereby constitute, appoint and authorize Mr. / Ms. _____ R/o _____ (name and address of residence) who is presently employed with us and holding the position of _____, as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to the bid of the (please state the name and address of the bidder) for Bidding Document No. CE/CIVIL/NGC/13(R)/2025-26 "CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA (the "tender"), including signing and submission of all documents and providing information / responses to National Grid Company of Pakistan (NGC), representing us in all matters in connection with our bid for the said tender.

We hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and agree that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

For

(Signature)

(Name, Title, Email ID and Address)

Accepted

..... (Signature)

(Name, Title, Email ID and Address of the Attorney)

ACKNOWLEDGMENT

Before me, a Notary Public for and in the City of _____, this _____ of _____ 2020 personally came and appeared:

NAME

IDENTIFICATION DOCUMENT

Known to me to be the same person/s who executed the foregoing Special Power of Attorney in favor of _____, and acknowledged to me the same is/are his/her/their free and voluntary act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal, the date and place above written.

NOTARY PUBLIC

Annexure - 2 to Bidding Data Sheet

A. FORM OF UNDERTAKING BY THE JOINT VENTURE PARTNERS**(On Company's Letter Head)**

THIS JOINT DEED OF UNDERTAKING executed on this..... day of..... Two Thousand andby..... a company incorporated under the laws of and having its Registered Office at..... (hereinafter called the "Party No.1" which expression shall include its successors, executors and permitted assigns) and M/s.....a company incorporated under the laws of..... and having its Registered Office at..... (hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns) and M/s..... a Company incorporated under the laws of..... and having its Registered Office at..... (hereinafter called the "Party No.3" which expression shall include its successors, executors and permitted assigns) for the purpose of making a bid and entering into a contract [hereinafter called the "Contract"{in case of award}] against the Identification No.....for _____ associated with _____ of (hereinafter called the "**Employer**").

WHEREAS the Party No.1, Party No.2 and Party No.3 have entered into an Agreement dated..... AND WHEREAS the Employer invited bids for the design, manufacture, Supply of Equipment Materials stipulated in the bidding documents under _____ associated with _____.

AND WHEREAS Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 26 of ITB), and technical provisions forming part of the bidding documents, inter-alia, stipulates that an Undertaking of two or more qualified partners, meeting the requirements of 'Qualification & Evaluation Requirement of the Bidder', as applicable may bid, provided, the Joint Venture fulfills all other requirements under Clause 2, 13, 24 & 26 of ITB and in such a case, the Letter of Bids (Bid Form) shall be signed by the Partner -In Charge so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract and all obligations hereunder.

The above clause further states that this Undertaking shall be attached to the bid and the Contract performance guarantee will be as per the format enclosed with the bidding document without any restrictions or liability for either party.

AND WHEREAS the bid is being submitted to the Employer vide proposal No.....dated..... by Party No.1 based on this Undertaking between all the parties; under these presents and the bid in accordance with the requirements of Clause 2, 13, 24 & 26 (Section-ITB) has been signed by all the parties.

NOW THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the parties of this Deed of Undertaking do hereby declare and undertake:

1. In requirement of the award of the Contract by the Employer to the Joint Venture Partners, we, the Parties do hereby undertake that M/s..... the Party No.1, shall act as Lead Partner and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Employer for the successful performance of the Contract and shall be fully responsible for the design, manufacture, Supply, and successful performance of the equipment in accordance with the Contract:
2. In case of any breach or default of the said Contract by any of the parties to the Joint Venture, the party(s) do hereby undertake to be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.
3. Further, if the Employer suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents undertake to promptly make good such loss or damages caused to the Employer, on its demand without any demur. It shall not be necessary or obligatory for the Employer to proceed against Lead Partner to these presents before proceeding against or dealing with the other Party(s), the Employer can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Employer.
4. The financial liability of the Parties of this Deed of Undertaking to the Employer, with respects to any of the claims arising out of the performance or non-performance of the obligations set forth in this Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of this Deed of Undertaking.
5. It is expressly understood and agreed between the Parties to this Undertaking that the responsibilities and obligations of each of the Parties shall be as delineated in Annexure attached with this undertaking. It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract.
6. It is also understood that this Undertaking is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract if awarded and that this Undertaking shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Undertaking or on the Joint Venture, other than the express provisions of the Contract.
7. This Undertaking shall be construed and interpreted in accordance with the provisions of the Contract.

8. In case of an award of a Contract, we the parties to this Deed of Undertaking do hereby agree that we shall be jointly and severally responsible for furnishing a Contract performance security from a bank in favor of the Employer in the currency/currencies of the Contract.
9. It is further agreed that this Deed of Undertaking shall be irrevocable and shall form an integral part of the bid and shall continue to be enforceable till the Employer discharges the same or upon the completion of the Contract in accordance with its provisions, whichever is earlier. It shall be effective from the date first mentioned above for all purposes and intents.

IN WITNESS WHEREOF, the Parties to this Deed of Undertaking have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of
has been affixed in my/ our
presence pursuant to Board of
Director's Resolution dated

For Lead Partner (Party No.-1)
For and on behalf of M/s
.....

Name

Designation

Signature

(Signature of the authorized
representative)

WITNESS:

I.

II.

Common Seal of
has been affixed in my/ our
presence pursuant to Board of
Director's Resolution dated

For Party No.-2
For and on behalf of M/s.....

(Signature of the authorized
representative)

Name

Designation

Signature

WITNESS:

I.

II.

Common Seal of
has been affixed in my/ our
presence pursuant to Board of
Director's Resolution dated

For Party No.-3
For and on behalf of M/s.
.....

Name

Designation

Signature

(Signature of the authorized
representative)

WITNESS:

I.

II.

Notes:

1. In the event that the successful Bidder is a joint venture formed of two or more companies, the Employer requires that the parties to the joint venture accept joint and several liabilities for all obligations under the Contract.
2. The maximum number of J.V partners is three (03).

Annexure - 3 to Bidding Data Sheet

B. FORM OF LETTER OF INTENT BY JV PARTNERS TO ENTER INTO JV AGREEMENT

THIS LETTER OF INTENT signed on this..... day of..... Two Thousand andby..... a company incorporate under the laws of and having its Registered Office at..... (hereinafter called the "Party No.1" which expression shall include its successors, executors and permitted assigns) and M/s.....a company incorporated under the laws of..... and having its Registered Office at..... (hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns) and M/s..... a Company incorporated under the laws of and having its Registered Office at..... (hereinafter called the "Party No.3" which expression shall include its successors, executors and permitted assigns) for the purpose of making a bid and entering into a contract [hereinafter called the "Contract" {in case of award}] against the Specification No.....for _____ associated with _____ of (hereinafter called the "**Employer**").

WHEREAS the Party No.1, Party No.2 and Party No.3 intend to enter into a Joint Venture Agreement

AND WHEREAS the Employer invited bids as per the above mentioned Specification for the design, manufacture, Supply of Equipment Materials stipulated in the bidding documents under _____ associated with _____.

AND WHEREAS Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 26 of ITB), and technical provisions forming part of the bidding documents, inter-alia, stipulates that two or more qualified partners, meeting the requirements of Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 26 of ITB), as applicable may bid, provided, they submit a Letter of Intent to enter into Joint Venture Agreement and the Joint Venture Partners fulfill all other requirements under Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 26 of ITB), and technical provisions forming part of the bidding documents and in such a case, the Letter of Bid (Bid Form) shall be signed by all the proposed partners so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract by entering into Joint Venture Agreement as per proforma specified in this Section IV. Bidding Forms of the Bidding Documents which will be legally binding on all partners and all obligations hereunder.

The above clause further states that this Letter of Intent shall be attached to the bid and the Contract performance guarantee will be as per the format enclosed with the bidding document without any restrictions or liability for either party.

AND WHEREAS the bid is being submitted to the Employer vide proposal No.....dated..... by Party No.1 based on this Letter of Intent between all the parties; under these presents and the bid in accordance with the requirements of Clause 4.1, Section-ITB and 'Qualification Requirement of the Bidder', Section-Evaluation and Qualification Criteria, has been signed by all the parties.

NOW THIS UNDERTAKING WITNESSED AS UNDER:

In consideration of the above premises and agreements all the parties of this Letter of Intent do hereby declare and undertake:

1. In requirement of the award of the Contract by the Employer to the Joint Venture Partners, we, the Parties do hereby undertake that M/s..... the Party No.1, shall act as Lead Partner and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Employer for the successful performance of the Contract and shall be fully responsible for the design, manufacture, Supply, and successful performance of the equipment in accordance with the Contract for which we shall enter into Joint Venture Agreement as per proforma specified in this Section IV. Bidding Forms of the Bidding Documents which will be legally binding on all partners:
2. If the Contract is awarded to Joint Venture then in case of any breach or default of the said Contract by any of the parties to the Joint Venture, the party(s) will be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.
3. Further, if the Employer suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents will promptly make good such loss or damages caused to the Employer, on its demand without any demur. It shall not be necessary or obligatory for the Employer to proceed against Lead Partner to these presents before proceeding against or dealing with the other Party(s), the Employer can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Employer.
4. The financial liability of the Parties of the Deed of Undertaking to the Employer in the event of award of Contract on the Joint Venture, with respects to any of the claims arising out of the performance or non-performance of the obligations set forth in the Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of the Deed of Undertaking.
5. It is expressly understood and agreed between the Parties to this Letter of Intent that the responsibilities and obligations of each of the Parties shall be as delineated in Annexure attached with this Letter of Intent. It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract in the event of award on Joint Venture.
6. It is also understood that this Letter of Intent is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract if awarded and that this Letter of Intent shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Letter of Intent or on the Joint Venture, other than the express provisions of the Contract.

7. This Letter of Intent shall be construed and interpreted in accordance with the provisions of the Contract.
8. In case of an award of a Contract, we the parties to this Letter of Intent do hereby agree that we shall enter into Joint Venture Agreement as per proforma specified in this Section IV. Bidding Forms of the Bidding Documents which will be legally binding on all partners and we shall be jointly and severally responsible for furnishing a Contract performance security from a bank in favor of the Employer in the currency/currencies of the Contract.
9. It is further agreed that this Letter of Intent shall be irrevocable and shall form an integral part of the bid. It shall be effective from the date first mentioned above for all purposes and intents.

IN WITNESS WHEREOF, the Parties to this Letter of Intent have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of
has been affixed in my/ our
presence pursuant to Board of
Director's Resolution dated

For Lead Partner (Party No.-1)
For and on behalf of M/s
.....

Name
Designation

(Signature of the authorized
representative)

Signature

WITNESS :

I.

II.

Common Seal of
has been affixed in my/ our
presence pursuant to Board of
Director's Resolution dated

For Party No.-2
For and on behalf of M/s.....

Name

(Signature of the authorized
representative)

Designation

Signature

WITNESS :

I.

II.

Common Seal of
has been affixed in my/ our
presence pursuant to Board of
Director's Resolution dated

For Party No.-3
For and on behalf of M/s.
.....

Name

(Signature of the authorized
representative)

Designation

Signature

WITNESS :

I.

II.

Notes:

1. In the event that the successful Bidder is a joint venture formed of two or more companies, the Employer requires that the parties to the joint venture accept joint and several liabilities for all obligations under the Contract.
2. The maximum number of J.V. partners is three (3).

Section -III:

FORM OF TECHNICAL AND PRICE BID AND APPENDICES TO BID

Sr. No.	Description
1.	Form of Technical Bid
2.	Form of Financial Bid
Appendices to Bid	
3.	Appendix A to Bid: Special Stipulations
4.	Appendix B to Bid: Foreign Currency Requirements
5.	Appendix C to Bid: Price Adjustment
6.	Appendix D to Bid: Bill of Quantities
7.	Appendix E to Bid: Proposed Construction Schedule
8.	Appendix F to Bid: Method of Performing Works
9.	Appendix G to Bid: Proposed Personnel
10.	Appendix H to Bid: Equipment
11.	Appendix I to Bid: Construction Camp and Housing Facilities
12.	Appendix J to Bid: Organization Chart for Supervisory Staff
13.	Appendix K to Bid: List of Subcontractors
14.	Appendix L to Bid: Source of Material
15.	Appendix M to Bid: Estimated Progress Payments
16.	Appendix N to Bid: Deviations

17.	Appendix O to Bid: Integrity Pact	
18.	Appendix P to Bid: Bidder's Qualification Forms	
	QF-1	General Information
	QF-2	Construction Experience
	QF-3	Performance Certificate
	QF-4	Current Contract Commitments
	QF-5	Financial Data
	QF-6	Annual Turnover Data
	QF-7	Financial Resources
	QF-8	Bank Certificate
	QF-9	Pending Litigation
19.	Appendix Q to Bid: Undertaking of bid security	
20.	Standard Forms	
	I	Bid Security (Bank Guarantee)
	II	Form of Performance Security
	III	Form of Contract Agreement
	IV	Mobilization Advance Guarantee/Bond

Section - III

Forms of Bid and Appendices to Bid

Form of Technical Bid

Bid for Contract No.: CE/CIVIL/NGC/13(R)/2025-26

Name of the Project: CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA

To:

**Chief Engineer (MP&M) NGC
8th Floor Shaheen Complex, Edgerton Road Lahore.**

We, the undersigned, declare that:

- (a) We have examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, Contract Data, Specifications, Drawings, if any, Schedule of Prices and Addenda Nos. _____ in accordance with Instructions to Bidders (IB) 9 for the execution of the above-named Works, we, the undersigned, being a company doing business under the name _____ of _____ and _____ address _____ and being duly incorporated under the laws of Pakistan hereby offer to execute and complete such Works and remedy any defects therein in conformity with the said Documents including Addenda.
- (b) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of **150 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (c) As security for due performance of the under takings and obligations of our bid, we submit here with a Bid security, in the amount specified in Bidding Data Sheet, which is valid (at least) 28 days beyond validity of Bid itself.
- (d) We undertake, if our Bid is accepted, to commence the Works and to deliver and complete the Works comprised in the Contract within the time(s) stated in Contract Data.

- (e) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process, other than alternative offers submitted in accordance with IB16 (as applicable).
- (f) We agree to permit Employer or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors. This permission is extended for verification of any information provided in our Technical Bid which comprises all documents enclosed herewith in accordance with IB.11.1 of the Bidding Data Sheet.

Name.....
.....

In the capacity
of.....

Signed.....
.....

Duly authorized to sign the Bid for and on behalf
of.....

Date.....

Address.....
.....

Form of Price Bid

Bid for Contract No.: **CE/CIVIL/NGC/13(R)/2025-26**
Name of the Project: **CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA**

To:
Chief Engineer (MP&M) NGC
8th Floor Shaheen Complex, Edgerton Road Lahore.

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (IB) 9;
- (b) The total price of our Bid, excluding any discounts offered including Addenda thereto for the Total Bid Price of Rupees (Rupees _____) or such other sum as may be ascertained in accordance with the said Documents.
- (c) The discounts offered and the methodology for their application is:
- (d) Our Bid shall be valid for a period of **150 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (f) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed and we do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other bidder for the Works.
- (g) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (h) We agree to permit Employer or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them

audited by auditors. This permission is extended for verification of any information provided in our Technical Bid which comprises all documents enclosed herewith in accordance with IB.11.1 of the Bidding Data Sheet.

- (i) If awarded the contract, the person named below shall act as Contractor's Representative.
- (j) We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a bid for the Works.

Name.....
.....

In the capacity
of.....

Signed.....

Duly authorized to sign the Bid for and on behalf
of.....

Date.....

Address.....
.....

Witness:

Signature:

Name.....

Address.....
.....

Occupation:

Appendix-A to Bid**SPECIAL STIPULATIONS****Clause****Conditions of Contract**

1.	Engineer's Authority to issue Variation in emergency	2.1	In Accordance with NGC BOFP (Rev-2025)
2.	Law Applicable	5.1(b)	The law to be applied is the law of Islamic Republic of Pakistan.
3.	Amount of Performance Security	10.1	10% of Contract Price stated in the Letter of Acceptance.
4.	Time for Furnishing Programme	14.1	Within 30 days from the date of receipt of Letter of Acceptance.
5.	Minimum amount of third-party Insurance	23.2	Rs. 100,000 per occurrence with number of occurrences unlimited.
6.	Time for Commencement	41.1	Within 30 days from the date of receipt of the letter of acceptance or the date of signing of the contract agreement whichever is earlier. Notice to Commence shall be issued by the Engineer.
7.	Time for Completion	43.1, 48.2	400 days from the date of receipt of Engineer's Notice to Commence.
8.	a) Amount of Liquidated Damages	47.1	0.110% for each Day of delay in completion of the works subject to a maximum of 10% of contract price stated in the letter of acceptance. In case facility / works are of independent of each other and part of the facility / works can be used for its intended purpose, the LD will only be applicable for the remaining part.
9.	Defects Liability Period	49.1	365 days from the effective date of Taking Over Certificate.
10.	Percentage of Retention Money	60.2	10% of the amount of Interim Payment Certificate.
11.	Limit of Retention Money	60.2	10% of Contract Price stated in the Letter of Acceptance.
12.	Minimum amount of Interim Payment Certificates (Running Bills)	60.2	20% (at least) more than the amount of all applicable retentions and deductions on the said bill.
13.	Time of Payment from delivery of Engineer's Interim Payment Certificate to the Employer.	60.10	30 days.
14.	Mobilization Advance (Interest Free)	60.12	10% of the Contract Price
15.	Increase or Decrease of Cost	70.1	<i>APPLICABLE</i>

SPECIAL STIPULATIONS

1. The work will be executed strictly in accordance with relevant drawings and specifications contained in the WAPDA Standard Specifications.
2. Quantities of work can be increased/decreased as per site requirement with the approval of the Engineer.
3. Error and omissions in BOQ may be rectified at any stage during construction period by the Engineer.
4. Any item which has not been shown in the BOQ but required to be executed at site of work and fully covered in WAPDA composite schedule of rates 2022 plus inflation factor applicable will be paid to the contractor on the basis of rates provided in the above-mentioned schedule (Zone-06) and premium approved by the competent Authority in this contract. The item not covered under WAPDA Composite schedule of Rates 2022 will be paid after getting their rates approved by the Manager Civil NGC, Lahore which will be considered final.
5. All the Electric fittings and fixtures such as plugs, switches, ceiling rose, sockets, holders and cable etc. shall be (No.1 Quality) as approved by the Engineer.
6. Material used in the construction works should be as per WAPDA Standard Specifications.
7. All tests such as concrete cylinder, steel, brick etc. will be carried at the expense of the contractor.
8. The balance security will be paid to the contractor after handing over the work complete in all respects to the taking the organization and after clearance from the Manager Civil NGC, Lahore.
9. The contractor has to make his arrangements of required specified water suitable for construction purpose.
10. All Federal and Provincial Government taxes are applicable that value of sales tax will be considered which will be applicable as per rules during Currency of the Contract.
11. Materials delivery at site for construction of project is obligation of Contractor.
12. The contractor shall carry out an Energy Audit Analysis and Assessment for all Residential and Non-Residential buildings where the NEECA Energy Conservation Building Code (ECBC) 2023 is applicable, prior to the commencement of the construction work. The contractor shall be responsible for preparing and submitting detailed Energy calculations, drawings, and a comprehensive report to the Civil Design office for review. Construction drawings shall be issued based on the approved Energy audit, and implementation shall be carried out accordingly. Certification from a Qualified Energy Auditor shall also be provided as part of this process.

All costs related to the Energy Audit, Analysis, Certification, and preparation of associated drawings and documentation shall be deemed included in the contract price. No separate or additional payment shall be made for this job.

List of Manufacturers of Civil Material		
Sr. No.	Description of Items	Brands
1	Steel	Mughal, Ittefaq, FF steel, Amreli, Model,
2	Cement	Maple Leaf, DG, Lucky, Bestway
3	Crush	As per approval of site staff of NGC after testing
4	Sand	As per approval of site staff of NGC after testing
5	Bricks	Locally available
6	Weather Shield	Nippon, Burger, ICI, Diamond
7	Distemper	Nippon, Burger, ICI, Diamond
8	Glazed Tiles (Full Body)	Master, Times, Sonex, Style
10	Wardrobe materials	MDF Sheets with stainless steel Catchers and Handles etc.
11	Steel Railing in stairs	Non-Magnet Steel with Arc Welding
12	HDPE Pipes	Dadex, Master, Popular, Alpha
13	PPRC Pipes	Dadex, Master, Popular, Alpha
14	Vanity Bowl	PORTA, Faisal, Sonex
15	White glazed Earthenware water closet squatting type (Domestic Indian)	PORTA D70
16	White glazed Earthenware water closet (European Type)	PORTA H 257
17	Washroom Accessories	Master, Faisal, PORTA, Sonex
18	Electric Geyser	Canon, Haier, Super Asia
19	Electric Wiring	Pakistan Cable, Allied Cable, Fast Cable, GM Cable,
20	Ceiling Fan	SK, Royal, Lahore Fan
21	Exhaust Fan	SK, Royal, Lahore Fan
22	Lights	OSAKA, Philips
23	Cooking Range	Orient, Dawlance
24	Door Locks	Khas, Welka (Italian), Yale
25	Stainless Steel Sink	Master, Sonex
26	Kerb Stones	Izhar, Banu Mukhtar
27	Air Condition (Invertor)	Gree, Haier, Orient
28	Refrigerator	Pel, Dawlance, Orient, Haier
29	Submersible Pump	KSB
30	PVC Pipe for pump boring	Dadex, Master, Popular, Alpha
31	LED TV	TCL, SAMSUNG, LG (OLED)
32	Room Chair	BOSS

Note: The prior approval of Engineer/Engineer Representative will be required in case of change of manufacturer of civil works material

Appendix-B To Bid**FOREIGN CURRENCY REQUIREMENTS (Not Used)**

1. The Bidder may indicate here in below his requirements of foreign currency (if any), with reference to various inputs to the Works.
2. Foreign Currency Requirement as percentage of the Bid Price excluding Provisional Sums _____%.
3. Table of Exchange Rates

Unit of Currency	Equivalent in Pak. Rupees
Australian Dollar	-----
Euro	-----
Japanese Yen	-----
U.K. Pound	-----
U.S. Dollars	-----
-----	-----
-----	-----

Appendix-C to Bid**PRICE ADJUSTMENT UNDER CLAUSE 70
OF CONDITIONS OF CONTRACT**

(The formula/ guidelines issued by Pakistan Engineering Council (PEC) in May 2022 and or any latest version issued by PEC shall be applicable. The indices and the factors for price adjustment shall be decided by the Engineer for each type of work as per PEC guidelines for each type/nature of goods/equipment/consulting and non-consulting services etc.)

Appendix-C to Bid
Sheet 2 of 2

PRICE ADJUSTMENT UNDER CLAUSE 70 OF CONDITIONS OF CONTRACT

The source of indices and the weightages or coefficients for use in the price adjustment formula under Clause 70 shall be as follows:

Cost Element	Description	Coefficient	Weightages	Applicable index
1	2	3	4	5
(i)	Fixed Portion	A	0.25	
(ii)	Labor	B	0.24	Government of Pakistan (GoP) Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin for the city of Lahore .
(iii)	Cement – in bags	C	0.10	
(iv)	Bricks	D	0.10	
(v)	Reinforcing Steel	E	0.17	
(vi)	High Speed Diesel (HSD)	F	0.14	Oil and Gas Regulatory Authority, Islamabad (OGRA)
	Total		1.00	

Notes:

- 1) Indices for “(ii)” to “(v)” are taken from the Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin for the city of Lahore. The base cost indices or prices shall be those for the month falling 28 days prior to latest day for submission of bids. Current indices or prices shall be those for the month falling 28 days prior to the last day of the billing period.
- 2) For labour, the index shall be the wage for unskilled labour as published in Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin for the city of Lahore.
- 3) For Cement, the index shall be for one bag of cement (local) as published in Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin for the city of Lahore.
- 4) For reinforcing steel, the index shall be the rate of ½” round MS Bars as published in Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin for the city of Lahore.
- 5) For Bricks, the index shall be for 1000 Nos. of local bricks as published in Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin for the city of Lahore.
- 6) The index for High-Speed Diesel (HSD) shall be the Maximum Ex-Depot Sale Price of HSD notified by Oil and Gas Regulatory Authority (OGRA), Islamabad.
- 7) Any fluctuation in the indices or prices of materials other than those given above shall not be subject to adjustment of the Contract Price.

Appendix-D to Bid**BILL OF QUANTITIES****A. Preamble****General**

1. The Schedule of Quantities shall be read in conjunction with the Conditions of Contract, Specifications and Drawings. The Schedules do not generally give a full description of the Services to be performed under each item. Bidders shall be deemed to have read the Technical Specifications and other sections of the Bidding Documents and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices. The entered rates and prices shall be deemed to include for the full scope as aforesaid, including overheads and profit.
2. If bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with IB 8 prior to submitting their bids.
3. The quantities given in the Schedule of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work executed and measured by the Contractor and verified by the Engineer and valued at the rates and prices entered in the priced Schedule of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix in accordance with provisions of the Contract.
4. The rates and prices entered in the priced Schedule of Quantities shall, except insofar as it is otherwise provided under the Contract include all costs of Contractor's plant, labor, supervision, materials, execution, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract. Furthermore, all duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to deadline for submission of Bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder. The price shall include all type of taxes except PST.
5. A rate or price shall be entered against each item in the priced Schedule of Quantities, whether quantities are stated or not. The cost of items against which the Contractor will have failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Schedule of Quantities.
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Schedule of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Works.

7. General directions and description of work and materials are not necessarily repeated nor summarized in the Schedule of Quantities. References to the relevant sections of the Bidding Documents shall be made before entering prices against each item in the priced Schedule of Quantities.
8. Contractor shall be responsible for arrangement of all consumable materials for execution of works within the prices quoted in Price schedules/BOQ.
9. Provisional sums if included and so designated in the Schedule of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Conditions of Contract.
10. As this a measurement type contract so quantities may increase or decrease and / or their types may vary resultantly the contract price may change. The Engineer is authorized to measure such work and accordingly approve the invoices. The Employer shall not stop payment merely it is beyond the price of the contract. However, such changes shall immediately be conveyed to Project Management Office (PMO) NGC / Change Control Board/ Steering Committee. In case any irregularity is found, the Employer shall reserve the right to withhold the payments and recover its loss from any amount due or to be due to the contractor besides other remedial measures.

Units & Abbreviations

11. Units of measurement, symbols and abbreviations expressed in the Bidding Documents shall comply with the System International Unites (SI Units).
12. The following abbreviations shall be used in the Price Schedules:

Abbreviation

Pakistani Rupees	PKR
Number	No.
Kilometer	km.
Running meter	mtr.
Square meter	sq.m
Kilogram	kg
Cubic Meter	cu.m
Provisional Sums	PS
Percent	%
Quantity	Qty

Pricing

13. Prices shall be filled in indelible ink, and any alterations necessary due to errors, etc., shall be initialed by the Bidder.
14. As specified in the Bid Data Sheet prices shall be subject to adjustment in accordance with the corresponding Appendix-C to Price Bid (Price Adjustment) to the Contract Agreement.
15. For each item, bidders shall complete each appropriate column in the respective Schedules, giving the price breakdown as indicated in the Schedules. Prices given in the Schedules against each item shall be for the scope covered by that item as detailed in Section 6 (Employer's Requirements), Technical Specifications, Drawings or elsewhere in the Bidding Documents.
16. The TOTAL for each Schedule and TOTAL of the Grand Summary shall be deemed to be the total price for executing and completing the Facilities in accordance with the Contract, whether or not each individual item has been priced.
17. When requested by the Employer for the purposes of making payments or part payments, valuing variations or evaluating claims, or for such other purposes as the Employer may reasonably require, the Contractor shall provide the Employer with a breakdown of any composite or lump sum items included in the Schedules.
18. Except as otherwise expressly provided under the Conditions of Contract, the unit rates and lump sum amounts entered in the Price Schedules will be the rates at which the Contractor will be paid, and shall be deemed to include for the full scope and all costs incurred by the Contractor in the performance of the Facilities, the provision of services including his overheads, income tax, super tax, other indirect costs, profits and costs of accepting the general risks, liabilities and obligations set forth or implied in the Contract, except for such costs which are specified as reimbursable under the Contract.
19. Arithmetic errors will be corrected by the Employer as per ITB 31.
20. Price of any other item not specifically covered in the Price Schedules but is required for the completion, commissioning and operation shall be deemed to be included in the Schedule of Quantities.
21. The Contractor of any Lot may be required by the Engineer/Employer to carry out work on any location falling in any other Lot.

22. The Contractor will be responsible for arrangement of all necessary security measures for protection of Plants, equipment, personnel and other assets of Contractor or Employer at site until taking over of works by the Employer.
23. The Contractor shall take all the safeguards at site for safety/security of men, material and machinery at his own responsibility and cost.

Appendix-D to Bid

B. WORK ITEMS

1. *The Bill of Quantities are divided into separate schedules as follows:*
2. *Bidders shall price the Bill of Quantities in local currency only.*

**CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWER,
PATROLING PATH, SECURITY BARRACK, RECEPTION OFFICE, DRAINS,
SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION
QUID-E-AZAM BUSINESS PARK, SHEIKHUPURA**

SR. NO.	DESCRIPTION	SPECIFICATIONS	UNIT	QUANTITY	UNIT RATE	AMOUNT
1	Excavation in foundation of buildings, bridges and other structures including dibbling dressing refilling around structure with excavated earth, watering and ramming lead up to 30m and lift up to 1.5 meter In hard soil or soft soil	2.1 to 2.8 whichever is applicable	Cu.m	2090.573		
2	Earth work in all types of soils except rock for embankment lead upto 150m & lift upto 1.50m including ploughing mixing with blade or disc harrow or other suitable equipment compaction by mechanical means complete at optimum moisture content and dressing to designed sections.	14.1 to 14.6 & 14.20	Cu.m	2828.971		
3	Excavation in open cutting for sewer and manholes as shown in drawing, dressing to correct section and dimension according to template and levels and removing surface water in all types of soil shingle, gravel and rock.	2.1 to 2.8 whichever is applicable				
	i) 00-2.00m depth	2.1 to 2.8 whichever is applicable	Cu.m	2571.434		
	ii) 2.00 – 4.50 m depth	2.1 to 2.8 whichever is applicable	Cu.m	11.931		
4	Providing and fixing open shuttering and timbering for item No.1-above and removing of timbering after completion of job	2.1 to 2.8 whichever is applicable	Sq.m	71.720		
	i) 0.00 to 2.00 meter.					
	ii) 2.00 – 4.50 meter.	-do-	Sq.m	12.115		

5	Termite proofing with approved chemicals Pre Construction	2.1 to 2.8 whichever is applicable	Sqm	1188.915		
6	Providing, lowering & laying into trenches and jointing cement concrete reinforced pipeline to correct alignment & grade including cutting of pipes where necessary cost of jointing material & testing with internal diameter 600mm	13.3.2.1.3, 13.3.3. to 13.3.6 13.3.9	Mtr.	21.800		
	102mm dia	-do-	Mtr.	25.000		
	150mm dia	-do-	Mtr.	60.000		
7	Cement Concrete plain including placing, compacting, finishing and curing complete (i/c screening and washing of stone aggregate) without shuttering Ratio 1:4:8	5.6	Cu.m	648.249		
	Ratio 1:2:4	-do-	Cu.m	50.080		
	Ratio 1:1.5:3	-do-	Cu.m	39.255		
8	Reinforced cement concrete work using coarse sand except the cost of steel reinforcement and its labor for bending and binding. This rate also includes all kinds of forms molds, lifting shuttering curing, rendering and finishing the exposed surface (including screening and washing of shingle). A) In-situ in roof slabs, beams, columns rafts, lintels and other structural members complete in all respect Ratio 1:1.5:3	5.6 to 5.10	Cu.m	763.492		
	Ratio 1:2:4	-do-	Cu.m	46.878		
9	Precast in columns beams, slab, lintel, staircases, shelves, etc Ratio: i) 1:2:4	5.6 to 5.10	Cu.m	1.629		
10	Erecting and fixing in position precast cement concrete or stone slab in roofs or lintels, etc. lift upto first floor including all charges.	5.6 to 5.10	Cu.m	1.629		
11	Supplying and Fabrication of intermediate grade deformed reinforcement of 60,000 PSI (420 Mpa) yield for RCC in beams columns and pile caps i/c cutting bending laying in position i/c cost of binding wire and removal of rust etc.	5.8	Kg	120408.635		
12	Providing, placing in position, kerb stone in size 300x450x150mm from M/s Izhar or equivalent minimum 3000 psi	As approved by Chief Engineer Civil	Mtr.	240.000		

	strength including hunching (if required) complete in all respect.					
13	Filling watering and ramming earth under floors with new earth (excavation from outside) lead upto 30 m and lift upto 1.5m.	2.1 to 2.8 whichever is applicable	Cu.m	79.543		
14	Borrow pit excavation undressed lead upto 50 m. a) Hard soil	2.1 to 2.8 whichever is applicable	Cu.m	72477.427		
15	Earthwork in ordinary soil for embankment lead up to 50 m including plugging and mixing with blade or disc harrow or other suitable equipment and compaction by mechanical means at optimum moisture contents and dressing to designed section, complete in all respects. i. More than 95% of dry density.	2.1 to 2.8 whichever is applicable	Cu.m	75654.895		
16	Carriage of 3.0 cum earth by truck or any other means Lead 5 K.M		Cu.m	72789.629		
17	Refilling the excavated stuff in trenches in 152mm thick layer i/c watering ramming to full compaction etc complete.	2.1 to 2.8 whichever is applicable	Cu.m	1628.400		
18	Bricks work other than building including striking of joints upto 3.0 m height in Cement sand mortar. i) 1:4 Upto Zero Level	6.1 to 6.5	Cu.m	305.358		
19	Pacca Brick work other than building including striking of joints upto 3.00 meters height in cement sand mortar Ratio 1:3	6.1 to 6.5	Cu.m	172.289		
20	Pacca Brick Work in foundation and plinth cement sand mortar 1:3	6.1 to 6.5	Cu.m	38.640		
21	Pacca Brick work in foundation and plinth in cement sand mortar 1:4.	6.1 to 6.5	Cu.m	97.871		
22	Pacca Brick work in ground floor (including striking of joints) cement sand mortar 1:4	6.1 to 6.5	Cu.m	137.909		
	1 st Floor	6.1 to 6.5	Cu.m	113.840		
	2 nd Floor	6.1 to 6.5	Cu.m	30.886		
23	Damp Proof Course with (cement, sand and shingle concrete 1:2:4) including 2-coats of asphaltic mixture 50mm thick	20.8	Sq.m	66.212		
24	Vertical damp proof course of 20 mm thick cement plaster 1:2 with bitumen at 1 Kg per Sqm	20.8	Sq.m	121.090		
25	Providing and laying polythene sheet 0.2mm thick	8.1 to 8.11	Sq.m	5636.645		

26	Providing and Laying thermopore sheet 40mm thick	20.8	Sq.m	466.348		
27	Brick tiles 225x113x38mm laid over 100mm earth and 25mm mud plaster without bhossa grouted with cement and 1:3 on top of RCC roof slab provided with 1.75Kg bitumen coating sand blinded	8.11	Sq.m	466.348		
28	Cement concrete brick or stone ballast 40 to 50 mm size in foundation and plinth Ratio 1:4:8.	9.4 & 9.5	Cu.m	58.872		
29	Flooring comprising of first class Granite glazed tiles with 13 mm thick white bond cement.	9.12	Sq.m	890.376		
30	Glass strips for dividing the flooring into panels 40mm	9.9	Mtr.	747.735		
31	Glazed tiles dado 6mm thick jointed in white cement and laid over 1:2 cement sand mortar 20mm thick including finishing. Color	9.7	Sq.m	321.547		
32	Colour cement tiles (200x200x20 mm) laid flat in 1:2 cement mortar over a bed of 20mm thick cement mortar 1:2	9.4 to 9.5	Sq.m	34.750		
33	Cement Plaster (1:3) up to 1 st Floor height 20 mm thick	10.1,10.2 and 10.6	Sq.m	8197.184		
34	Cement Plaster (1:3) up to 1 st Floor height 13 mm thick	10.1,10.2 and 10.6	Sq.m	1626.655		
	Ratio: 1:2	-do-	Sq.m	57.730		
	1:3 for 2 nd floor	-do-	Sq.m	119.681		
	Ratio : 1:4	-do-	Sq.m	320.734		
35	Providing and Fixing flush door leaf as per Central Design Office standard drawing	11.3.2b	Sq.m	122.388		
36	P/F Aluminium windows (sliding) with fly shutter 18SWG/1.2mm section shampion or any other colour and green or blind glass 5mm thick	20.3.1 to 20.3.17 whichever is applicable.	Sq.m	170.571		
37	Providing and fixing of Exhaust fan 305mm (12") dia Plastic body best quality (i.e Royal, GFC, Pak etc)	21.3	Each	7.000		
38	Providing, preparing surface & applying 3 coats of approved type of plastic emulsion paint to plastered surface as per manufacturer's specifications.	12.11	Sq.m	1920.200		
39	Distempering 3-coats. Two coat over and including cost of priming coat.	10.1&10.2	Sq.m	997.338		
40	Weather shield paint 3-coats on new cement plaster surface (ICI, Berger or equivalent)	20.8	Sq.m	8827.257		

41	Paint on concrete work (Kerb stone & barrier).	As approved by Chief Engineer (Civil)	Sq.m	618.000		
42	Providing and fixing Approved quality mortice lock	11.1 11.4 & 11.5	Each	52		
43	Providing and fixing aluminium door closer (single action) natural anodized	20.3.1 to 20.3.17	Each	52		
44	Providing and fixing Bent metal 16 SWG frame 230 mm wide 2130mm height i/c ball bearing hindges (3Nos.) complete in all respect	As approved by Chief Engineer (Civil)	Each	52		
45	Cast iron rain water down pipe fixed in place including heads and shoes but including clamps etc. 100mm dia	8.10	Mtr.	99.550		
46	Rain water down pipe cast iron heads fixed in place including cost of clamps holdfast and painting 100mmdia	8.10	Each	12		
47	Shoes, bends or offsets for cost iron rain water down pipe i/c fixing and painting	8.10	Each	12		
48	Providing, laying, jointing and testing PPRC pipes (Master/Dadex/Popular) with PN-20 i/c cost of solvent, special, making jharris and specials inside building and trenches with internal diameter	As approved by Chief Engineer (Civil)				
	20mm dia		Mtr.	465.000		
	25mm dia		Mtr.	380.000		
	32 mm dia		Mtr.	145.000		
	50 mm dia		Mtr.	500.000		
49	Boring for tube wells in all water bearing soils from ground level to 30 metres depth including inking and with-drawing of casing pipe(i) 200mm i/d					
	a) From 0 level to 30.00 Mtr depth	13.1.2	Mtr.	60.000		
	b) 30.00 to 60 Mtr depth	13.1.2	Mtr.	31.500		
50	Providing & installing fiber glass blind pipe of following diameter into tube well bore with socket & solution a) 150mm	13.1.3	Mtr.	30.500		
51	Providing & installing fiber glass strainer of following diameter with bail plug including sockets & solution etc complete: a) 150mm	13.1.3	Mtr.	61.000		
52	Providing and Fixing M.S Centralizers complete in all respects	As approved by Chief Engineer (Civil)	Each	2		

53	Providing and Fixing Tube well Cap complete in all respects	As approved by Chief Engineer (Civil)	Each	2		
54	Laboratory analysis of Water Sample for Chemical and biological parameters. From Govt. approved labs complete in all respects	As approved by Chief Engineer (Civil)	Each	10		
55	Providing and Installation of 01-HP Submersible pump with 3" dia i/c wiring from control panel switch to pump control panel switch and protection complete in all respects	As approved by Chief Engineer (Civil)	Each	2		
56	Providing, supplying and fixing of 500 Gallon HDPE water Tank (Food Graded) minimum 3 ply thickness of popular, master or equivalent complete in all respects	As approved by Chief Engineer (Civil)	Each	5		
57	Providing and fixing brass ball float valve:- 3/4"	As approved by Chief Engineer (Civil)	Each	5		
58	Construction of peet valves or stop cock masonry chamber (230mmx230mm inside) of standard design	13.2.4.8	Each	20		
59	P/F & testing gun metal gate valve complete for diameter 50mm.	13.5.4	Each	20		
	20mm		Each	20		
60	Floor trap 100mm x50mm (i/c 50mm concrete chamber all round) with C.P grating	13.4.5	Each	12		
61	C.I soil pipes with lead chalked joints for	13.4.5				
	50mm	-do-	Each	10		
	100mm	-do-	Each	15		
62	Providing, lowering & laying into trenches jointing and testing PVC class 'D' pipe line with specials for internal Ø: c) 100mm	13.2.2.15, 13.2.4 to 13.2.9	Mtr.	1780.676		
63	Providing, lowering & laying into trenches jointing and testing PVC class 'D' pipe line with specials for internal Ø: a) 50mm	13.2.2.15, 13.2.4 to 13.2.9)	Mtr.	150.000		
64	Providing and Fixing white glazed earthenware water closet squatting type domestic Indian pattern of best quality (PORTA D70 Standard or equivalent)	As approved by Chief Engineer (Civil)	Each	7		
65	Providing and Fixing white glazed earthen ware water closet European type	As approved by Chief	Each	4		

	domestic of best quality (PORTA H-257 or equivalent)	Engineer (Civil)				
66	Providing and Fixing White Vanity Bowl (PORTA or equivalent) complete in all respects	As approved by Chief Engineer (Civil)	Each	11		
67	Providing and Fixing White glazed earthenware pedestal for wash hand basin domestic of supreme quality	As approved by Chief Engineer (Civil)	Each	11		
68	Providing and Fixing Stainless steel sink 50cmx125cm	13.4.6.3	Each	2		
69	Providing and Fixing Looking glass 550mmx400mm size 1 st quality (without frame) Pak Made	13.4.6.2	Each	14		
70	Providing and Fixing Chromium plated shower 13mm complete with C.P arm2-Nos. C.P. stop cock 1 No. C.P bib cock and 1-No. C.P. shower.	13.4.6.10	Each	5		
71	Providing and Fixing Chromium plated towel railings Rail 610mmx20mm	13.4.6.6	Each	13		
72	Providing and Fixing Toiler paper holders chromium plated	13.4.6.6	Each	11		
73	Providing and Fixing C.P. Soap dishes chromium plated	13.4.6.6	Each	15		
74	Providing and Fixing C.P. bib tap 13mm dia	13.4.6.3	Each	8		
75	Providing and Fixing Low level flushing cistern 13.5 litres capacity best quality plastic	13.4.6.4	Each	8		
76	Providing and Fixing Glass shelves 600mmx125mm size with C.P brackets and C.P. Railing	As approved by Chief Engineer (Civil)	Each	11		
77	Providing and Fixing Tooth brush holder with tooth paste dish chromium plated	13.4.6.10	Each	11		
78	Providing and Fixing PVC flushing pipe 32mm dia	13.4.6.4	Each	11		
79	Providing and Fixing Waste Pipe for sink 40mm dia PVC	13.4.6.4	Each	2		
80	Providing and Fixing Waste Pipe for wash hand basin 32mm dia PVC	13.4.6.4	Each	13		
81	Providing and fixing C.P waste coupling a) 32mm dia	13.4.6.3	Each	11		
	40mm		Each	1		
82	Providing and Fixing C.P mixing valves	13.5.5	Each	21		
83	Providing and Fixing C.P stop cocks 13mm dia	13.5.5	Each	30		

84	Providing and Fixing C.P. Muslim shower without mixing valves.	13.4.6.8	Each	5		
85	Providing and Fixing PVC flushing bends 32mm dia	13.4.6.4	Each	8		
86	Providing and Fixing C.I bracket for wash hand basin	13.4.6.1	Each	13		
87	Providing and Fixing Connections 13mm dia PVC	As approved by Chief Engineer (Civil)	Each	30		
88	Providing and Fixing cooking range 3 burner	20.9	Each	2		
89	Providing and Fixing water geyser 160 litre 35 gallon capacity	20.9	Each	5		
90	Providing and Fixing Gully trap 100 mm diameter of cast iron (including 305mmx305mm masonry chamber.	13.4.5	Each	12		
91	Providing and fixing reflux valve 50 mm i/d	13.5.4.2	Each	10		
92	Sub-base course of pit run gravel (granular material) including placing, mixing & compaction to required camber and grade.	14.7	Cum	312.061		
93	Providing, lowering & laying into trenches jointing and testing PVC class 'D' pipe line with specials for internal Ø: 75mm	13.2.2.15, 13.2.4 to 13.2.9	Mtr.	92.000		
94	Providing, laying into trenches, jointing & testing PVC class 'B' pipe line with specials for internal Ø: f) 300mm	13.2.2.15, 13.2.4 to 13.2.9	Mtr.	1200.000		
95	Making and fixing grating in opening including fixing at site with flat iron 50x10mm and 20mm square bars at 100mm center to center.	13.4.5	Sq.m	3.600		
96	Providing and fixing G.I 1.16m length 50x50x6mm angle iron post for barbed wire fencing around switch yard duly fixed in position	20.3.1 to 20.3.17	Each	819.900		
97	Base course of machine crushed stone aggregate as specified.	14.9 to 14.10	Cu.m	580.950		
98	Plant mixed bituminous carpet, including compaction and finishing to required camber, grade & density 75 mm thick	As approved by Chief Engineer (Civil)	Sq.m	1027.500		
99	Priming coat using 0.5 litres kerosene oil & 0.5 kg. binder per sqm.	14.12	Sq.m	1027.500		
100	Polythine sheet 0.2 mm thick laid over two coats of bitumen using 1.66 kg. bitumen hot per sqm over floors & DPC etc.	8.1 & 8.11	Sq.m	1194.000		

101	Providing and laying tuff pavers having 7000PSI crushing strength and 80mm thickness of approved manufacture over 100mm sand cushion i/c grouting with sand/ stone dust in joints i/c finishing to required slope complete in all respect Color grey	As approved by Chief Engineer (Civil)	Sq.m	336.000		
102	Supply and filling sand under floors of plugging in wells	6.1 to 6.5	Cu.m	470.385		
103	Painting Traffic Lanes 5" wide (125mm), with thermoplastic (TP) Paint including Glass Beads, complete in all respect	As approved by Chief Engineer (Civil)	Sq.m	132.750		
104	Providing and Fixing Double sided reflective cat eyes for road 3M or equivalent	As approved by Chief Engineer (Civil)	Each	110		
105	Providing and fixing sign post.	14.33	Each	5		
106	Providing and Fixing bolts and nuts size 12.7 mm (1/2")	14.33	Each	1620		
107	P/fixing 4 rows barbed wire fencing around switch yard G.I barbed wire 14 SWG, 2 ply, 4 points fixed on G.I angle iron 50x50x6mm posts complete (Excluding cost of angle iron post).	20.3.7	Mtr	1026.661		
108	Providing and fixing CONCERTINA Razor G.I wire 460mm outer framed with 04 Nos. G.I (6SWG) Horizontal stay SWG 6 GI wires 4-Vertical stay rebar welded with GI angle iron and horizontal stay wire @ 3000mm c/c	20.3.7	Mtr	1035.238		
109	Providing and Laying 02 coats of Hot plastic bitumen (PB-3 or PB-4) coating to plastered or cement concrete surface using 1.0kg/Sqm per coat.	8.1 & 8.11	Sq.m	3076.014		
110	Providing and laying thermopore sheet b) 40mm thick	8.1 & 8.11	Sq.m	145.855		
111	Making and Fixing Steel grated door with 16SWG sheeting i/c angle iron frame 40mmx40mmx3mm, hinges and railing with locking arrangements complete in all respects. Drawing # CT-92	20.3.1 to 20.3.17	Sq.m	15.168		
112	Preparing surface and painting of doors and window any type (including edges) priming coat	12.3	Sq.m	359.113		

113	Wiring light or fan point with 1/1.13 (3/0.029) PVC insulated wire in 19.1 mm, 1.50 thick PVC conduit recessed in the wall or column complete with switch plastic plate ceiling rose/batten holder	21.3	Each	403		
114	Providing and Fixing B.C bake lite batten lamp holder with 200 mm white glass globe and gallery etc	21.3	Each	3		
115	Providing and Fixing WAPDA monogram on the main entry gate of Grid Station prepared from 16 gauge MS sheet	20.3	Each	1		
116	Providing and Fixing Expansion joints. Complete in all respect	14.17	Mtr.	1406.036		
117	Providing and fixing aluminum joint cover (gole) 75mm size on expansion joint.	As approved by Chief Engineer (Civil)	Mtr.	355.932		
118	Providing and fixing fair face bricks tiles (Gutka) of size of 1.5"x2"x9" on exterior wall with cement sand mortar (1:3) complete in all respect	As approved by Chief Engineer (Civil)	Mtr.	20.104		
119	Providing and Fixing of Translucent milky acrylic sheet with proper rivets to angel iron frame 25x25x1.5mm.	As approved by Chief Engineer (Civil)	Mtr.	2.760		
120	Providing and fixing ROPE light 12mm diameter of best Quality with flesher driver	As approved by Chief Engineer (Civil)	Mtr.	26.760		
121	Wiring light or fan point with 1/1.13 (3.029) PVC insulated wire in 19.1 mm, 1.50mm thick PVC conduit recessed in the wall or column complete with switch plastic plate ceiling rose/batten holder	21.3	P/Poin t	32		
122	Wiring 2 pin plug control point on board with 1.13 (3/.029) PVC insulated wire in 19.1 mm 1.50 mm thick PVC conduit recessed in the wall and column etc complete with switch and plug.	21.3	P/Poin t	316		
123	Wiring call bell with 1/1.13 (3/.029) PVC insulated wire in 19.1 mm (3/4")PVC conduit recessed in the wall or column complete with buzzer push and 3m flexible wire 23/0076 twin	21.3	P/Poin t	36		
124	Providing and Fixing A.C weather proof iron case electric bell 200/250 volts 100 mm Gong.	21.3	Each	4		
125	Providing and fixing earthing set by making 5" bore upto 25ft length copper	As approved by Chief	Each	4		

	patti (25mmx5mm) 8ft length and 10mm copper wire i/c earthing chemical complete in all respect	Engineer (Civil)				
126	Wiring 2-Pin plug control point on board with 1.13(3/.029)PVC insulated wire in 19.1mm 1.50mm thick PVC conduit recessed in the wall and column etc complete with switch and plug	21.3	P/Poin t	40		
127	P/F flush type 2-Pin 5 Amps S.P. Plug socket on already fixed board.	21.3	P/Poin t	12		
128	Wiring 3-Pin 15-Amp: Wall socket point with 1.13 PVC insulated wire and 2.5 mm PVC pipe recessed in wall.	21.3	P/Poin t	20		
129	Wiring mains with 3-1/1.78(7/.029) PVC insulated wire in 25 mm PVC Conduit on surface on the wall as required.	21.3	Mtr.	280.000		
130	Wiring mains with 2-1/1.78(7/0.029) PVC insulated wire in 19.1mm PVC Conduit recessed in the wall as required	21.3	Mtr.	2000.000		
131	Wiring mains with 2-1/7/.085 (7/0.036) PVC insulated wire in 25mm PVC Conduit recessed in the wall as required	21.3	Mtr.	1200.000		
132	Wiring mains with 2-1/7/1.04(7/.044)PVC insulated wire in 25 mm PVC conduit recessed in the wall as required	21.3	Mtr.	1100.000		
133	Wiring mains with 3-1/7/1.04 (7/.044) PVC insulated wire 660 volts grade in 25 mm PVC conduit recessed in the wall as required.	21.3	Mtr.	280.000		
134	Wiring mains with 3-1/7/2.14 (19/.052) PVC insulated wire 660 volts grade in 38.2 mm PVC conduit recessed in the wall as required.	21.3	Mtr.	120.000		
135	Wiring mains with 2-1/7/1.70(7/.064)PVC insulated wire in 31.7mm PVC Conduit recessed in the wall as required	21.3	Mtr.	394.000		
136	P/Laying and connecting hard drawn bare copper wire 3.2mm 2(14 S.W.G) as earth continuity conductor with any given mains or sub-mains in all system of wiring.	21.3	Mtr.	300.000		
137	Providing and fixing of distribution board single phase 30 Amps, 250 volts with 1-No. incoming circuit breaker 30 Amps. D.P. 4-Nos. outgoing 6-15 Amps. Single pole circuit breaker with N link on prepared board.	21.3	Each	6		

138	Supply and erection of ceiling fan best quality Pak made i/c wiring of regulator blade canopy (56") .Sweep	21.3	Each	88		
139	P/F mild steel bar fan clamp 13mm dia suitable for R.C roof.	21.3	Each	80		
140	Providing and fixing Patti fitting 24 SWG M.S Sheet Painted with white stone enameled painting complete with choke ECCO/EKKO 40w holder and tube light 40w.	As approved by Chief Engineer (Civil)	Each	124		
141	P/F brass bracket 229 mm size fitted with bras lamp holder and 254mm E.I Shade	21.3	Each	210		
142	Add Extra Labour for R.C.C in 2 nd floor and subsequent stories	5.6 & 5.10	Cu.m	26.744		
143	Providing Fixing (J-Bolt) G-60 G.I i/c nuts, washers complete quantity in all respects	As approved by Chief Engineer (Civil)	Each	16		
144	Providing Fixing MS Plate Complete in all respect	20.3.1 to 20.3.17	Kg	262.808		
145	Providing Fixing MS Pipe 100mm dia Complete in all respect	20.3.1 to 20.3.17	Mtr.	26.040		
146	Providing Fixing MS Pipe 50 dia Complete in all respect	20.3.1 to 20.3.17	Mtr.	0.756		
147	Providing Fixing MS Steel 12mm x 12mm Complete in all respect	20.3.1 to 20.3.17	Kg.	130.548		
148	Providing Fixing MS angle Iron Complete in all respect	20.3.1 to 20.3.17	Kg.	489.292		
149	Providing Fixing MS Strip Complete in all respect	20.3.1 to 20.3.17	Kg.	93.298		
150	Providing and Fixing 15m dia 9.75m long malleable iron steps as per design	20.3.7	Each	10		
151	Manhole covers having following diameter with frames: dia 500mm	20.3.7	Each	2		
152	Fabrication of heavy steel work with angles, tees, flat iron and sheet iron for making trusses, girders, tanks etc. including, cutting, drilling, riveting, handling, assembling.	20.3.1 to 20.3.17	Kg.	4254.800		
153	Small Iron Work Such as guessed Plates, Knees, Bands, Stirrups, Strep, Rings, etc including cutting, Drilling, Riveting, Handling, Assembling and Fixing but excluding erection in position	20.3.1 to 20.3.17	Kg.	975.945		
154	Erection and fitting in position or iron trusses, staging of water tanks, etc.	20.3.1 to 20.3.17	Kg.	5230.745		
155	Preparing Surface in Painting of Fillets, Framing, Skirting, Pipes, Gutter and similar works	12.4	Mtr	295.240		

156	Preparing Surface in Painting of guard bars, gates, of iron bars, grating, railings and similar open work	12.4	Sq.m	58.094		
157	Providing and Fixing of weather proof 200 watts LED flood lights Philips, Osaka or equivalent complete in all respect	As approved by Chief Engineer (Civil)	Each	16		
158	Refilling the excavated stuff in trenches in 150 mm thick layers including watering, ramming to compaction etc., complete.	2.1 to 2.8 whichever is applicable	Cu.m	95.894		
159	Providing and fixing of distribution board three phase 150/200 Amps, 400 volts 10-ways per phase with 1-N0. I/C circuit breaker 150/200 Amps. T.P. and outgoing circuit breaker 6-30 Amps complete with volt, metre, selector, switch, phase indication light & N link etc. recessed in wall.	21.3	Each	7		
160	P/F of distribution board single phase 30 Amps 250 volts with 1-No. incoming circuit breaker 30 Amps D.P 40Nos. Outgoing 6-15 Amps single pole circuit breaker with N. Link on prepared board	21.3	Each	2		
161	Providing and fixing steel doors without grill work on outer face of the door as per approved design of the Engineer Incharge	20.3.1 to 20.3.17	Sq.m	2.880		
162	Providing and Fixing of Locally fabricated Electro-hydraulically operated road blocker k-08 rated 12ft long 3ft wide and 2.5ft high with 12mm top sheet to take 40-60 tons per axial load, i/c signal light with pole complete in all respects	As approved by Chief Engineer (Civil)	Each	1		
163	Providing and laying Jambolon sheet complete in all respect	As approved by Chief Engineer (Civil)	Sq.m	294.282		
Sub Total (Rs.)						
Discount (if any)						
Total (Rs.)						
Note: The above prices are exclusive of Provincial Sales Tax (PST). Contactor will submit the invoice inclusive of Provincial Sales Tax. Provincial Sales Tax shall be charged by the Contactor and payments will be subject to the Income Tax and Sales Tax Withholding as per rules mentioned in Federal or Respective Provincial Laws. Copy of Sales Tax Return will be provided by the Contractor.						

Appendix-E to Bid Sheet 1 of 2

PROPOSED CONSTRUCTION SCHEDULE

Pursuant to Sub-Clause 43.1 of the General Conditions of Contract, the Works shall be completed on or before the date stated in Appendix-A to Bid. The Bidder shall provide as Appendix-E to Bid, the Construction Schedule in the bar chart (CPM, PERT or any other to be specified herein) showing the sequence of work items and the period of time during which he proposes to complete the Works including the activities like mobilization, survey for staking, Civil Works (Foundations, superstructure, finishing, electrical & plumbing works, external infrastructure works), Erection of Towers, Stringing, OPGW Splicing, testing and commissioning of Works to be executed under the Contract. It shall include but not limited to the following:

Sr. No.	Description of Work	Period in months from the effective date of contract
1.	Establishment of site office	
2.	Erection a) Commencement b) Completion	
3.	Testing & Pre-commissioning a) Commencement b) Completion	
4.	Commissioning	

To provide the accumulative effective of the activities per month, the bidder shall also provide the graph/ chart as following:

Sr. No.	Description	Months (16)															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Signing of contract																
2.	Commencement																
3.	Mobilization																
4.	Layout Survey																
5.	Substructure																
6.	Superstructure																
7.	Mechanical, Electrical & Plumbing Works																
8.	Finishing Works																
9.	Infrastructure works																
10.	Landscaping																

The proposed program of Works shall base on the Schedule of Implementation (**16 months**) as per Bidding Documents.

Appendix-E to Bid**Sheet 2 of 2**

Note: The bidder shall also indicate the construction crews employed to achieve the completion target for the following:

Type of Crews	No. of Crew employed	Expected Progress/month/crew*
Layout Survey		
Excavation Works		
Concreting Works		
Steel Woks		
Masonry Works		
Plaster Works		
Tile/Marble Works		
Plumbing Works		
Electrical Works		
Mechanical Works		
Paint Works		
Wood Works		
Aluminum/Glass Works		
Furniture Works		
Landscaping Works		

*Mention the required time per structure of a crew to complete a certain activity e.g., foundation, excavations, filling, structure works, MEP works, finishing Works etc.

Note: The Engineer while making his determination for extension of time under this clause will take due consideration of the (committed) resources to be deployed by the Contractor at site in accordance with this appendix

Appendix-F to Bid**METHOD OF PERFORMING THE WORK**

The Bidder is required to submit a narrative outlining the method of performing the Work. The narrative should indicate in detail and include but not be limited to:

1. Organization Chart indicating head office and field office personnel involved in management and supervision, engineering, equipment maintenance and purchasing.
2. Detailed Work Plan depicting the detail of activity (at least level-04) and the expectation of cash flows.
3. Mobilization in Pakistan, the type of facilities including personnel accommodation, office accommodation, provision for maintenance and for storage, communications, security and other services to be used.
4. The method of executing the Works, the procedures for installation of equipment and machinery and transportation of equipment and materials to the site.
5. Quality control / Quality assurance measures to be adopted including procedures to be followed for carrying out all tests required under specifications.

Note: *The Engineer while making his determination for extension of time under this clause will take due consideration of the (committed) resources to be deployed by the Contractor at site in accordance with this appendix*

Appendix-G to Bid**Personnel****Form PER – 1: Proposed Personnel**

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section 2. The data on their experience should be supplied using the Form below for each candidate.

1.	Title of position
	Name
2.	Title of position*
	Name
3.	Title of position*
	Name
4.	Title of position*
	Name
5.	Title of position*
	Name

Form PER - 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Fields with asterisk (*) shall be used for evaluation.

Position*		
Personnel information	Name	Date of birth
	Professional qualifications	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From*	To*	Company, Project, Position and Relevant Technical and Management Experience*

Note: The Engineer while making his determination for extension of time under this clause will take due consideration of the (committed) resources to be deployed by the Contractor at site in accordance with this appendix

Appendix-H to Bid**EQUIPMENT****Form EQ – 1: List of Major Equipment – Related Items**

The Bidder will provide on Sheet 2 of this Appendix a list of all major equipment and related items, under separate heading for items owned, to be purchased or to be arranged on lease by him to carry out the Works. The information shall include make, type, capacity, and anticipated period of utilization for all equipment which shall be in sufficient detail to demonstrate fully that the equipment will meet all requirements of the Specifications. The list of major equipment for construction works of the project should be addressed under the following categories:

a) Surveying & Levelling

- i. Total Station
- ii. Auto Level

b) Excavation & Compaction Works

- i. Excavators
- ii. Compactors
- iii. Dumpers
- iv. Water Bozers
- v. Field Density Test Equipment

c) Concreting

- vi. Concrete Mixers & Tower Buckets
- vii. Conveyors/Transit Mixers
- viii. Vibrators
- ix. Slump Cone Test Apparatus
- x. Water Quality Test Kits
- xi. Laser Thermometers
- xii. Compressive Test Machine

d) Scaffolding & Form Works

- i. Scaffolding Pipes, Beams & Clamps
- ii. Shuttering Plates

e) Plumbing Works

- i. Pressurizers & Gauges

f) Electrification

- i. Earthing Test Tools
- ii. Multimeters

g) Asphalt Concrete

- i. Asphalt Paver Machine
- ii. Asphalt Concrete Mixers
- iii. Asphalt Compactors
- iv. Asphalt Test Apparatus

h) Steel Works

- i. Cutting Tools
- ii. Bending Tools
- iii. Vernier Calipers/Scale Gauges

Note: *The Engineer while making his determination for extension of time under this clause will take due consideration of the (committed) resources to be deployed by the Contractor at site in accordance with this appendix*

Form EQ – 2: List of Major Equipment

a) Owned b) To be Purchased or c) To be Arranged on Lease	Description of Unit (Make, Model, Year)	Capacity /Rating	Condition	Present Location or Source	Date of Delivery at Site	Period of Work on Project
1	2	3	4	5	6	7
Total Station a. Owned b. To be Purchased c. To be Leased						
Auto Level a. Owned b. To be Purchased c. To be Leased						
Excavators a. Owned b. To be Purchased c. To be Leased						
Compactors a. Owned b. To be Purchased c. To be Leased						
Dumpers/Trollers a. Owned b. To be Purchased c. To be Leased						
Water Bozers a. Owned b. To be Purchased c. To be Leased						
FDT Apparatus a. Owned b. To be Purchased c. To be Leased						
Concrete Mixers a. Owned b. To be Purchased c. To be Leased						
Conveyors/Transit Mixers a. Owned b. To be Purchased c. To be Leased						

Vibrators a. Owned b. To be Purchased c. To be Leased						
Slump Test Apparatus a. Owned b. To be Purchased c. To be Leased						
Water Quality Kits a. Owned b. To be Purchased c. To be Leased						
Thermometers a. Owned b. To be Purchased c. To be Leased						
Compressive Test Machine a. Owned b. To be Purchased c. To be Leased						
Scaffolding Pipes, Beams & Clamps a. Owned b. To be Purchased c. To be Leased						
Shuttering a. Owned b. To be Purchased c. To be Leased						
Line Pressurizers & Gauges a. Owned b. To be Purchased c. To be Leased						
Earthing Test Tools a. Owned b. To be Purchased c. To be Leased						
Multimeters a. Owned b. To be Purchased c. To be Leased						

Asphalt Paver Machine a. Owned b. To be Purchased c. To be Leased						
Asphalt Concrete Mixers a. Owned b. To be Purchased c. To be Leased						
Asphalt Compactors a. Owned b. To be Purchased c. To be Leased						
Asphalt Test Apparatus a. Owned b. To be Purchased c. To be Leased						
Steel Cutting & Bending Tools a. Owned b. To be Purchased c. To be Leased						
Vernier Calipers/ Gauge Scales a. Owned b. To be Purchased c. To be Leased						
a. Owned b. To be Purchased c. To be Leased						
a. Owned b. To be Purchased c. To be Leased						
a. Owned b. To be Purchased c. To be Leased						
a. Owned b. To be Purchased c. To be Leased						
a. Owned b. To be Purchased c. To be Leased						

Appendix-I to Bid**CONSTRUCTION CAMP AND HOUSING FACILITIES**

The Contractor in accordance with Clause 34 of the Conditions of Contract shall provide description of his construction camp's facilities and staff housing requirements.

The Contractor shall be responsible for pumps, electrical power, water and electrical distribution systems, and sewerage system including all fittings, pipes and other items necessary for servicing the Contractor's construction camp.

The Bidder shall list or explain his plans for providing these facilities for the service of the Contract as follows:

1. Site Preparation (clearing, land preparation, etc.).
2. Provision of Services.
 - a) Power (expected power load, etc.).
 - b) Water (required amount and system proposed).
 - c) Sanitation (sewage disposal system, etc.).
3. Construction of Facilities
 - a) Contractor's Office. Workshop and Work Areas (areas required and proposed layout, type of construction of buildings, etc.).
 - b) Warehouses and Storage Areas (area required, type of construction and layout).
 - c) Housing and Staff Facilities (Plans for housing for proposed staff, layout, type of construction, etc.).
4. Construction Equipment Assembly and Preparation (detailed plans for carrying out this activity).
5. Other Items Proposed (Security services, etc.).
6. Detail of testing Lab with testing equipment etc.

Appendix-J to Bid

ORGANIZATION CHART

**FOR THE
SUPERVISORY STAFF AND LABOR**

Appendix-K to Bid**LIST OF SUBCONTRACTORS**

I/We intend to subcontract the following parts of the Work to subcontractors. In my/our opinion, the subcontractors named hereunder are reliable and competent to perform that part of the work for which each is listed.

Enclosed are documentation outlining experience of subcontractors, the curriculum vitae and experience of their key personnel who will be assigned to the Contract, equipment to be supplied by them, size, location and type of contracts carried out in the past.

Part of Works (Give Details)	Subcontractor (With Complete Address)
1	2

Note: - The subcontractor will not be replaced without prior approval of the Employer.

Appendix-L to Bid**SOURCES OF MATERIAL
LIST OF MATERIALS LIKE CEMENT, REINFORCING STEEL**

The bidder shall list in this Schedule the names of materials such as cement, reinforcing steel, bricks, sand & crush which he intends to procure in connection with this Contract along with the names and complete addresses of the sources.

Name of Goods/Material/ Equipment	Name of Factory	Address

Use additional sheets if required.

Appendix-M To Bid**ESTIMATED PROGRESS PAYMENTS**

Bidder's estimate of the value of work which would be executed by him during each of the periods stated below, based on his Program of Works and the Rates in the Schedule of Prices,

Period	Amounts (Rs.)
1 st Month	
2 nd Month	
3 rd Month	
4 th Month	
5 th Month	
6 th Month	
7 th Month	
8 th Month	
9 th Month	
10 th Month	
Total Bid Price	

Initials of Signatory to Bid:

Appendix-N to Bid**DEVIATIONS****Form D1-Deviations from Contractual Conditions**

Deviations if any, which the bidder has taken to the Contractual Conditions in preparation of his bid, must be listed below.

Sr. No.	Clause No. /Section No.	Deviations
---------	-------------------------	------------

Note: Attach additional sheets, if necessary.

Form D2-Deviations from Technical Conditions

Deviations if any, which the bidder has taken to the Technical Provisions in preparation of his bid, must be listed below.

Sr. No.	Clause No. /Section No.	Deviations
---------	-------------------------	------------

Note: Attach additional sheets, if necessary.

Appendix-O to Bid**INTEGRITY PACT****DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC.
PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS
IN CONTRACTS WORTH RS. 10.00 MILLION OR MORE**

Contract No. _____ Dated _____
Contract Value: _____
Contract Title: _____

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respects of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Buyer:
Signature:
[Seal]

Name of Seller/Supplier:
Signature:
[Seal]

Appendix-P to Bid**BIDDER'S QUALIFICATION FORMS**

QF-1	General Information
QF-2	Construction Experience
QF-3	Performance Certificate
QF-4	Current Contract Commitments
QF-5	Financial Data
QF-6	Annual Turnover Data
QF-7	Financial Resources
QF-8	Bank Certificate
QF-9	Pending Litigation

Note: -

1. These forms shall be filled up and furnished by the Bidder and its Joint Venture partner(s), if any.
2. If necessary, additional sheets may be added to the forms. Each page of each form should be clearly marked in the right top corner as follows: Form QF1, page 1; Form QF1, page 2, etc.
3. Some forms will require attachments. Such attachments should be clearly marked as follows: Attachment 1 to Form QF1, Attachment 2 to Form QF1, etc.

Form QF-1: General Information

Bidder and its Joint Venture Partner(s) and/or Subcontractors are requested to complete the information in this form. Nationally information of Bidders should also be provided.

1.	Name of Bidder	
2.	Head office address	
3.	Local office address (if any)	
4.	Telephone	Contract
5.	Facsimile	e-mail
6.	Place of incorporation/registration	Year of incorporation/registration
7.	Main lines of Business 1. 2. 3. 4.	Since: Since: Since: Since:

Note:

Copies of following credentials shall be attached:

- (a) Copy of incorporation/registration certificate
- (b) Organization chart
- (c) PEC registration certificate in the appropriate category

Signature and Seal of Bidder:

Form QF-2: Construction Experience

Note: To be filled in accordance with criteria described in clause IB3.1 (b) Section-II of the bidding documents

(For a period of Last 10 Years)

Name of the Project:

Order Placed by (full address of Employer)	Order No. and date	Description of Works	Value of order	Date of completion as per contract	Date of actual completion	Remarks indicating reasons for late completion, if any	Has the project been running satisfactorily? (Attach a certificate from the Employer)	Contact person along with Telephone No., Fax No. and email address

Signature and Seal of the Bidder.....

Place:

Date:

Form QF-3: Performance Certificate

It is to certify that M/s. _____ has conducted the following works against mentioned project.

Sr.No.	Contract No. & Date	Designation & address of order placing authority/User	Name of Project	Description of Works	Date of Commencement	Date of Completion

The above services/Works have been performed against our Project and their performance is found satisfactory.

Date of issuing _____

Signature of issuing authority with seal
Name and designation of issuing authority
Address along with Email, Phone No. and
Fax of issuing authority

Note:

- i. In case of those bidders who have provided services to NGC shall furnish the details of such works in the above Performa which shall be signed by their authorized signatory along with seal and certificate is not required from the Employer in this respects.

In case the performance certificate is not verifiable through the given contact address and email, the bid may be rejected.

Form QF-4: Current Contract Commitments

Bidders (or each Joint Venture partner) should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Current Contract Commitments							
No.	Name of Contract	Employer's Contact (Address, Tel, Fax)	Total Contract Value	Contract Completion Date	Outstanding Contract Value (X) ^a	Remaining Contract Period in months (Y) ^b	Monthly Financial Resources Requirement (X/Y)
1							
2							
3							
4							
Total Monthly Financial Requirement for Current Contract Commitments							PKR

^a Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline (\$ equivalent based on the foreign exchange rate as of the same date).

^b Remaining contract period to be calculated from 28 days prior to bid submission deadline.

^c The monthly commitments calculated from above table will be multiplied with a factor (proposed "3") to calculate the total commitments for 03 months.

Form QF-5: Financial Data

Financial Data for Previous 5 Years					
Particular					
Total Assets					
Total Liabilities					
Net Worth					
Current Assets					
Current Liabilities					
Information from Income Statement					
Total Revenues					
Profits Before Taxes					
Profits After Taxes					
Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three years, as indicated above, complying with the following conditions.					
• All such documents reflect the financial situation of the Bidder and not sister or parent companies. • Historic financial statements must be audited by a certified accountant. • Historic Financial statements must be complete, including all notes to the financial statements. • Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).					

Signature and Seal of the bidder:

Form QF-6: Annual Turnover Data

Name of Bidder/Joint Venture Partner:

Bidder and its Joint Venture Partner(s) are requested to complete the information in this form separately. The information supplied should be the annual turnover of the Bidder, in terms of the amounts billed to clients for each year for work in progress or completed. In case of a joint venture, a copy of the Joint Venture Agreement must be attached. The average Annual Turnover may include turnover of affiliates and subsidiaries to the extent of shareholding percentage of bidding company provided the turnover is accrued from similar business activity as the bidding company.

Use a separate sheet for bidder and its Joint Venture partner(s).

Annual turnover data for the following last five (05) fiscal years			
Year	Amount Currency	Exchange Rate	Equivalent Amount (in the currency of Bid)
Average Annual Turnover			

Signature and Seal of Bidder:

Form QF-7: Financial Resources

Form FIN – 3: Availability of Financial Resources

Bidders shall specify proposed sources of financing, such as liquid assets, lines of credit and other financial means to meet the Bidder's financial requirements for

- (a) its current contract commitments calculated on three (03) months basis, and
- (b) the subject contract.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Resources		
No.	Source of financing	Amount
1	Liquid Assets	
2	Credit Line ^a	
3	Other Financial Resources	
Total Available Financial Resources		

^a To be substantiated by a letter from the bank issuing the line of credit.

[Note: No credit line after opening of bids shall be acceptable. Any withdrawal of the credit lines from the bidder's creditors during validity of bid shall be considered a withdrawal of bid]

Form QF-8: Bank Certificate

This is to certify that M/s..... is a reputed company with a good financial standing.

If the contract for the work, namely,..... is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs..... to meet their working capital requirements for executing the above contract.

Signature of Senior Bank Manager:_____

Name of the Senior Bank Manager:_____

Address of the Bank:_____

Stamp of the Bank

Note: Certificate should be on the letter head of the bank.

▪ **Change the text as follows for Joint Venture:**

This is to certify that M/s..... who has formed a JV with M/s.....and M/s.....for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely,..... is awarded to the above Joint Venture, we shall be able to provide overdraft/credit facilities to the extent of Rs..... to M/s..... to meet the working capital requirements for executing the above contract.

[This should be given by each of the JV members in proportion to their financial participation.]

Form QF-9: Pending Litigation

Each Bidder or member of a JV must fill in this form

Pending Litigation					
Year	Name of Other Party(s)	Matter of Dispute	Litigation where (Court/ arbitration)	Amount involved	Value of pending claim as a %age of net worth

Signature and Seal of the bidder:

STANDARD FORMS

BID SECURITY (Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with address _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address: _____

Guaranteed Amount/Sum of Security Rupees _____ (Rs. _____)

Bid Reference No. _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto _____ (Hereinafter called the 'Employer') in the sum stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying Bid dated ____ for Bid No. ____ for ____ (Particulars of Bid) to the said Employer; and

WHEREAS, the Employer has required as a condition for considering said Bid that the Bidder furnishes a Bid Security in the above said sum to the Employer, conditioned as under:

- (1) That the Bid Security shall remain in force up to and including the date 28 days after the deadline for validity of bids as stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Surety is hereby waived;
- (2) That the Bid Security of unsuccessful Bidders will be returned by the Employer after expiry of its validity or upon signing of the Contract Agreement; and
- (3) That in the event of failure of the successful Bidder to execute the proposed Contract Agreement, involvement in Corrupt and/or fraudulent practices and/or furnish the required Performance Security, the entire said sum be paid immediately to the said Employer pursuant to Clause 19.6 of the Instructions to Bidders for the successful Bidder's failure to perform.

NOW THEREFORE, if the successful Bidder shall, within the period specified therefor, on the prescribed form presented to him for signature enter into a formal Contract with the said Employer in accordance with his Bid as accepted and furnish within fourteen (14) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Employer for the faithful performance and proper fulfillment of the said Contract or in the event of non-withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Surety shall forthwith pay the Employer the said sum upon first written demand of the Employer (without cavil or argument) and without recourse to the Principal or any other third party in the necessity any proceeding whatever judicial or otherwise irrespective of any dispute, difference or disagreement between the Bidder and the Employer or contestation by any other party/person. We agree that for the purpose of this Bid Bond, the Employer shall be the sole and exclusive judge for determining whether events listed in ____ above have occurred and any written demand made in the manner stipulated herein by the Employer shall be conclusive evidence of the occurrence of one or more of the events listed above. We shall at all times be bound to the first written demand of the Employer to pay the Employer forthwith the amount hereby agreed and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling the said requirements and the Surety shall pay without

objection the said sum upon demand from the Employer forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS, WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

Witness:

Guarantor (Bank)

1. _____

Signature _____

Corporate Secretary (Seal)

Name _____

Title _____

2. _____

Name, Title & Address

Corporate Guarantor (Seal)

Name, Title & Address

FORM OF PERFORMANCE SECURITY
(Bank Guarantee)

Guarantee No. _____

Executed on _____

Expiry date _____

Guarantee Amount _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address:

(Scheduled Bank in Pakistan)

Name of Principal (Supplier or Contractor) with address:

Guaranteed Amount/Sum of Security against services/works/contracts (express in words and figures) _____.

(Hereinafter referred to as the "Bank/Guarantor" which expression shall be deemed to include its respective successors-in-interest and assignee and shall be deemed as well to include any financial institutions which may subsequently become the party).

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the _____ (hereinafter called the Employer) in the Guaranteed Amount/Sum stated above for the payment of which sum well and truly to be made to the said Employer, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has accepted the Employer's above said Letter of Acceptance for

_____ (Name of Contract) for the _____
_____ (Project detail etc.)

NOW THEREFORE, if the Principal (Supplier or Contractor as applicable) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents to which reference is here made for all purposes during the original terms of the said Documents and any extensions thereof that may be granted by the Employer, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till the issuance of Warranty Certificate in accordance with Clause ____, Warranty, of Conditions of Contract.

Our total liability under this Guarantee is limited to the Sum stated herein above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee which Sum we irrevocably and unconditionally agree to pay immediately upon any request for payment or demand received on which/the end ____ (date), failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby unconditionally, irrevocably and independently guarantee and undertake to pay to the Employer without protest, demur, delay and without reference, notice or recourse to contractor to any other person upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand and hereby expressly waive all rights to deny our obligation to the Employer irrespective of any dispute, difference, ongoing litigation, arbitration proceeding or disagreement between ____ and ____, or contestations by any other party or person, any Sum or Sums up to the :lmount stated above, against the Employer's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall be the sole, exclusive and final judge for deciding whether the Principal has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and any written demand to the Guarantor made in the manners specified above shall be conclusive evidence of failure to comply with, ____ and the Guarantor shall pay without objection any Sum or Sums up to the amount stated above upon first written demand from the Employer forthwith and without any reference to the Principal or any other person.

The Guarantee shall be a continuing security and shall remain in operation until ____ after the expiration, termination of the contract or any extension thereto.

PROVIDED FURTHER THAT until the expiry date of the Guarantee, the Employer shall be entitled to present written demand(s) to the Guarantor in the manner specified above for any amount up to the aggregate Guaranteed Amount. The Guarantor agrees that nothing in this Guarantee shall bar the Employer from presenting multiple written demands to the Guarantor, provided that the amount claimed in the written demand(s) shall not collectively exceed the aggregate Guaranteed Amount.

IN WITNESS, WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and; corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Witness:

Guarantor (Bank)

1. _____

Corporate Secretary (Seal)

Signature _____
Name _____

Title _____

2. _____

Name, Title & Address

Corporate Guarantor (Seal)

FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the "Agreement") made on the _____ day of _____ (month) 20____ between _____ (hereafter called the "Employer") of the one part and _____ (hereafter called the "Contractor") of the other part.

WHEREAS the Employer is desirous that certain Works, viz _____ should be executed by the Contractor and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW this Agreement witnesses as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda, if any, except those parts relating to Instructions to Bidders shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) The Contract Agreement;
 - (b) The Letter of Acceptance;
 - (c) The completed Form of Bid;
 - (d) Special Stipulations (Appendix-A to Bid);
 - (e) The Particular Conditions of Contract;
 - (f) The General Conditions;
 - (g) The priced Bill of Quantities;
 - (h) The completed Appendices to Bid;
 - (i) The Drawings;
 - (j) The Specifications.
 - (k) _____ (any other)
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy defects therein in conformity and in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Contactor

Signature of Employer

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness:

(Name, Title and Address)

(Name, Title and Address)

MOBILIZATION ADVANCE GUARANTEE/BOND

Guarantee No. _____ Date _____

WHEREAS _____ (hereinafter called the 'Employer') has entered into a Contract for

_____ (Particulars of Contract)

with _____ (hereinafter called the 'Contractor').

AND WHEREAS, the Employer has agreed to advance to the Contractor, at the Contractor's request, an amount of Rupees _____ (Rs _____) which amount shall be advanced to the Contractor as per provisions of the Contract.

AND WHEREAS, the Employer has asked the Contractor to furnish Guarantee to secure the mobilization advance for the performance of his obligations under the said Contract.

AND WHEREAS, _____
(Scheduled Bank in Pakistan or Insurance Company acceptable to the Employer)
(hereinafter called the "Guarantor") at the request of the Contractor and in consideration of the Employer agreeing to make the above advance to the Contractor, has agreed to furnish the said Guarantee.

NOW, THEREFORE, the Guarantor hereby guarantees that the Contractor shall use the advance for the purpose of above-mentioned Contract and if he fails and commits default in fulfilment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the Employer for payment not exceeding the aforementioned amount.

Notice in writing of any default, of which the Employer shall be the sole and final judge, on the part of the Contractor, shall be given by the Employer to the Guarantor, and on such first written demand, payment shall be made by the Guarantor of all sums then due under this Guarantee without any reference to the Contractor and without any objection.

This Guarantee shall remain in force until the advance is fully adjusted against payments from the Interim Payment Certificates of the Contractor or until _____ whichever is earlier.

(Date)

The Guarantor's liability under this Guarantee shall not in any case exceed the sum of Rupees _____ (Rs _____).

This Guarantee shall remain valid up to the aforesaid date and shall be null and void after the aforesaid date or earlier if the advance made to the Contractor is fully adjusted against payments from Interim Payment Certificates of the Contractor provided that the Guarantor agrees that the aforesaid period of validity shall be deemed to be extended if on the above mentioned date the advance payment is not fully adjusted.

GUARANTOR

1. Signature _____
2. Name _____
3. Title _____

WITNESS

1. _____

Corporate Secretary (Seal)

2. _____
(Name Title & Address)

_____ Corporate Guarantor (Seal)

Section IV

General Conditions of Contract

SECTION-IV GENERAL CONDITIONS OF CONTRACT

This bidding document follows the FIDIC conditions of contract for construction works. The Conditions of Contract Comprise of two Sections: Section-IV – General Conditions of Contract, and Section-V – Special Conditions of Contract.

All the general Conditions shall be as per the FIDIC documents indicated below. These shall be read along with the Particular Conditions of Contract for interpretation. In case of any discrepancy between these General Conditions of Contract and the Particular Conditions of the Contract of Section-V, the provisions under the latter shall govern.

FIDIC

FEDERATION INTERNATIONALE DES INGENIEURS – CONSEILS

CONDITIONS OF CONTRACT FOR WORKS OF CIVIL ENGINEERING CONSTRUCTION

FOURTH EDITION 1987

Reprinted 1988 with editorial amendments

Reprinted 1992 with editorial amendment

Section V

Special Conditions of Contract

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SPECIAL CONDITIONS OF CONTRACT

(Mandatory Provisions not to be Amended / Substituted except as instructed by PEC)

1.1 Definitions

A. (a) (i) The Employer is: National Grid Company of Pakistan (NGC)

Chief Engineer (MP&M) NGC

8th Floor Shaheen Complex, Edgerton Road Lahore.

Postal Code: 54000

Telephone: +92-42-99202597

Fax number: +92-42-99202173

E-mail: cempm@ntdc.com.pk

(a) (iv) The Engineer is: Chief Engineer (Civil) NGC, 108-Wapda House Lahore.

or any other competent person appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer. Provided always that except in cases of professional misconduct, the outgoing Engineers is to formulate his certifications/recommendations in relation to all outstanding matters, disputes and claims relating to the execution of the Works during his tenure.

The following paragraph is added:

(a)(vi) "Bidder or Tenderer" means any person or persons, company, corporation, firm or joint venture submitting a Bid or Tender.

(b)(v) The following is added at the end of the paragraph:

The word "Tender" is synonymous with "Bid" and the word "Tender Documents" with "Bidding Documents".

The following paragraph is added:

(b)(ix) "Programme" means the programme to be submitted by the Contractor in accordance with Sub-Clause 14.1 and any approved revisions thereto.

(e)(i) The text is deleted and substituted with the following:

"Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works subject to such additions thereto or deductions there from as may be made and remedying of any defects therein in accordance with the provisions of the Contract.

2.1 Engineer's Duties and Authority

With reference to Sub-Clause 2.1(b), the following provisions shall also apply;

The Engineer shall obtain the specific approval of the Employer before carrying out his duties in accordance with the following Clauses:

- (i) Consenting to the sub-letting of any part of the Works under Sub-Clause 4.1 "Subcontracting".
- (ii) Certifying additional cost determined under Sub-Clause 12.2 "Not Foreseeable Physical Obstructions or Conditions".
- (iii) Any action under Clause 10 "Performance Security" and Clauses 21,23,24 & 25 "Insurance" of sorts.
- (iv) Any action under Clause 40 "Suspension".
- (v) Any action under Clause 44 "Extension of Time for Completion".
- (vi) Any action under Clause 47 "Liquidated Damages for Delay" or Payment of Bonus for Early Completion of Works (PCC Sub-Clause 47.3).
- (vii) Issuance of "Taking over Certificate" under Clause 48.
- (viii) Issuing a Variation Order under Clause 51, except:
 - a) in an emergency* situation, as stated here below, or
 - b) if such variation would increase the Contract Price by less than the amount stated in the Appendix-A to Bid.
- (ix) Fixing rates or prices under Clause 52.
- (x) Extra payment as a result of Contractor's claims under Clause 53.
- (xi) Release of Retention Money to the Contractor under Sub-Clause 60.3 "Payment of Retention Money".
- (xii) Issuance of "Final Payment Certificate" under Sub-Clause 60.8.
- (xiii) Issuance of "Defect Liability Certificate" under Sub-Clause 62.1.
- (xiv) Any change in the ratios of Contract currency proportions and payments thereof under Clause 72 "Currency and Rate of Exchange".

(Note: Employer may further vary according to need of the project)

* (If in the opinion of the Engineer an emergency occurs affecting the safety of life or of the Works or of adjoining property, the Engineer may, without relieving the Contractor of any of his duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respects of such instruction, in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.)

2.3 Engineer's Authority to delegate:

The following paragraph is added:

The Manager Civil (Design) & Manager Civil (Construction) shall act as representative of Engineer for providing in house Engineering Services including but not limited to the following:

- a) Review & approval of technical data/ drawings/design
- b) Interpretation of the bidding documents
- c) Review & approval of profile/ plan tabling/ route plan
- d) Foundation designs, review and approvals
- e) Site visits for attending any technical problem if necessary
- f) Resolution of disputes
- g) Review & approval of all technical matters

The following Sub-Clauses 2.7 and 2.8 are added:

2.7 Engineer Not Liable

Approval, reviews and inspection by the Engineer of any part of the Works does not relieve the Contractor from his sole responsibility and liability for the supply of materials, plant and equipment for construction of the Works and their parts in accordance with the Contract and neither the Engineer's authority to act nor any decision made by him in good faith as provided for under the Contract whether to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any of their representatives or employees or any other person performing any portion of the Works.

2.8 Replacement of the Engineer

If the Employer intends to replace the Engineer, the Employer shall, not less than 14 days before the intended date of replacement, give notice to the Contractor, of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.

5.1 Language(s) and Law

- (a) The Contract Documents shall be drawn up in the English language.
- (b) The Contract shall be subject to the Laws of Islamic Republic of Pakistan.

5.2 Priority of Contract Documents

The documents listed at (1) to (6) of the Sub-Clause are deleted and substituted with the following:

- (1) The Contract Agreement (if completed);
- (2) The Letter of Acceptance;
- (3) The completed Form of Bid;
- (4) Special Stipulations (Appendix-A to Bid);
- (5) The Special Conditions of Contract;
- (6) The General Conditions;

- (7) The priced Bill of Quantities;
- (8) The completed Appendices to Bid;
- (9) The Specifications
- (10) The Drawings;

All Drawings and Specifications shall be interpreted in conformity with the Contract and these Conditions. Addendum, if any, shall be deemed to have been incorporated at the appropriate places in the documents forming the Contract. If any ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction which shall be binding.

The Contractor shall be responsible for provision of (13) Nos. Copies of the Contract Agreement free of charge. The documents shall be arranged in the aforementioned sequence and provided to Employer within 10 days of signing of Contract Agreement.

6.1 Custody and supply of Drawings & Documents

The contractor shall supply a soft copy of such drawings in source file and any other format specified by the Engineer.

The following Sub-Clauses 6.6 and 6.7 are added:

6.6 Shop Drawings

The Contractor shall submit to the Engineer for review 3 copies of all shop and erection drawings applicable to this Contract as per provision of relevant Sub-Clause of the Contract.

Review and approval by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and that the Engineer's review or approval shall not relieve the Contractor of any of his responsibilities under the Contract.

6.7 As-Built Drawings

At the completion of the Works under the Contract, the Contractor shall furnish to the Engineer 6 copies and one reproducible of all drawings amended to conform to the Works as built. The price of such Drawings shall be deemed to be included in the Contract Price.

10.1 Performance Security

The text is deleted and substituted with the following:

The Contractor shall provide Performance Security to the Employer in the prescribed form. The said Security shall be furnished or caused to be furnished by the Contractor within 14 days after the receipt of the Letter of Acceptance. The Performance Security shall be of an amount equal to 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall, at the option of the bidder, be in the form of bank guarantee from any Scheduled Bank in Pakistan. The cost of complying with requirements of this Sub-Clause shall be borne by the Contractor.

The following Sub-Clause 10.4 is added:

10.4 Performance Security Binding on Variations and Changes

Performance Security shall remain valid and applicable as interpreted from the conditions of Contract and amendments on account of time/scope/cost/quality variations. Further, In case of a change in Contract Price by a factor of more than 15% on account of reasons stipulated in Clause-55 of Conditions of Contract, the Performance Security shall be liable for revision.

11.1 Inspection of Site

Bidder shall inspect the site, examine and obtain all information required and satisfy himself regarding matters and things such as access to site, communication, transport, right of way, the type and number of equipment and facilities required for the satisfactory completion of work, the quantity of various sections of the work, the availability of local labour, availability and rates of materials, local working conditions, uncertainties of weather, obstructions and hindrances that may arise etc., which may affect the work or cost thereof, before submission of his bid. Ignorance of site conditions shall not be accepted by the owner as basis for any claim for compensation. The submission of a bid by the bidder will be construed as evidence that such an examination was made and any later claims/disputes in regard to rates quoted shall not be entertained or considered by the owner.

If any temporary feeder road within site is considered essential for the proper execution of the work this shall have to be formed by the Contractor at his own cost with the prior approval of the Engineer. The Contractor shall organize his own arrangement to transport his equipment, men and materials in such a manner that the completion period will not be exceeded on any account.

The rates quoted by Bidder shall be based on his own knowledge and judgement of the conditions and hazards involved and shall not be based on any representations to the Engineer.

14.1 Programme to be submitted

The Contractor shall submit a detailed time programme to the Engineer within 28 days after receipt of Letter of Acceptance.

The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations.

Each programme shall be in the form of bar chart or a CPM chart identifying the critical activities and include:

- a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, delivery to Site, construction, erection and testing.
- b) Each of these stages for work by each nominated subcontractor

- c) The sequence and timing of site inspections and tests specified in the Contract, and a supporting report which includes:
 - i) A general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
 - ii) Details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer in accordance with this Sub-Clause.

The period between the Program updates will be 30 days. If the contractor fails to submit an updated program in time, any payment due for his current bills will be withheld till the submission of such programme.

14.3 Cash Flow Estimate to be submitted

The detailed Cash Flow Estimate shall be submitted within 21 days from the date of receipt of Letter of Acceptance

The following Sub-Clause 14.5 is added:

14.5 Monthly Progress Report

During the period of the Contract, the Contractor shall submit to the Engineer not later than the 5th day of the following month, copies of Monthly Progress Reports covering:

- (1) A Construction Schedule indicating the monthly progress in percentage;
- (2) Description of all work carried out since the last report;
- (3) Description of the work planned for the next 56 days sufficiently detailed to enable the Engineer to determine his programme of inspection and testing;
- (4) Monthly summary of daily job record;
- (5) Photographs to illustrate the status of progress on the Site.
- (6) Information about problems and difficulties encountered, if any, and proposals to overcome the same.
- (7) Charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, delivery of material to Site, construction,

erection and testing; and including these stages for work by each nominated Subcontractor.

- (8) The details described in Sub-Clause 35.1 [Return of labor & Contractor's Equipment]
- (9) Copies of quality assurance documents, test results and certificates of Materials.
- (10) List of notices given under Sub-Clause 68.1[Notice to Contractor] and notices given under Sub-Clause 68.2[Notice to Employer & Engineer].
- (11) Safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations.
- (12) Comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

These progress reports will be submitted as per the following distribution list:

- i. *Chief Engineer Civil NGC, 108-WAPDA House, Lahore*
- ii. *Manager Civil, NGC, Wapda House, Lahore*

During the period of the Contract, the Contractor shall keep a daily record of the work progress, which shall be made available to the Engineer as and when requested. The daily record shall include particulars of weather conditions, number of men working, deliveries of materials, quantity, location and assignment of Contractor's equipment.

15.1 Contractor's Superintendence

The Contractor's authorised representative and his other professional engineers working at Site shall register themselves with the Pakistan Engineering Council.

The Contractor's authorized representative at Site shall be authorized to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract.

The following Sub-Clauses 15.2 is added:

15.2 Language Ability of Contractor's Representative

The Contractor's authorized representative shall be fluent in the English language. Alternately an interpreter with ability of English language shall be provided by the Contractor on full time basis.

The following Sub-Clauses 16.3 and 16.4 are added:

16.3 Language Ability of Superintending Staff of Contractor

A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the English language. If the Contractor's superintending staffs is not fluent in English language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

16.4 Employment of Local Personnel

The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour from sources within Pakistan.

The following Sub-Clauses 19.3 and 19.4 are added:

19.3 Safety Precautions

In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the Safety Requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorise or direct and the Contractor shall take or cause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose.

The Contractor shall make, maintain and submit reports to the Engineer concerning safety, health and welfare of persons and damage to property, as the Engineer may from time to time prescribe.

19.4 Lighting Work at Night

In the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night-work is being carried out shall be sufficiently lighted. All arrangement adopted for such lighting shall be to the satisfaction of the Engineer's Representative.

20.4 Employer's Risks

The Employer's risks are:

Notwithstanding anything contained (in GCC 20.4), the Employer shall not be responsible, compensate or bear any kind of risk/liability whatsoever in nature.

21.1 Insurance of Works and Contractor's Equipment

The minimum insurance amounts and deductibles shall be:

- (a) For the Works and Materials: Full value of material.
- (b) For loss or damage to Equipment: Full value of the loss/damage.
- (c) For loss or damage to property (except the Works, Materials, and Equipment) in connection with Contract: Full value of loss/damage to property
- (d) For personal injury or death:
 - i) of the Contractor's employees: In accordance with such applicable laws in Pakistan
 - ii) of other people: In accordance with such applicable laws in Pakistan

21.4 Exclusions

The text is deleted and substituted with the following:

There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by the risks listed under Sub-Clause 20.4 sub paragraph (a) to (h).

25.1 Evidence and Terms of Insurance Covers

In line-04 of paragraph-1, the words “including premium payment plan and paid premium receipts (PPRs)” are added after words “To the Employer”.

Following paragraph is added at the end of existing para to form part of Clause: -

“In case of failure of the Contractor to arrange insurance covers as per required terms before commencement of works, the Employer reserves right to arrange the necessary covers by itself and recover the costs from Contractor’s payments including Interim Payment Certificates and Retention Monies under Clause 60”

25.4 Compliance with Policy Conditions

Delete the text and substitute with the following:

“In the event that the Contractor fails to comply with conditions imposed by the insurance policies affected pursuant to the contract, the Contractor shall indemnify the employer against all losses and claims arising from such failure.”

The following Sub-Clause 25.5 is added:

25.5 Insurance Company

The Contractor shall be obliged to place all insurances relating to the Contract (including, but not limited to, the insurances referred to in Clauses 21, 23 and 24) with either National Insurance Company of Pakistan or any other insurance company operating in Pakistan and acceptable to the Employer.

Costs of such insurances shall be borne by the Contractor.

The Contractor shall procure and submit the insurance cover before Date of Commencement. In case of failure, the contractor shall be fully responsible for any event and loss and shall indemnify as per insurance cover to be arranged. Furthermore, the Employer also reserves the right to procure the insurance policies at risk and cost of the Contractor.

The following Sub-Clause 31.3 is added:

31.3 Co-operation with other Contractors

During the execution of the Works, the Contractor shall co-operate fully with other contractors working for the Employer at and in the vicinity of the Site and also shall provide adequate precautionary facilities not to make himself a nuisance to local residents and other contractors.

The following Sub-Clauses 34.2 to 34.12 are added:

34.2 Rates of Wages and Conditions of Labour

The Contractor shall pay rates ofⁱ wages and observe conditions of labour not less favourable than those established for the trade or industry where the work is carried out. In the absence of any rates of wages or conditions of labour so established, the Contractor shall pay rates of wages and observe conditions of labour which are not less favourable than the general level of wages and conditions observed by other employers whose general circumstances in the trade or in industry in which the Contractor is engaged are similar.

34.3 Employment of Persons in the Service of Others

The Contractor shall not recruit his staff and labour from amongst the persons in the services of the Employer or the Engineer; except with the prior written consent of the Employer or the Engineer, as the case may be.

34.4 Housing for Labour

Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such housing accommodation and amenities as he may consider necessary for all his supervisory staff and labour, employed for the purposes of or in connection with the Contract including all fencing, electricity supply, sanitation, cookhouses, fire prevention, water supply and other requirements in connection with such housing accommodation or amenities. On completion of the Contract, these facilities shall be handed over to the Employer or if the Employer so desires, the temporary camps or housing provided by the Contractor shall be removed and the Site reinstated to its original condition, all to the approval of the Engineer.

34.5 Health and Safety

Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour at all times throughout the period of the Contract. The Contractor shall further ensure that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements.

34.6 Epidemics

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for purpose of dealing with and overcoming the same.

34.7 Supply of Water

The Contractor shall, so far as is reasonably practicable, having regard to local conditions, provide on the Site, to the satisfaction of the Engineer or his representative, adequate supply of drinking and other water for the use of his staff and labour.

34.8 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any

such importation, sale, gift, barter or disposal by his Subcontractors, agents, staff or labour.

34.9 Arms and Ammunition

The Contractor shall not give, or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

34.10 Festivals and Religious Customs

The Contractor shall in all dealings with his staff and labour have due regard to all recognized festivals, days of rest and religious and other customs.

34.11 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst staff and labour and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.

34.12 Compliance by Subcontractors

The Contractor shall be responsible for compliance by his Subcontractors of the provisions of this Clause.

35.1 Returns of Labour and Contractor's Equipment

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking Over Certificate for the Works.

The following Sub-Clauses 35.2 and 35.3 are added:

35.2 Records of Safety and Health

The Contractor shall maintain such records and make such reports concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe.

35.3 Reporting of Accidents

The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means.

The following Sub-Clause 36.6 is added:

36.6 Use of Pakistani Materials and Services

The Contractor shall, so far as may be consistent with the Contract, make the maximum use of materials, supplies, plant and equipment indigenous to or produced or fabricated in Pakistan and services, available in Pakistan provided such materials, supplies, plant, equipment and services shall be of required standard.

41.1 Commencement of Works

The text is deleted and substituted with the following:

The Contractor shall commence the Works on Site within the period named in Appendix-A to Bid. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.

44.1 Extension of Time for Completion

The Existing Text of the provision is deleted and replaced with the following.

The Contractor shall be entitled subject to Clause 44.2 to an extension of the Time for Completion if and to the extent that completion for the purposes of Clause 43.1& 48.2 is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed) or other substantial change in the quantity of an item of work included in the Contract,*
- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,*
- (c) exceptionally adverse climatic conditions,*
- (d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or*
- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.*

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Clause 44.2. The Engineer shall after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Employer and Contractor accordingly. The Engineer while making his determination for extension of time under this clause will take due consideration of the (committed) resources to be deployed by the Contractor at site in accordance with Appendix-E, F, G & H to bid. While determining each extension of time under this Clause, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

The Engineer shall make his determinations and notify the finalized/approved determination within reasonable time but not later than 90 days after submission of interim/final particulars by the Contractor in pursuance of this Clause as per prevalent SoPs.

46.2 Progress Reports

The Contractor shall submit to Engineer and Employer the daily, weekly, monthly progress reports and cash flow projections on the format approved by the Engineer. The monthly reports shall be submitted within 05 days from completion of the respective month.

The following Sub-Clause 47.3 is added:

47.3 Bonus for Early Completion of Works

No bonus is admissible for the project.

48.2 Taking Over of Sections or Parts

For the purposes of para (a) of this Sub-Clause, separate Times for Completion shall be provided in the Appendix-A to Bid "Special Stipulations".

49.2 Completion of Outstanding Works and Remedying Defects

The following sub-clause is included at end of existing text

- c) Provide detailed Completion Report along with as built data/drawings, material reconciliation reports and Hard and Soft Copies of site records/data to the Engineer for information and approval prior to expiry of Defect Liability Period. One copy shall also be provided to Employer for reference.
- d) Return balance/surplus materials to designated NGC warehouses as per material re-conciliation reports dully approved by the Engineer. All Coordination in allocation and handing over of material will be carried out through Engineer of the Project.

The following Sub-Clause 49.5 is added:

49.5 Extensions of Defects Liability Period

The provisions of this Sub-Clause shall apply to all replacements or renewals of plant and equipment carried out by the Contractor to remedy defects and damage as if the replacements and renewals had been taken over on the date they were completed. The Defects Liability Period for the Works shall be extended by a period equal to the period during which the Works cannot be used by reason of a defect or damage. If only a part of the Works is affected the Defects Liability Period shall be extended only for that part. In neither case shall the Defects Liability Period extend beyond two (2) years from the date of taking over.

“ Variations

The Sub-Clause (a), (b), (c), (d), (e) & (f) are deleted and replaced with following text

- (a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation if and to the extent that change is due to Clause 55.1 and 56.1),
- (b) changes to the quality and other characteristics of any item of work,
- (c) changes to the levels, positions and/or dimensions of any part of the Works,
- (d) omission of any work unless it is to be carried out by others,
- (e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- (f) Changes to the sequence or timing of the execution of the Works.

51.2 Instructions for Variations

At the end of the first sentence, after the word "Engineer", the words "in writing" are added.

52.1 Valuation of Variations

In the tenth line, after the words "Engineer shall" the following is added:

Within a period not exceeding one-eighth of the completion time subject to a minimum of 56 days from the date of disagreement whichever is later.

53.4 Failure to Comply

This Sub-Clause is deleted in its entirety.

54.5 Conditions of Hire of Contractor's Equipment

The following paragraph is added:

The Contractor shall, upon request by the Engineer at any time in relation to any item of hired Contractor's Equipment, forthwith notify the Engineer in writing the name and address of the Owner of the equipment and shall certify that the agreement for the hire thereof contains a provision in accordance with the requirements set forth above.

The following Sub-Clauses 59.4 & 59.5 are added:

59.4 Payments to Nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with Clause 58 [Provisional Sums], except as stated in Sub-Clause 59.5 [Certification of Payments].

59.5 Certification of Payments & Nominated Subcontractors

Before issuing a Payment, Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due

in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- a) submits reasonable evidence to the Engineer, or
- b)
 - i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

Then the Employer may (at his sole discretion) pay direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

60.1 Monthly Statements

In the first line after the word "shall", the following is added:

"on the basis of the joint measurement of work done under Clause 56.1,"

In Para (c) the words "the Appendix to Tender" are deleted and substituted with the words "Sub-Clause 60.11 (a)(6) hereof".

(in case Clause 60.11 is applicable)

The Last Paragraph starting from word "Notwithstanding" and ending with word "Employer" is deleted

60.2 Monthly Payments

In the first line, "28" is substituted by "14".

60.3 Payment of Retention Money

- a) The following text is added at the end:

"In addition to above, for transmission line projects, release of this retention money is subject to issuance of GRN/SRS by In charge of designated NGC Warehouse for balance material of the project as per material reconciliation report along with certification from In charge of the Warehouse of completeness and healthiness of the returned material. The material reconciliation report shall be duly vetted by Chief Engineer (T/L) Design as per as-built profile of the project."

60.10 Time for Payment

No interest is applicable on any delay at the part of the employer. Second Para starting from "In the event of failure" and ending on "under clause 69 otherwise" is deleted.

The following Sub-Clause 60.11 & 60.12 is added:

60.12 Financial Assistance to Contractor

Financial assistance shall be made available to the Contractor by the Employer by providing a Mobilization Advance in the following way:

- (a) An interest-free Mobilization Advance of 10 % of the Contract Price stated in the Letter of Acceptance shall be paid by the Employer to the Contractor in two equal parts upon submission by the Contractor of a Mobilization Advance Guarantee/Bond for the full amount of the Advance in the specified form from a Scheduled Bank in Pakistan.
 - (1) First part within 14 days after signing of the Contract Agreement or date of receipt of Engineer's Notice to Commence, whichever is earlier; and
 - (2) Second part within 42 days from the date of payment of the first part, subject to the satisfaction of the Engineer as to the state of mobilization of the Contractor.
- (b) The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Employer/Engineer.
- (b) The Mobilization Advance shall be adjusted through percentage deductions made at the rate of 10% of the amount of all Interim Payment Certificates until such time as the advance payment has been adjusted; provided that the advance payment shall be completely repaid to the time when 80% of the Contract Price has been certified for payment.
- (c) In case the part of advance payment remains unadjusted before completion of works/issuance of Taking Over Certificate under Clause 60.3, the Contractor shall be bound to pay back the amount to the Employer within 28 days of receipt of notice from Employer. In case of non-receipt of payment, Employer has the right to recover from the balance payments due under the Contract including Retention Monies due under Clause 60.3.
- (d) The Bank Guarantee will remain effective until the advance payment has been full set off. However, such Guarantee shall be progressively reduced by the amount repaid by the Contractor as indicated in Interim Payment Certificates of the Engineer issued in accordance with provisions of this Contract (The amount will be assumed repaid only when the employer has paid the monies against Interim Payment Certificate and not merely on issuance of interim payment certificate). The advance payment shall not be subject to retention.

60.13 Employer's/Engineer's Right to withhold payments

- a) Notwithstanding the terms of Clause 60.2 & 60.3 or any other Clause of the Contract, no amount will be certified by the Engineer for payment/paid by Employer until the Performance Security/Advance Payment Security, if required under the Contract, has been provided by the Contractor, approved by the Employer and is valid for the required duration stated in the Contract Clause 10.2 and 60.12.
- b) In case of Contractor's non-compliance with reporting requirements under Clause-46.2 and insurance requirements under Clause 20 of Conditions of Contract.
- c) If there is any ambiguity in the payment/claim or Interim Payment Certificate, the Employer may withheld the payment to such extent and may process the remaining amount. In such case, the withheld amount may be included in the next Payment Certificate along with clarification for ambiguity pointed out by Employer.
- d) In case of Contractor's non-compliance with the laws/regulations of the tax authorities' (Federal/Provincial), the Employer reserves the right to withhold the payments for ensuring the necessary compliance.

63.1 Default of Contractor

The following para is added at the end of the Sub-Clause:

Provided further that in addition to the action taken by the Employer against the Contractor under this Clause, the Employer may also refer the case of default of the Contractor to Pakistan Engineering Council for punitive action under the Construction and Operation of Engineering Works Bye-Laws 1987, as amended from time to time.

65.2 Special Risks

The text is deleted and substituted with the following:

The Special Risks are the risks defined under Sub-Clause 20.4 sub paragraph (a) to (h).

67.3 Arbitration

In the sixth to eight lines, the words "shall be finally settled appointed under such Rules" are deleted and substituted with the following:

shall be finally settled under the provisions of the Arbitration Act, 1940 as amended or any statutory modification or re-enactment thereof for the time being in force

The following paragraph is added:

The place of arbitration shall be Lahore, Pakistan.

68.1 Notices to Contractor

The following paragraph is added:

For the purposes of this Sub-Clause, the Contractor shall, immediately after receipt of Letter of Acceptance, intimate in writing to the Employer and the Engineer by registered post, the address of his principal place of business or any change in such address during the period of the Contract.

68.2 Notices to Employer and Engineer

For the purposes of this Sub-Clause, the respective addresses are:

a) The Employer:

National Grid Company of Pakistan (NGC)
Chief Engineer (MP&M), NGC,
8th Floor, Shaheen Complex,
Egerton Road, Lahore-Pakistan
Telephone No. 92-42-99202597
Fax No. 92-42-99202173
E-mail address: cepm@ntdc.com.pk

b) The Engineer is:

Chief Engineer (Civil) NGC, 108-Wapda House Lahore Employer's Consultant/
Representative appointed by NGC or any other person appointed by the
Employer.

Phone # 042-99202650

Fax #

E-Mail: cecivil@ntdc.com.pk

69.0 Default of Employer

This clause with all sub clauses is deleted in its entirety.

70.1 Increase or Decrease of Cost

The amounts payable to the Contractor, Pursuant to Sub-Clause 60.1, shall be adjusted in respects of the rise or fall in the cost of labour, materials, and other inputs to the Works, by applying to such amount the formula prescribed in this Sub-Clause.

(a) Other Changes in Cost

To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other Clauses in the Contract, the unit rates and prices included in the Contract shall be deemed to include amounts to cover the contingency of such other rise or fall of costs. In determining the amount of any increase or decrease to the Contract Price pursuant to this section, no account shall be taken of any fluctuation as a result of Government Orders or otherwise in the cost of benefits i.e. bonus, gratuity, education, group insurance, paid holidays, casual leaves, etc. Any increase or decrease in the price of materials which have not been used on the project during that invoice period shall not be considered in the adjustment of the

Contract Price, and the ratio (i.e. Ln/Lo, Cn/Co, Sn/So or Mn/Mo) will be taken as one (1). No price adjustment shall be payable on the portion of the Contract Price paid to the Contractor as an Advance Payment.

(b) Adjustment Formula

The adjustment to the monthly statements in respects of changes in cost shall be determined from the following formula:

$$P_n = a + b (L_n/L_o) + c (C_n/C_o) + d (S_n/S_o) + e (B_n/B_o) + f (M_n/M_o)$$

Where:

P_n is a price adjustment factor to be applied to the amount for the payment of the work carried out in the subject month, determined in accordance with Clause 60.1.

a is a constant, specified in Appendix-Q to Bid, representing the nonadjustable portion in contractual payments;

b, c, d, e & f are weightages or coefficients representing the estimated proportion of each cost element (labour, cement, reinforcing steel, bricks and high-speed diesel) in the Works. The sum of a, b, c, d, e & f shall be one;

L_n, C_n, S_n, B_n & M_n are the current cost indices or reference prices of the cost elements for month "n", determined for the month falling 28 days prior to the last day of the billing period.

L_o, C_o, S_o, B_o & M_o, are the base cost indices or reference prices corresponding to the above cost elements for the month falling 28 days prior to latest day for submission of bids.

(c) Sources of indices and Weightages

The sources of indices shall be those listed in Appendix-M to Bid, as approved by the Engineer. As the proposed basis for price adjustment, the Contractor shall have submitted with his bid the tabulation of Weightages and Source of indices if different than those given in Appendix-M to Bid, which shall be subject to approval by the Engineer.

(d) Base, Current, and Provisional Indices

The base cost indices or prices shall be those prevailing on the day 28 days prior to the latest date for submission of bids. Current indices or prices shall be those prevailing on the day 28 days prior to the last day of the period to which a particular monthly statement is related. It at any time the current indices are not available, provisional indices as determined by the Engineer will be used, subject to subsequent correction of the amounts paid to the Contractor when the current indices become available

(e) Adjustment after Completion

If the Contractor fails to complete the Works within the Time for Completion prescribed under Clause 43, adjustment of prices thereafter until the date of completion of the Works shall be made using either the indices or prices relating to the prescribed time for completion, or the current indices or prices, whichever is more favorable to the Employer, provided that if an extension of time is granted pursuant to Clause 44, the above provision shall apply only to adjustments made after the expiry of such extension of time.

(f) Weightages

The weightages for each of the factors of cost given in Appendix-M to Bid shall be adjusted if, in the opinion of the Engineer, they have been rendered unreasonable, unbalanced, or inapplicable as a result of varied or additional work executed or

instructed under Clause 51, Such adjustment(s) shall have to be agreed in the variation order.

73.1 Payment of Income Tax

The Contractor, Subcontractors and their employees shall be responsible for payment of all their income tax, super tax and other taxes on income arising out of the Contract and the rates and prices stated in the Contract shall be deemed to cover all such taxes.

73.2 Customs Duty & Taxes Provincial Sales Tax

Contractor will submit the invoice inclusive of Provincial Sales Tax. Provincial Sales Tax shall be charged by the contractor and payments will be subject to income tax and sales tax withholding as per Rules mentioned in Federal or Respective Provincial Laws only to those entities appearing in Active Taxpayer list (ATL) for both income and Sales Tax.. Copy of sales tax return will be will be provided by the contractor. In case of non-registration with the relevant provincial authority, the tax will be deducted from the amount due or to be due to the contractor.

74.1 Integrity Pact

If the Contractor or any of his Subcontractors, agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Contractor as Appendix-O to his Bid, then the Employer shall be entitled to:

- (a) recover from the Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Contractor or any of his Subcontractors, agents or servants;
- (b) terminate the Contract; and
- (c) recover from the Contractor any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the Contractor or any of his Subcontractors, agents or servants.

The termination under Sub-Para (b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clauses 63.1 to 63.4 and the payment under Sub-Clause 63.3 shall be made after having deducted the amounts due to the Employer under Sub-Para (a) and (c) of this Sub-Clause.

75.1 Termination of Contract for Employer's Convenience

The Employer shall be entitled to terminate the Contract at any time for the Employer's convenience after giving 56 days prior notice to the Contractor, with a copy to the Engineer. In the event of such termination, the Contractor:

- (a) shall proceed as provided in Sub-Clause 65.7 hereof; and
- (b) shall be paid by the Employer as provided in Sub-Clause 65.8 hereof.

76.1 Liability of Contractor

The Contractor or his Subcontractors or assigns shall follow strictly, all relevant labour laws including the Workmen's Compensation Act and the Employer shall be fully indemnified for all claims, damages etc. arising out of any dispute between the Contractor, his Subcontractors or assigns and the labour employed by them.

77.1 Joint and Several Liabilities

If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfilment of the terms of the Contract and shall designate one of such persons to act as leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.

78.1 Details to be Confidential

The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the decision of the Engineer whose award shall be final.

SECTION VI SPECIFICATIONS

All scope of the works shall be performed in accordance with the WAPDA/ NGC relevant standard specifications (Volume-I to III).



**PAKISTAN
WATER AND POWER
DEVELOPMENT AUTHORITY**



**STANDARD
SPECIFICATIONS** (3 Volumes)

(Material and Execution of Works)

*Rates Cell
Dams & Co-ordination Division WAPDA
WAPDA House
Lahore (Pakistan)*

June, 1998



(SECTION-VI)

Employer's Requirement

SUPPLEMENTARY INFORMATION REGARDING WORKS TO BE PROCURED

1. Acquaintance with Site

The Contractor shall be deemed to have inspected and examined the Grid station Site and its surroundings and information available in connection therewith before submitting his Bid, as to the form and nature thereof, including the subsurface conditions, the hydrological and climatic conditions, the extent and nature of work, goods and materials necessary for the completion of the Work, the means of access to the Site and the accommodation he may require and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Bid.

2. Description Of Project

2.1. The Requirement

It is required that following works should be in accordance with the Contract Documents and drawings:

**CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH
TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION
OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS
AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK,
SHEIKHUPURA.**

2.2. Possession Of Site

Save, in so far as the Contract may prescribe, the extent of portions of the Site of which, the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which work shall be executed, NGC shall, give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed in accordance with the program referred to in Clause 35 of General Conditions of Contract and otherwise in accordance with such reasonable proposals of the Contractor as he shall, by notice in writing to the Employer, make and will, from time to time as work proceeds, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with due dispatch in accordance- with the said programmer or proposals (as the case may be). If the Contractor suffers delay or incurs expense from failure on the part of Employer to give possession in accordance with the terms of this Clause the Employer shall grant an extension of time for the completion of the Work and certify such sum as, in his opinion, shall be fair to cover the expense incurred which sum shall be paid by NGC.

2.3. Location Of Site

The site for construction is located in Sheikhupura.

3. Material And Workmanship

3.1. Material and Workmanship

- a) All materials, manufacture, testing and workmanship of material and Work, shall comply with the requirements of the Contract Documents. Material, Work or parts which are not covered by the Specifications given herein, shall comply with the applicable standards, rules, codes and regulations of the Internationally approved standardizing bodies as indicated in these Contract Documents.
- b) The intent of these Specifications is that the materials and workmanship of Works under this Contract should be equal to or superior than those actually described herein. Reference to a brand or manufacture, if made, is only for the sake of comparison as to type, design, character or quality of the Goods or parts and materials/works described and not be interpreted as eliminating other Goods and materials/works of equal performance, quality and durability.
- c) In choosing materials and their finishes due regard shall be given to the conditions prevailing at Site.
- d) All matters relating as to the acceptability or otherwise of the Goods, Works and materials offered under this Contract shall be decided by the Employer whose decision shall be final.

3.2. Extent of Specifications

The extent of the Contract Documents is to provide for the Work herein specified to be fully complete in every detail for the function designated. All Goods, materials/works, fittings, accessories, apparatus, labour or services which are not specifically mentioned in the Contract Documents, but which, in the opinion of the Employer, are usual or necessary for the satisfactory completion of the Works shall be deemed to be included in the Contract Documents and shall be provided by the Contractor without extra cost to NGC.

4. Work By Contractor (Scope)

4.1. Scope of Work

The scope of the work to be executed under this Contract comprises of but not limited to following: **CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWERS, PATROLLING PATH, SECURITY BARRACKS, RECEPTION OFFICE, DRAINS, SEWERAGE SYSTEM AND ALLIED CIVIL WORKS AT 220KV GRID STATION QUAID-E-AZAM BUSINESS PARK, SHEIKHUPURA** in accordance with the Contract Documents, BOQ and drawings.

- a) For all kinds of civil works, the Contractor shall follow specifications/drawings revised, up to date referred in the bidding documents of this tender but not limited to it.
- b) Any other work not mentioned above but deemed necessary by the contractor or Employer for the completion of the work and its successful/smooth operation will be considered a part of the scope of work under the contract.

-
- c) Design (civil works) of the project is not a part of the scope. As such all the relevant civil work, drawings have been made a part of the bidding document. Any drawing missing will be provided to the successful bidder on if and when required basis.
 - d) The quantities mentioned in the BOQ are estimated quantities and are to be used for bid evaluation purpose only. The actual quantities can vary depending upon the approved design and requirements. However, the unit rates for material and services quoted in the offer shall remain firm and final.

5. Drawings

5.1. Drawings in Contract

5.1.1. Specification Drawings

The specification drawings contained in the Bidding Documents show the scope of Work to be performed by the Contractor. These are only reference drawings.

5.1.2. Tender Drawings

The drawings provided in the tender shall not be used for execution of the Work unless the Employer gives specific instructions/ approval for such use.

5.1.3. Construction Drawings

The Work shall be performed in accordance with the detailed construction drawings. The drawings provided with the bidding document are the reference drawings to be used for filling of BOQ only.

The actual construction / work drawings will be issued by the Engineer (Design office, NGC) to the successful bidder on, "if and when required" basis.

5.1.4. Detail Drawings

All the basic/ scope drawings, specifications, schemes and any other information shall be provided by the Employer to the successful contractor on if and when required basis in due time and in logical order to facilitate proper coordination. However, allied engineering drawings (electrical/mechanical), required for the successful completion of the project shall be responsibility of the contractor, but the contractor will be liable for the Employer's approval before the implementation of such drawings (allied drawings).

5.2. Data Other than Drawings

All of the applicable requirements of this Clause with reference to drawings shall be provided by the Employer and shall apply equally to catalogues, cuts, illustrations, printed specifications, or other data.

5.3. Work Prior to Provision of Drawings by NGC

Any work done prior to the supply of detailed work drawings by the contractor and approval of the same by Engineer/Employer, shall be at the Contractor's risk. The Employer shall have the right to request additional details and to require the Contractor to make any change in the design, which are necessary to conform to the provisions and intent of these Specifications and such changes shall be made without

additional cost to NGC. The supply of drawings by the Employer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. These drawings shall not be held to relieve the Contractor of the obligations to meet all the requirements of these Specifications or of the responsibility for the correctness of the drawings or for correct fit of assembled Goods furnished by NGC.

5.4. Ownership Of Drawings and Data Etc.

All the drawings, details, bill of materials/works and any other information or documents furnished by the Contractor shall become the property of NGC and shall be non-returnable. NGC will have the right to use this property.

6. Reference Drawing Tender Document

6.1. General Notes

- i) The drawings provided in the tender document are only reference drawings and they shall not be used for execution of the Works unless the Employer/ Engineer gives specific instructions/ approval for such use.
- ii) The drawings contained in tender document are the property of NGC / WAPDA and are intended for the purpose of providing information to assist bidders in preparing proposal for bid. Use of these drawings for any purpose other than that intended is prohibited except with the express permission of NGC.
- iii) These drawings are included to define and illustrate the general design specifications detailed/ allied designing shall be the responsibility of the contractor and shall be subjected to the approval of the Engineer.
- iv) Bid drawings are not intended to show all details of material/works and approved drawings shall not be interpreted as indicating any limitation to the scope of works.
- v) The Contractor shall be responsible for ensuring proper functional requirements of the various types of material/works approved by the Engineer, to achieve proper coordination with various components offered in the bid.
- vi) The Contractor shall supply all auxiliary material and devices, which are not listed but are necessary for proper performance of the systems described in the bid drawings and documents.

7. Guidelines Materials & Construction

- 1. Contractor will ensure the application of the Vibrator (Compatible Shaft Size) in all the Concrete Works, especially Structural Concrete by maintaining the required temperature of Concrete
- 2. Availability of Slump Test apparatus, required set of Sieves for conducting Sieve analysis (For Coarse & Fine Aggregate), temperature measuring device etc. shall be maintained at site.
- 3. Curing will be carried out as per specifications for Concrete work, Brick work, Plaster etc.
- 4. Required number of concrete cylinders will be filled as per Wapda General Specification to maintain and check the strength of the Concrete.
- 5. Bar bending schedule shall be submitted by the Contractors & will be verified / approved by the concerned site staff (NGC) before placing of steel.

-
6. Testing of Steel will be carried out from the External laboratory (Cost of test will be borne by the Contractor) as per relevant ASTM Standards as mentioned in the Structural Drawings.
 7. For Earth Work/Backfilling Use of suitable Compacting Equipment shall be insured to get required compaction,
 8. Bricks shall be used from the Approved Sources finalized by the Site Staff.(Minimum Deputy Manager/Civil)
 9. Required Lab testing of Crushing Strength, Absorption Etc. will be carried from the external lab as directed by the Site Staff.(Minimum Deputy Manager/Civil)
 10. Kacha Shuttering/ raw wood batten, shall not be used for structural concreting.
 11. Upon completion of project, contractor will ensure complete removal of all debris resulted during construction work outside the premises of the grid station.
 12. If the drawing is felt silent or any change is noticed at site from design/drawing or any confusion arises in the drawing the matter shall be referred back to design NGC prior to start of work.
 13. 1st 50% security will be released to the contractor after issuance of completion certificate & final 50% security will be released after expiry of Defect Liability Period & issuance of clearance certificate from office of Manager (Civil).
 14. All the arrangement for Water, Electricity etc. will be carried out by contractor himself for execution of work.
 15. In Case of any conflict between above points (1-14) and specifications, Contract provisions will prevail.

(SECTION-VI)
General Guidelines
For Verification & Processing Of Payment, Certificates/Bills (IPCs)
Variation Orders (VOs)

**GENERAL GUIDELINES
FOR VERIFICATION & PROCESSING OF PAYMENT, CERTIFICATES/BILLS
AND MANAGEMENT OF CHANGE (MOC)/VARIATION ORDER**

1. Management of Change/ Variation Orders Procedure:
 - a) Any new item of Construction if deemed necessary to incorporate during execution will be as per the WCSR/MRS rates, keeping in view quoted rates during tenders
 - b) In case the required rate is not available in the WCSR/MRS, a new rate analysis as per the drafting Standard (Templates) will be done by incorporating the current items rates of the material used
 - c) Unapproved variations out of scope of BOQ must not be included in bills without approved variation order.
 - d) Contractor will not delay the work due to delay in approval of variation order.
 - e) A proper variation order (VO) approval request need to be submitted by the Contractor to Consultant / Client with complete details
 - i) Approved Drawings
 - ii) Measurement Sheet
 - iii) Abstract of Cost
 - iv) Rate Analysis (As per standard Format)
 - v) Quotation of the Approved Material
 - f) WCSR/MRS unit rates are required to be used for such variations where applicable.
 - g) Else a detailed rate analysis with scheduled input rates need to be attached.
 - h) Justification of variation/change shall be attached with variation order in lieu of terms and conditions of contract and document proof with pictures must be attached with same.
 - i) Consultant/Employer representative will verify the Variation Order and recommend it to Competent authority for approval with cost impact and justification.
 - j) On approval from Competent authority the consultant/Employer's representative shall issue the Variation Order to Contractor. Such variation items must be mentioned separately from original BOQ in the bill. The approved variation order copy duly signed and stamped need to be attached with bills.
2. Material Test reports as per approved frequency of testing, (with comments of the site staff/Consultant) need to be attached where applicable.
3. Site QA/QC inspection reports duly signed by Consultants/employer's representative showing satisfactory quality works executed need to be attached with bill.

-
4. All papers of IPC must be signed and stamped in original by the Contractor before submission to Consultants/employer's representative for payment.
 5. All cuttings need to be signed by the concerned person.
 6. For claimed quantity of each item, clear calculations based upon actual measurements on site need to be attached in a proper sequence and easy to be checked. Measurement Sheets are also required to be attached with the bill.
 7. Bills should be in proper format and matching to BOQ item listing.
 8. Bills should be prepared and verified in professional manner and in case of multiple IPCs, the cumulative format of IPCs need to be followed.

The Contractor is also required to submit Bill in soft format along with hard copy for reference and compliance.

NATIONAL TRANSMISSION AND DESPATCH COMPANY LIMITED (NTDC)



REVISED SOP FOR BLACKLISTING

(As on 25.02.2019)

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CHAPTER NO.1

1.1 INTRODUCTION

The main objectives of any procurement process are transparency, economy, fairness and efficiency so that value for money is achieved.

Blacklisting is one of the most effective tools used in the struggle against inefficiencies and corruption in connection with public procurement. In addition, it serves as a major deterrent against any material breach of contract and further ensures the timely execution of projects by holding delinquent persons accountable.

Rule-19 "Blacklisting of suppliers and contractors" of the Public Procurement Rules, 2004 (hereinafter "**PPRA Rules**") stipulates that;

"The procuring agencies shall specify a mechanism and manner to permanently or temporarily bar, from participating in their respective procurement proceedings, suppliers and contractors who either consistently fail to provide satisfactory performances or are found to be indulging in corrupt or fraudulent practices. Such barring action shall be duly publicized and communicated to the Authority: Provided that any supplier or contractor who is to be blacklisted shall be accorded adequate opportunity of being heard."

In the light of the Clause above, this SOP has been drafted for procurements made by NTDC.

Any capitalised terms and abbreviations used in this SOP which are not defined herein shall have the meanings given to them in Public Procurement Regulatory Authority Ordinance, 2002 (hereinafter "**PPRA Ordinance**") and PPRA Rules.

1.2 EXTENT OF APPLICATION

- i. The procedure shall be applicable and remain in force, along with any amendments thereto, within NTDC until any clear instructions or guidelines are imparted by the Government through PPRA, PEC, or any other competent forum.
- ii. The procedure shall also be applicable on the pre-qualified firms.
- iii. The procedure shall be applicable on any "Person", which for the purposes of this SOP shall *inter alia* include suppliers, bidders, contractors, consultants, firms, individuals, and organizations transacting business with NTDC.
- iv. Wherever any provision of this SOP shall be in conflict with provisions of any applicable guidelines of donor agencies, or any other applicable Statute / Law or Rule enforced at the time in Pakistan, the provisions of such applicable guidelines, laws, or rules shall prevail.

-
- v. This SOP shall become a part of the future Bidding Documents and the person(s) will submit an Undertaking along-with his bid that he has read and accepts the provisions of this SOP. Non-submission of an Undertaking may result in rejection of his bid. The said Undertaking will subsequently become part of the Contract Agreement as well.

CHAPTER NO. 2

2. REASONS OF BLACKLISTING

2.1 The causes and reasons to be taken into consideration for Debarment / Blacklisting of any person are given as under:

2.1.1 Pre- Award Stage:

The following shall be considered, *interalia*, the causes / reasons for initiating proceedings under this SOP at the Pre-Award Stage:

- i. Indulging in Corrupt, Fraudulent as well as Collusive practices.
- ii. Submission of false and spurious documents, making false statements, making frivolous complaints and allegations to gain undue advantage.
- iii. Commission of embezzlement, criminal breach of trust, theft, cheating, forgery, bribery, falsification or destruction of records, receiving stolen property, false use of trademark, securing fraudulent registration, giving false evidence, furnishing of false information of serious nature.
- iv. Submission of false bid security or infringement of documents to get undue monetary or any other benefit.
- v. Breach of confidentiality of evaluation process as mentioned in Appendix-1 based on illegal access or in any way to get undue benefit or to provide benefit or to frustrate the bidding/evaluation process. This will also include attempts to sabotage the bidding process directly or indirectly.

2.1.2 Post- Award Stage:

The following shall be considered, *interalia*, the causes / reasons for initiating proceedings under this SOP at the Post-Award Stage:-

- i. Extraordinary delay in signing or refusal to accept the Notification of Award and/or the contract without any cogent reason.
- ii. Misconduct, i.e., failure to proceed with the signed contract, withdrawal of commitments, quoting an unreasonably and unfairly low financial offer and subsequently withdrawing such an offer, frustrating the evaluation/bidding process and not responding to written communication in a reasonable time.
- iii. Causes mentioned in Clause 2.1.1 (i, ii & iii) above.
- iv. Submission of fake / frivolous or mutilated Performance Guarantee or Advance Payment Guarantee etc.

- v. Non-satisfactory performance as mentioned in Appendix-2 during the execution of the contract.
- vi. Non-performance or Breach of provisions / clauses of the contract agreements.
- vii. Notwithstanding the warranty/defect liability period, any defect in a product, equipment, plant, facility or services rendered that may subsequently surface during field operations within 5 years of its commissioning.
- viii. Failure to honour obligations within warranty period or defect liability period as defined in the contract.

2.1.3 Other Causes

- i. The person is blacklisted by any Government department in Pakistan, or it is established that the firm is involved in any kind of corruption or corrupt practices anywhere in the world.
- ii. Violations of provisions / instructions set down in the Bidding Documents.
- iii. Any attempt / activity to malign or bring NTDC into disrepute and harm its interest(s).
- iv. Person(s) blacklisted by International Financial Institutions (donor agencies) will be liable to be blacklisted after receipt of confirmation from the donor agencies without any further proceeding.
- v. Any other cause deemed just and appropriate by NTDC in the given circumstances.

Note:

- (1) If above mentioned causes occur either on part of the principal bidder or the local agent, both shall be considered for blacklisting / debarment.
- (2) The authorization of the foreign bidder to local agent shall contain his complete particulars including the name of the company, name of the owner, National Tax number (NTN), CNIC (Computerized National Identity Card) No. etc. In case, the said information is found to be missing, even after calling for the same within a reasonable time, the authority letter shall not be accepted.
- (3) The Bidding Documents shall be issued against original authority letter or in case of scanned copy, the email of the foreign bidder shall be enclosed. However, at the time of bidding, the original authority letter shall be attached with the bid. In the absence of the same, the bid shall be rejected.

CHAPTER NO. 3

3. FORMULATION OF "NTDC'S RIGHTS PROTECTION COMMITTEE"

- 3.1 A permanent Committee namely "NTDC's Rights Protection Committee (RPC or Committee)" comprising of the following members shall examine the justification of the reasons given by the Project Authority prior to blacklisting / debarment of any firm/supplier/contractor/ individual.

- | | |
|--|----------|
| • General Manager (Performance Assessment) NTDC | Convener |
| • Chief Engineer (Reliability Compliance) NTDC | Member |
| • Representative of the Chief Law Officer's Office | Member |

Depending upon the nature of the case, the Committee may consult or appoint / nominate additional members from within NTDC with the approval of Managing Director (NTDC), provided that the Committee consists of an odd number of individuals as per spirit of Rule 48(1) of the PPRA Rules. Independence of any additional members shall be ensured while making the selection of such additional members. Furthermore, the aforementioned RPC shall also be authorized to seek external expert advice as and when required.

CHAPTER NO. 4

4.1 PROCEDURE FOR BLACKLISTING

Upon receipt of or obtaining information and/or knowledge that any person(s) is involved in practices mentioned in Chapter-2 earlier, the concerned Project Authority / formation shall promptly formulate its recommendations and submit through MD NTDC to NTDC RPC along with its findings, details of charges and documentary evidences to initiate proceedings under this SOP.

4.2 INITIATION OF AN ACTION

- (i) Within a period of 15 days after receiving the recommendations of Blacklisting / Debarment from the concerned Project Authority, the Convener of the Committee shall issue a Show Cause Notice ("Notice") thereby informing the Person about the alleged charges and shall provide an opportunity to the defend said charges within a time period of 15 (fifteen) days.
- (ii) The person(s) shall be accorded adequate opportunity of hearing in order to defend the charges within the given timelines.
- (iii) The Notice to the Person shall be sent at the mailing/postal address as provided under the Contract or any other address provided by way of subsequent written communication by the Person. The non-receipt of the Notice due to incorrect / change in mailing address without any written communication shall not be attributable to NTDC. In case of non-receipt of any reply from the accused person within the formulated time, but not less than the time given in 4.2 (i) above, the Committee shall have the right to proceed on Ex-parte basis.

4.3 DECISION

- i. The committee shall hold an independent inquiry/investigation as the case may be, and, which may include site visits and interviews with the parties concerned. The Committee shall complete the entire inquiry/investigation, preferably within a period of 30 days after receipt of response from the person against whom proceedings under this SOP have been initiated and shall present the report to the MD NTDC.

- ii. If required, the Committee may report the case to an appropriate law enforcement agency depending upon the nature of the case for detailed investigations with the prior approval of Managing Director (NTDC).
- iii. The person against whom proceedings have been initiated under this SOP shall not proceed for arbitration/litigation during the proceedings for blacklisting.

4.4 COMMUNICATION OF DECISION

After recommendation for blacklisting by "NTDC's Rights Protection Committee (RPC)", the person concerned shall be informed within 10 days of such decision. The decision of the Committee will be notified on NTDC's and PPRA's websites and shall also be conveyed to Pakistan Engineering Council. Blacklisting of firms shall also be conveyed by circular to other Government Departments. All other relevant procuring agencies including PEPCO, DISCOs, and WAPDA, etc., will also be informed simultaneously.

4.5 PERIOD OF DEBARMENT FOR BLACKLISTED FIRMS

- (i) The Blacklisting on the grounds and reasons specified herein above in Chapter No. 2 shall be for a reasonable specified period of time and as a general rule of prudence, the period may not exceed three years, except in cases where debarment/blacklisting has been done by any other government department or an International Financial Institution (Donor Agency).
- (ii) In case the person has been blacklisted by the government department or the International Financial Institution (donor agency), the period of blacklisting/debarment shall be for a maximum period of 3 years or the time period for which the concerned government department/International Financial Institution (Donor Agency) debarred the contractor (whichever is higher).

4.6 ACTION AFTER PERSONS ARE PLACED ON BLACKLISTING LIST.

- i. The decision of blacklisting will be immediately circulated to all concerned as mentioned at Clause 4.4 above.
- ii. In case of a contract already awarded to a person which has been blacklisted and termination is either not possible or not feasible, the concerned Project Authority may proceed in this case to complete the contract with the approval of Competent Authority.
- iii. The blacklisted person shall stand disqualified from bidding from the date of decision against them. Any pending bids shall also stand rejected. If a contract has

already been awarded to person, it shall be voidable at the option of NTDC as per 4.6 (ii) above.

- iv. A separate register or data base will be maintained for blacklisted firms indicating reasons and period.

4.7 EFFECTIVENESS

These guidelines / SOP or any amendments thereof shall take effect immediately after its approval from Board of Directors of NTDC.

APPENDIX-1

PROCESS TO DEAL WITH FRIVOLOUS COMPLAINTS

It has been frequently observed that after opening of tenders, the bidders start to influence the evaluation process. Such attempts result in delay in finalizing of award of contract and cause financial loss to the National exchequer. The evaluation process is confidential till publication of award of contract process.

Provision of guidelines of international donor agencies and PPRA provides sufficient opportunity to bidders for redressal of their grievances. Hence, the attempts made by the bidders during evaluation process or thereafter to influence the contract award decisions fall under the definition of corrupt and fraudulent practices. Therefore, during bidding stage, the following mechanism shall be adopted in case of receipt of any frivolous complaint from the bidder.

- i. Anonymous complaints shall not be entertained.
- ii. The Procuring Agency reserves the right to call for an affidavit from the complainant verifying the truthfulness and correctness of the contents of the complaint.
- iii. The notice of displeasure and explanation will be immediately sent to those persons who lodge frivolous complaint(s) during the evaluation process.
 - iii (a) If the person itself or through its agent or any third party does not refrain from making frivolous complaints in the same tender or any other tender, an official warning will be sent and their case may be sent to "NTDC's Rights Protection Committee" which may analyse the situation and suggest action including the rejection of the bid of the complainant. However, Project Authority may reject the bid even in first instance depending upon nature of the case or provision of the Bidding Documents.
 - iii (b) If the same person itself or through its agent or any third party lodges a frivolous complaint in another tender floating in parallel before decision of the Grievance Committee, its bid will straight forwardly be rejected by the project authority. It may also be debarred to participate in the next tender for a minimum period of six months under intimation to the Grievance Committee and MD NTDC.
- iv. In order to monitor the record of the persons, a data base will be maintained at NTDC's website and the offices of the project authorities regarding such persons who consistently lodge frivolous complaints during the evaluation process by making clandestine access to confidential record and hamper the award of contract process.

NOTE: It is clarified that the process provided above in Appendix 1 is to discourage anonymous and frivolous complaints only, and does not bar any person feeling aggrieved by any act of the procuring agency from lodging a genuine complaint/grievance as provided under Rule 48 of the PPRA Rules, 2004.

APPENDIX-2

GUIDELINES FOR EVALUATION OF PERFORMANCE OF CONTRACTORS

- i. After signing of the contract, the Project authority (or the Consultant / Engineer) must monitor and evaluate the Contractor's performance, that is, whether the Contractor is fulfilling his obligations based on the terms of the contract and plans that were developed and agreed upon with the Project authority at the time of signing of contract or during kick-off meetings..
- ii. Though the performance evaluation of any person is an on-going process, which takes place throughout the duration of the contract and also during the Defect Liability / Warranty Period, nevertheless, a person's Performance Evaluation Report may be prepared for the consumption and benefit of the procuring agency or for any other purpose at the completion of the project, as the case may be.
- iii. The performance evaluation report shall be prepared for all contracts of more than Rs. 100 million. When based on the Evaluation Report, the performance of a person is non-satisfactory, the procuring agency may initiate the case for blacklisting of the person in accordance with the terms of this SOP. For the avoidance of doubt, consistent failure to provide satisfactory performance shall also include performances in a single or multiple contracts executed or being executed by the same person, as the case may be.
- iv. In case of any extra-ordinary delay in performance of a single contract of vital and critical importance, the procuring agency shall have the right to initiate proceedings under this SOP and/or avail any other remedy provided under the law which may *interalia* include: termination of the contract, recovery of losses, debarring the person from participation in future tenders. The procuring agency shall be the sole judge to determine the projects of vital or critical importance.
- v. In case of ordinary delay in performance in 2 consecutive contracts within a period of 3 years, the procuring agency shall have the right to initiate proceedings under this SOP and/or avail any other remedy provided under the law which may *interalia* include: termination of the contract, recovery of losses, debarring the person from participation in future tenders.
- vi. The proceedings under this SOP shall not prejudice any other rights and/or remedies available to the procuring agency under the contract documents and/or any other law in force.

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS.
- ALL THE SITE DIMENSIONS ARE BASED ON AVAILABLE DATA. HOWEVER, ACTUAL AND PRECISE COORDINATES OF PROPERTY LINE SHALL BE PROVIDED TO THIS OFFICE BEFORE ISSUANCE OF CONSTRUCTION DRAWINGS
- THE DIMENSION OF SITE PERIMETER TO BE CONFIRMED AS PER ACTUAL AND ANY DISCREPANCY IF FOUND MAY BE REPORTED TO DESIGN NTDC PRIOR TO START OF WORK FOR ISSUANCE OF NECESSARY INSTRUCTIONS.
- THE AVERAGE N.S.L AS PER DATA PROVIDED BY P.D EHV-I LAHORE, IS 209.86m.
- THE ZERO LEVEL FOR YARD IS 210.50m.
- THE SITE SHALL BE GRADED TO ENSURE GRAVITY FLOW OF RAIN WATER TO SEWERAGE NETWORK OF QABP NETWORK.
- THIS DRAWING / DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
- THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/ SITUATION / LOCATION FOR WHICH IT HAS BEEN APPROVED / ISSUED.
- UNDERGROUND ELECTRIFICATION OF SITE SHOULD BE DONE FOR PROPER SIZE OF CONDUITS SEEK APPROVAL FROM CONCERNED DESCO.

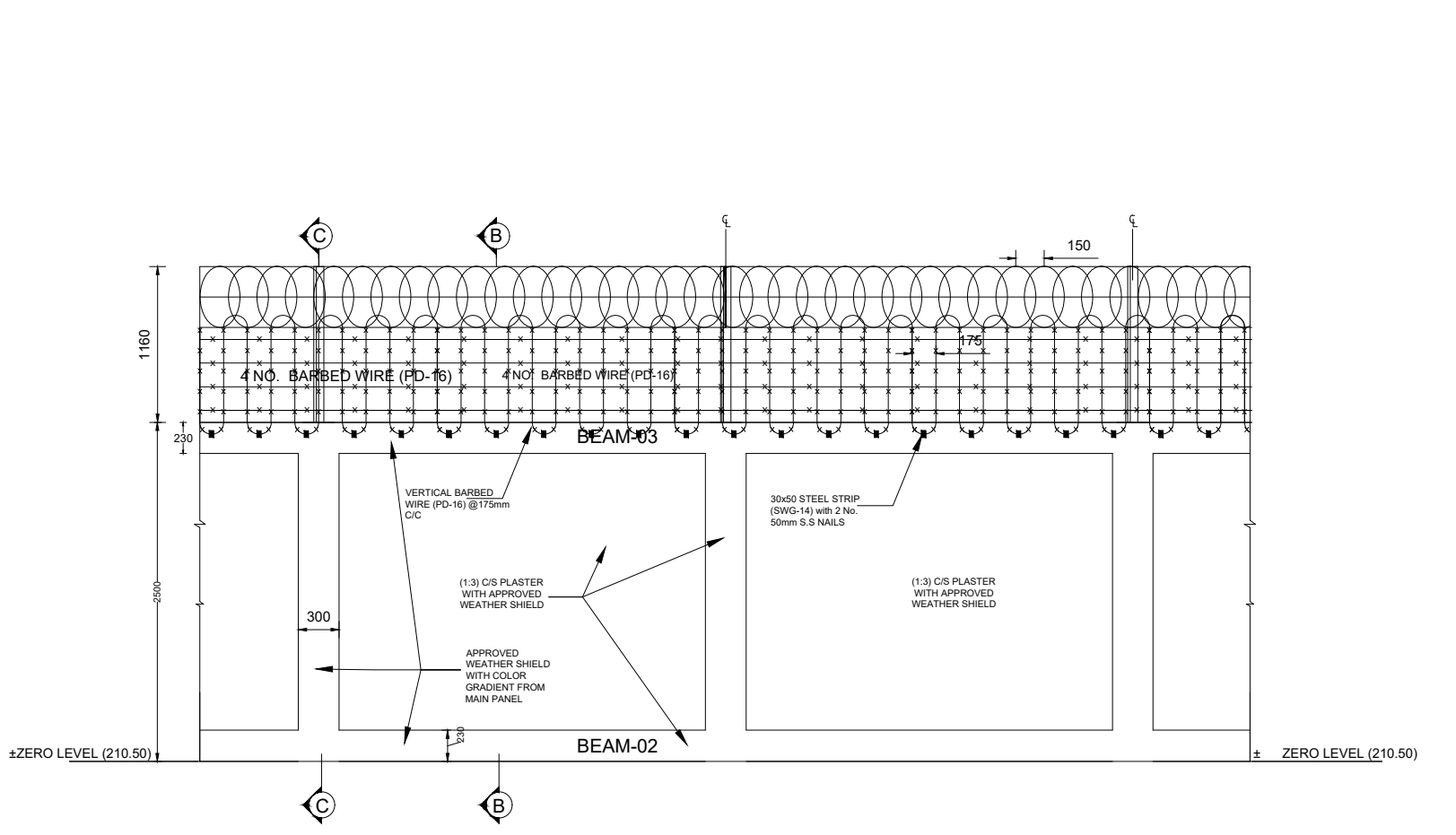
REFERENCE DRAWINGS

DESCRIPTION	DRAWING #
CONTOUR PLAN	PROVIDED BY P.D EHV LAHORE
1. BOUNDARY WALL	PDW/TB-2601
2. 6.0 METERS WIDE BITUMINOUS ACCESS ROAD	PDW/TV-495
3. WATCH TOWER OVER BOUNDARY WALL	PDW/TB-2493 (REV-01)
4. WATCH TOWER (FRAME STRUCTURE)	PDW/TB-2620
5. MAIN ENTRY GATE	PDW/CT-92
6. SECURITY OFFICE	PDW/TB-2571
7. HYDRAULIC ROAD BLOCKER 3m WIDE (AUTOMATED)	PDW/TZ-1132
8. CONCRETE ROAD BLOCKERS	SKETCH/MC/14
9. POLE ROAD BARRIER	AS PER APPROVAL OF ENGINEER
10. UNDER VEHICLE SURVEILLANCE SYSTEM (UVSS)	AS PER APPROVAL OF ENGINEER
11. X-RAY BAGGAGE SCANNER	PDW/TZ-1135
12. WALK THROUGH GATE	PDW/TZ-1136
13. SHALLOW BORE HOLES	PDW/TZ-1131
14. HDPE OVERHEAD WATER TANK	PDW/TZ-1130
15. SEPTIC TANK FOR RESIDENTIAL BUILDINGS	SKETCH-MC-07
16. TRAPEZOIDAL DRAIN	PDW/TQ-383
17. TYPICAL SEPTIC TANK (50-USERS)	03-GS-07
18. PATROLLING PATH	PDW/TV-494
19. MANHOLE & SEWERAGE SYSTEM	PDD/CT-95
20. SECURITY BARRACKS (24 MEN)	PDW/TQ-388

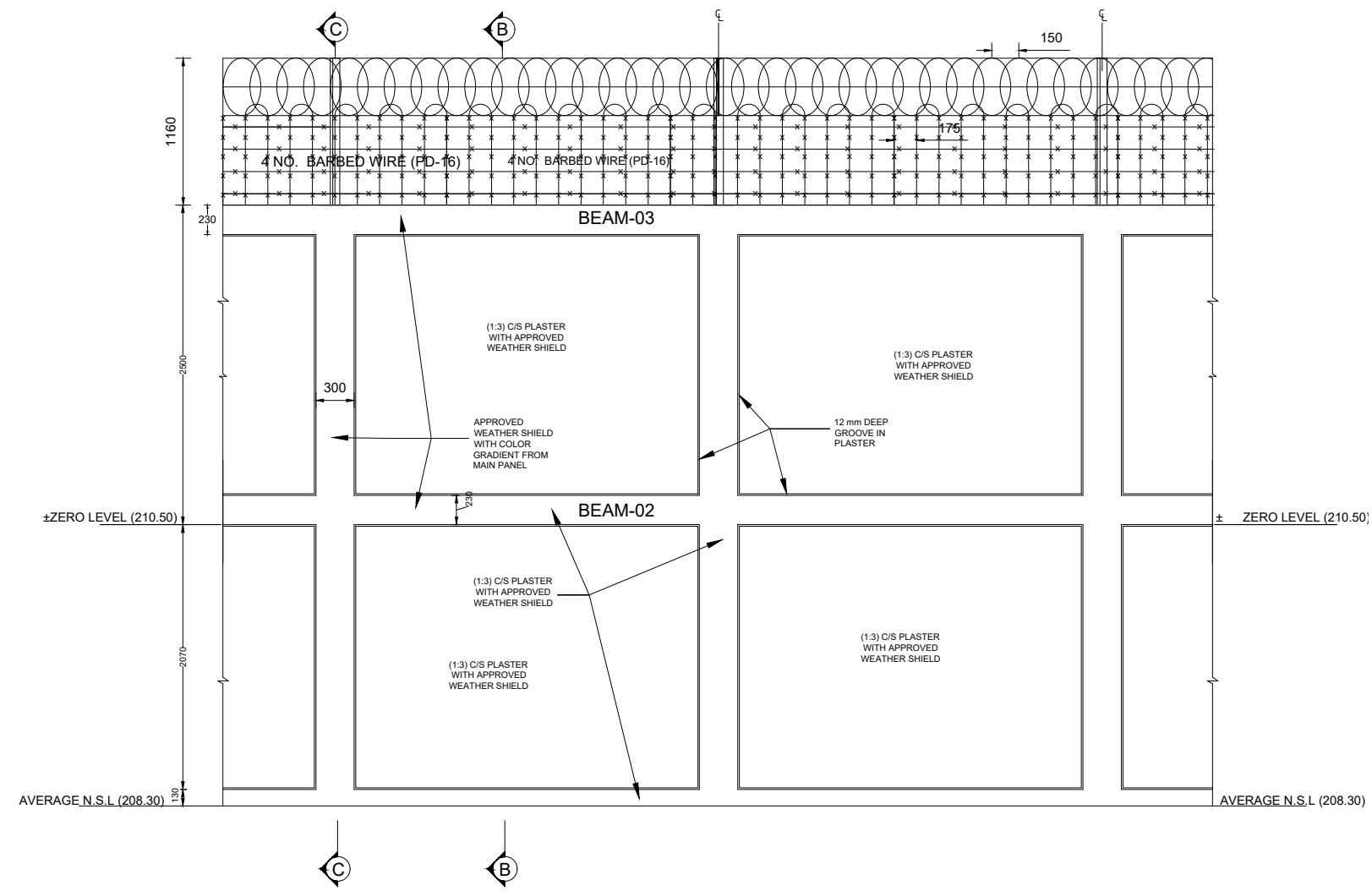
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B	412802E, 3511191N
C	12807E, 3511145N
D	412798E, 3511083N
E	412792E, 3511024N
F	412781E, 3510963N
G	412781E, 3511929N
H	412765E, 35110901N
L	412562E, 3510902N

PAKISTAN NATIONAL TRANSMISSION AND DESPATCH COMPANY				DESIGN DEPARTMENT (NTDC)	
DRAWN	MUHAMMAD ALI		GENERAL LAYOUT PLAN OF 220KV QUAIDE-A-AZAM BUSINESS PARK GRID STATION SHEIKHUPURA		
CHECKED BY	FARID BARKI				
ASSTT: MANAGER	MARYAM MANSHA				
DEPUTY MANAGER	FARID BARKI				
MANAGER (CIVIL)	MUHAMMAD AZIZ		PAPER SIZE: ISO A1 SCALE :- 1:600		DATE :- 17/09/2021
CHIEF ENGINEER	----		DWG NO. PDW/TS - 8180		

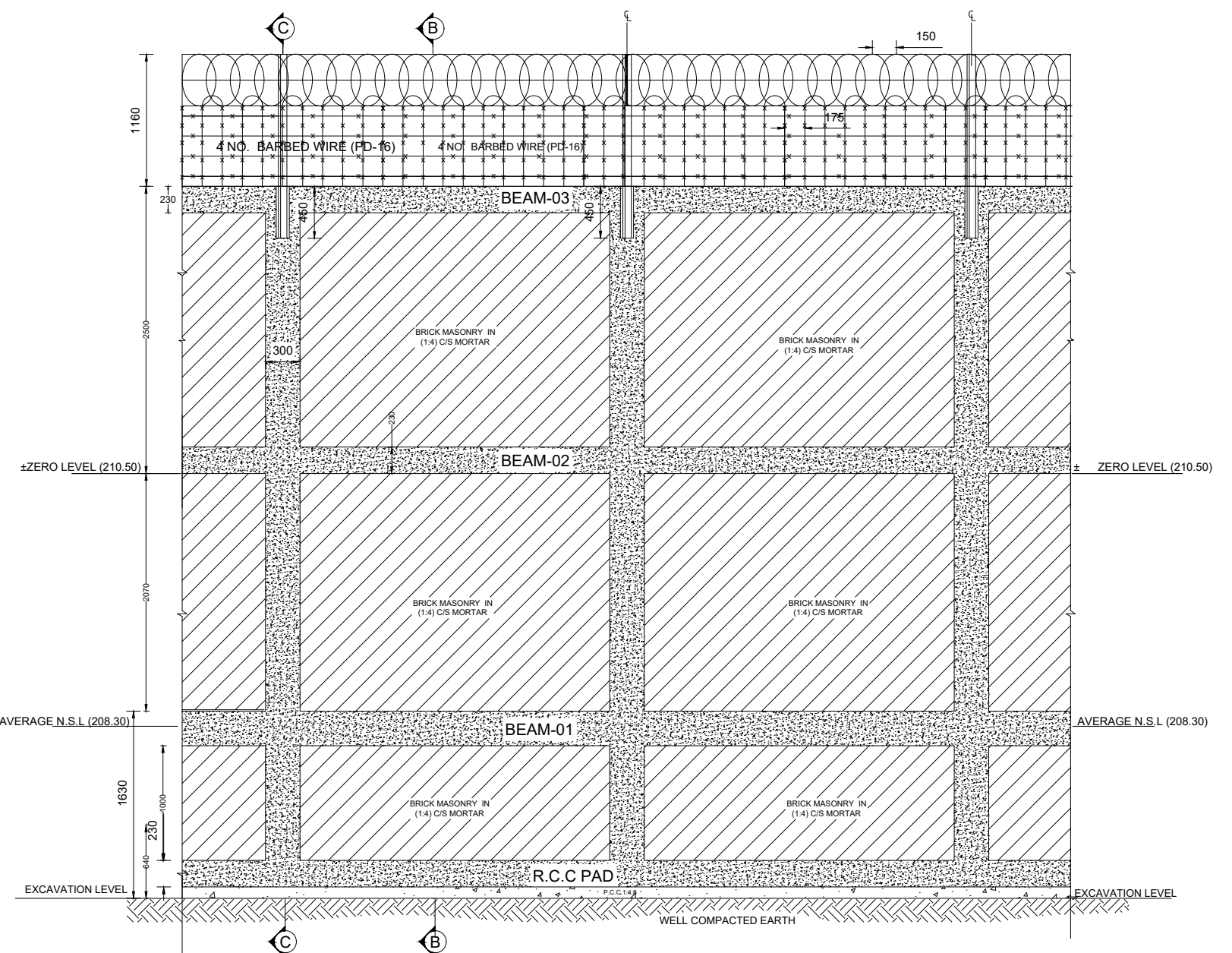
01	05/01/2023	THE FOLLOWING DETAILS ARE CHANGED FROM TENDER DRAWINGS AS PER SITE REQUIREMENTS. • DRAWING OF WATCH TOWER PDW/TB-2493 & 2490 REPLACED WITH PDW/TB-2620 & LAYOUT CHANGED ACCORDINGLY. • DRAWING OF 7.5 METER WIDE ROAD PDW/TV-482 REPLACED WITH 6.0 METERS WIDE ROAD PDW/TV-495 • DRAWINGS OF 4.5 METERS WIDE PATROLLING PATH (PDW/TV-475) REPLACED WITH 2.5 METERS WIDE PATROLLING PATH (PDW/TV-494). • DRAWINGS OF X-RAY SCANNER, WALK THROUGH GATE, POLE BARRIER & UVSS CANCELED AS THE SAME ARE NOT INCLUDED IN BOUNDARY WALL TENDER. • LIST OF COORDINATES INCLUDED AS PER DATA PROVIDED BY PD-EHV-I LAHORE AND C.E SS DESIGN			
NO.	DATE	REVISION	DEPUTY MANAGER	MANAGER	



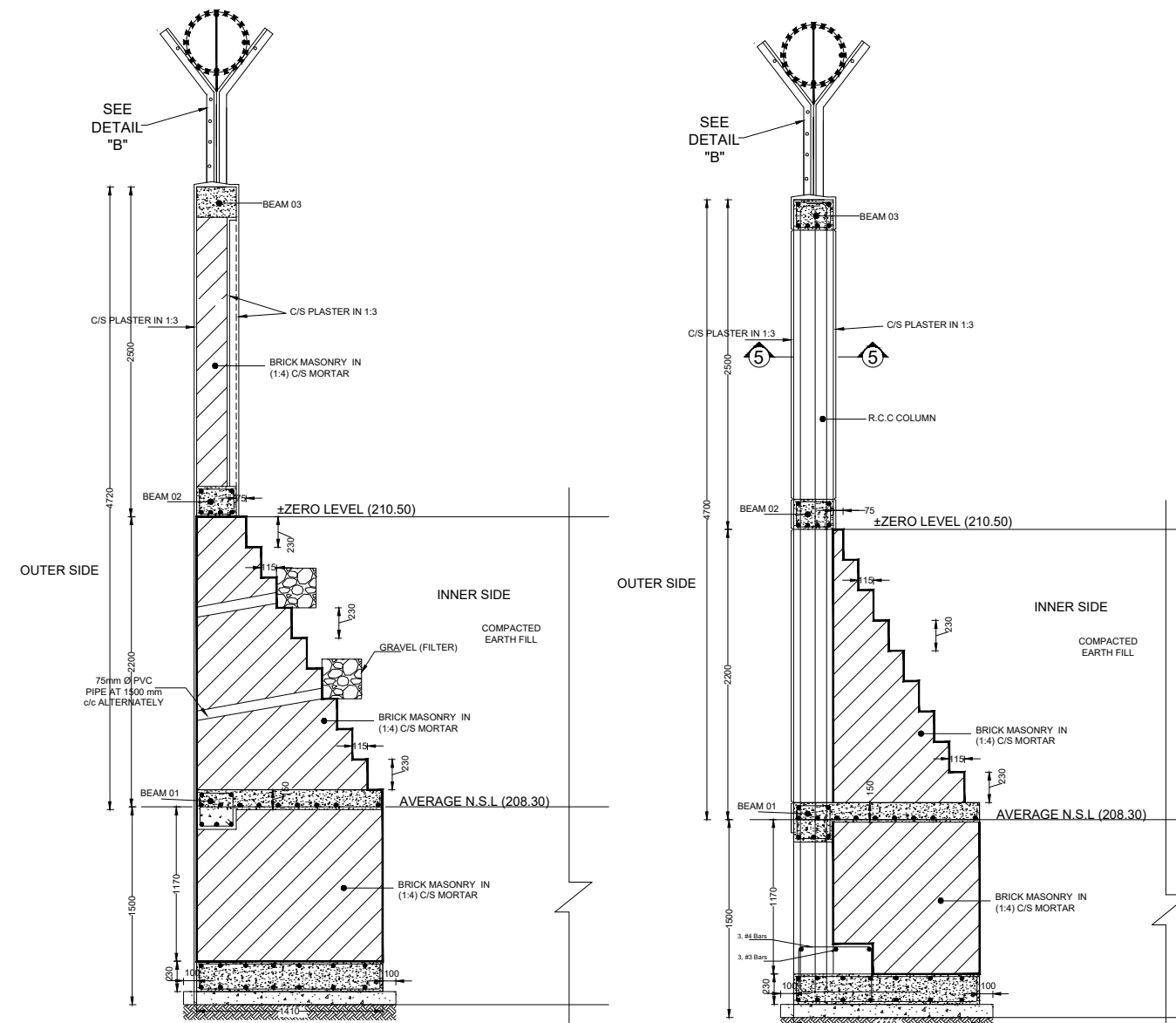
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EXTERNAL ELEVATION
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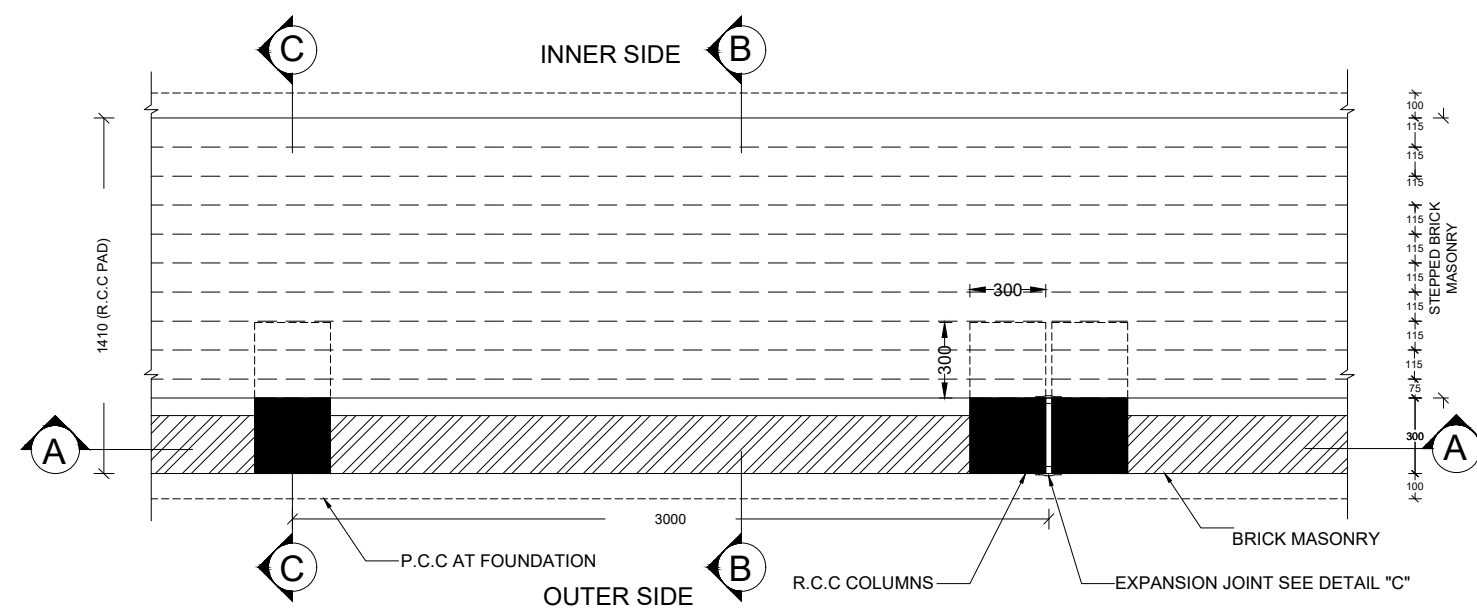


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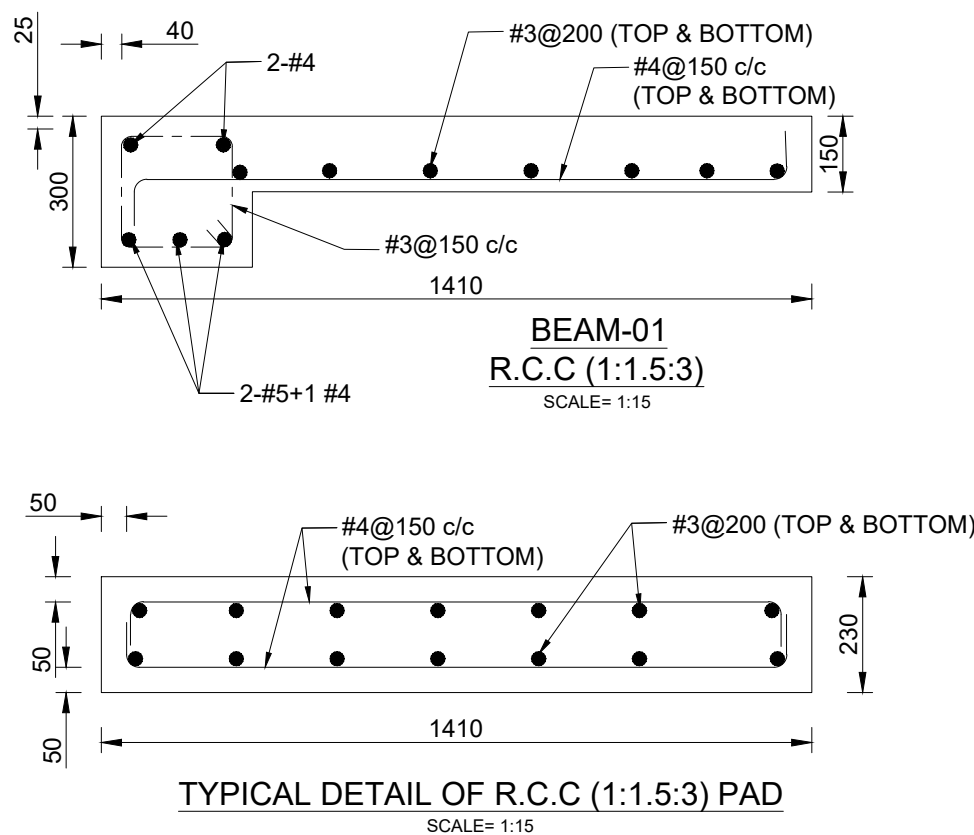


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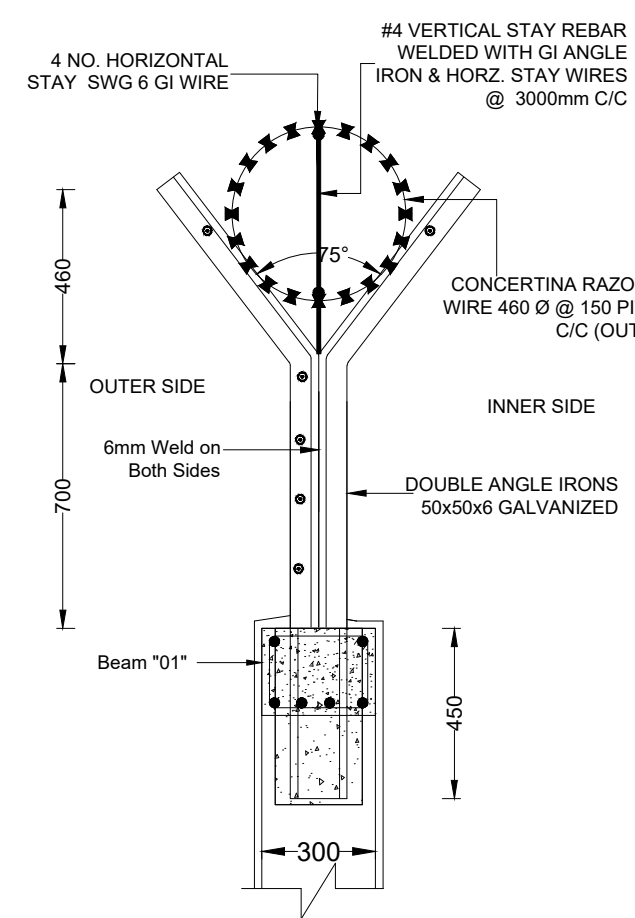
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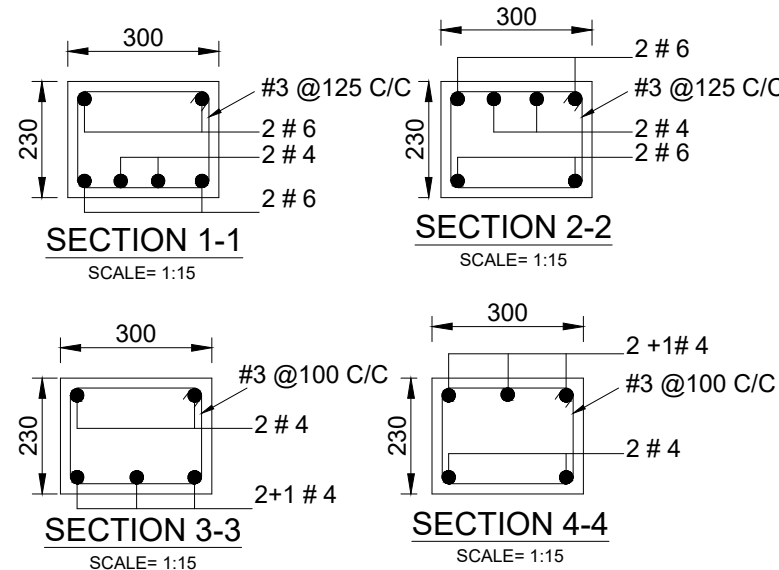
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TYPICAL DETAIL OF R.C.C (1:1.5:3) PAD
SCALE=1:15



DETAIL "B"
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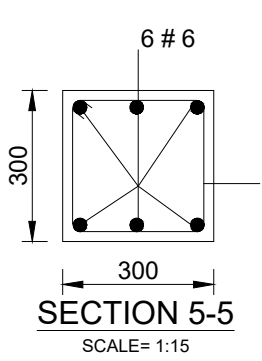


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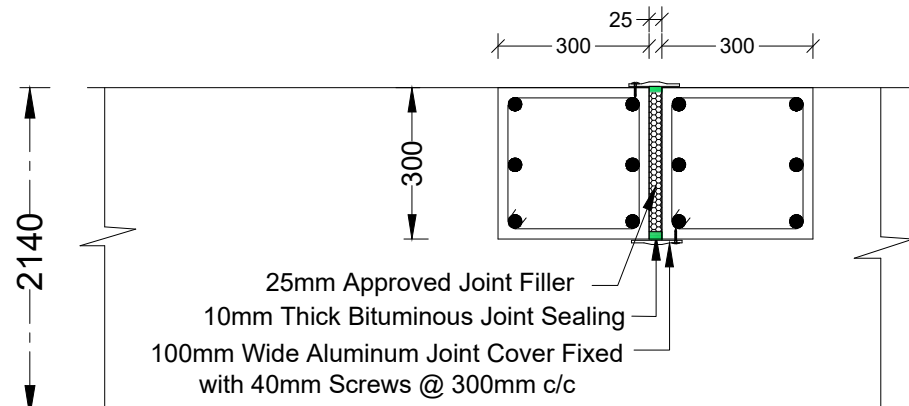
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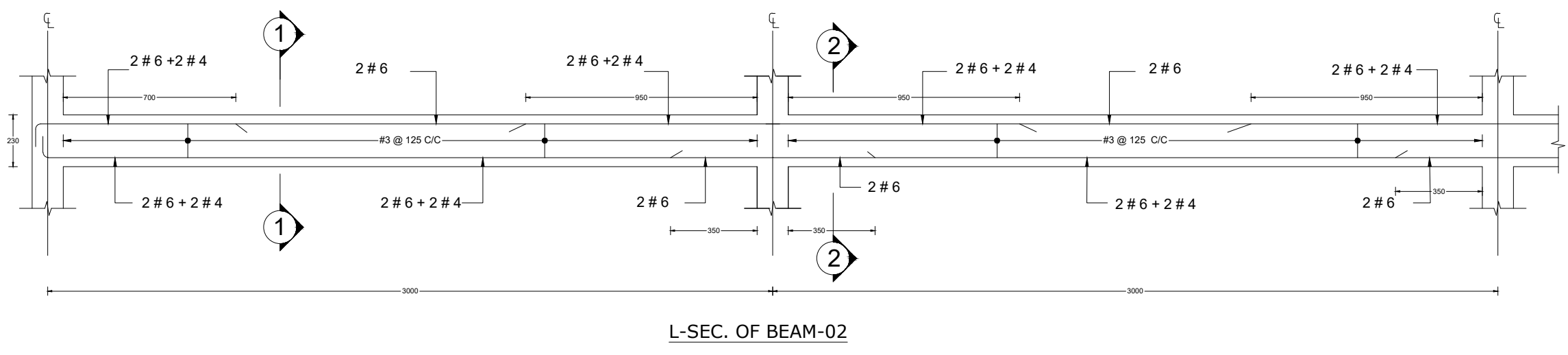
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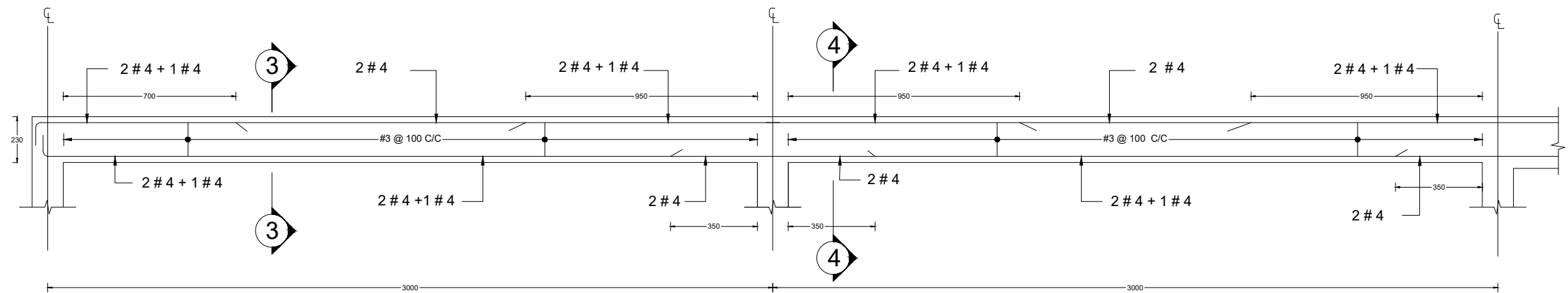
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DETAIL "C"
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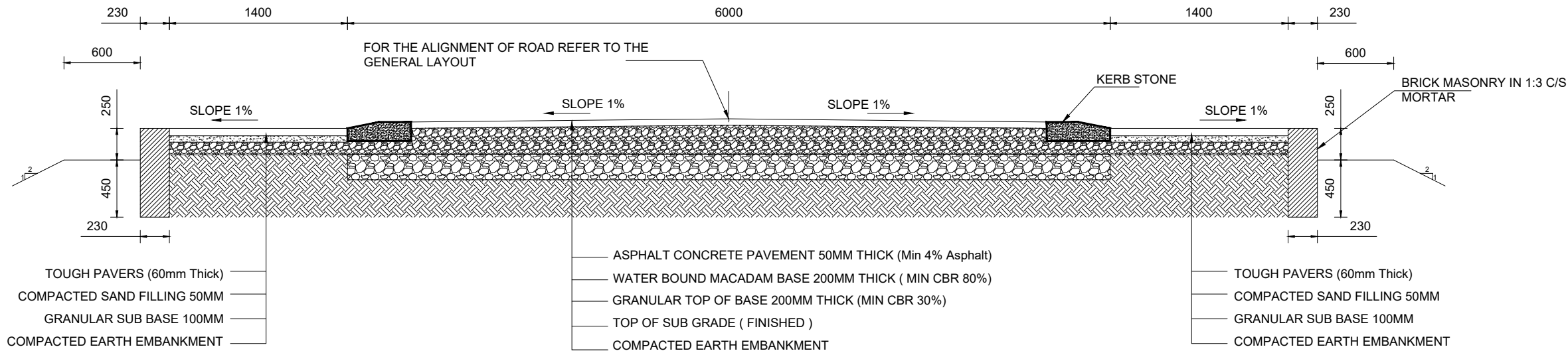
L-SEC. OF BEAM-02



L-SEC. OF BEAM-03

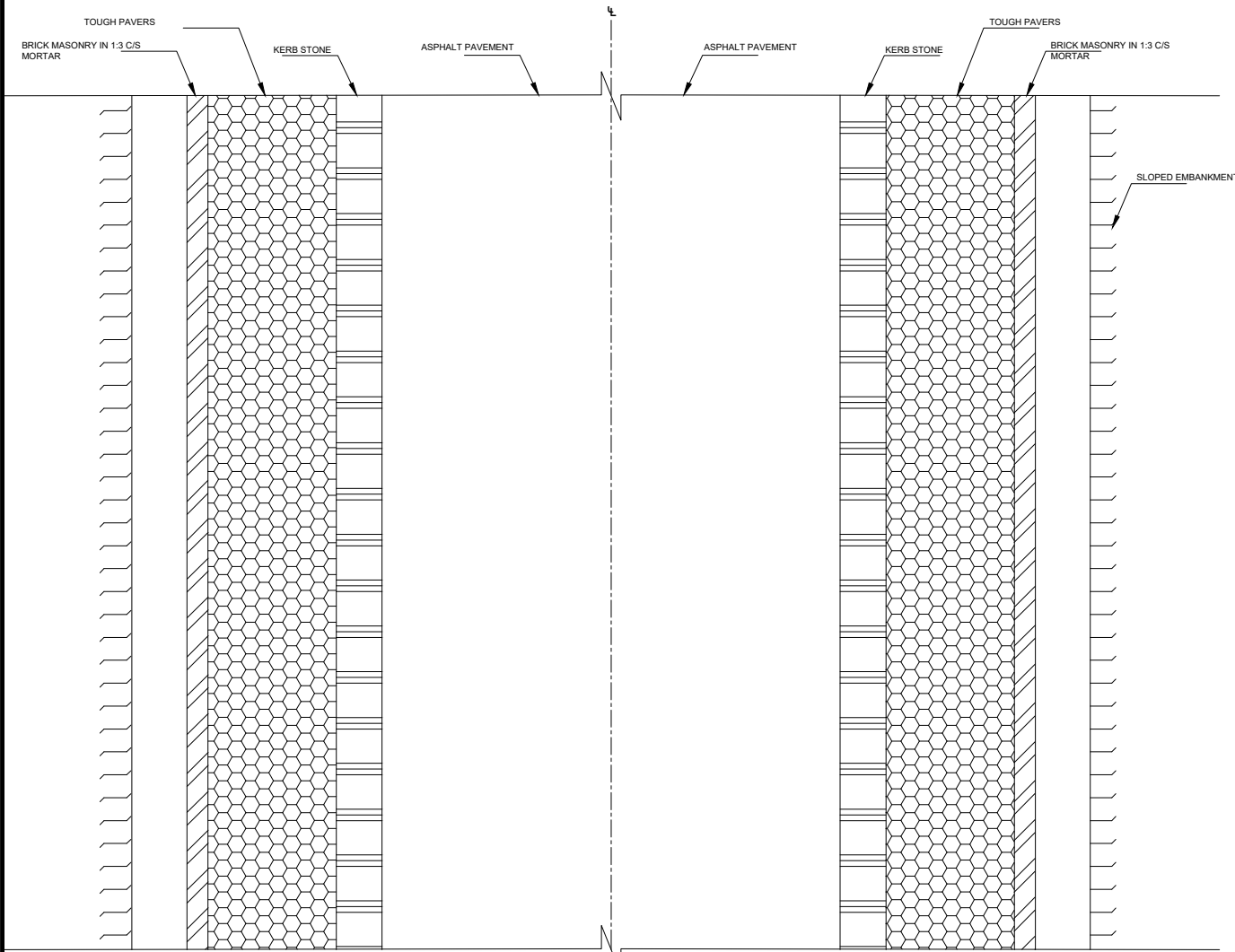
- NOTES:-**
1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS EXCEPT AS NOTED.
 2. THE STEPPING DOWN OR STEEPING UP OF WALL TO MAINTAIN MINIMUM HEIGHT OF 2500MM SHOULD BE ACHIEVED IN MAXIMUM STEP SIZE OF NOT MORE THAN 300MM.
 3. PVC CONDUITS OF SUITABLE SIZE ALONG WITH JUNCTION BOXES FOR ELECTRICIFICATION AND CCTV SHALL BE SEPARATELY INSIDE THE BEAMS AS PER APPROVAL OF ENGINEER IN-CHARGE.
 4. ALL REINFORCED CONCRETE (1:1.5:3) SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 21N/mm² AT 28 DAYS.
 5. SULPHATE RESISTANT CEMENT SHALL BE USED IN ALL STRUCTURAL CONCRETE THAT IS IN CONTACT WITH SOIL AFTER CONFIRMATION OF SOIL TEST REPORTS.
 6. ALL CONCRETE IN CONTACT WITH EARTH/SOIL SHALL BE COATED WITH 2-COATS OF BITUMEN AS PER NTDC/WAPDA STANDARD.
 7. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 420N/mm² (GRADE-60) CONFORMING TO ASTM-A-615.
 8. STEEL REINFORCEMENT CONCRETE COVER FOR DIFFERENT STRUCTURAL ELEMENTS SHALL BE AS FOLLOWS:
(a) BEAM= 40mm (b) COLUMN= 40mm (c) FOOTING=50 mm
 9. USE REINFORCEMENT BARS AS PER ASTM IMPERIAL SYSTEM
 10. LAP SLICE SHALL BE MINIMUM 60 TIMES DIAMETER OF BAR
 11. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 19mm CONFORMING TO ASTM C-33.
 12. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
 13. CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
 14. CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
 15. POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING
 16. CURING MUST BE CONTINUED FOR AT LEAST 10 DAYS.
 17. ALL STRUCTURAL CONCRETE BELOW N.S.L SHALL BE FAIR FACED, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK) AND WITHOUT PLASTER.
 18. THE BARBED WIRE SPEC: PD-16, CONCERTINA WIRE, STAY WIRE & NUTS/BOLTS SHOULD BE IN ACCORDANCE WITH WAPDA/NTDC STANDARD SPECIFICATION
 19. THE GALVANIZING OF BARBED WIRE, CONCERTINA WIRE, STAY WIRE & NUTS/BOLTS SHOULD BE IN ACCORDANCE WITH WAPDA/NTDC SPECIFICATION P-82
 20. BARBED WIRE & STAY WIRE SHOULD BE STRETCHED TO ELIMINATE SAGGING
 21. BRICK MASONRY TO BE LAID IN 1:4 CEMENT SAND MORTAR.
 22. EXPANSION JOINT SHALL BE PROVIDED AT 18000 mm INTERVAL AS PER DETAIL "C"
 23. ALL EXPOSED STRUCTURAL CONCRETE & MASONRY WORK IS TO BE PLASTERED WITH 20mm THICK CEMENT SAND MORTAR (1:3) AS SHOWN IN SECTIONS AND ELEVATION
 24. WEATHER SHIELDING COATS TO BE PROVIDED ON PLASTERED SURFACE WITH APPROVAL FROM ENGINEER.
 25. TOP SURFACE OF THE COMPACTED SOIL ALONG PERIPHERY OF BOUNDARY WALL SHALL BE SLOPED 1:12 IN ORDER TO MINIMIZE THE CHANCE OF WATER PERCOLATION IN FOUNDATION.
 26. THE FOUNDATION DEPTH AND WIDTH ARE TENTATIVE AND MAY VARY AS PER RECOMMENDATIONS OF SOIL INVESTIGATION REPORT.
 27. SOIL INVESTIGATION REPORT ALONG THE LENGTH OF BOUNDARY WALL SHOULD BE SUBMITTED TO THIS OFFICE BEFORE ISSUANCE OF CONSTRUCTION DRAWINGS.
 28. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING, THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
 29. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
 30. THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC. ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
 31. THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/SITUATION/ LOCATION FOR WHICH IT HAS BEEN PROVIDED ISSUED.
 32. THIS DRAWING IS BEING ISSUED BASED ON SITE OBSERVATIONS, AS NO SOIL INVESTIGATION REPORT IS PROVIDED.
 33. ALL THE WORK MUST BE EXECUTED UNDER STRICT SUPERVISION OF QUALIFIED CIVIL ENGINEER.
 34. THIS DRAWING IS ONLY FOR TENDER PURPOSE AND CANNOT BE USED FOR EXECUTION.

NATIONAL TRANSMISSION & DESPATCH COMPANY					C.E. DESIGN (NTDC)	
DRAWN BY:	M. ALI				DESIGN OF BOUNDARY WALL FOR 220KV QUAID-E-AZAM BUSINESS PARK GRID STATION.	
CHECKED BY:	FARID BARKI					
ASSTT. MANAGER	MARYAM MANSHA					
DEPUTY MANAGER	FARID BARKI					
MANAGER	MUHAMMAD AZIZ					
CHIEF ENGINEER	--				SCALE = AS SHOWN	PAPER SIZE = ISO A1
					SHEET NO. 01 OF 01	DATED: 15-09-2021
					DWG. No. PDW/TB-2601	
S.NO	DATE	REVISIONS			D.M	M



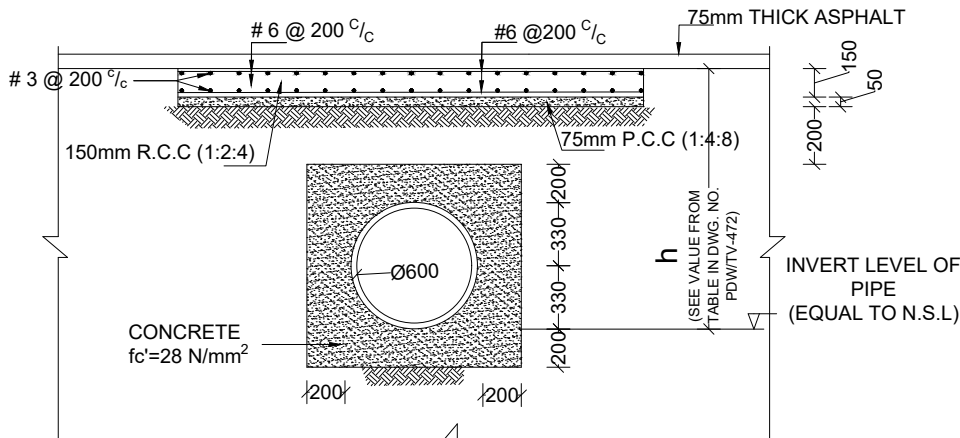
CROSS SECTION OF ROAD

SCALE: 1:40



PLAN OF ROAD

SCALE: 1:75



CROSS SECTION OF PIPE CULVERT

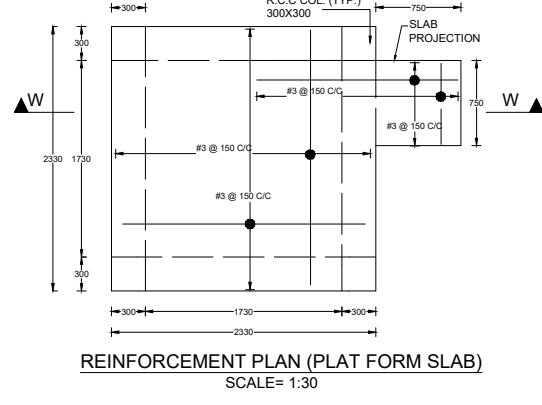
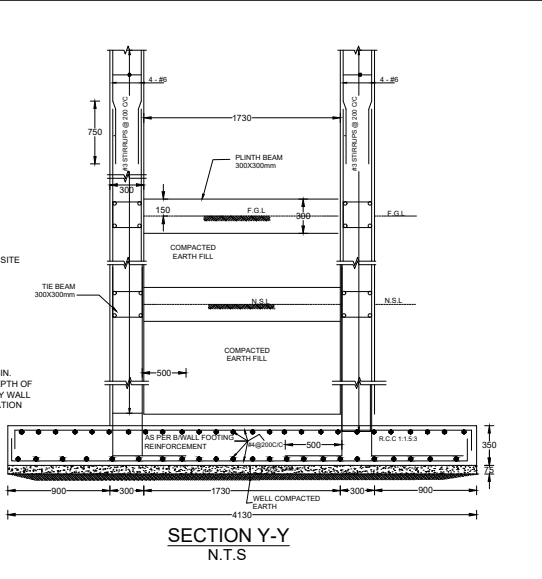
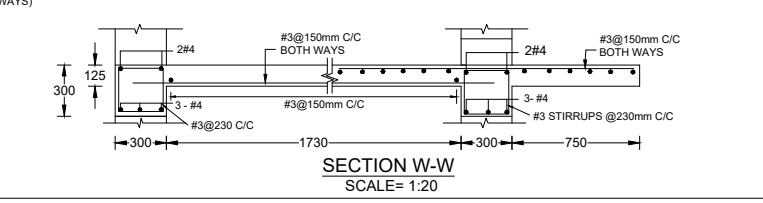
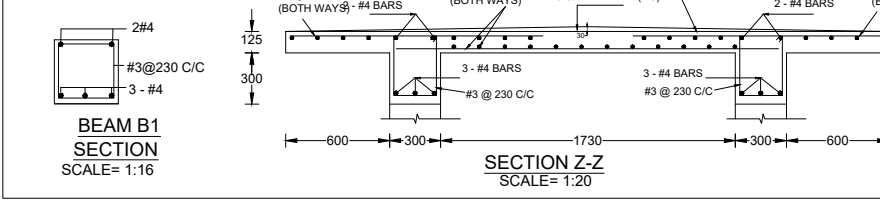
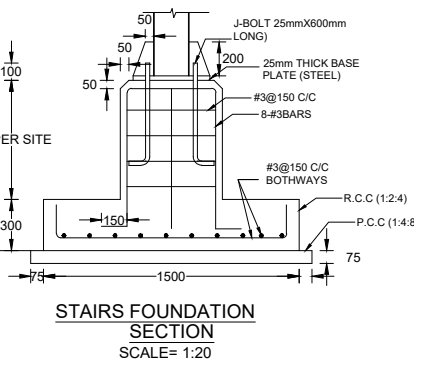
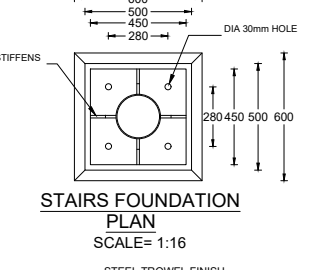
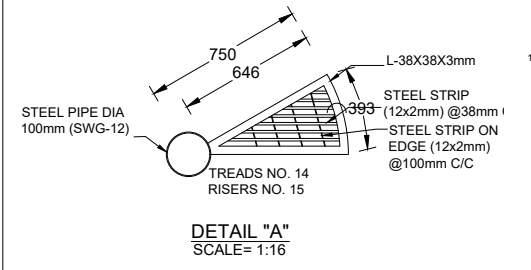
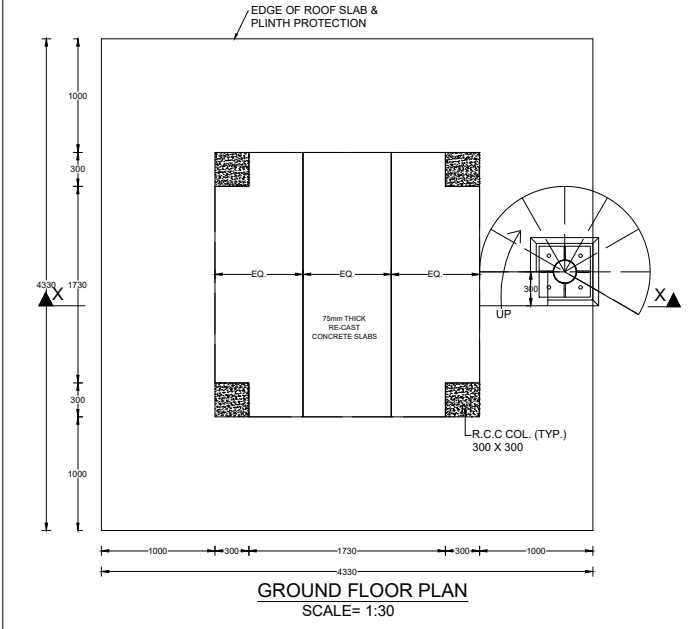
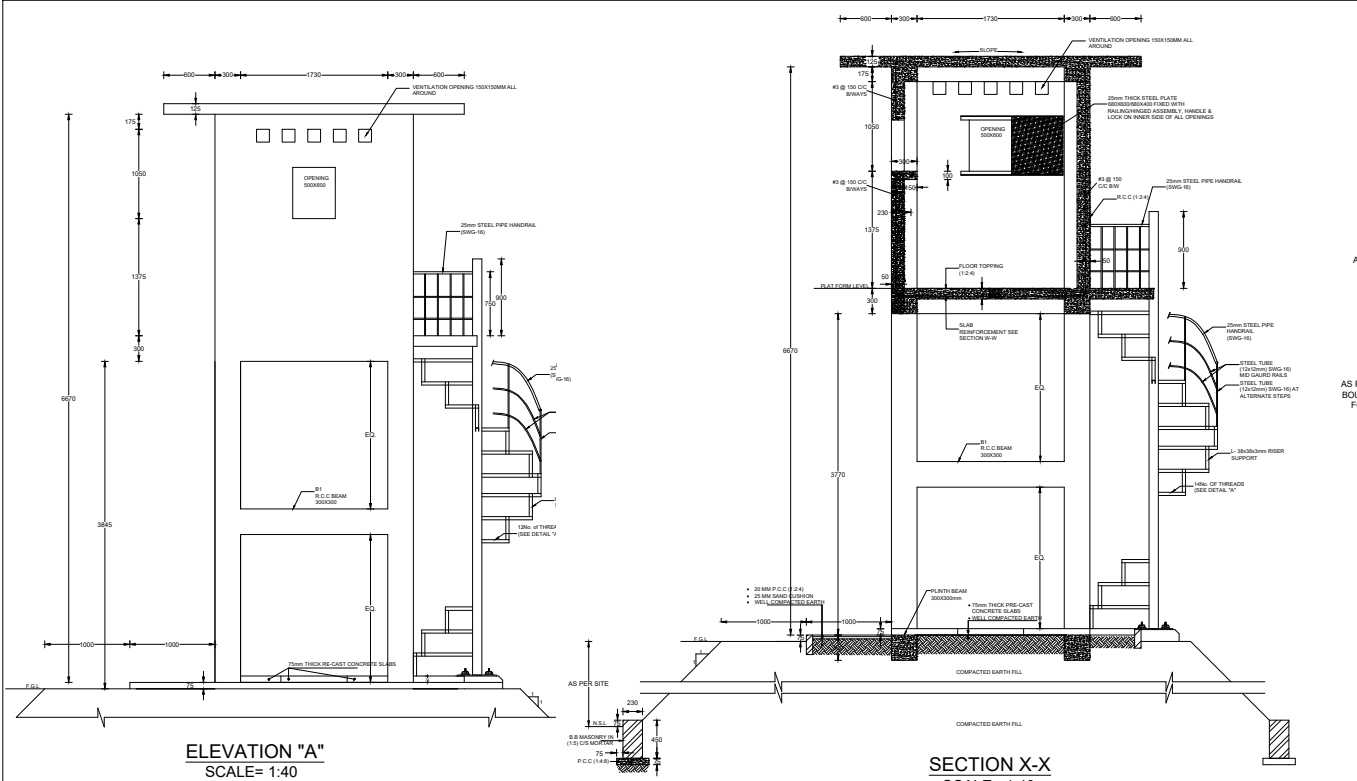
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NOTES

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS
2. PIPE CULVERTS OF 600mm DIAMETER SHOULD BE PROVIDED FOR CROSS DRAINAGE IF REQUIRED AT AN INTERVAL OF 100 METERS.
3. ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 28N/MM² (1:1.5:3) AT 28 DAYS.
4. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 413N/MM² (GRADE 60) CONFORMING TO ASTM-A-618.
5. USE REINFORCEMENT BARS AS PER ASTM IMPERIAL SYSTEM
6. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 19MM CONFORMING TO ASTM C-33.
7. AFTER THE ROLLER COMPACTION, THE STRENGTH AND QUALITY OF THE BASE SHOULD BE CHECKED, THE VALUE OF RESILIENT MODULUS OF THE BASE SURFACE SHOULD EXCEED 80 MPa
8. THE REINFORCED CONCRETE PIPE WITH DIAMETER OF 600 IS CONNECTED BY FLEXIBLE INTERFACE THE INNER BOTTOM OF THE PIPE HAS EQUAL ELEVATION WITH NATURAL GROUND, THE GRADIENT OF THE PIPE IS DETERMINED ACCORDING TO THE NATURAL TERRAIN
9. ON THE SURFACE OF EMBANKMENT SLOPE, THE SEEDS SHOULD BE PLANTED, AND THE GRASS SEED SHOULD BE SELECTED ACCORDING TO THE CLIMATIC REGION, WHICH REQUIRES EXCELLENT RESISTANCE TO THE STRESS, AND MORE THAN TWO KIND OF GRASS WILL BE MIXED.
10. LONGITUDINAL LANE MARKINGS (CENTERLINE & EDGE) SHOULD BE DONE ACCORDING TO STANDARD SPECIFICATIONS.
11. ALL TYPE OF CONDUITS FOR LIGHTING AND OTHER UTILITIES SHOULD BE PROVIDED UNDER SIDE PATHS WITH REGULAR PROVISION OF MANHOLES (FLUSHED WITH TOUGH PAVERS).
12. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
13. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
14. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
15. THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
16. THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/SITUATION/ LOCATION FOR WHICH IT HAS BEEN APPROVED/ ISSUED.
17. ROAD FINISH LEVEL AT MAIN ENTRY GATE LOCATION SHALL BE MAINTAINED AS PER DETAIL IN GLO

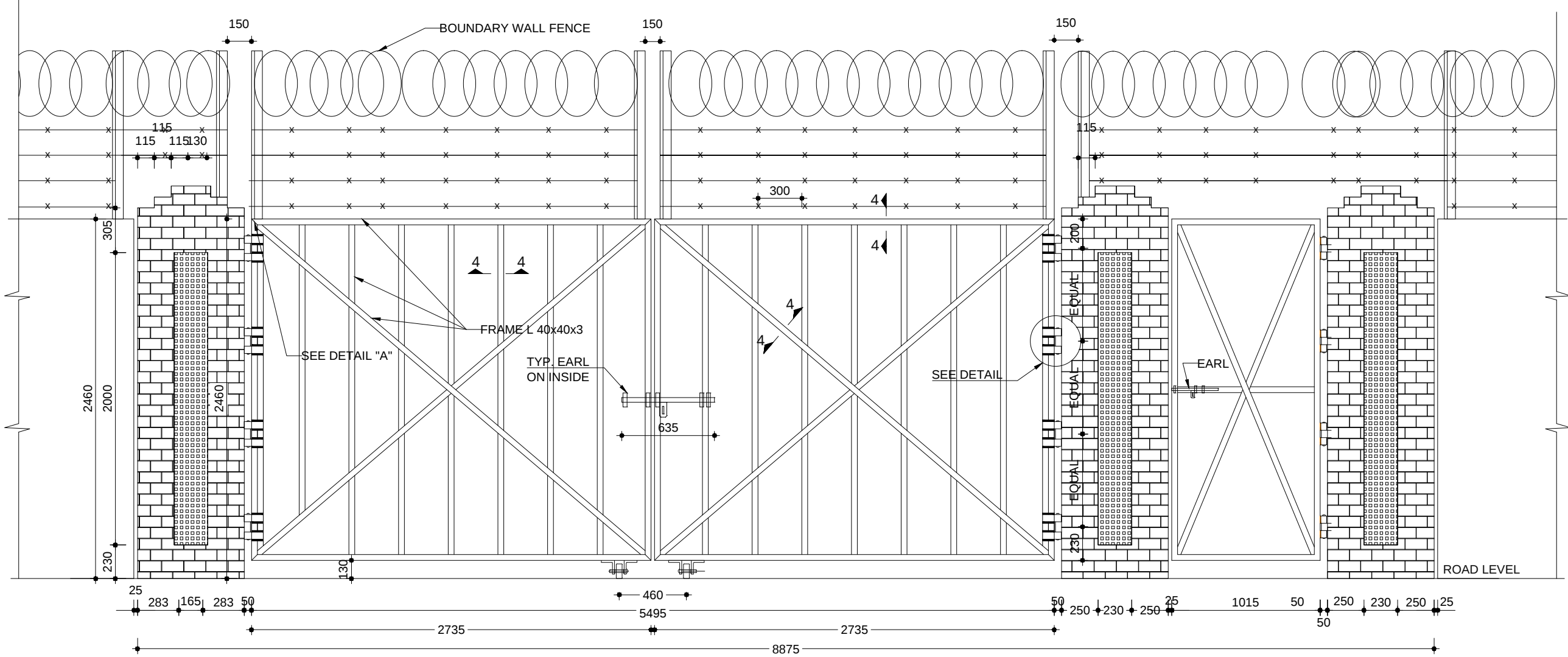
NATIONAL TRANSMISSION & DEPATCH COMPANY					NTDC DESIGN
DRAWN BY:	M.ALI		DESIGN OF 6.0 METERS WIDE BITUMINOUS ROAD		
CHECKED BY:	MARYAM MANSHA				
ASSTT. MANAGER	MARYAM MANSHA				
DEPUTY MANAGER	FARID BARKI				
MANAGER	FARID BARKI				
CHIEF ENGINEER	MUHAMMAD AZIZ		SCALE:- AS SHOWN	DATED: 14-05-2020	
			DWG. No. PDW/TV-495		

S.NO	DATE	REVISIONS	D.M	M

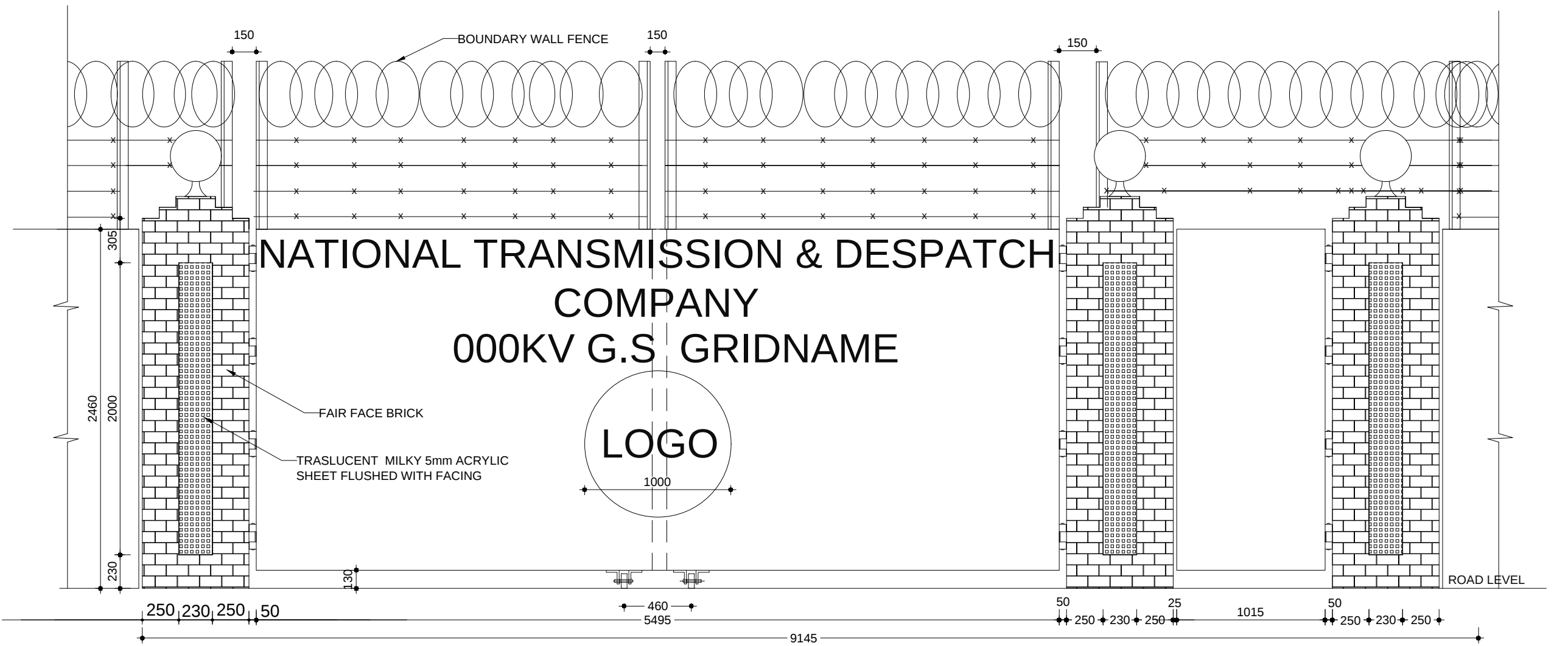


- PLINTH PROTECTION**
- 75 mm THICK P.C.C 1:2:4 OVER 50 mm THICK SAND CUSHION OVER RAMMED EARTH DRESSED TO PROPER SLOPE. P.C.C TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.
- NOTES:-**
- ALL DIMENSIONS ARE IN MILLIMETERS
 - 12mm THICK PLASTER IS TO BE PROVIDED IN (1:4) C.S MORTAR INTERNALLY & EXTERNALLY.
 - ALL P.C.C (1:4:8) TO HAVE A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 7N/sq.mm AT 28 DAYS.
 - ALL R.C.C (1:1.5:3) TO HAVE A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 21N/sq.mm AT 28 DAYS.
 - REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 420N/mm² CONFORMING TO ASTM-A-615.
 - STEEL REINFORCEMENT CONCRETE COVER FOR DIFFERENT STRUCTURAL ELEMENTS SHALL BE AS FOLLOWS:
a) SLAB - 20mm
b) COL - 38mm
 - USE REINFORCEMENT BARS AS PER ASTM US CUSTOMARY UNITS
 - AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 19mm CONFORMING TO ASTM C-33.
 - COARSE SAND SHALL BE FREE FROM SILT AND DUST.
 - CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
 - CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
 - POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING.
 - CURING MUST BE CONTINUED FOR AT LEAST 10 DAYS.
 - ALL STRUCTURAL CONCRETE ABOVE GROUND LEVEL SHALL BE PLASTERED WITH (1:4) C.S MORTAR ALONG WITH STANDARD WEATHER SHIELD.
 - STAIRS SHALL BE PROVIDED AS PER DETAILS GIVEN
 - ALL STEEL WORK TO BE PROVIDED WITH A COAT OF RED OXIDE PRIMER PRIOR TO TWO COATS OF ENAMEL PAINT.
 - IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
 - ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
 - THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC. ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
 - THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/ SITUATION/ LOCATION FOR WHICH IT HAS BEEN APPROVED/ ISSUED.
 - ALL DIMENSIONS ARE GIVEN IN MILLIMETERS.

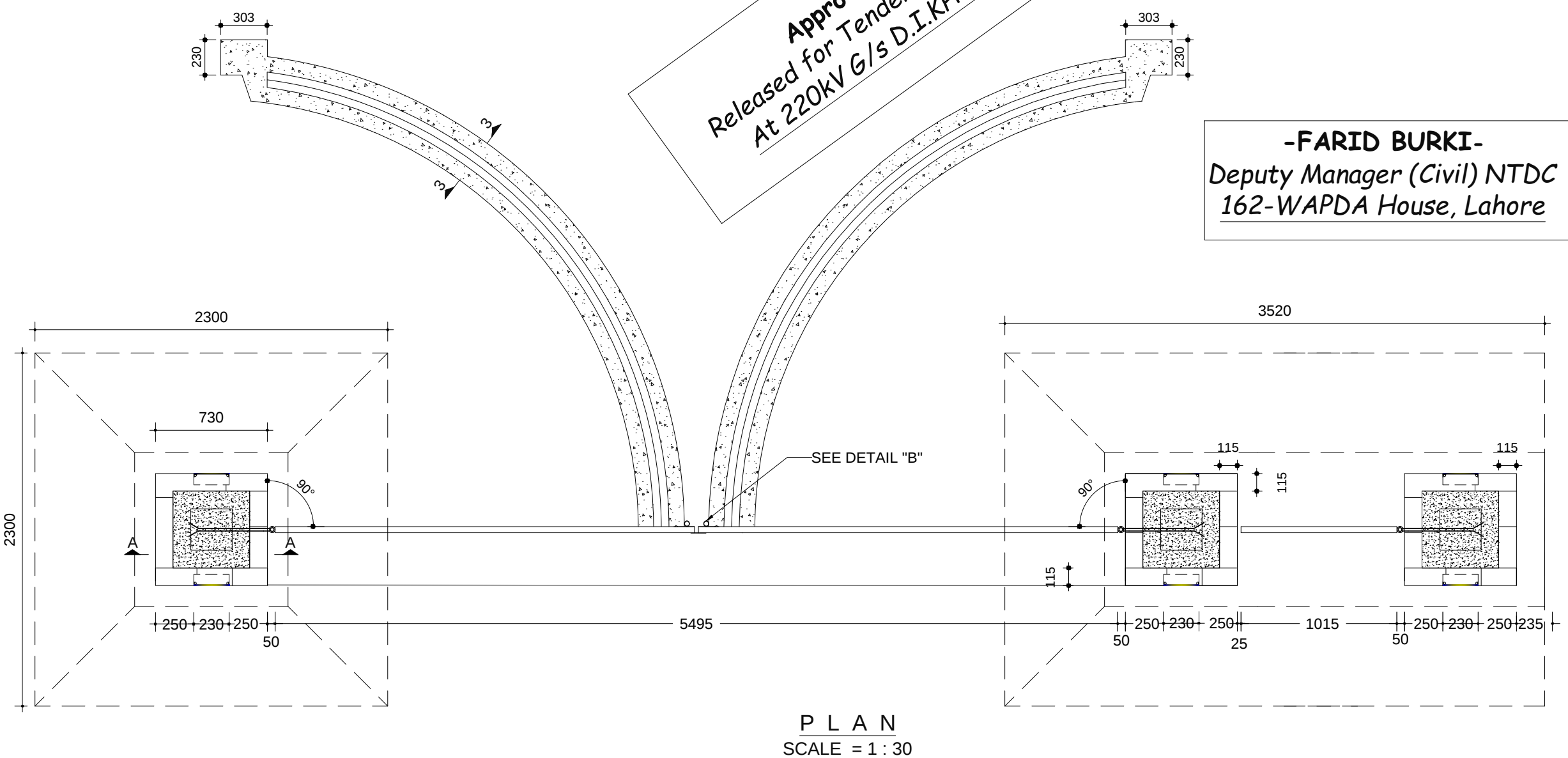
NATIONAL TRANSMISSION AND DESPATCH COMPANY				DESIGN (NTDC)	
DRAWN	MUHAMMAD ALI			DESIGN OF WATCH TOWER (FRAME STRUCTURE)	
CHECKED BY	MARYAM MANSHA				
ASSTT. MANAGER	MARYAM MANSHA				
DY. MANAGER	FARID ULLAH BARKI				
MANAGER	FARID ULLAH BARKI				
CHIEF ENGINEER	MUHAMMAD AZIZ			SCALE:- AS SHOWN	DATE:- 16-05-2022
NO				DATE	REVISIONS
				D.M	M
				DWG. NO. PDW-TB-2620	



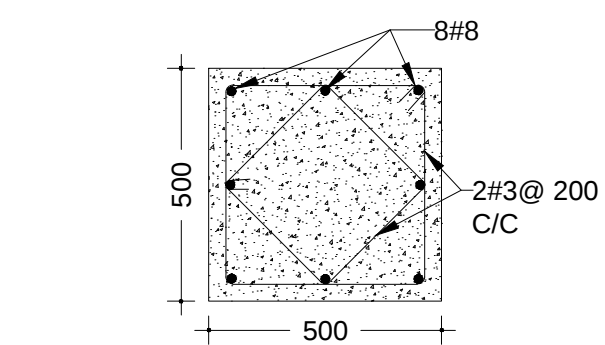
GATE FRAME DETAILS
SCALE = 1 : 30



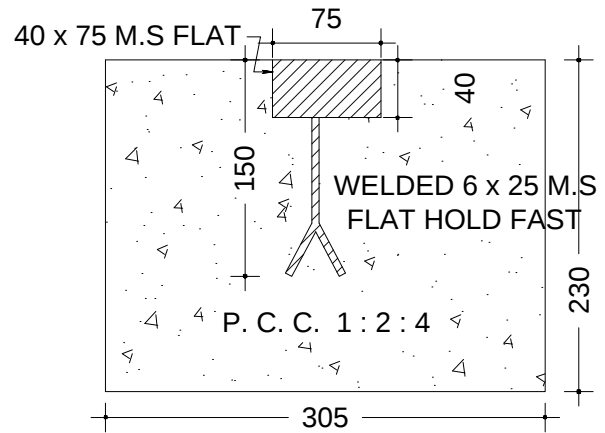
FRONT ELEVATION
SCALE = 1 : 30



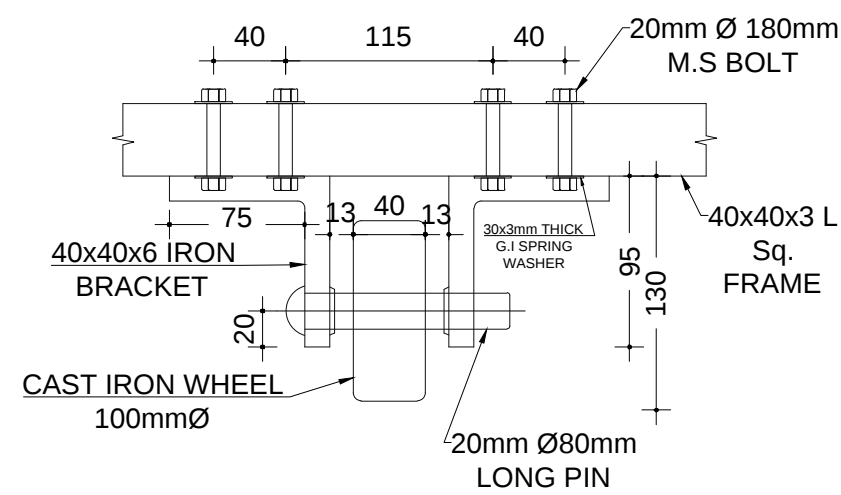
P L A N
SCALE = 1 : 30



SECTION 1-1
SCALE = 1 : 15

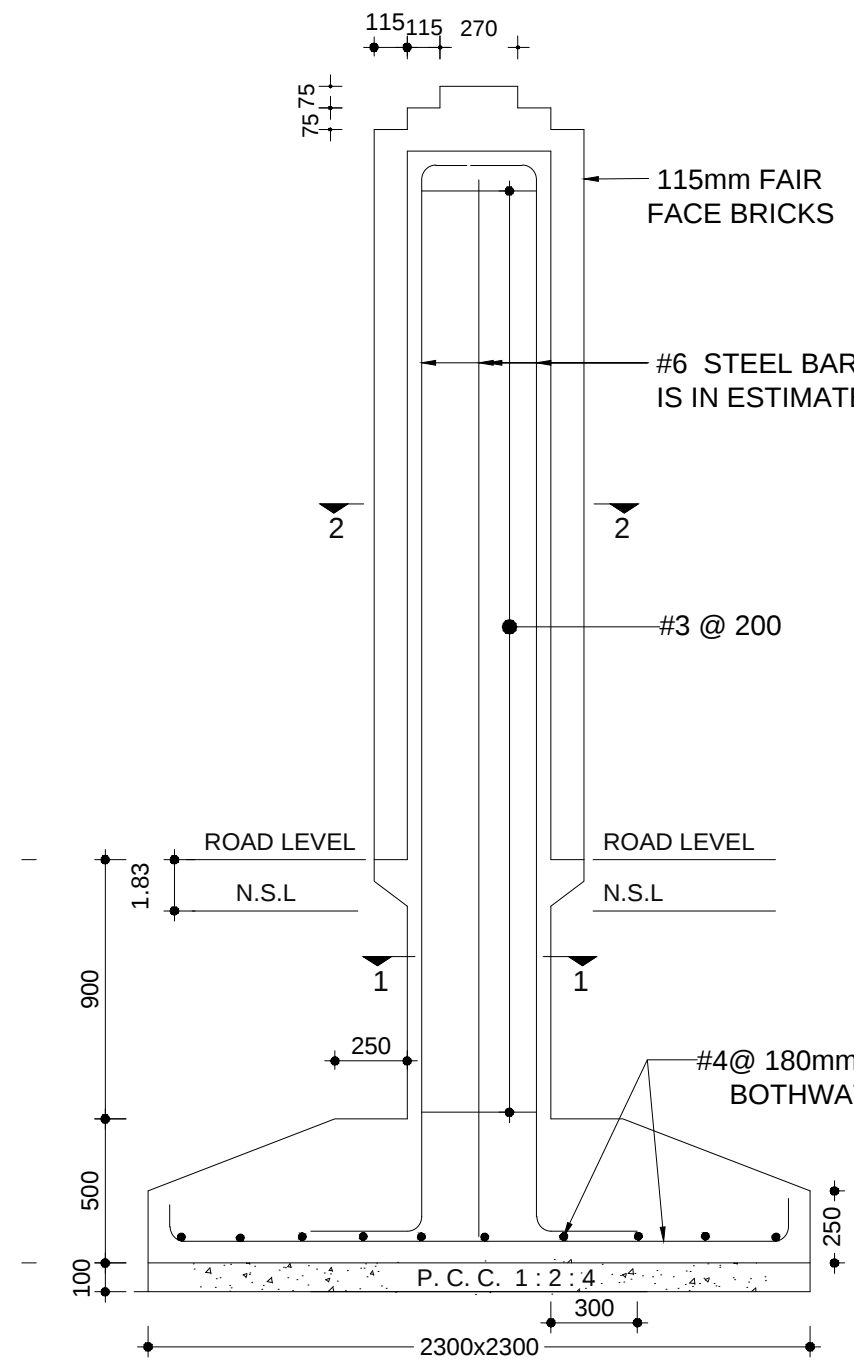


SECTION 3-3
SCALE = 1 : 5

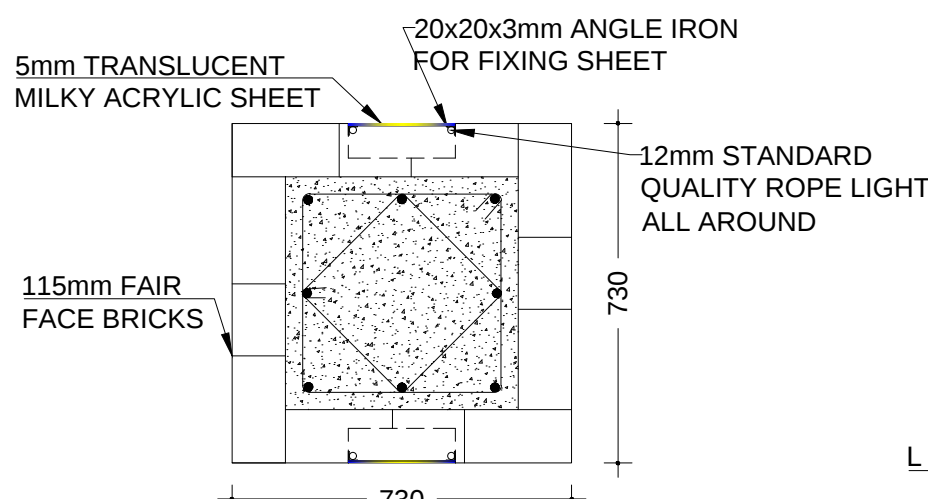


DETAIL OF ROLLER
SCALE = 1 : 4

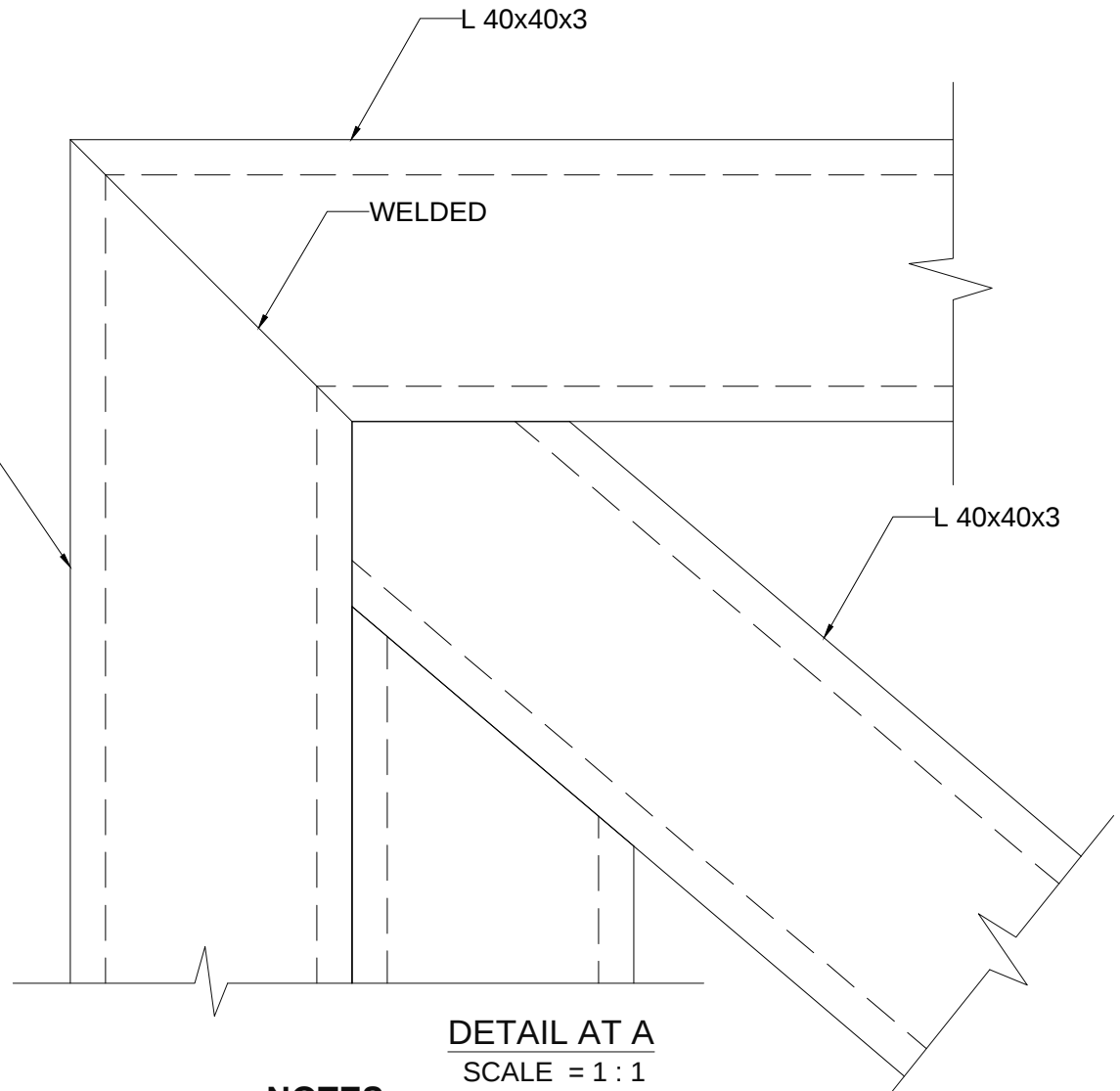
Approval By the Engineer does not
in any way relieve the Contractor
of his responsibility to do work in
accordance with the contract



SECTION A-A
GATE PILLER SHOWING
REINFORCEMENT DETAIL
SCALE = 1 : 25

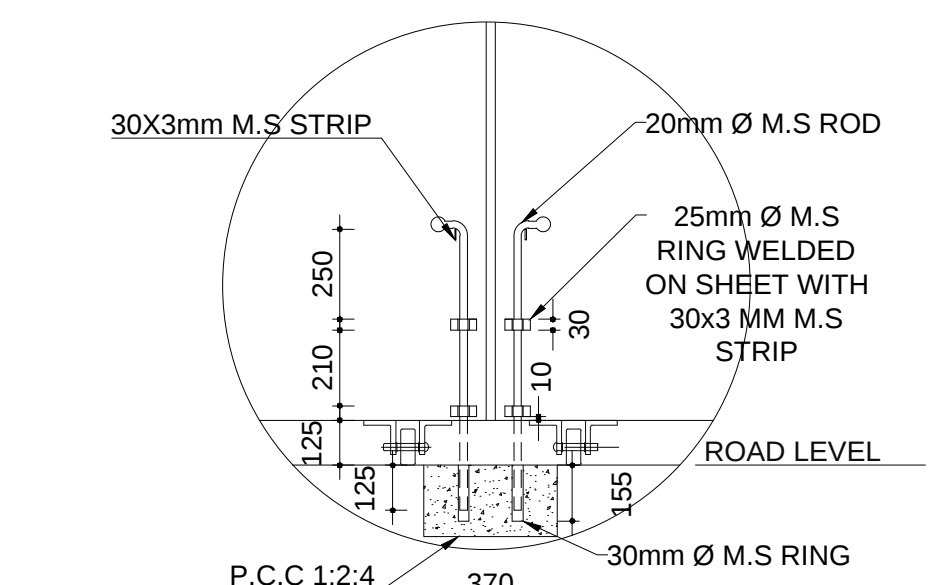


PLAN SHOWING DETAILS OF WELDING G.I
SHEET WITH FRAME SECTION 4-4
SCALE = 1 : 1

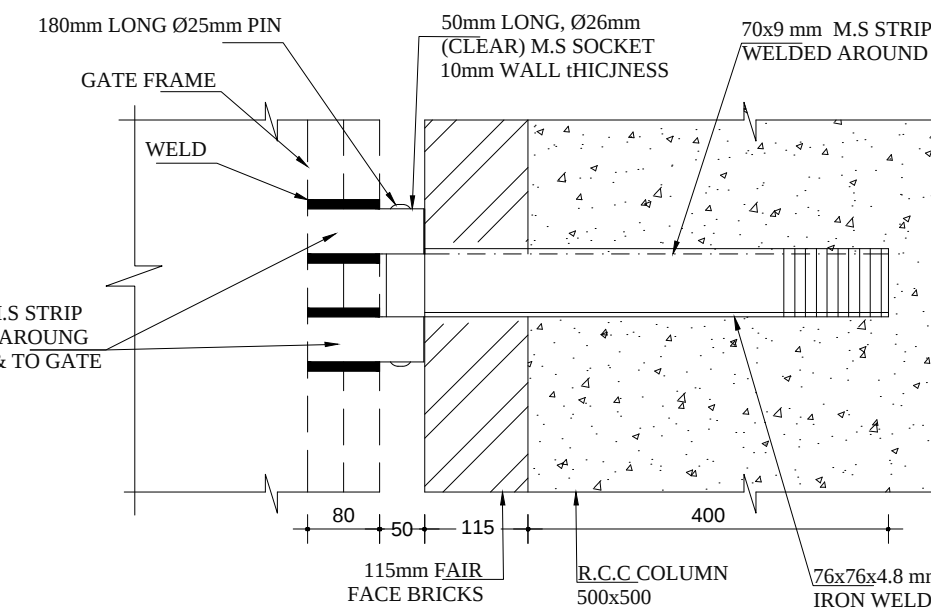


NOTES

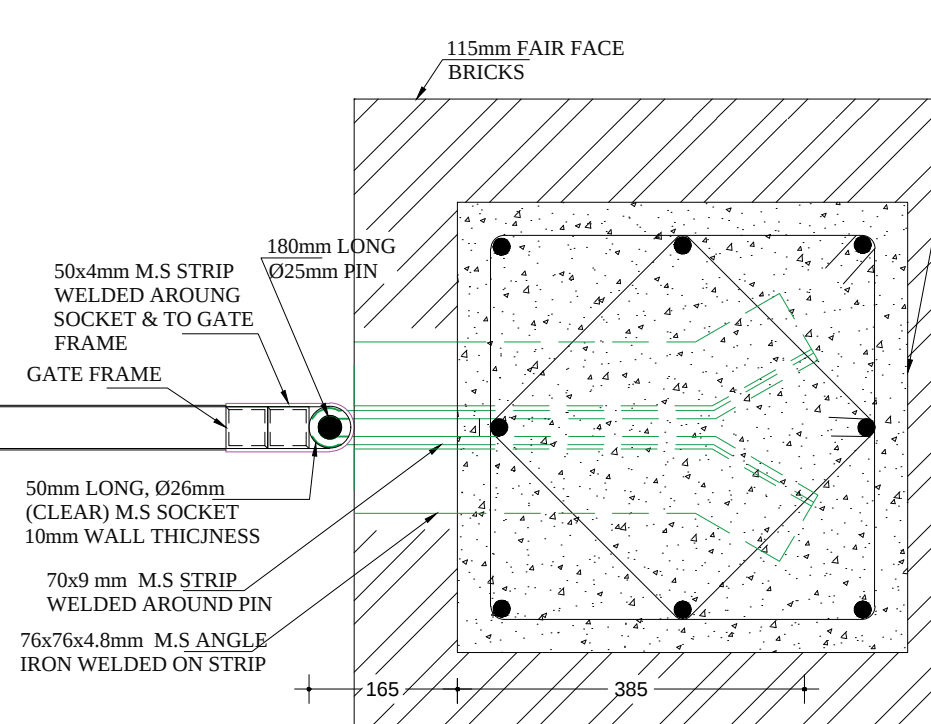
1. ALL DIMENSION ARE GIVEN IN MILLIMETERS
2. EXPANSION JOINT OF 20mm SHOULD BE PROVIDED BETWEEN FACE OF GATE PILLARS AND ADJACENT BOUNDARY WALL COLUMN.
3. ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 28N/MM² AT 28 DAYS.
4. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 420N/MM² (GRADE 40) CONFORMING TO ASTM-A-618.
5. USE REINFORCEMENT BARS AS PER ASTM IMPERIAL SYSTEM.
6. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 19MM CONFORMING TO ASTM C-33.
7. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
8. CURING MUST BE CONTINUED FOR ATLEAST 10 DAYS.
9. FAIR FACE BRICKS OF 115x75x230 mm SHOULD BE USED AS APPROVED BY ENGINEER.
10. ALL THE WELDED JOINT SHOULD BE WELL DRESSED AND ANY GAP SOULD BE FILLED WITH APPROVED STEEL EPOXY PUTTY PRIOR TO APPLICATION OF PAINT.
11. ALL THE EXPOSED STEEL STRUCTURES SHOULD BE COATED WITH RED OXIDE PRIOR TO APPLICATION OF TWO COATS OF APPROVED SPRAY PAINT.
12. COMPANY LOGO & SUBSTATION NAME SHALL BE AS PER DETAIL SHOWN IN ELEVATION WITH STANDARD COLORS.
13. THE TYPE OF SELECTED WELDING ROD SHALL MATCH THE BASE MATERIAL IN STRENGTH, (ASTM-A36), ADOPT TYP. E70xx ELECTRODE.
14. ALL WIRNING OF GLODE LIGHT AND PANEL LIGHTS SHOULD BE PROVIDED WITH STANDARD PVC PIPE AND NEWAGE CABLES AND SWITCHEHS SHOULD BE PROVIDED IN SECURITY ROOM.
15. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
16. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
17. THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
18. THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/SITUATION/ LOCATION FOR WHICH IT HAS BEEN APPROVED/ ISSUED.



DETAIL "B"
SCALE = 1 : 20



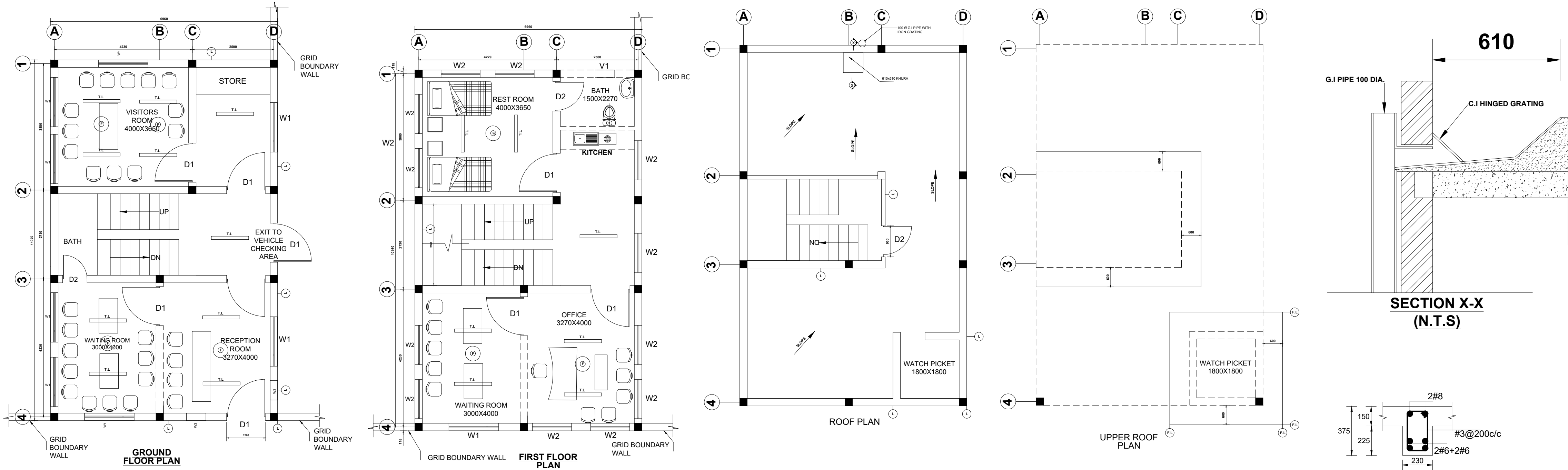
HINGE DETAIL (ELEVATION)
SCALE = 1 : 08



HINGE DETAIL (PLAN)
SCALE = 1 : 08

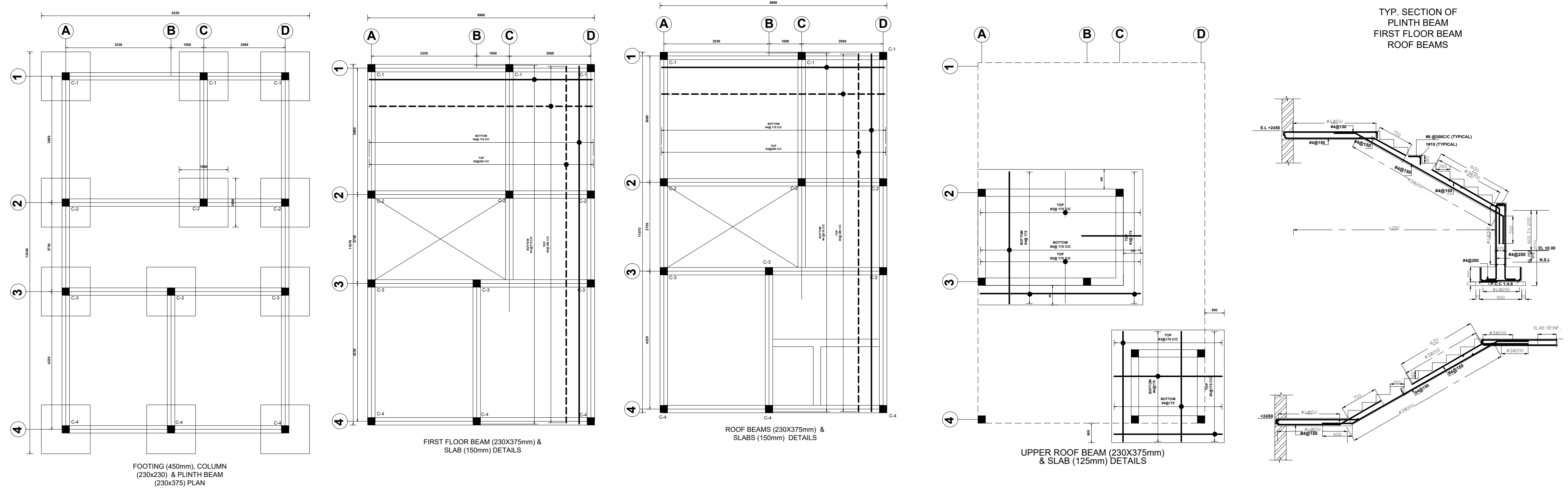
S.NO	DATE	REVISIONS	D.M	M
01	08.01.2019	1. IN FRONT ELEVATION FAIR FACE BRICK 2. IN SECTION A-A GATE PILLER #6 BARS REVISED AS #6STEEL BARS IN ESTIMATE AND N.S.L 1.83M 3. IN NOTES SERIAL NO 4 REVISED GRADE 60 TO GRADE 40 NOTE NO.14 AND 15 IS DELETED	FARID BARKI	M.AZIZ

NATIONAL TRANSMISSION & DESPATCH COMPANY				C.E. DESIGN (NTDC)	
DRAWN BY:	KHALID MAHMOOD	STANDARD DESIGN OF MAIN ENTRY GATE FOR 220/500KV SUBSTATIONS		SCALE:- AS SHOWN DATED: 07-05-2018 DWG. No. PDD/CT-92	
CHECKED BY:	FARID BARKI				
ASST. MANAGER	M.MUNIR ANJUM				
DEPUTY MANAGER	FARID BARKI				
MANAGER	MUHAMMAD AZIZ				
CHIEF ENGINEER	M.NAEEM HASSAN				

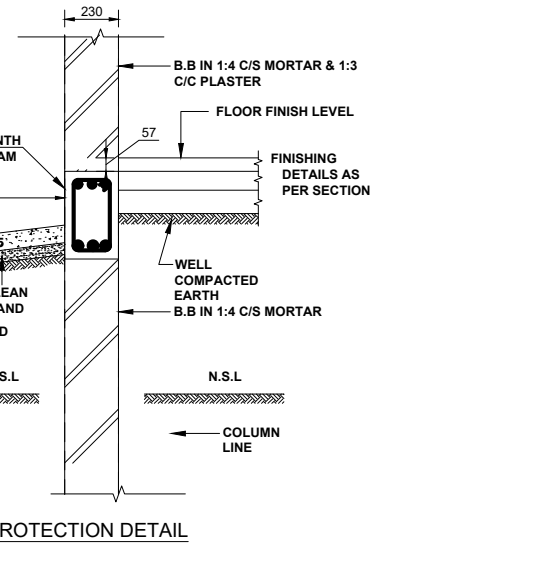
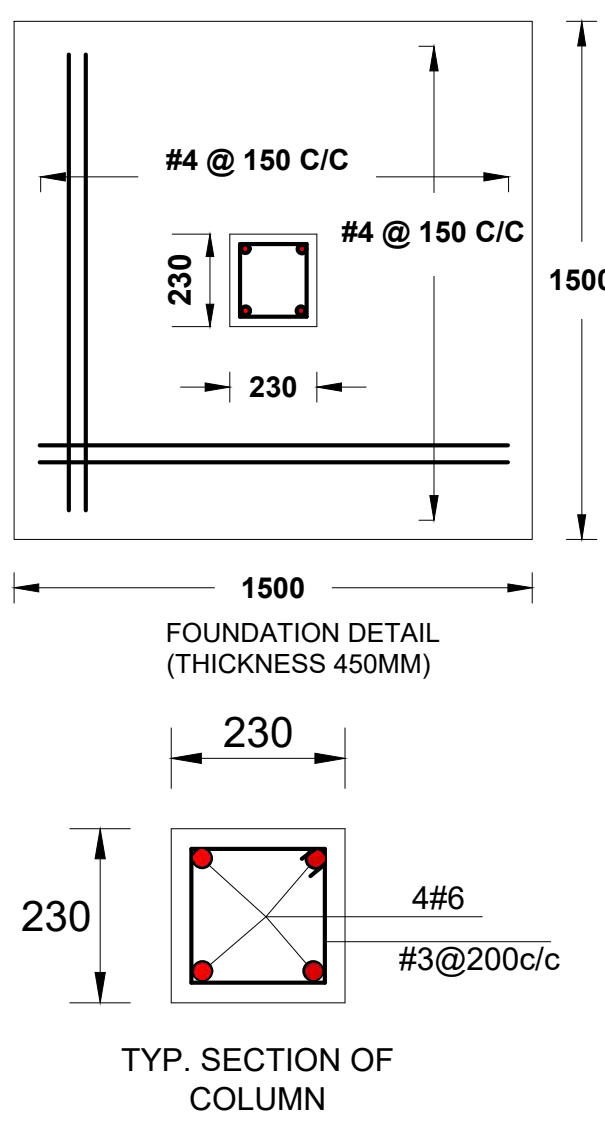
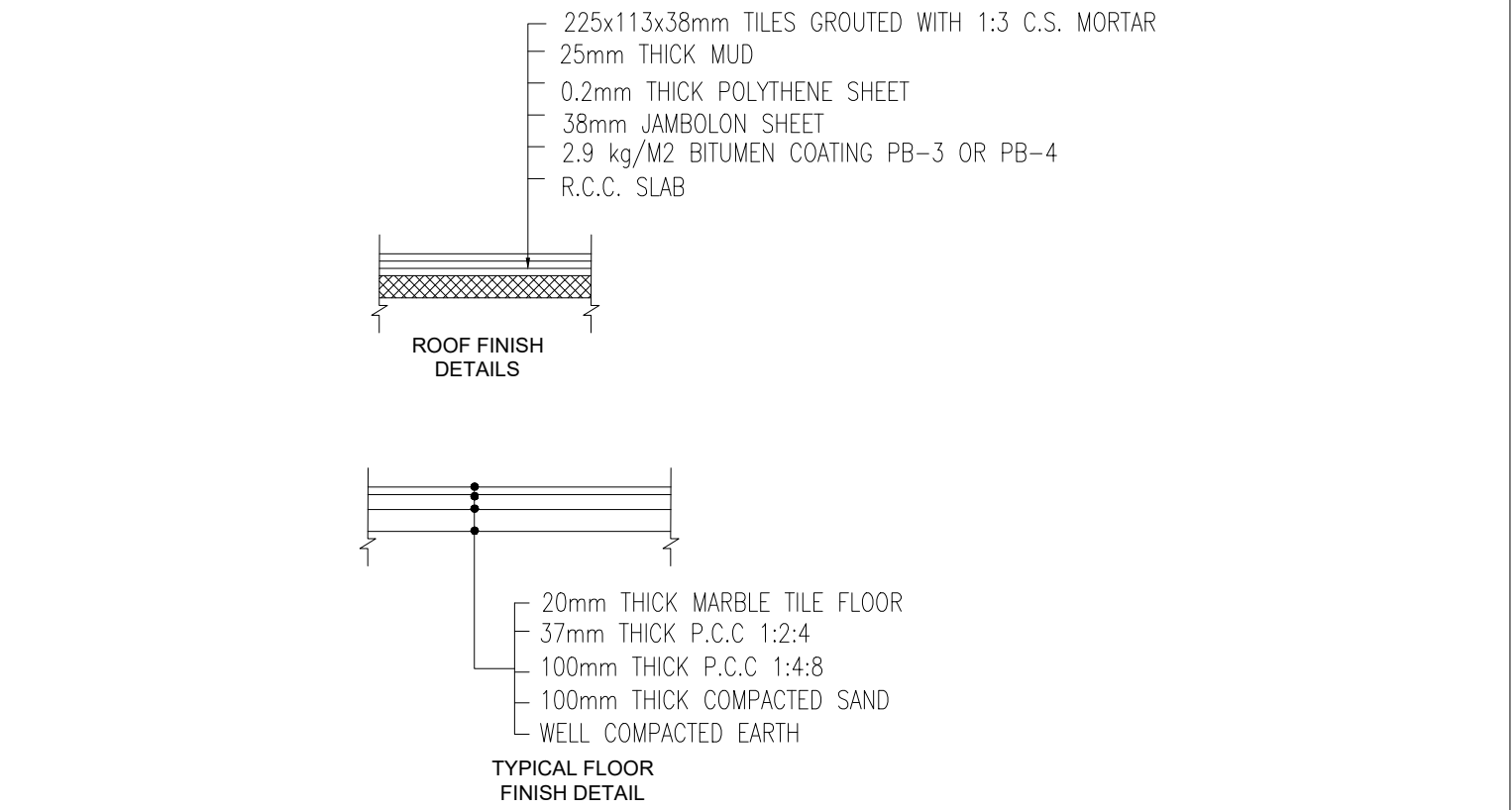
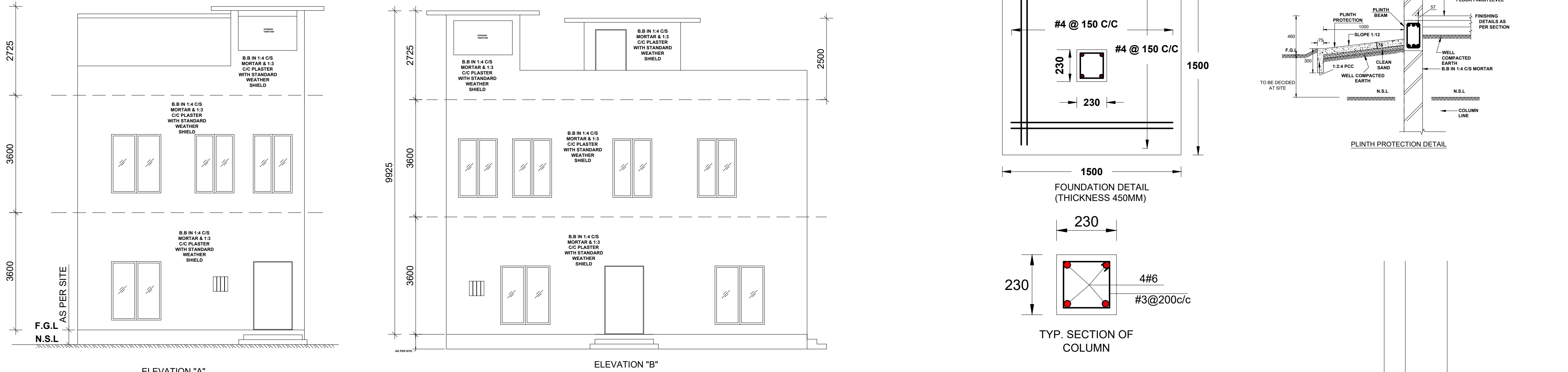


No	DESCRIPTION	SYMBOL
1	LIGHT PLUG	LP
2	SWITCH FOR LIGHT PLUG	SLP
3	TUBE LIGHT	T.L
4	SWITCH FOR TUBE LIGHT	S.T.L
5	FAN	F
6	SWITCH FOR FAN	S.F
7	BULB	L
8	SWITCH FOR LIGHT	S.L

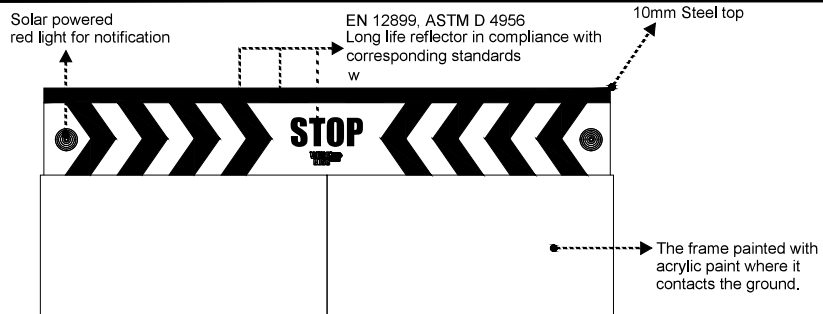
SCHEDULE OF DOORS & WINDOWS			
NO.	SIZE	DESCRIPTION	SILL
D1	1200 x 2100	SINGLE SHUTTER paneled WITH STEEL FRAME	---
D2	950 x 2100	SINGLE SHUTTER paneled WITH STEEL FRAME	---
W1	1500x 1800	STEEL GLAZED WINDOW	600
W2	1200 x1800	STEEL GLAZED WINDOW	600
W3	450 x 450	STEEL GLAZED WICKET WINDOW WITH BARS	1200



- NOTES
- ALL INTERIOR WALLS EXCEPT TOILET SHOULD BE FINISHED WITH 1:4 CEMENT PLASTER ALL
 - STRUCTURE CONCRETE (1:1.5:3) SHALL HAVE CYLINDER STRENGTH OF 3000PSI AT 28 DAYS.
 - EXCEPT AS NOTED OTHERWISE ALL REINFORCING STEEL SHALL BE DEFORMED BARS OF GRADE-60 HAVING MIN. YIELD STRENGTH 60,000 PSI AND CONFORMING TO ASTM A-615.
 - EXTERIOR WALLS SHOULD BE FINISHED AS INDICATED ON DRAWING.
 - ALL MATERIALS AND WORKMANSHIP SHOULD CONFORM WITH RELEVANT SPECIFICATION PAKISTAN STANDING RATE COMMITTEE LATEST EDITION.
 - ALL THE CONSTRUCTION WORK TO BE DONE STRICTLY ACCORDING TO THE DRAWING AND SPECIFICATION.

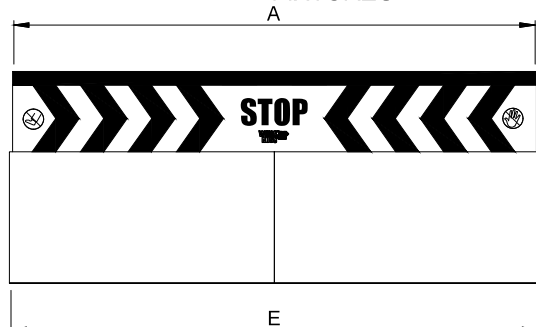


NATIONAL TRANSMISSION & DESPATCH COMPANY					DESIGN (NTDC)	
DRAWN	MUHAMMAD ALI		DESIGN OF DOUBLE STOREY SECURITY/RECEPTION OFFICE			
CHECKED	FARID BURKI					
ASST: MANAGER	MARYAM MANSHA					
DY: MANAGER	FARID BURKI					
MANAGER	MUHAMMAD AZIZ					
CHIEF ENGINEER	IMRAN RASHID		SCALE:- 1:100		DATE:- 04-12-2020	
			DWG. NO PDW-TB-2571			



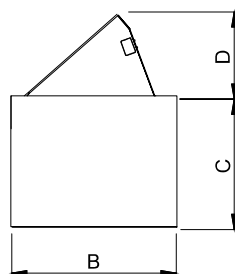
FRONT VIEW

FIXTURES



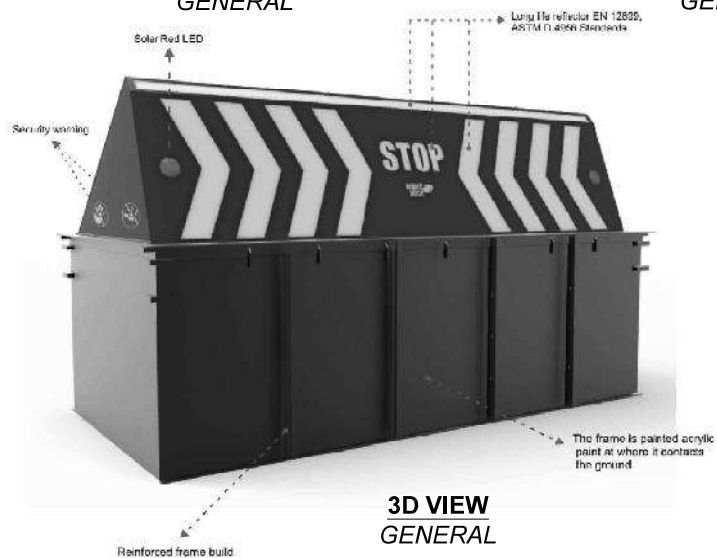
FRONT VIEW

GENERAL



SIDE VIEW

GENERAL



3D VIEW
GENERAL

DIMENSIONS

LENGTH																			
2 M					3 M					4 M					5 M				
A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
2000	1980	1322	1000	2200	3000	1980	1322	1000	3200	4000	1980	1322	1000	4200	5000	1980	1322	1000	5200
6000	1980	1322	1000	6200															

GENERAL SPECIFICATION

Type	ARMOR SERIES				
Length	2 mt	3 mt	4 mt	5 mt	
Moving part	Steel sheets are S355JR quality steel - 10 mm steel top				
Working system	Hydraulic				
Power source	380 V 3 Phase 50/60 Hz				
Control unit	12 input - 8 output PLC				
Current draw	15 A			21 A	
Ac motor power	5,5 KW			7,5 KW	
Dc motor power			2,2 KW		
Number of pistons	Double Piston				
On/off duration (ac motor)	3 second				
On/off duration (dc motor)	Approximately 20 seconds				
Continuously of operation	100%				
Limit switch type	Adjustable motor operational duration				
Minimum operational pressure	30 Bar				
Maximum operational pressure	180 Bar				
Manual turn on	Through ball valve				
Manual shut down	Hand pump				
Hydraulic oil type	32 or 46 number hydraulic oil				
Oil tank (lt.)	130 Lt.				
Notification light	Solar powered red notification light embedded in the lateral steel sheets				
Hydraulic pipe	3/8 R2 330 Bar				
Operational temperature	-20°C min +70°C max				
Accumulator support	Available				
Emergency shut down	Optional 1 seconds				
Water discharge pump	Automatic pump				
Crash test	IWA 14 N3D crash test certification				

NOTES:-

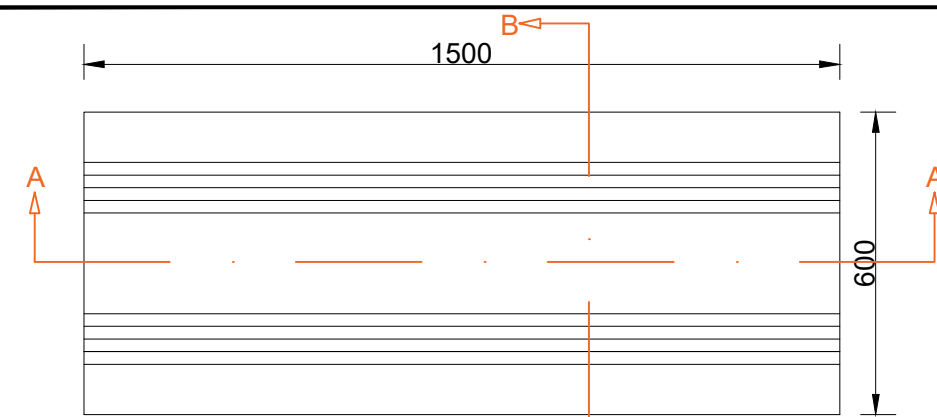
1. THE HYDRAULIC ROAD BLOCKER SHALL BE OF A RENOWNED COMPANY.
2. THE SPECIFICATION AND DIMENSIONS ARE FOR REFERENCE. STRICT COMPLIANCE TO DIMENSIONS IS NOT MANDATORY. HOWEVER, THE SPECIFICATION/STANDARD OF HYDRAULIC ROAD BLOCKER SHALL BE EQUIVALENT.
3. THIS DRAWING/SKETCH/DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.



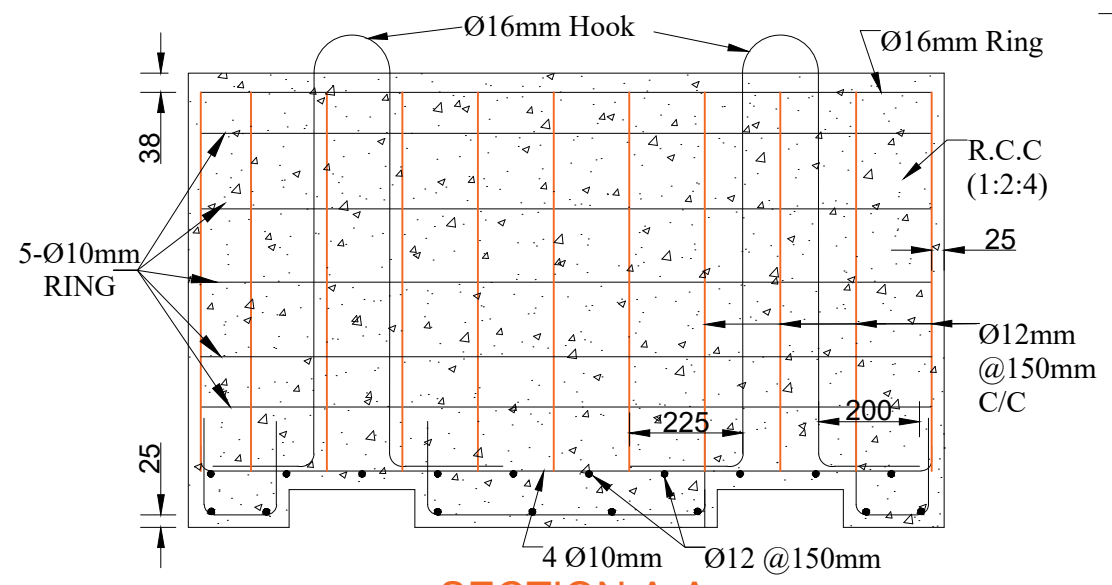
NATIONAL TRANSMISSION & DESPATCH COMPANY

DESIGN
(NTDC)

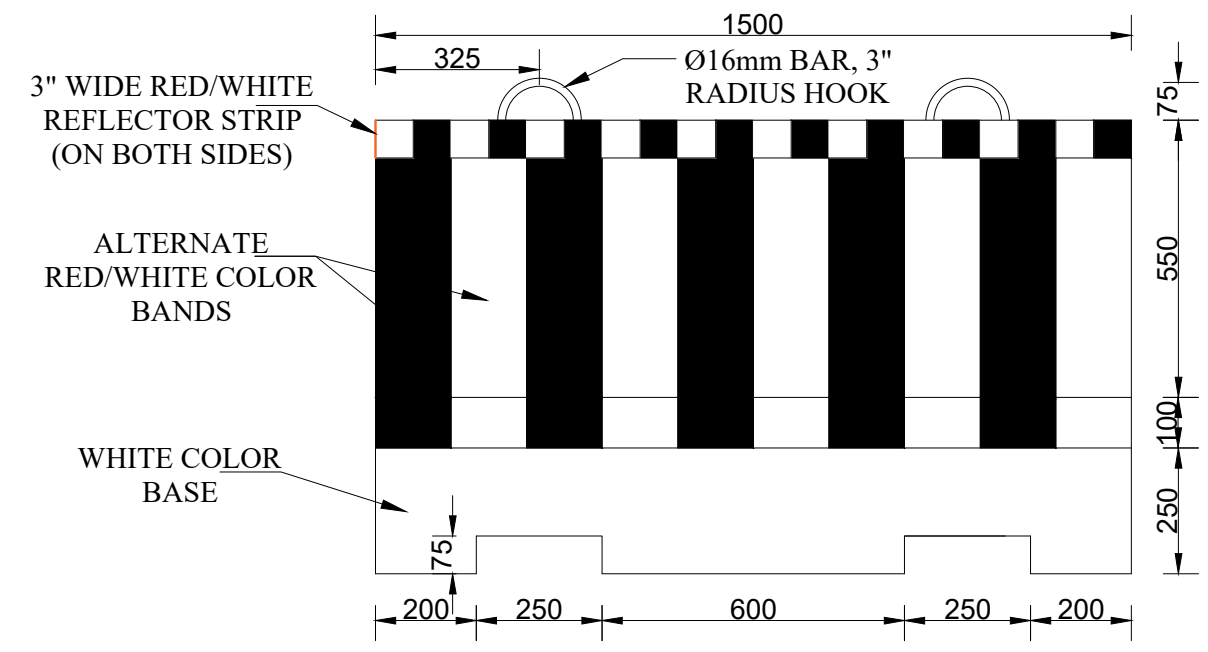
DRAWN	GADANI SIKANDAR	GENERAL SPECIFICATION OF HYDRAULIC ROAD BLOCKER			
CHECKED	FARID ULLAH BARKI				
ASSTT. MANAGER	MARYAM MANSHA				
DY: MANAGER	FARID ULLAH BARKI				
MANAGER	MUHAMMAD AZIZ	PAPER SIZE ISO-A3	SCALE:- N.T.S	DATE:- 21-09-2020	
CHIEF ENGINEER	IMRAN RASHID	DWG. NO. PDW/TZ-1132			SHEET 01/01



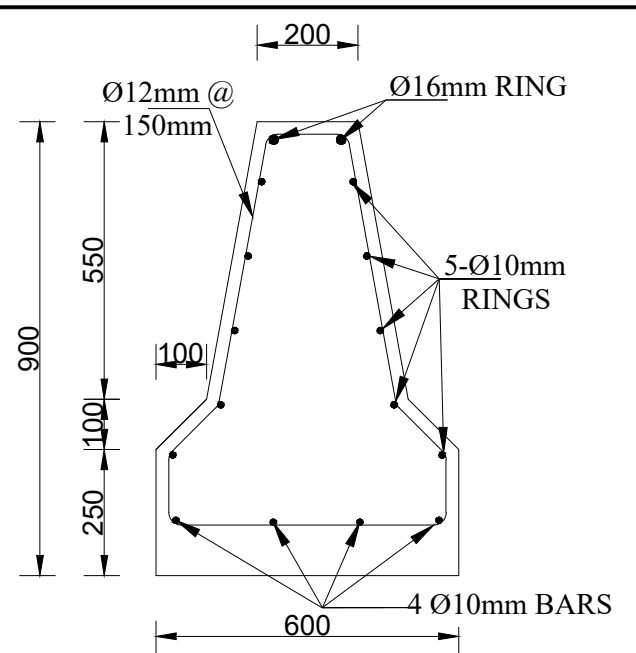
PLAN
SCALE 1:20



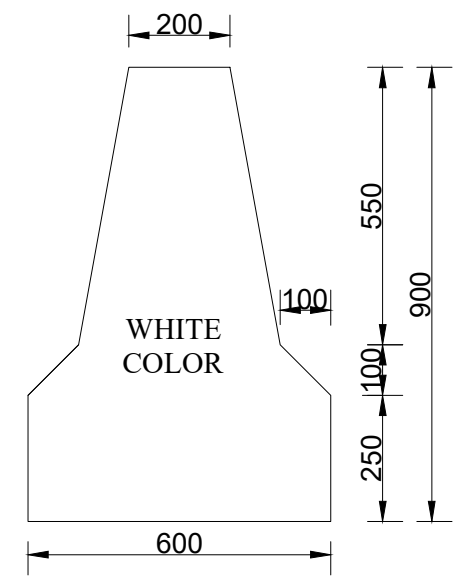
SECTION A-A



FRONT ELEVATION



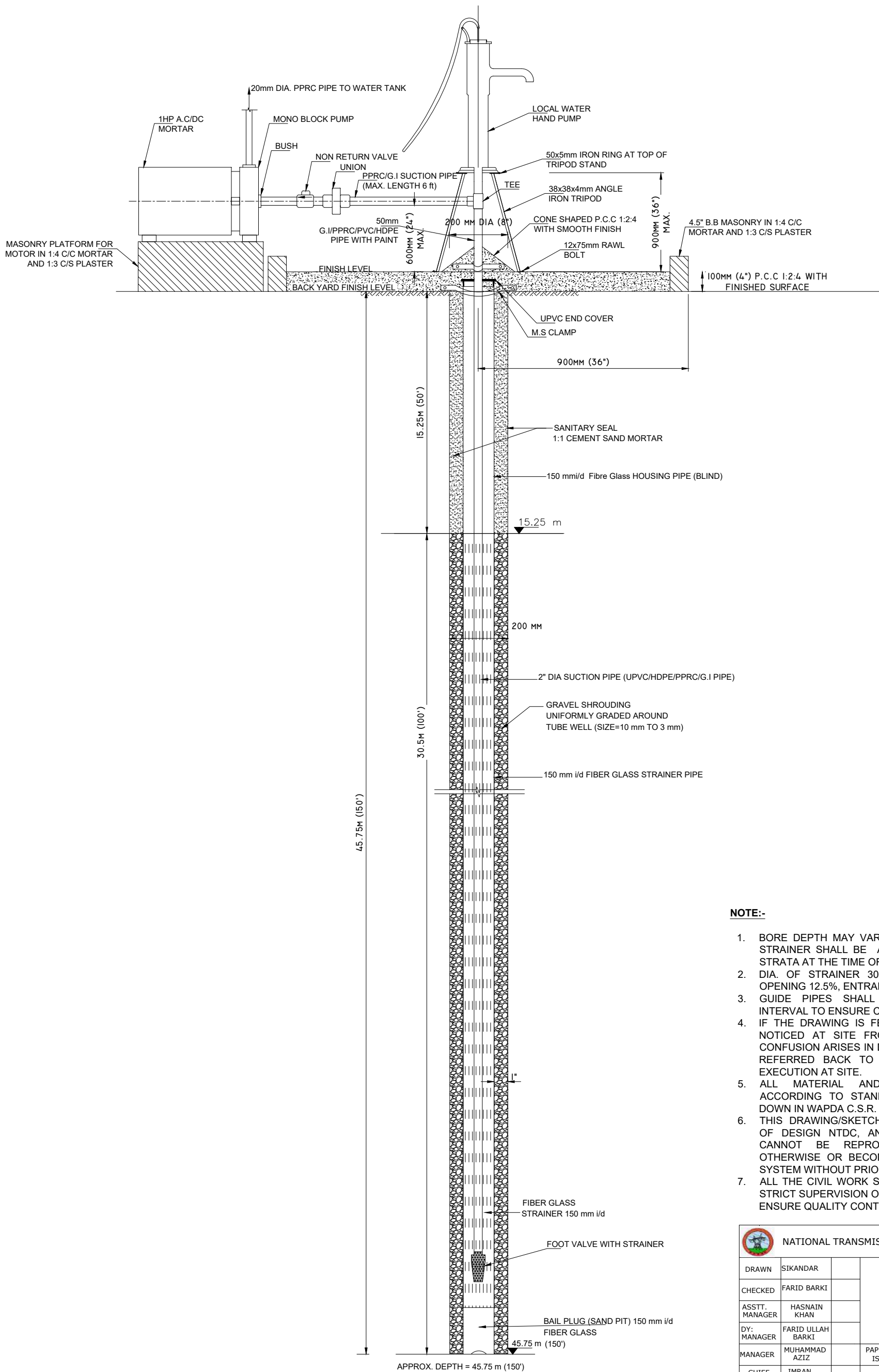
SECTION B-B



SIDE ELEVATION

- NOTES:-**
1. ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 21N/MM² AT 28 DAYS.
 2. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 420N/MM² CONFORMING TO ASTM-A-615.
 3. USE REINFORCEMENT BARS AS PER ASTM IMPERIAL SYSTEM
 4. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 19MM CONFORMING TO ASTM C-33.
 5. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
 6. CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
 7. CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
 8. POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING.
 9. CURING MUST BE CONTINUED FOR ATLEAST 10 DAYS.
 10. ALL FACES OF CONCRETE SHALL BE FAIR, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK)
 11. IF THE SKETCH IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
 12. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
 13. THIS DRAWING/SKETCH/DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
 14. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS.

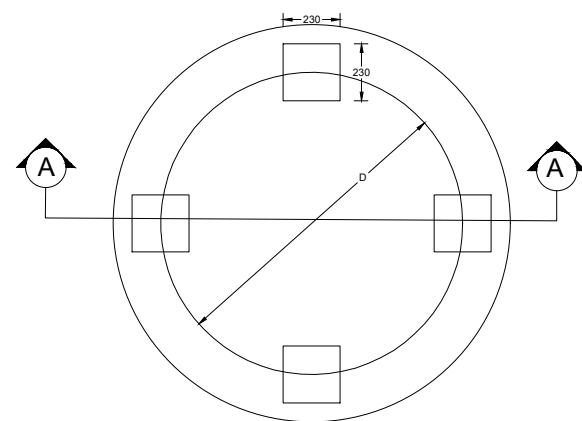
NATIONAL TRANSMISSION & DESPATCH COMPANY				C.E. DESIGN (NTDC)
DRAWN	M. ALI			STANDARD DESIGN OF CONCRETE ROAD BLOCKS
CHECKED	FARID BARKI			
ASSTT. MANAGER	MARYAM MANSHA			
DEPUTY MANAGER	FARID BARKI			
MANAGER CIVIL	MUHAMMAD AZIZ			SCALE:- 1:20
CHIEF ENGINEER	MAZHAR ALI			DATE:- 23-04-2019
				SKETCH NO. SKETCH/MC/14



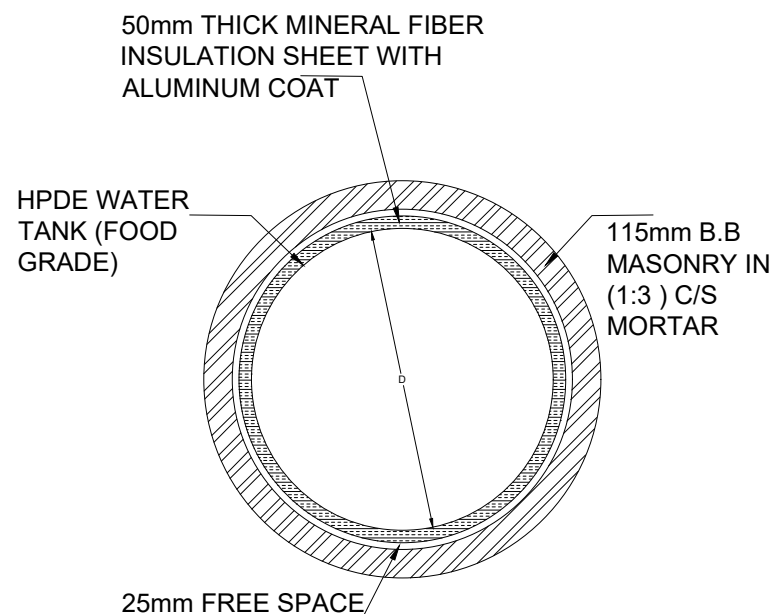
NOTE:-

1. BORE DEPTH MAY VARY AT SITE AND, PLACEMENT OF STRAINER SHALL BE ACCORDING TO AVAILABILITY OF STRATA AT THE TIME OF BORING.
2. DIA. OF STRAINER 300mm INTERNAL DIA., %AGE OF OPENING 12.5%, ENTRANCE VELOCITY 0.05ft/sec.
3. GUIDE PIPES SHALL BE INSTALLED AT REGULAR INTERVAL TO ENSURE CENTERING OF CASING PIPE.
4. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING, THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
5. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
6. THIS DRAWING/SKETCH/DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
7. ALL THE CIVIL WORK SHOULD BE CARRIED OUT UNDER STRICT SUPERVISION OF QUALIFIED CIVIL ENGINEERS TO ENSURE QUALITY CONTROL.

 NATIONAL TRANSMISSION & DESPATCH COMPANY			DESIGN (NTDC)		
DRAWN	SIKANDAR		INDEPENDENT WATER SUPPLY DESIGN FOR QUARTERS (MANUAL+ELECTRIC PUMP+150R BORE)		
CHECKED	FARID BARKI				
ASSTT. MANAGER	HASNAIN KHAN				
DY. MANAGER	FARID ULLAH BARKI				
MANAGER	MUHAMMAD AZIZ		PAPER SIZE ISO-A3	SCALE: N.T.S	DATE:- 07-05-2020
CHIEF ENGINEER	IMRAN RASHID		DWG. NO. PDW/TZ-1131		

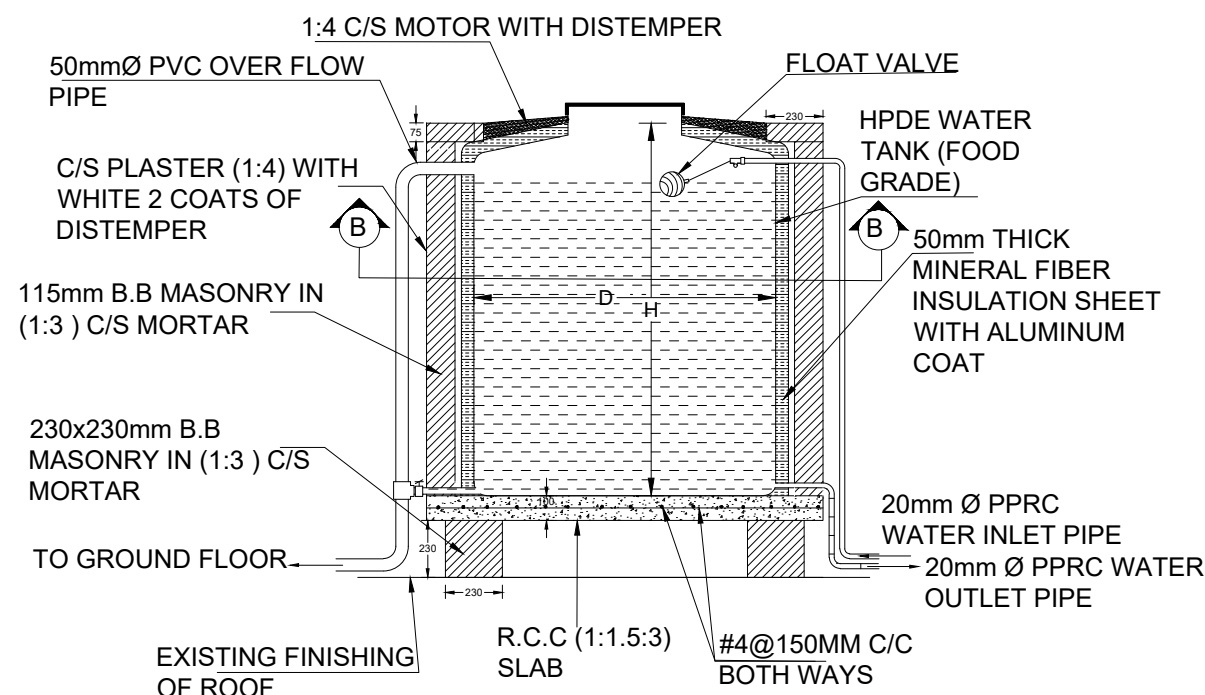


BASE PLAN

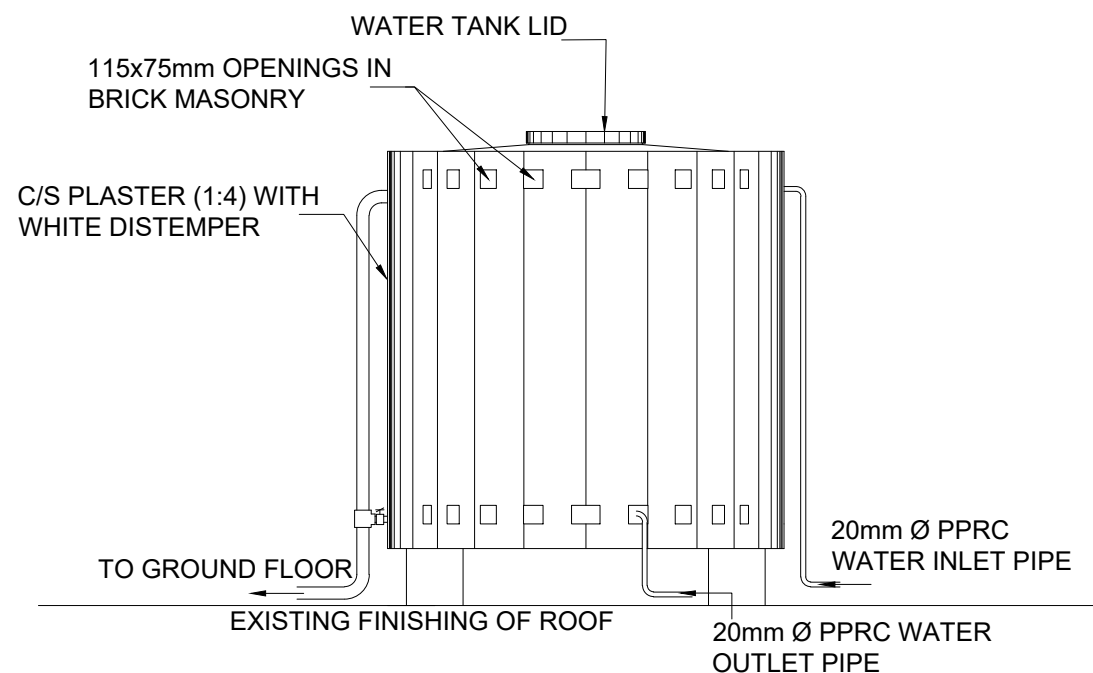


SECTION B-B

TENTATIVE SIZE OF TANKS		
	CAPACITY (GALLONS)	
DIMENSION	500	1000
DEPTH (D)	48"	60"
HEIGHT (H)	72"	90"



SECTION A-A

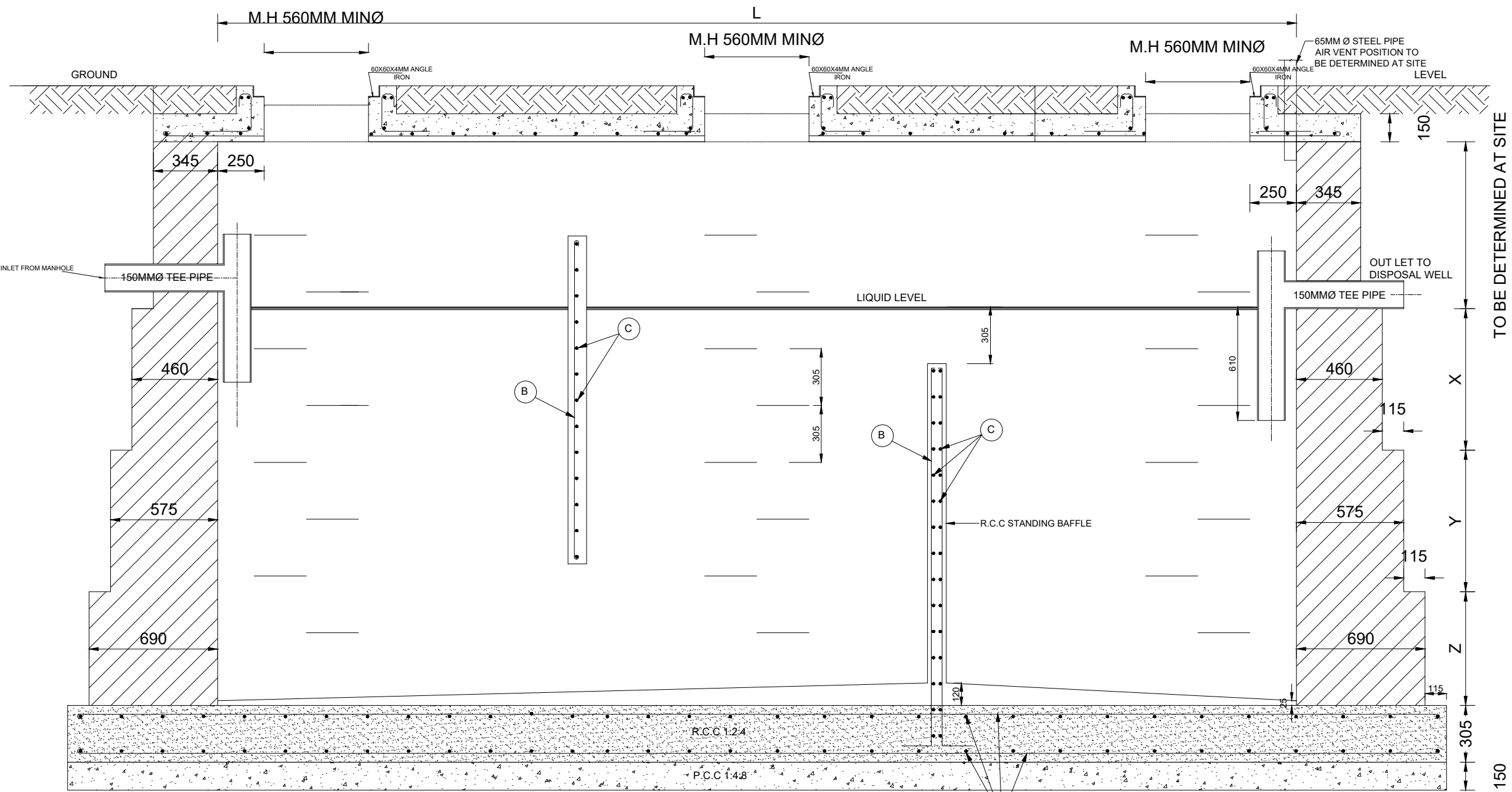


ELEVATION

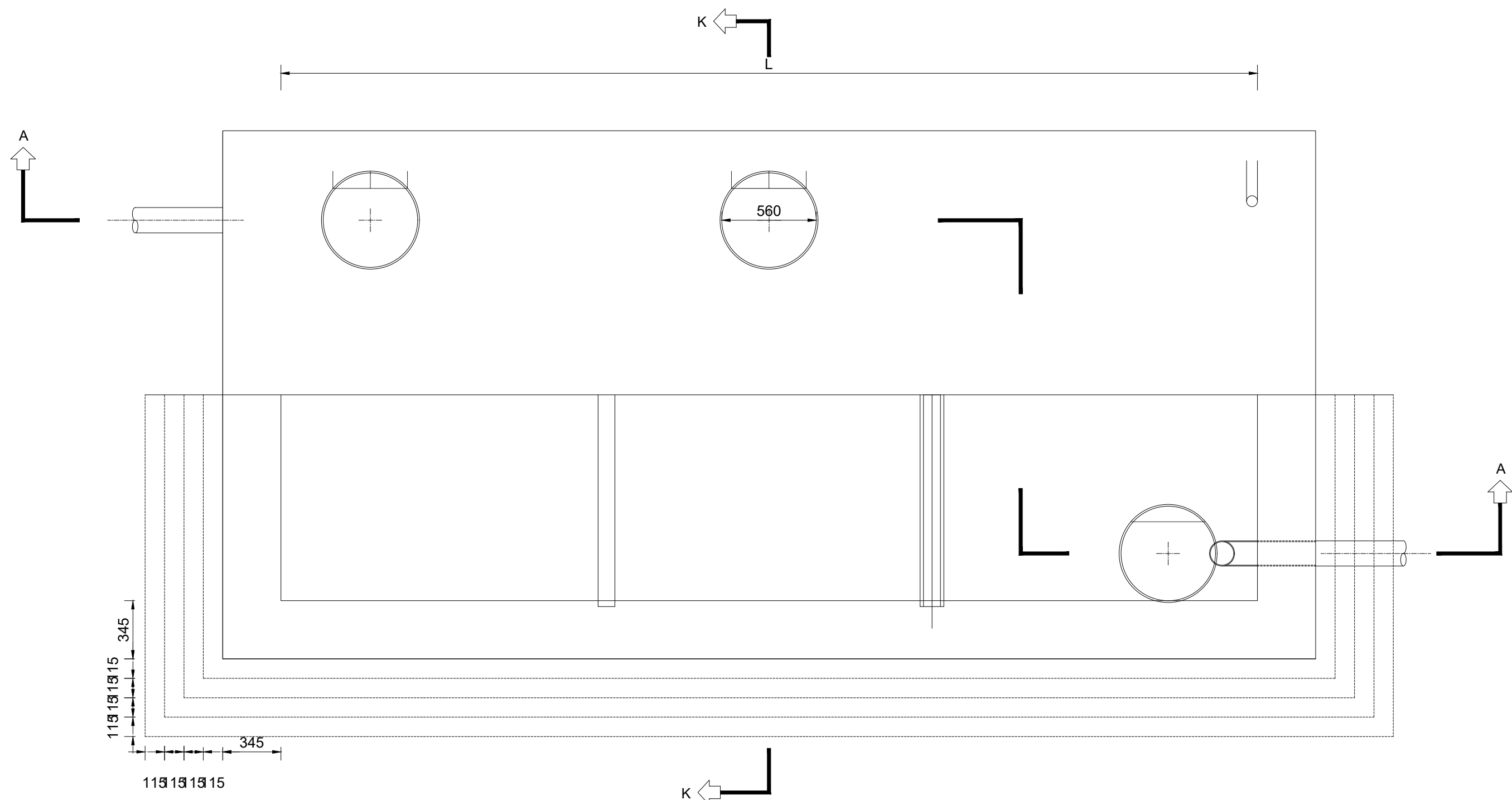
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS
2. ALL MASONRY WORK TO BE IN (1:3) C.S MORTAR
3. 12mm THICK PLASTER IS TO BE PROVIDED IN (1:4) C.S MORTAR INTERNALLY & EXTERNALLY.
4. ALL R.C.C (1:1.5:3) TO HAVE A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 21N/sq.mm AT 28 DAYS.
5. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 419N/mm² (GRADE-60) CONFORMING TO ASTM-A-615.
6. STEEL REINFORCEMENT CONCRETE COVER FOR DIFFERENT STRUCTURAL ELEMENTS SHALL BE AS FOLLOWS:
a). SLAB - 20mm
7. USE REINFORCEMENT BARS AS PER ASTM US CUSTOMARY UNITS
8. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 19mm CONFORMING TO ASTM C-33.
9. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
10. CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
11. CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
12. POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING.
13. CURING MUST BE CONTINUED FOR ATLEAST 10 DAYS.
14. ALL STRUCTURAL CONCRETE ABOVE GROUND LEVEL SHALL BE PLASTERED WITH (1:4) C.C MORTAR
15. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
16. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
17. THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
18. THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/ SITUATION/ LOCATION FOR WHICH IT HAS BEEN APPROVED/ ISSUED.

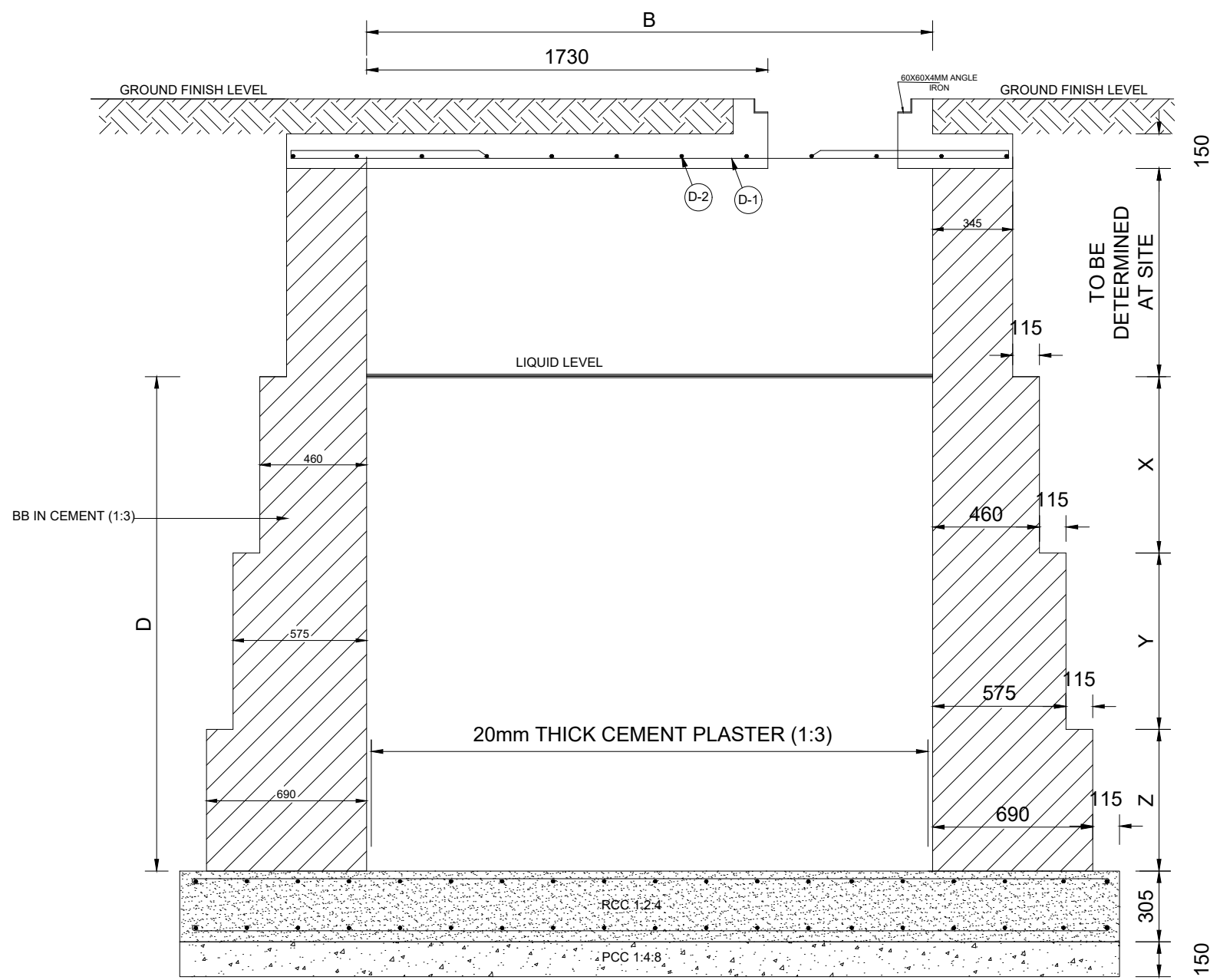
NO	DATE	DESCRIPTION	D.M	M
REVISIONS				
 NATIONAL TRANSMISSION & DESPATCH COMPANY				DESIGN (NTDC)
DRAWN	GADANI SIKANDAR		INDEPENDENT OVER HEAD HDPE WATER TANK DESIGN FOR RESIDENTIAL BUILDINGS	
CHECKED	FARID ULLAH BARKI			
ASST. MANAGER	MARYAM MANSHA			
DY. MANAGER	FARID ULLAH BARKI			
MANAGER	MUHAMMAD AZIZ			
CHIEF ENGINEER	IMRAN RASHID		PAPER SIZE ISO-A3	SCALE:- 1:30
DWG. NO. PDW/TZ-1130			DATE:- 09-04-2020	SHEET 01/01



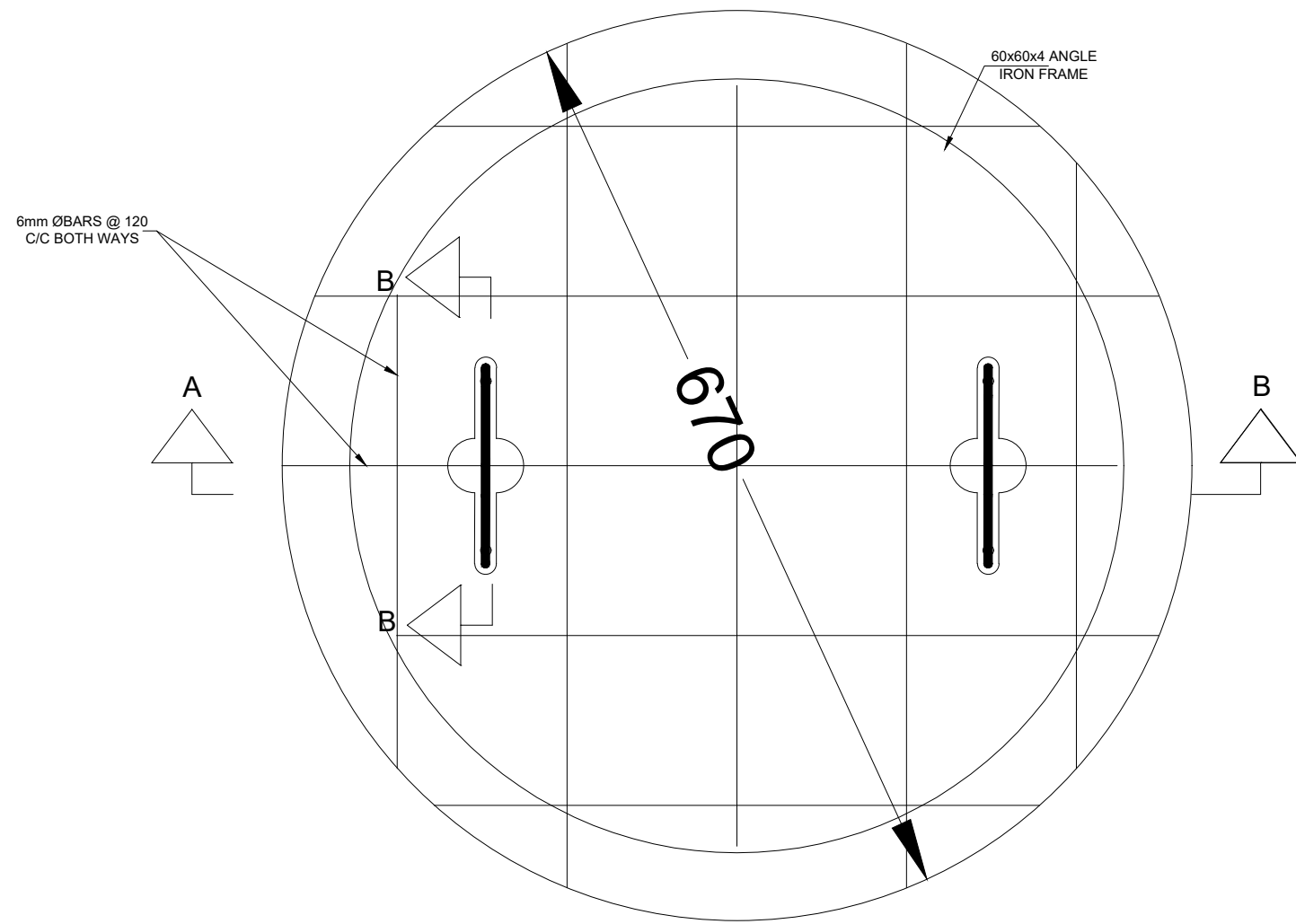
SECTION A-A
SCALE 1:25



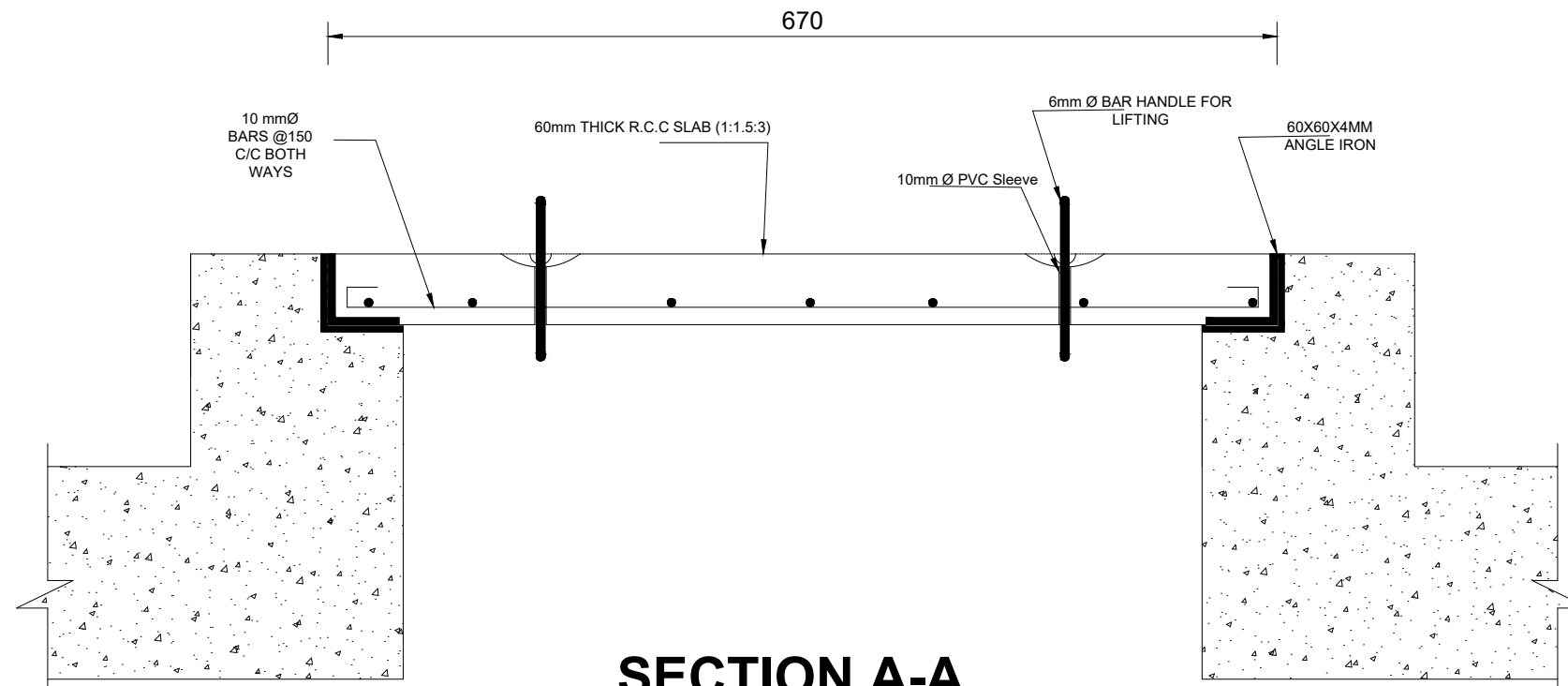
SECTIONAL PLAN
SCALE 1:25



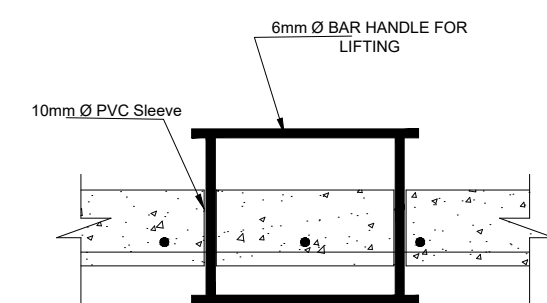
SECTION K-K
SCALE 1:25



PLAN OF MANHOLE COVER
SCALE 1:05



SECTION A-A
SCALE 1:05



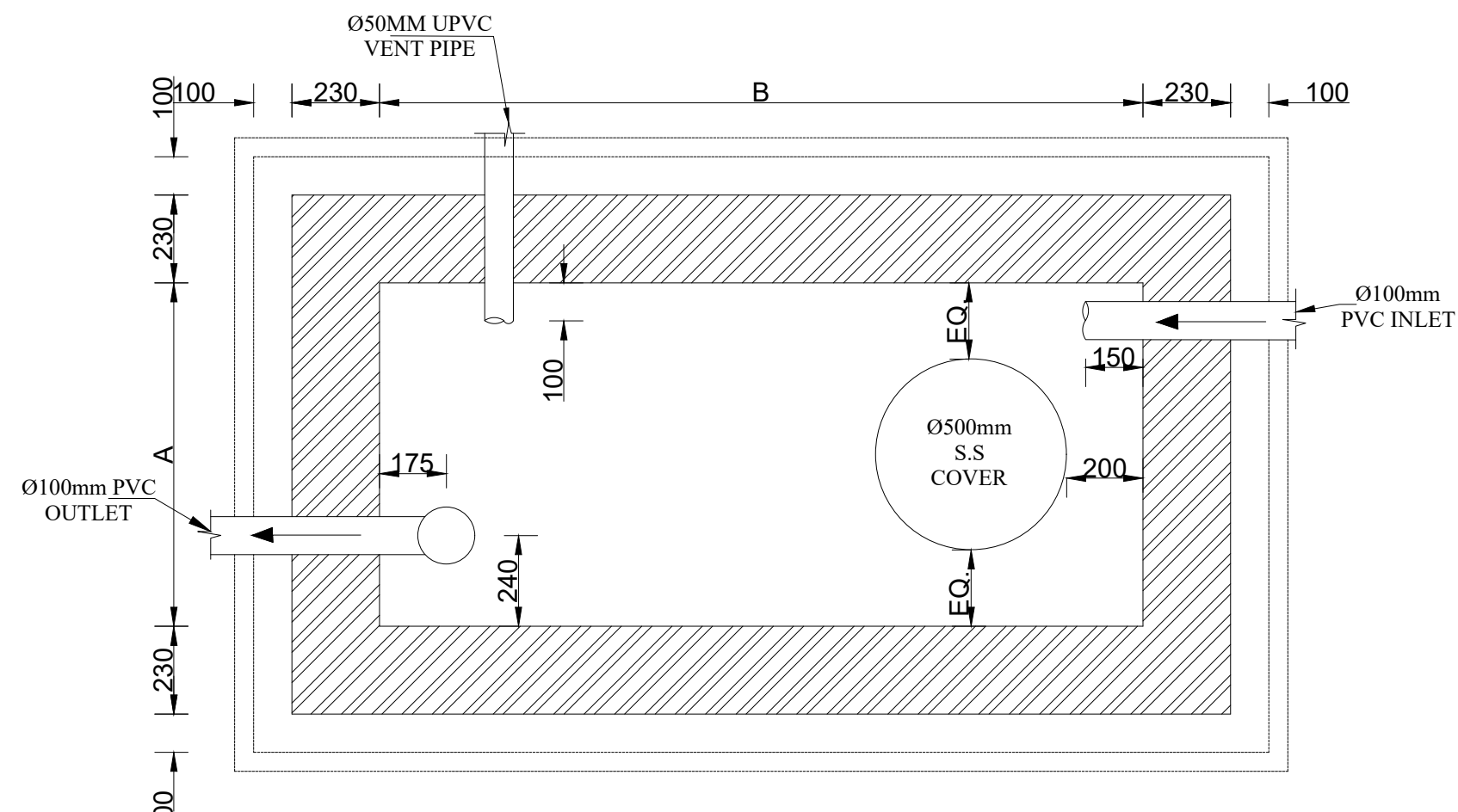
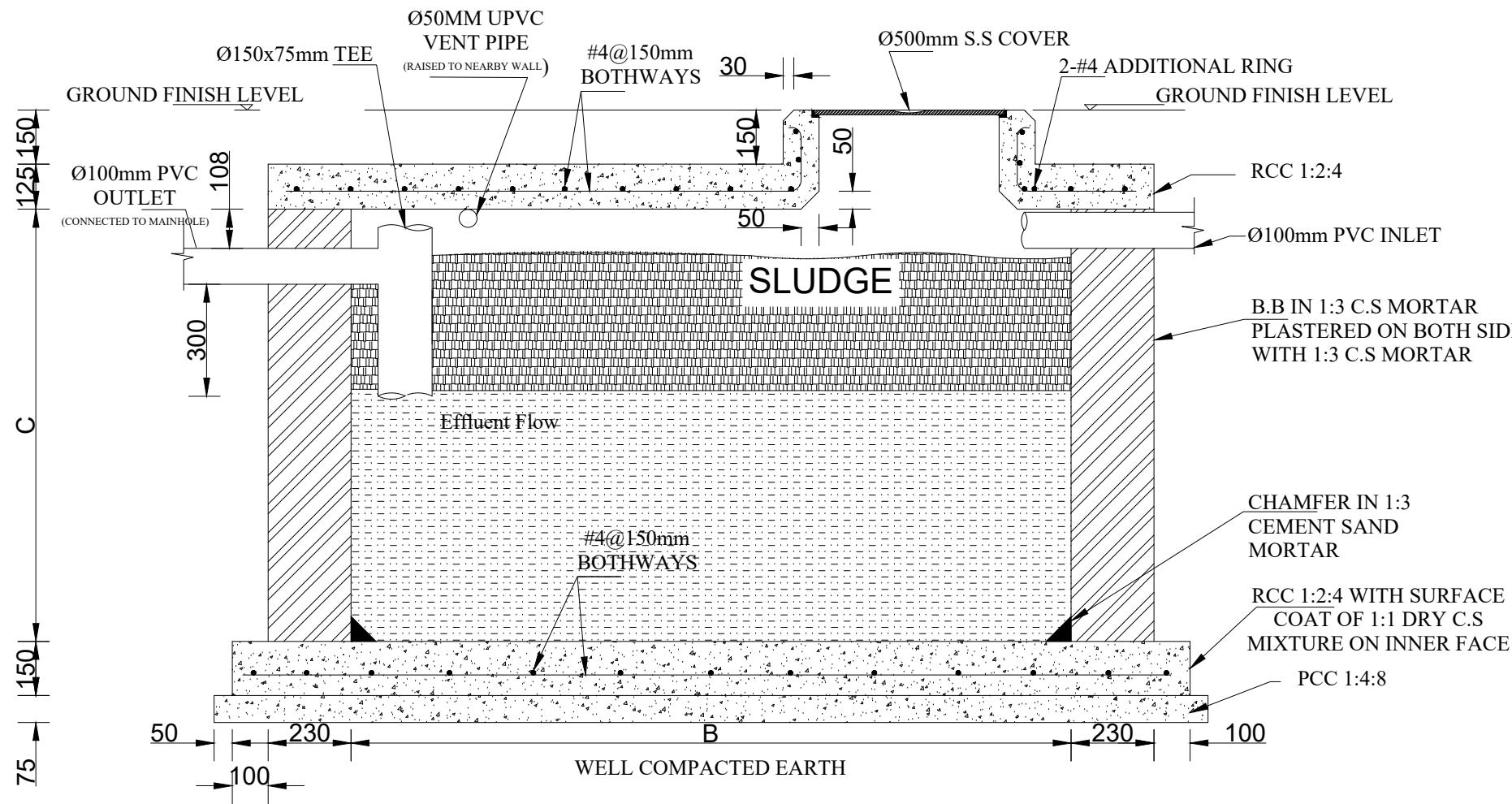
SECTION B-B
SCALE 1:05

NOTES

- ALL DIMENSION ARE GIVEN IN MILLIMETERS
- ALL CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 21 N/mm² (1:1.5:3) AT 28 DAYS.
- REINFORCEMENT SHOULD CONSIST OF DEFORMED BARS OF GRADE 60 HAVING MINIMUM YIELD STRENGTH OF 419N/mm² AND CONFORMING TO ASTM-A-615.
- CONCRETE SHOULD BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
- AGGREGATE TO BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE FOR R.C.C SHOULD BE 13mm.
- MAXIMUM SIZE OF COARSE AGGREGATE FOR PLAIN CEMENT CONCRETE IN FOUNDATION SHOULD BE 19mm.
- FIRST EXTERNAL MANHOLE NEAR THE RESIDENCE SHOULD HAVE MAXIMUM DEPTH OF 600MM
- SAND BED SHOULD BE PROVIDED UNDER PIPES AS SHOWN IN SECTION A'-A'.
- WASTE PIPE FROM WASH BASINS, FLOOR DRAINS, BATH TUBS/AREAS AND WASHING AREAS SHOULD BE DRAINED IN GREY WATER PIPE.
- WASTE PIPE FROM RESIDENTIAL SEPTIC TANK SHOULD BE DRAINED TO BLACK WATER PIPE.
- KITCHEN SINK/WASH AREA PIPE IS TO BE CONNECTED TO THE RESIDENTIAL SEPTIC TANK.
- ALL THE PIPES USED SHOULD BE OF UPVC WITH MEDIUM TO HIGH STRENGTH.
- THE SEWERAGE PIPES PASSING UNDER ROAD/HEAVY TRAFFIC AREA SHOULD BE EMBEDDED IN P.C.C CONCRETE OF 1:4:8 INSTEAD OF SAND CUSHION OF FIRST AND SECOND STAGE COMPACTION.
- ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
- THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.
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DESIGN TABLE FOR DIFFERENCE CAPACITIES SEPTIC TANK												
CAPACITY	INTERNAL DIMENSIONS (IN MILLIMETERS)			REINFORCEMENT					MASONRY			HANGING BAFFLE
	LENGHT (L)	BREADTH (B)	DEPTH (D)	A	B	C	D-1	D-2	DIMENTIONS IN MILLIMETERS			
									X	Y	Z	H
200 USERS	5790	2440	2130	12mmØ @ 220mm CRS	12mmØ @ 140mm CRS	10mmØ @ 140mm CRS	12mmØ @ 125mm CRS	12mmØ @ 150mm CRS	760	760	610	760
100 USERS	4880	1625	1825	10mmØ @ 280mm CRS	10mmØ @ 280mm CRS	10mmØ @ 280mm CRS	12 mm Ø @ 150mm CRS	10mmØ @ 150mm CRS	760	760	610	610
50 USERS	3660	1070	1220	10mmØ @ 280mm CRS	10mmØ @ 280mm CRS	10mmØ @ 280mm CRS	12mmØ @ 175mm CRS	10mmØ @ 200mm CRS	770	460	--	460

						DRAWN BY:	FAZAL QADIR	-SD-	TYPICAL SEPTIC TANK FOR GRID STATIONS		
							R.A. RANA	-SD-			
03	17-06-2019	TOP SLAB STEEL, THICKNESS & PLACEMENT REVISED FOR UNDER GROUNDING, MANHOLE OPENING REVISED				ASSTT. MANAGER		-SD-			
02	84	P.C.C UNDER R.C.C REVISED			-SD-	DEPUTY MANAGER		-SD-			
01	84	STEEL CHARACTERISTICS REVISED			-SD-	-SD-	MANAGER		-SD-	SCALE:- AS SHOWN	DATED:
S.NO	DATE	REVISIONS			D.M	M	CHIEF ENGINEER		-SD-	DWG. No. 03-GS-07	



NOTES:-

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS.
2. ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 21N/MM² AT 28 DAYS.
3. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 420N/MM² CONFORMING TO ASTM-A-615.
4. USE REINFORCEMENT BARS AS PER ASTM IMPERIAL SYSTEM
5. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 19MM CONFORMING TO ASTM C-33.
6. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
7. CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
8. CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
9. POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING.
10. CURING MUST BE CONTINUED FOR ATLEAST 10 DAYS.
11. ALL FACES OF CONCRETE SHALL BE FAIR, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK)
12. IF THE SKETCH IS FELT SILT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
13. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
14. THIS DRAWING/SKETCH/DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDC.

SEPTIC TANK DIMENSIONS

	A	B	C
(mm)	(mm)	(mm)	(mm)
CATEGORY-II	1700	2000	1700
CATEGORY-III	1500	2000	1500
CATEGORY-IV	1200	1700	1500
CATEGORY-V	1200	1700	1200

NATIONAL TRANSMISSION & DESPATCH COMPANY			C.E. DESIGN (NTDC)
DRAWN			DESIGN OF SEPTIC TANK FOR RESIDENCES
CHECKED	FARID BARKI		
ASSTT. MANAGER	M. MUNIR ANJUM		
DEPUTY MANAGER	FARID BARKI		
MANAGER CIVIL	MUHAMMAD AZIZ		
CHIEF ENGINEER	M. NAEEM HASSAN		
SCALE:- 1:25			DATE:- 24-10-2018
SKETCH NO. SKETCH/MC/07			

NOTES

1. ALL DIMENSION ARE GIVEN IN MILLIMETERS
2. AFTER THE ROLLER COMPACTION, THE STRENGTH AND QUALITY OF THE BASE SHOULD BE CHECKED.
3. CONSTRUCTION JOINT IF REQUIRED SHOULD BE PROVIDED AT LOCATION OF CONTRACTION JOINTS
4. ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 3000 PSI AT 28 DAYS.
5. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 19MM CONFORMING TO ASTM C-33.
6. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
7. CURING MUST BE CONTINUED FOR ATLEAST 10 DAYS.
8. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING; THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
9. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
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11. THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE/SITUATION/ LOCATION FOR WHICH IT HAS BEEN APPROVED/ ISSUED.
12. IF FILLING IS REQUIRED, IT SHALL BE CARRIED OUT IN MAXIMUM LAYER THICKNESS OF 150MM & COMPACTED UPTO 95% OF MODIFIED PROCTOR DENSITY TEST OF APPROVED EMBANKMENT MATERIAL.

NATIONAL TRANSMISSION & DEPATCH COMPANY

CHIEF ENGINEER
NTDC DESIGN

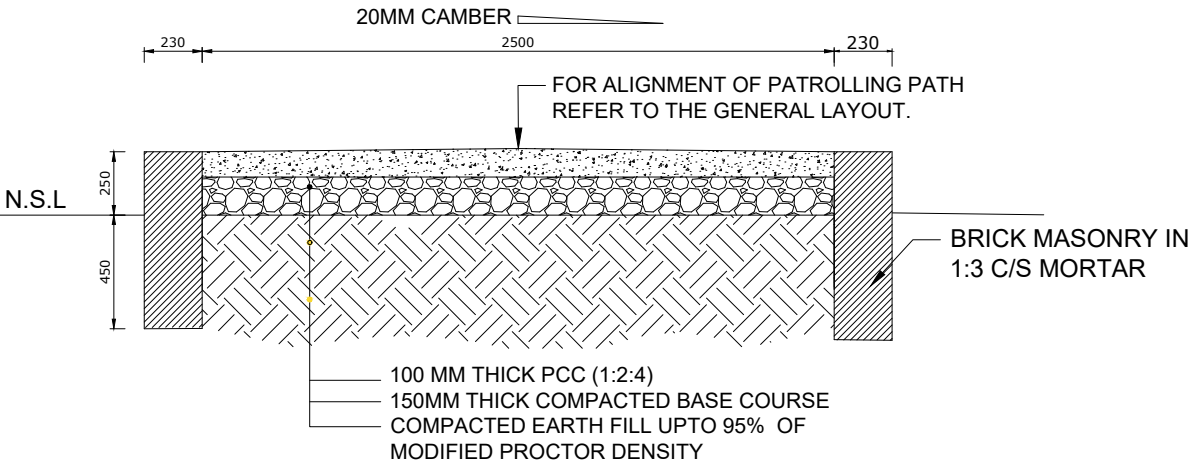
DRAWN BY:	MUHAMMAD ALI
CHECKED BY:	MARYAM MANSHA
ASSTT. MANAGER	MARYAM MANSHA
DEPUTY MANAGER	FARID BARKI
MANAGER	FARID BARKI
CHIEF ENGINEER	M. AZIZ

DESIGN OF
PATROLLING PATH
(2.5 METER WIDE)

SCALE:- AS SHOWN DATED: 14-05-2022

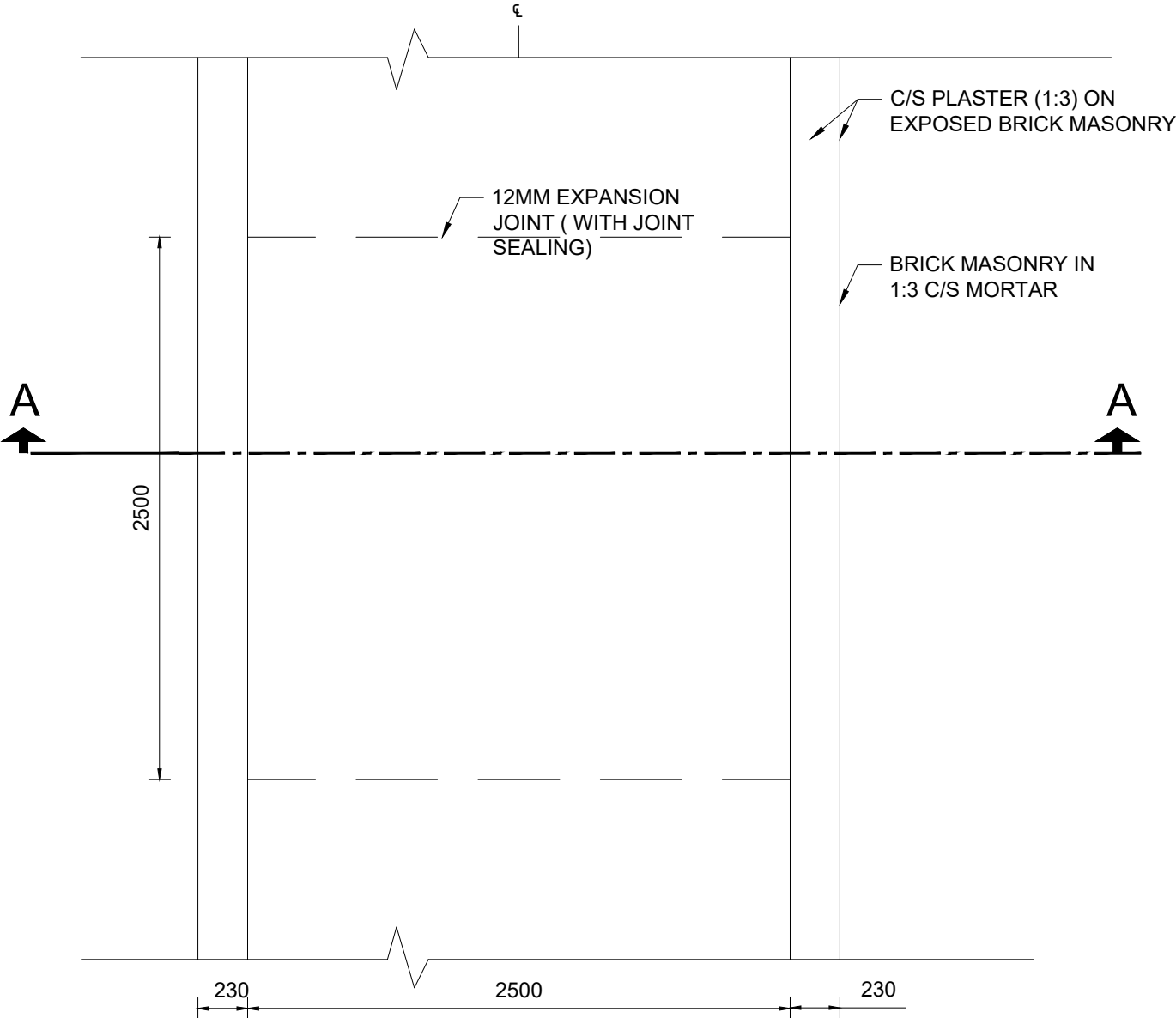
DWG. No. PDW/TV-494

S.NO	DATE	REVISIONS	D.M	M	



SECTION A-A

SCALE: 1:30



PLAN

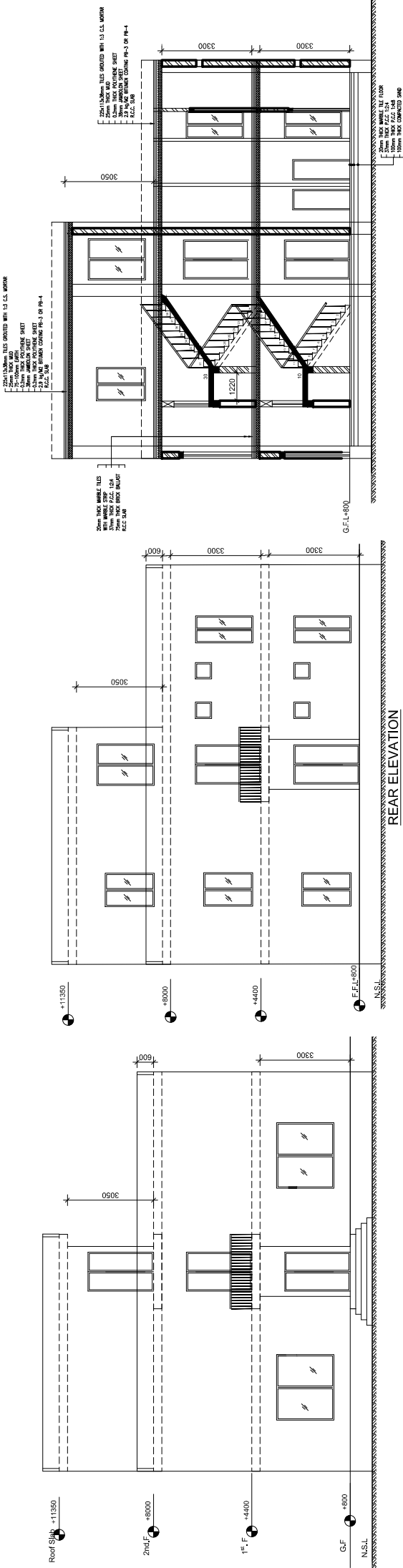
SCALE: 1:30



1. ALL DIMENSION ARE GIVEN IN MILLIMETERS
2. MANHOLES SHALL BE PROVIDED AT MAXIMUM DISTANCE OF 12000mm (40FT).
3. MINIMUM SLOPE OF 0.5% FOR SEWERAGE LINE SHALL BE ENSURED BEFORE PLACING OF SEWERAGE LINE.
4. THE FINISH GROUND LEVEL (F.G.L) SHALL BE SLOPED TOWARDS MANHOLE COVER FOR DRAINAGE OF SURFACE WATER.
5. THE GRATING COVER OF MANHOLE SHALL BE SECURED WITH PROVISION OF PROPER HINGE WELDED TO ANGLE FRAME.
6. BITUMINOUS COATING PB-2/P-B-3 SHALL BE APPLIED ON EXTERNAL FACE OF PLASTERED MASONRY AND CONCRETE FACES.
7. ALL CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 21 N/mm² ST 28 DAYS.
8. REINFORCEMENT SHOULD CONSIST OF DEFORMED BARS OF GRADE 40 HAVING MINIMUM YIELD STRENGTH OF 27N/mm² AND CONFORMING TO ASTM-A-615.
9. CONCRETE SHOULD BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
10. AGGREGATE TO BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE FOR R.C.C SHOULD BE 13mm.
11. MAXIMUM SIZE OF COARSE AGGREGATE FOR PLAIN CEMENT CONCRETE IN FOUNDATION SHOULD BE 19mm.
12. SAND BED SHOULD BE PROVIDED UNDER PIPES AS SHOWN IN SECTION B-B.
13. WASTE PIPE FROM RESIDENTIAL SEPTIC TANK SHOULD BE DRAINED TO SEWER PIPE.
14. ALL THE PIPES USED SHOULD BE OF HDPE/P/E WITH MEDIUM TO HIGH STRENGTH.
15. THE SEWERAGE PIPES PASSING UNDER ROAD/HEAVY TRAFFIC AREA SHOULD BE EMBEDDED IN P.C.C CONCRETE OF 1:4:8 INSTEAD OF SAND CUSHION OF FIRST AND SECOND STAGE COMPACTION.
16. ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
17. THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDc. ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDc.
18. THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR ITS SPECIFIC PURPOSE/SITUATION/ LOCATION FOR WHICH IT HAS BEEN APPROVED/ ISSUED.



NATIONAL TRANSMISSION & DESPATCH COMPANY		C.E. DESIGN (NTDC)	
DESIGN OF SEWERAGE SYSTEM FOR 220KV GRID STATION ROHRI		DATE: 09-02-2021	
DRAWN BY:	MUHAMMAD ALI	SCALE: -AS SHOWN	DWG. No. PDD/CT-95
CHECKED BY:	FARID BAKKI		
ASST. MANAGER	MARYAM MARSHIA		
DEPUTY MANAGER	FARID BAKKI		
MANAGER	MUHAMMAD AZIZ		
CHIEF ENGINEER	IRFAN RASHID		



SCHEDULE OF DOORS & WINDOWS				
SR#	ITEM	SILL HEIGHT (mm)	SIZE (mm)	DESCRIPTION
1	DD1	0	1430X2400	DOUBLE LEAF FLUSH DOOR
2	D1	0	900X2100	SINGLE LEAF FLUSH DOOR
3	D2	0	750X2100	SINGLE LEAF FLUSH DOOR
4	W1	300	1520X2100	ALUMINIUM GLAZED WINDOW
5	W2	300	1220X2100	ALUMINIUM GLAZED WINDOW
6	W3	1065	900X1200	ALUMINIUM GLAZED WINDOW
7	W4	600	2400X2100	ALUMINIUM GLAZED WINDOW
8	W5	300	990X2100	ALUMINIUM GLAZED WINDOW
9	V1	1800	600X600	ALUMINIUM GLAZED WINDOW
10	E	2800	300X300	EXHAUST FAN

HORIZONTAL D.P.C

- 38 mm THICK P.C.C 1:2:4
 - 2 COATS OF HOT BITUMEN PB-3 OR PB-4
 - 0.2 mm THICK POLYTHENE SHEET
- VERTICAL D.P.C
- 19 mm THICK 1:2 CEMENT SAND PLASTER WITH WATER PROOFING COMPOUND
 - COATS OF HOT BITUMEN PB-3 OR PB-4

PLINTH PROTECTION

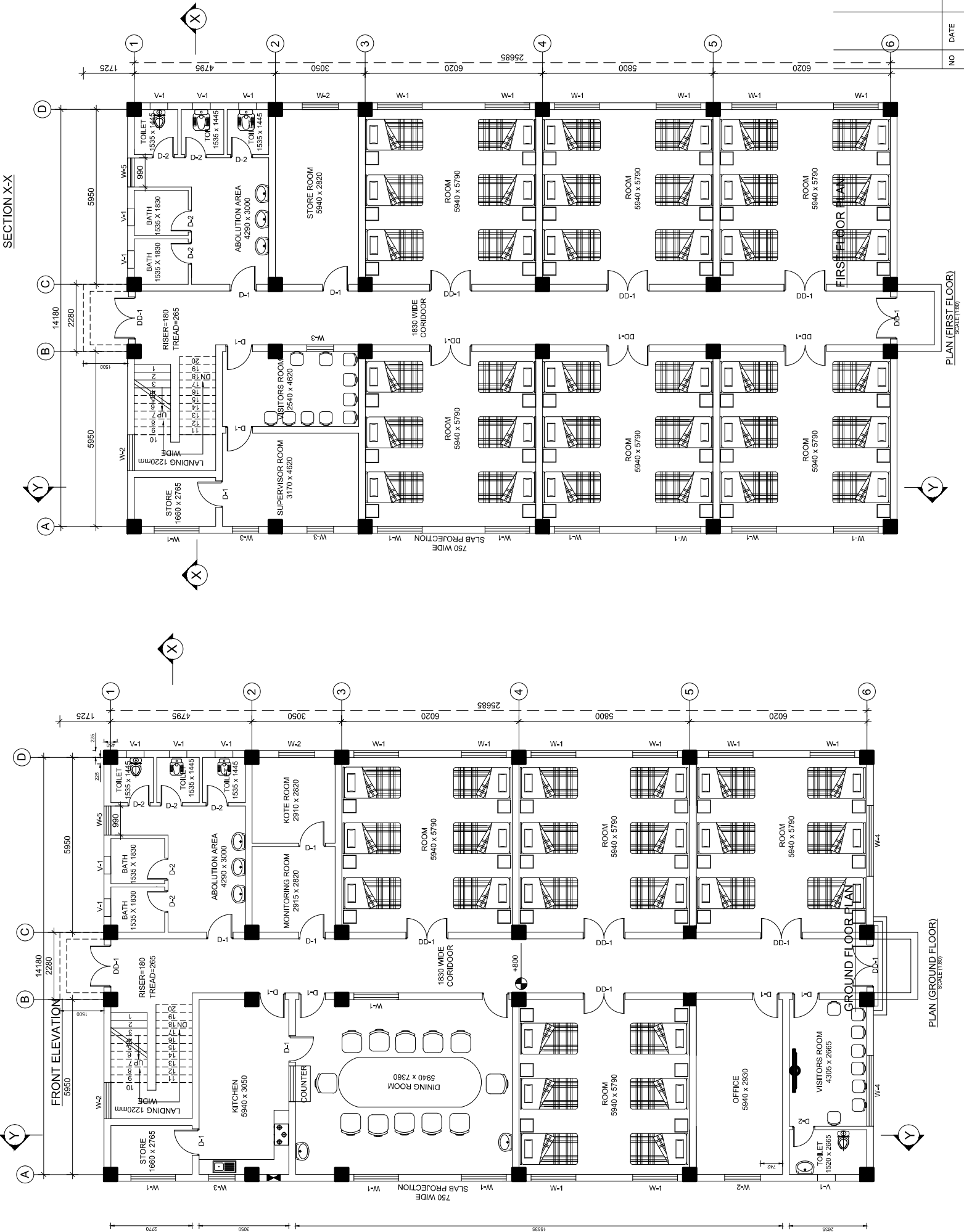
- 75 mm THICK P.C.C 1:2:4 OVER 60 mm THICK SAND CUSHION OVER RANIMED EARTH DRESSED TO PROPER SLOPE. P.C.C TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.

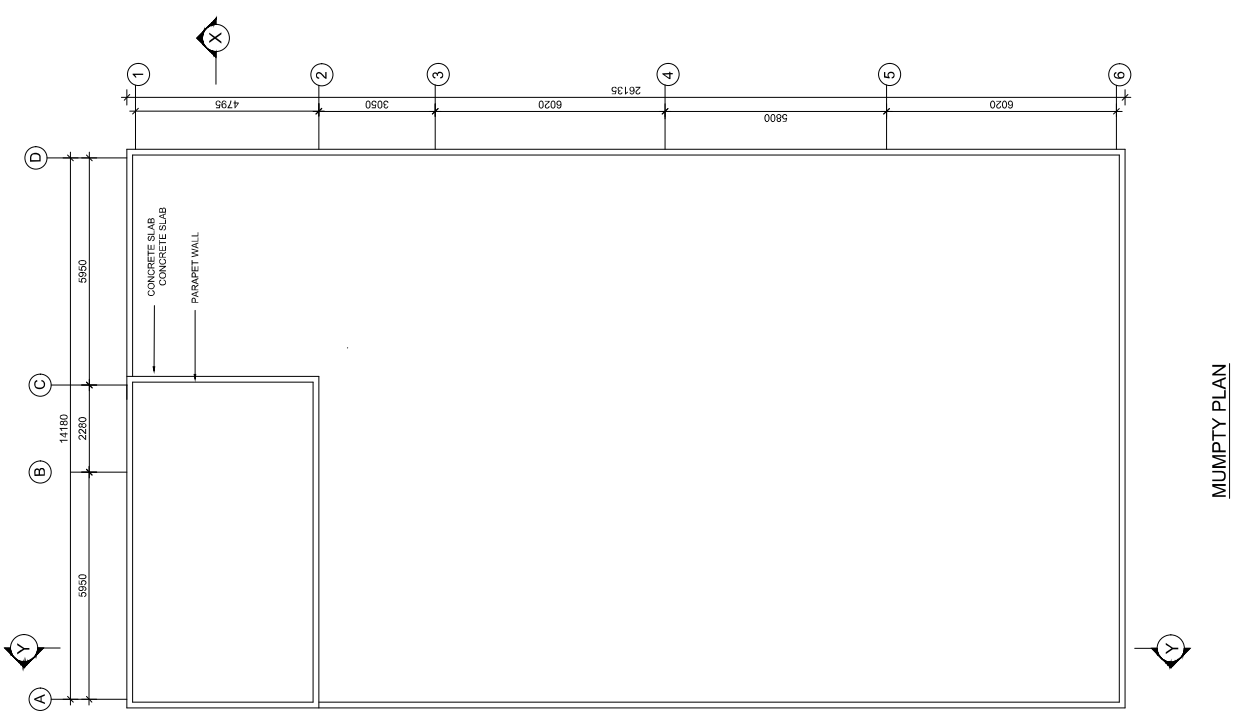
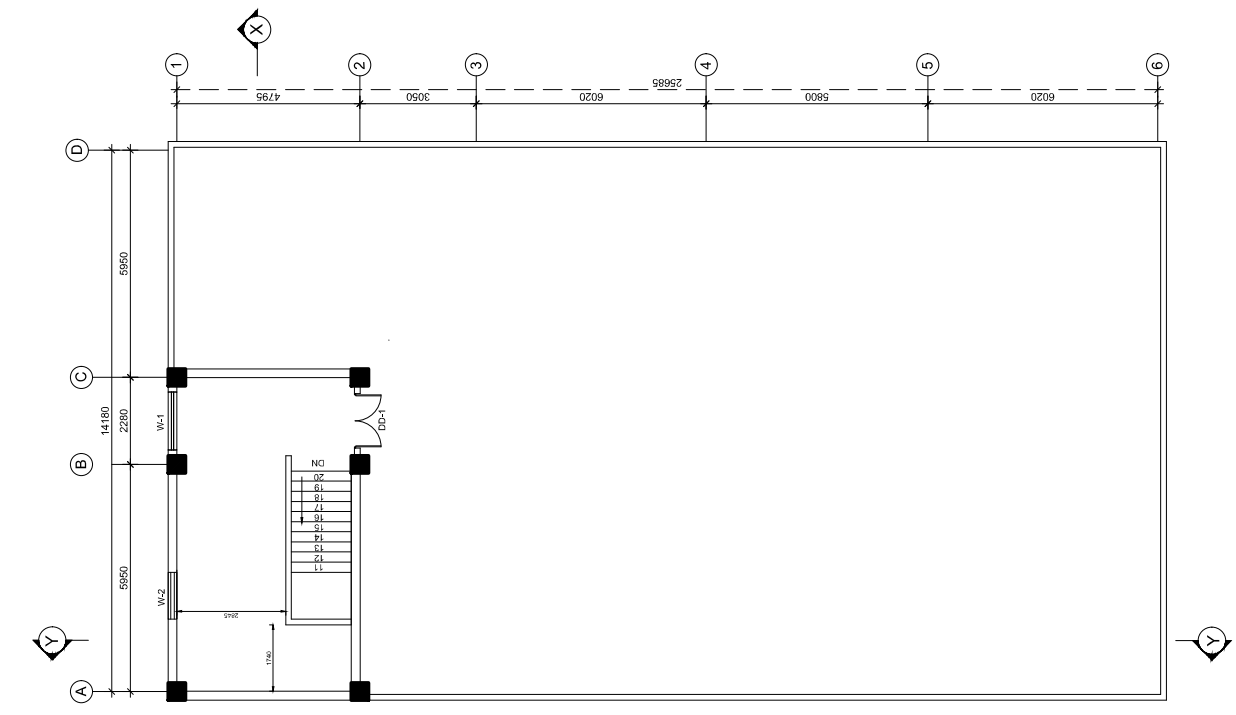
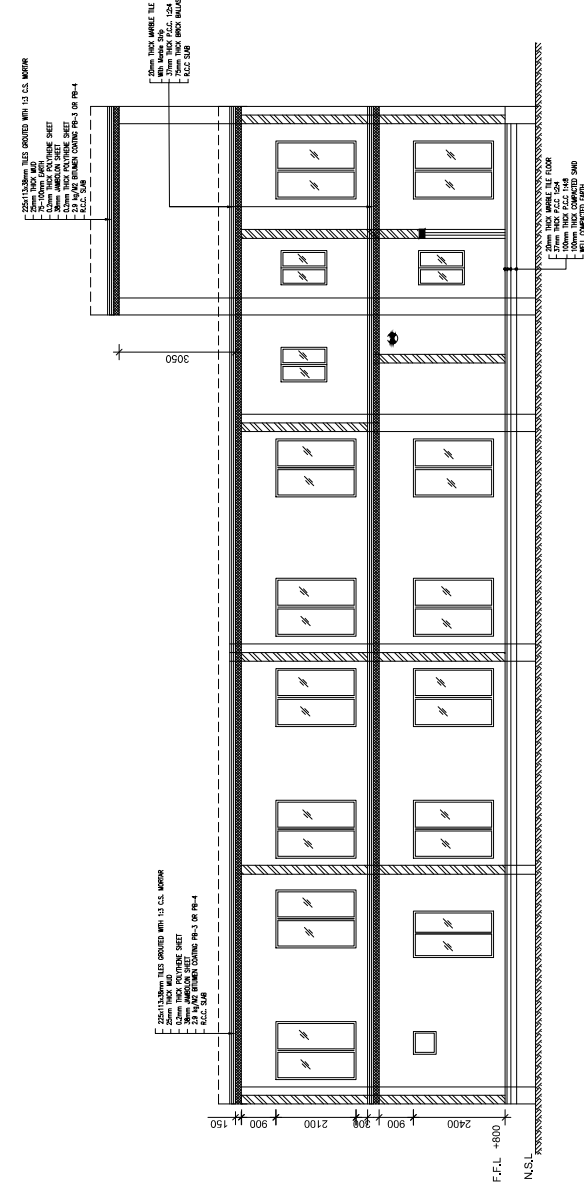
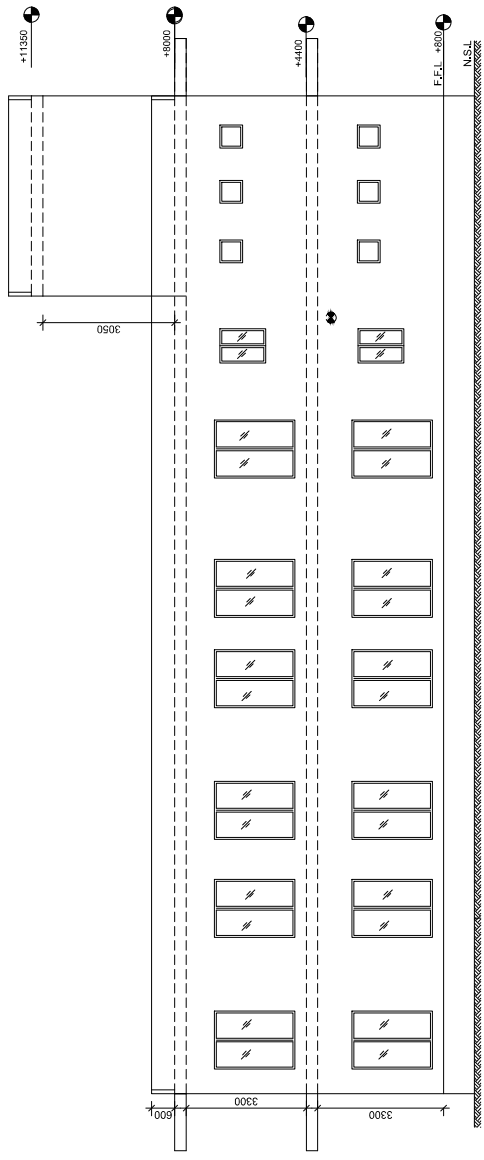
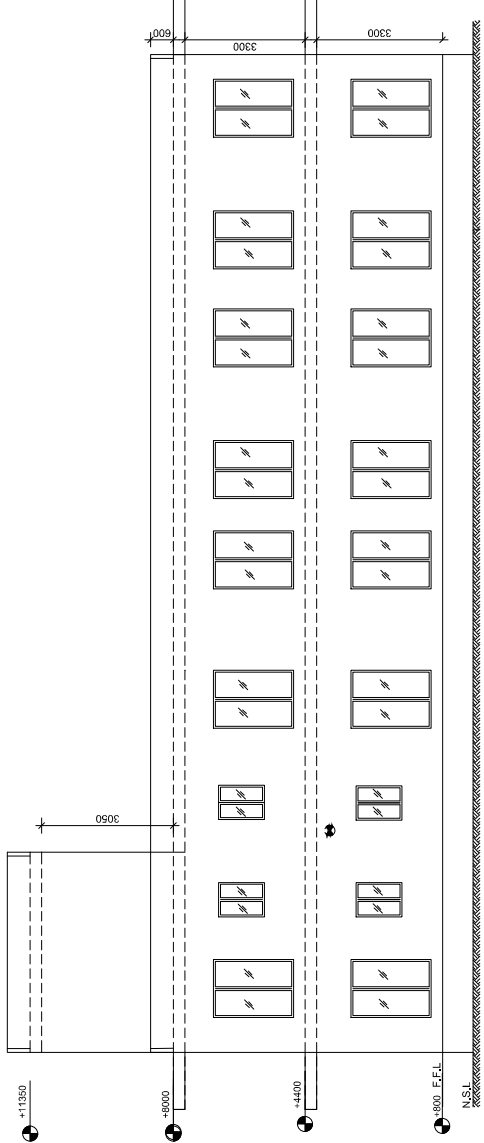
NOTES:

- ALL DIMENSIONS ARE GIVEN IN mm.
- P.C.C FLOORING IN GREY CEMENT WITH MARBLE STRIPS TO BE PROVIDED IN ALL THE ROOMS
- 20 mm THICK, 100 mm HIGH 1:2 SKIRTING SHOULD BE PROVIDED.
- WHERE EVER FILLING IS INVOLVED -
 - THE INFILL MATERIAL SHOULD BE FREE FROM ALL KINDS OF SLUMPS, VEGETATION AND OTHER OBJECTIONABLE MATERIALS.
 - THE INFILL MATERIAL SHOULD BE SILTY SAND, SAND, SILT OR MIXTURE OF ANY OF THESE OR A GOOD LOAM AVAILABLE NEAR THE SITE.
 - THE MATERIAL SHOULD BE COMPACTED WITH COMPACTION ROLLERS OF ADEQUATE WEIGHT AND SIZE.
 - BACK FILL AND EARTH FILL UNDER FLOOR AND PLINTH PROTECTION TO BE PLACED IN HORIZONTAL LAYERS NOT MORE THAN 150 mm THICK AND EACH LAYER TO BE COMPACTED UP TO 95% OF MAXIMUM DRY DENSITY.
- DOUBLE HORIZONTAL D.P.C AND VERTICAL D.P.C TO BE PROVIDED TO ALL EXTERNAL WALLS ONLY.
- SINGLE HORIZONTAL D.P.C TO BE PROVIDED TO ALL INTERNAL WALLS.
- F.I.S.L (FINISHED GROUND LEVEL) TO BE DECIDED AT SITE. IF THE HEIGHT BETWEEN S.I.L AND F.I.S.L EXCEEDS 1200 mm, THE MATTER SHOULD BE REFERRED BACK TO DESIGN NTDG.
- 1ST CLASS BRICKS HAVING MINIMUM COMPRESSIVE STRENGTH OF 16 MPa SHOULD BE LAID.
- BRICK MASONRY TO BE LAID IN 1:4 CEMENT SAND MORTAR.
- WATER SHOULD NOT BE ALLOWED TO STAND NEAR THE FOUNDATION AND ENGRASS INTO THE FOUNDATION BE PREVENTED.
- SULPHATE RESISTANT CEMENT TO BE USED SUBJECT TO VERIFICATION OF DELETERIOUS SALT CONDITION IN THE SOIL.
- ALUMINIUM GLAZED WINDOW TO BE USED.
- IMPORTED BSRT QUALITY TRANSPARENT FIBER GLASS SHEET TO BE USED.
- ALL MATERIALS AND WORKMANSHIP TO CONFORM TO WAPDA STANDARD SPECIFICATIONS AS LAID DOWN IN WCSR (LATEST EDITION).
- THIS DRAWING / DOCUMENT IS THE PROPERTY OF DESIGN NTDG. ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT PRIOR PERMISSION OF DESIGN NTDG.
- THIS DRAWING / DOCUMENT CAN ONLY BE USED FOR SPECIFIC PURPOSE / SITUATION / LOCATION FOR WHICH IT HAS BEEN APPROVED / ISSUED.

FOR STRUCTURAL DESIGN REFER DRAWING NO. PDW/TQ-381 (SHEET-3 & SHEET-4)
FOR FOUNDATION DESIGN REFER DRAWING NO. PDW/TQ-381 (SHEET 5 TO 8)

NATIONAL TRANSMISSION & DESPATCH COMPANY			DESIGN (NTDC)	
DRAWN	MARYAM HAISHA			
CHECKED	MUHAMMAD AZIZ			
ASSTT. MANAGER	MARYAM HAISHA			
DY. MANAGER	ATTA MUHAMMAD			
MANAGER	MUHAMMAD AZIZ			
SCALE:-	AS SHOWN	DATE:-	03-12-2020	
CHIEF ENGINEER	IMRAN RASHID			
REVISIONS	D.M	M		
NO	DATE			
DESIGN OF BARRACKS FOR SECURITY STAFF (60 MEN) (SHEET 1 OF 8)				
DWG. NO. PDW/TQ-388				



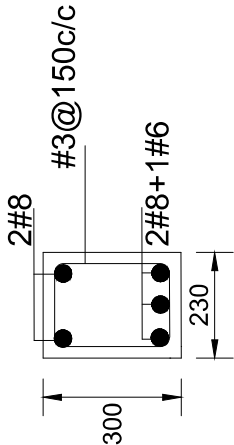


NO	DATE	REV/STIONS	D.M	M																												
<table><tr><td colspan="2">NATIONAL TRANSMISSION & DESPATCH COMPANY</td><td colspan="3">DESIGN (NTDC)</td></tr><tr><td>DRAWN</td><td>MARYAM MANSHA</td><td colspan="3" rowspan="5">DESIGN OF BARRACKS FOR SECURITY STAFF (60 MEN) (SHEET 2 OF 8)</td></tr><tr><td>CHECKED</td><td>MUHAMMAD AZIZ</td></tr><tr><td>ASST. MANAGER</td><td>MARYAM MANSHA</td></tr><tr><td>DY. MANAGER</td><td>ATTA MUHAMMAD</td></tr><tr><td>MANAGER</td><td>MUHAMMAD AZIZ</td></tr><tr><td colspan="2">SCALE:-</td><td>AS SHOWN</td><td colspan="2">DATE:- 03-12-2020</td></tr><tr><td colspan="3">CHIEF ENGINEER</td><td colspan="2">DWG. NO. PDW/TQ-388</td></tr></table>					NATIONAL TRANSMISSION & DESPATCH COMPANY		DESIGN (NTDC)			DRAWN	MARYAM MANSHA	DESIGN OF BARRACKS FOR SECURITY STAFF (60 MEN) (SHEET 2 OF 8)			CHECKED	MUHAMMAD AZIZ	ASST. MANAGER	MARYAM MANSHA	DY. MANAGER	ATTA MUHAMMAD	MANAGER	MUHAMMAD AZIZ	SCALE:-		AS SHOWN	DATE:- 03-12-2020		CHIEF ENGINEER			DWG. NO. PDW/TQ-388	
NATIONAL TRANSMISSION & DESPATCH COMPANY		DESIGN (NTDC)																														
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SCALE:-		AS SHOWN	DATE:- 03-12-2020																													
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1. 75 mm THICK P.C.C 1:2:4 OVER 50 mm THICK SAND CUSHION OVER RAMMED EARTH DRESSED TO PROPER SLOPE. P.C.C TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.

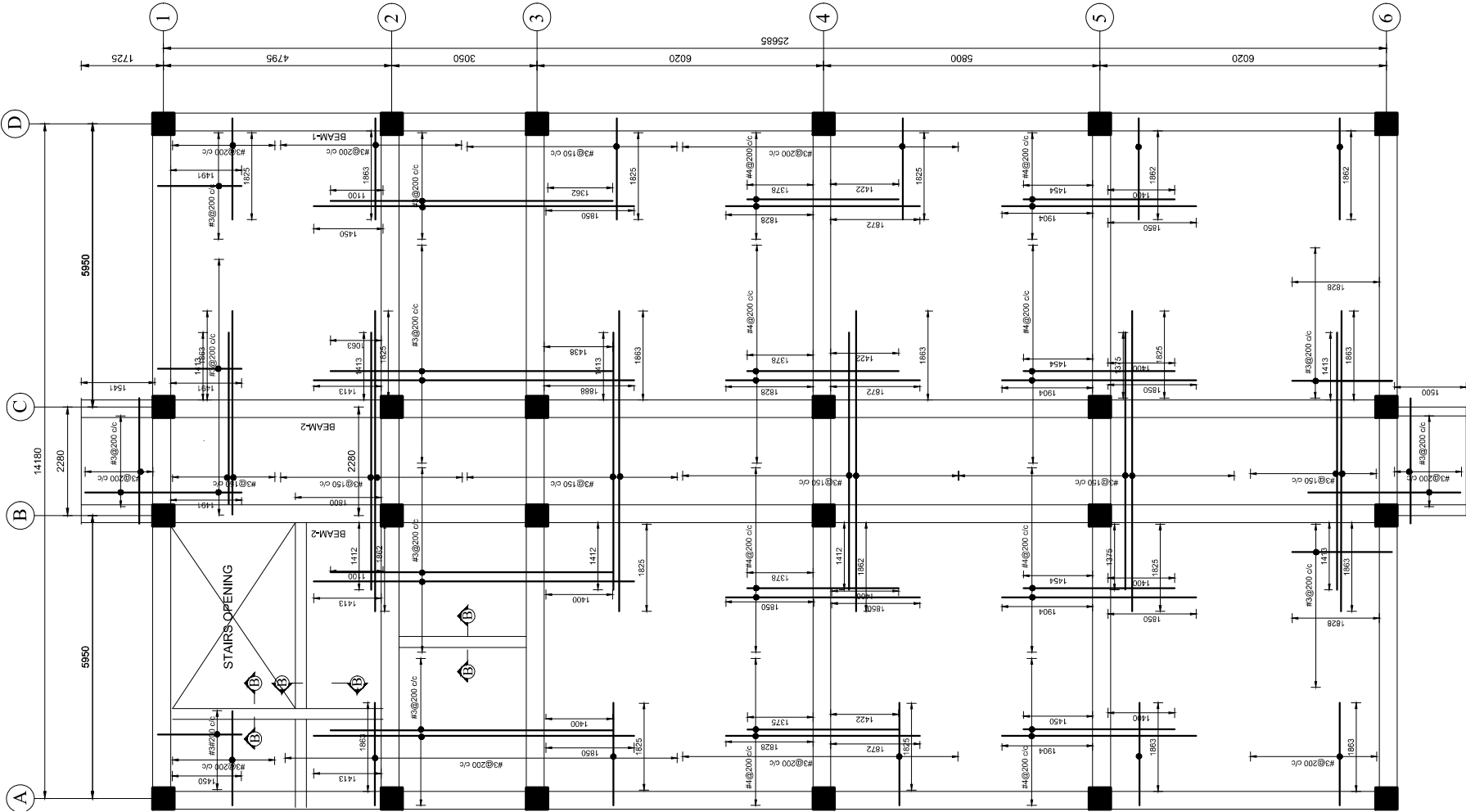
1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS.
2. ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 21 N/mm² AT 28 DAYS.
3. REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 281 N/mm² (GRADE 40) CONFORMING TO ASTM-A-615.

- | | | |
|-----|--|--------|
| 1. | FOLLOWING: | |
| a) | BEAM | 40mm |
| b) | SLAB | 19mm |
| c) | FOUNDATION | 50mm |
| 5. | PROVIDE BAR SPICE (LAP) LENGTH FOR BOTTOM BAR AS UNDER | |
| a) | .#3 BARS | 450mm |
| b) | .#4 BARS | 600mm |
| c) | .#5 BARS | 800mm |
| d) | .#6 BARS | 975mm |
| e) | .#8 BARS | 1350mm |
| 6. | PROVIDE BAR SPICE (LAP) LENGTH FOR TOP BAR AS UNDER | |
| a) | .#3 BARS | 550mm |
| b) | .#4 BARS | 750mm |
| c) | .#5 BARS | 950mm |
| d) | .#6 BARS | 1170mm |
| e) | .#8 BARS | 1620mm |
| 7. | FOR POSITIVE/BOTTOM STEEL, LAP SHOULD BE PROVIDED AT SUPPORT AND FOR NEGATIVE/TOP STEEL, LAP SHOULD BE PROVIDED AT MID SPAN FOR FOUNDATION RAFT. | |
| 8. | AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 20mm CONFORMING TO ASTM C-33. | |
| 9. | COARSE SAND SHALL BE FREE FROM SILT AND DUST. | |
| 10. | CONCRETE SHALL BE MIXED BY MECHANICAL MEANS. | |
| 11. | CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM | |
| 12. | IF THE HEIGHT BETWEEN NSL AND FTL EXCEEDS 1200 mm, THE MATTLER POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING ALL STRUCTURAL CONCRETE SHALL BE FAIR PAVED, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK) AND WITHOUT PLASTER. | |
| 13. | POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING ALL STRUCTURAL CONCRETE SHALL BE FAIR PAVED, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK) AND WITHOUT PLASTER. | |
| 14. | IF THE DRAWING IS FELT SILT OR ANY CHANGE IS NOTICED AT SITE FOR DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING, THE MATTLER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE. | |
| 15. | ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION. | |
| 16. | THIS DRAWING/ DOCUMENT IS THE PROPERTY OF DESIGN NTDC, ANY PART THEREOF OR WHOLE CANNOT BE REPRODUCED ELECTRONICALLY OR OTHERWISE OR BECOME A PART OF ANY RETRIEVAL SYSTEM WITHOUT THE PERMISSION OF DESIGN NTDC. | |
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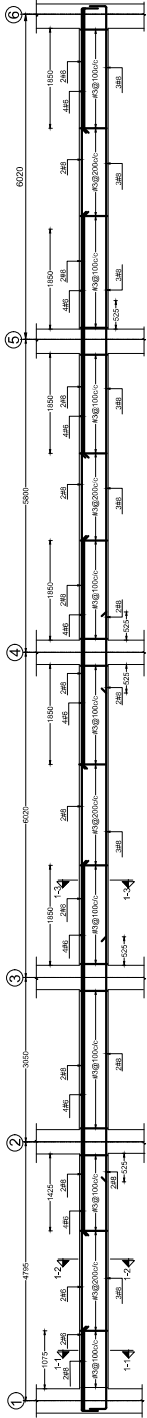


NATIONAL TRANSMISSION AND DESPATCH COMPANY				DESIGN (NDC)
DRAWN	----			
ASSTT. MANAGER		MARIYAM MAISHA		
DY. MANAGER		ATTA MUHAMMAD		
DY. MANAGER	----			
MANAGER		MUHAMMAD AZIZ	SCALE- AS SHOWN	DATE- 03/12/2020

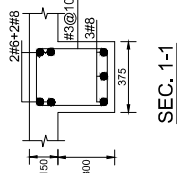
SECTION B-B



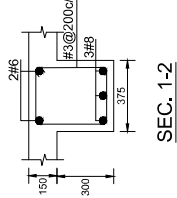
FIRST FLOOR SLAB
TOP REINFORCEMENT
SLAB THICKNESS 150mm
SCALE 1:65



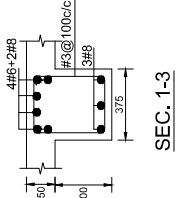
LONGITUDINAL SECTION OF BEAM- AT AXIS A-A & D-D
SCALE 1:70



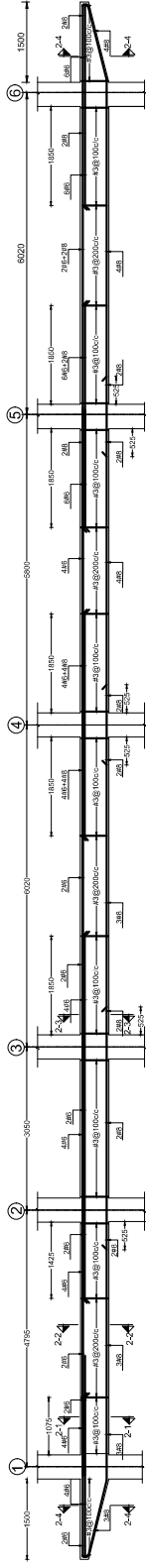
SEC. 1-1



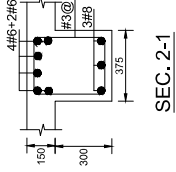
SEC. 1-2



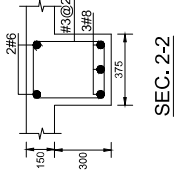
SEC. 1-3



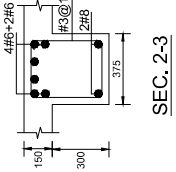
LONGITUDINAL SECTION OF BEAM AT AXIS B-B & C-C
SCALE 1:70



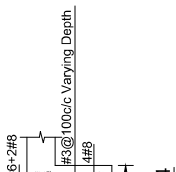
SEC. 2-1



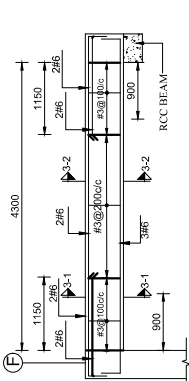
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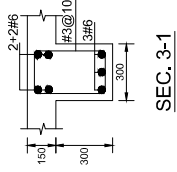
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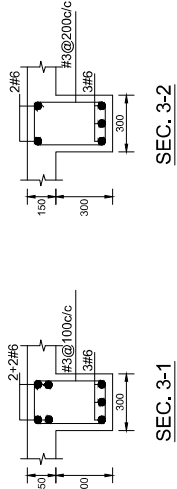
SEC. 2-4



LONGITUDINAL SECTION OF BEAM-3
SCALE 1:60



SEC. 3-1



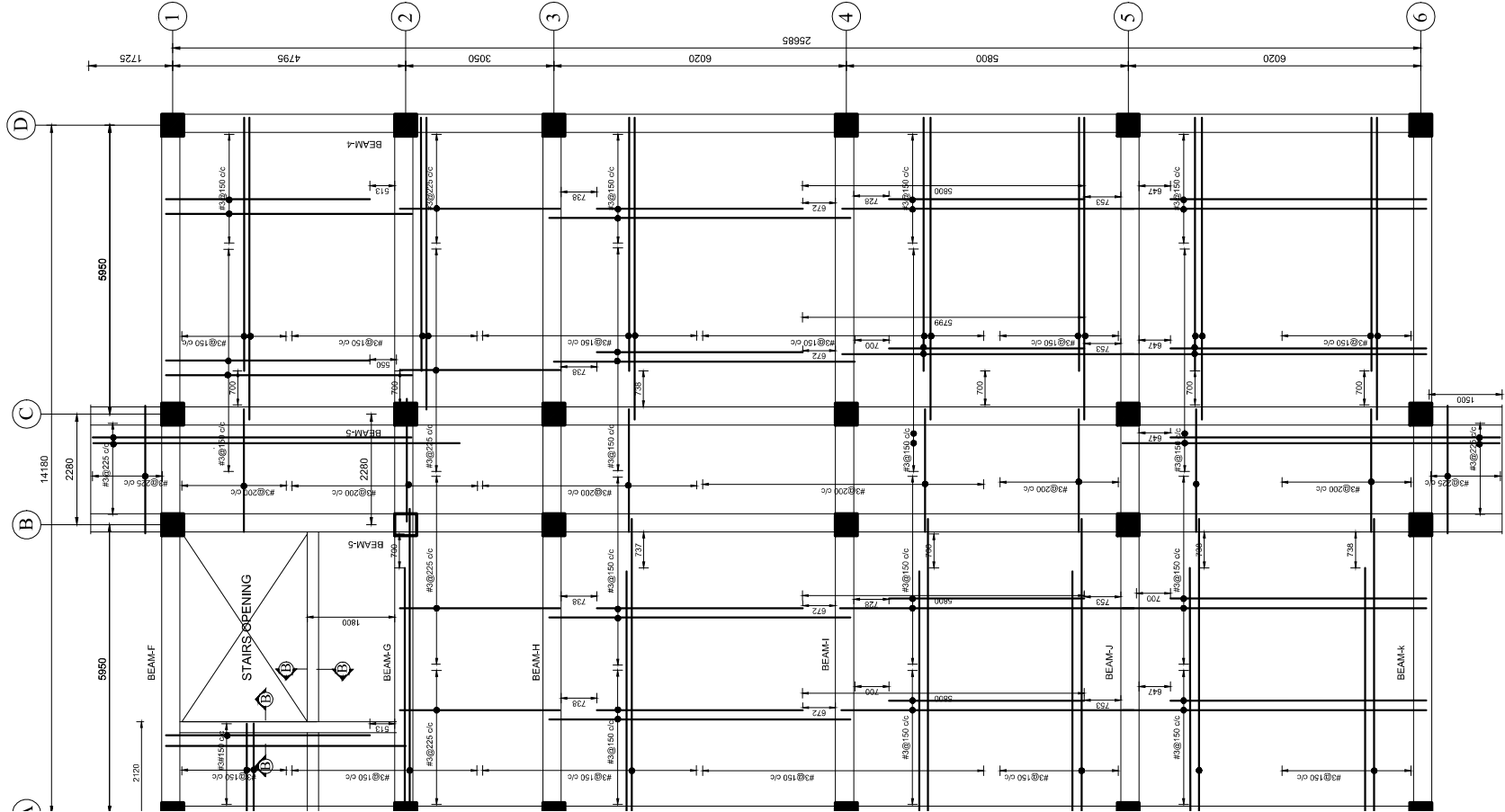
SEC. 3-2

PLINTH PROTECTION

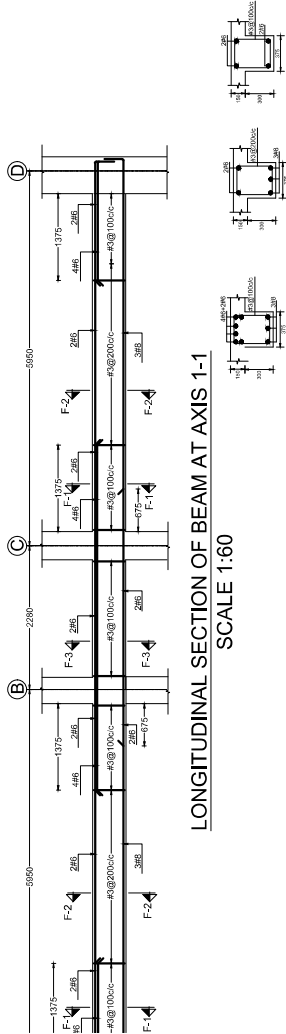
- 75 mm THICK P.C.C 1:2:4 OVER 50 mm THICK SAND CUSHION OVER RAMMED EARTH DRESSED TO PROPER SLOPE. P.C.C TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.

NOTES

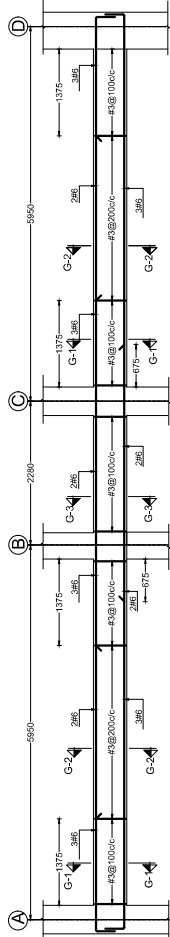
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 - BEAM = 40mm
 - SLAB = 19mm
 - FOUNDATION = 50mm
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 - #3 BARS = 450mm
 - #4 BARS = 600mm
 - #5 BARS = 800mm
 - #6 BARS = 975mm
 - #8 BARS = 1350mm
- PROVIDE BAR SPLICE (LAP) LENGTH FOR TOP BAR AS UNDER
 - #3 BARS = 500mm
 - #4 BARS = 730mm
 - #5 BARS = 950mm
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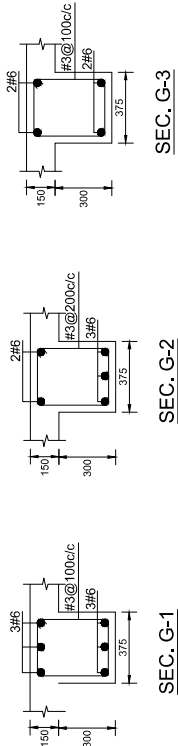
ROOF SLAB BOTTOM REINFORCEMENT
SLAB THICKNESS 150mm
SCALE 1:70



LONGITUDINAL SECTION OF BEAM AT AXIS 1-1
SCALE 1:60



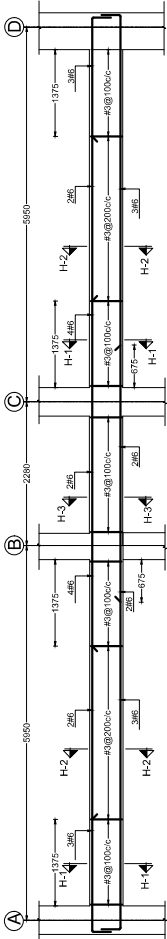
LONGITUDINAL SECTION OF BEAM AT AXIS 2-2
SCALE 1:60



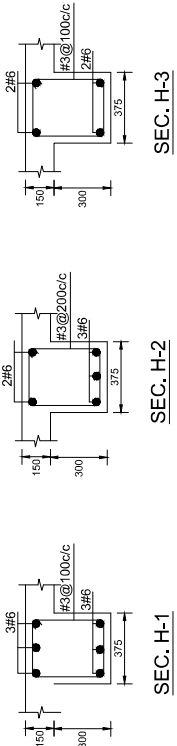
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SEC. G-2

SEC. G-3



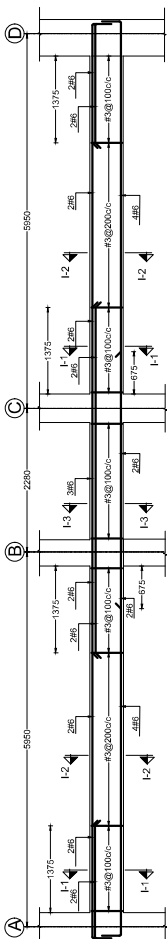
LONGITUDINAL SECTION OF BEAM AT AXIS 3-3
SCALE 1:60



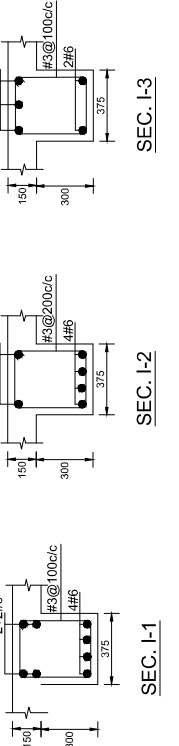
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SEC. H-2

SEC. H-3



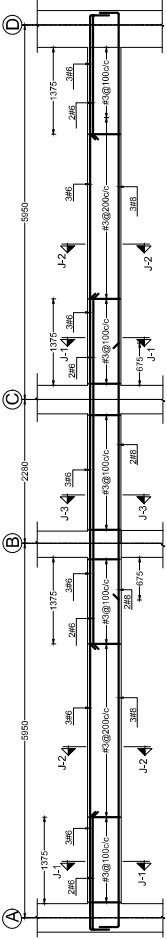
LONGITUDINAL SECTION OF BEAM AT AXIS 4-4 & 5-5
SCALE 1:60



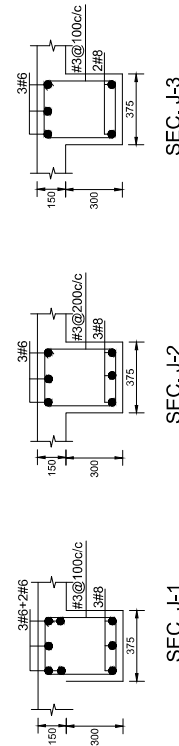
SEC. I-1

SEC. I-2

SEC. I-3



LONGITUDINAL SECTION OF BEAM AT AXIS 6-6
SCALE 1:60



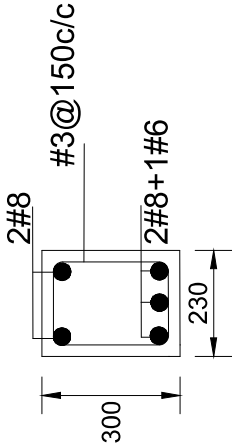
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SEC. J-2

SEC. J-3

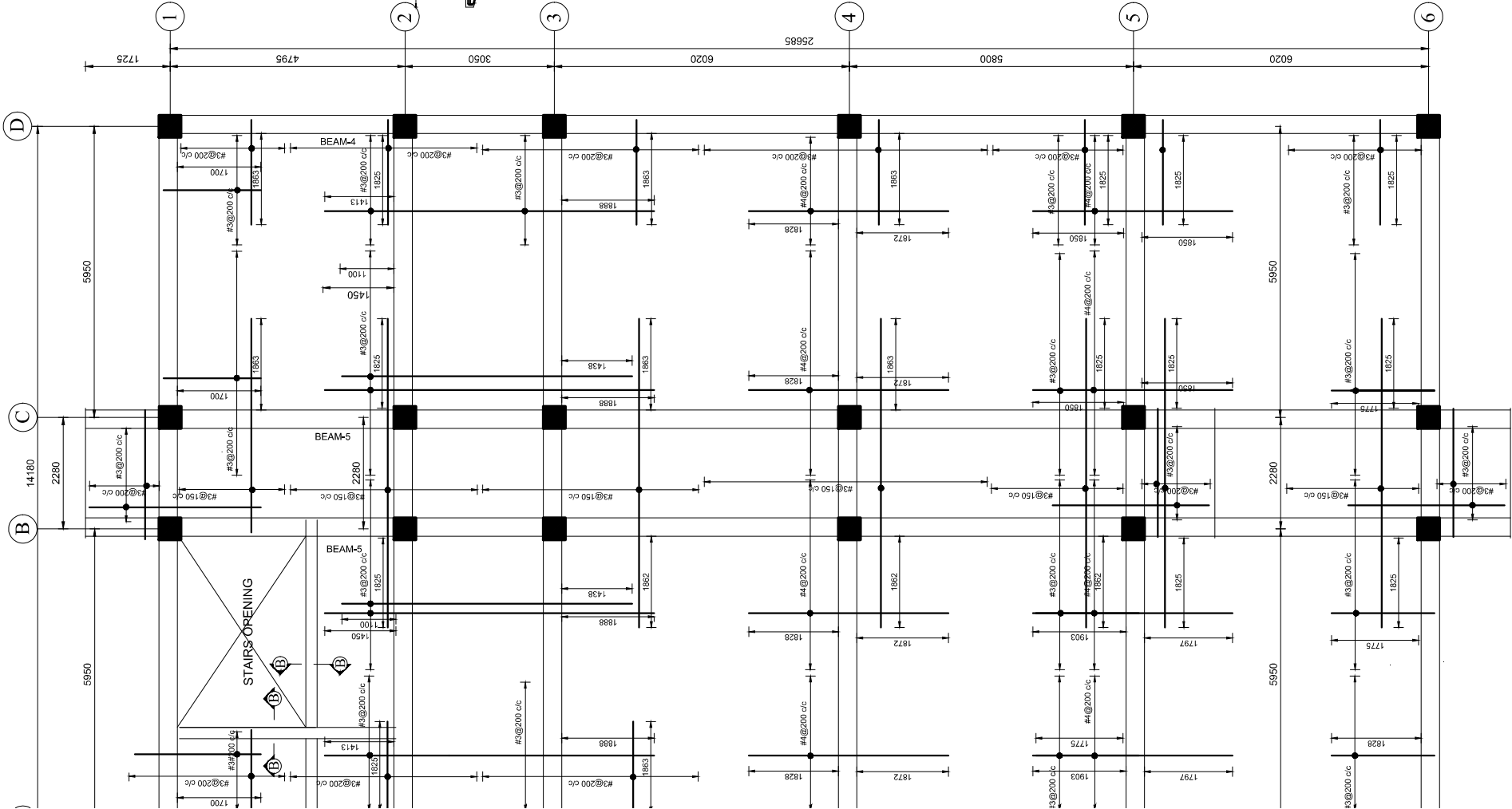
PLINTH PROTECTION

- 75 mm THICK P.C.C. 1:2:4 OVER 50 mm THICK SAND CUSHION OVER RAMMED EARTH DRESSED TO PROPER SLOPE. P.C.C. TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.
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c) FOUNDATION - 50mm
- PROVIDE BAR SPLICE (LAP) LENGTH FOR BOTTOM BAR AS UNDER
a) #3 BARS = 450mm
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c) #5 BARS = 800mm
d) #6 BARS = 975mm
e) #8 BARS = 1350mm
- PROVIDE BAR SPLICE (LAP) LENGTH FOR TOP BAR AS UNDER
a) #3 BARS = 550mm
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- FOR POSITIVE/BOTTOM STEEL LAP SHOULD BE PROVIDED AT SUPPORT AND FOR NEGATIVE/TOP STEEL LAP SHOULD BE PROVIDED AT MID SPAN FOR FOUNDATION RAFT
- AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 20mm CONFORMING TO ASTM C-33.
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- CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
- IF THE HEIGHT BETWEEN NSL AND FFL EXCEEDS 1200 mm, THE MATTER SHOULD BE REFERRED BACK TO DESIGN NTD.
- STRUCTURAL WATER SHALL BE FAIR FACED, FLAWLESSLY SMOOTH WITHOUT SHUTTERING MARKS AND WITHOUT PLASTER.
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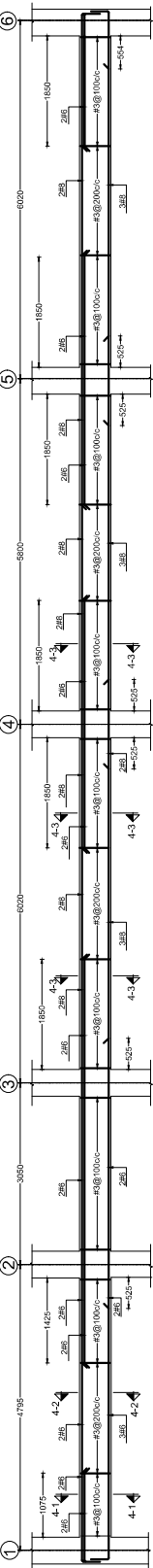


SECTION B-B
SCALE 1:5

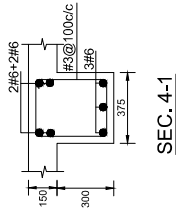
NATIONAL TRANSMISSION AND DESPATCH COMPANY				DESIGN (NTDC)
DRAWN	----			DESIGN OF BARRACKS FOR SECURITY STAFF (60 MEN) (SHEET 5 OF 8)
ASST. MANAGER	MARYAM MANSHA			
DY: MANAGER	ATTA MUHAMMAD			
DY: MANAGER	----			
MUHAMMAD AZIZ		SCALE:- AS SHOWN	DATE:- 03-12-2020	



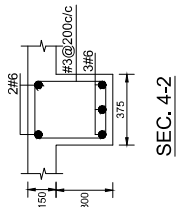
ROOF SLABS TOP REINFORCEMENT
SLAB THICKNESS 150mm
SCALE 1:65



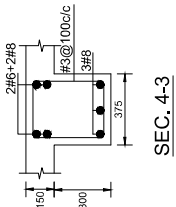
LONGITUDINAL SECTION OF BEAM AT AXIS A-A & D-D
SCALE 1:60



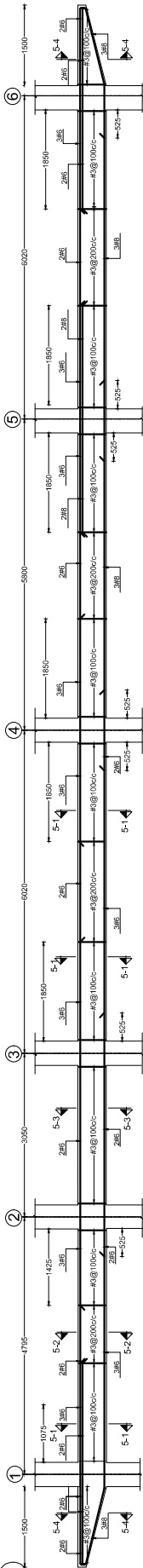
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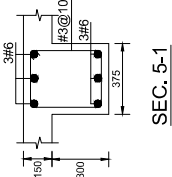
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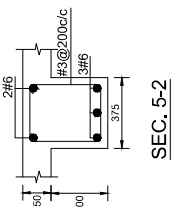
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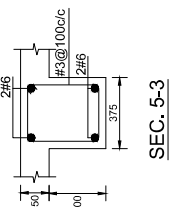
LONGITUDINAL SECTION OF BEAM AT AXIS B-B & C-C
SCALE 1:60



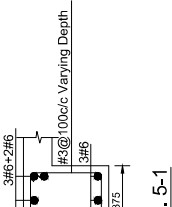
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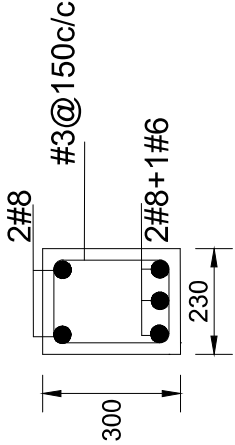
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SEC. 5-3



SEC. 5-4



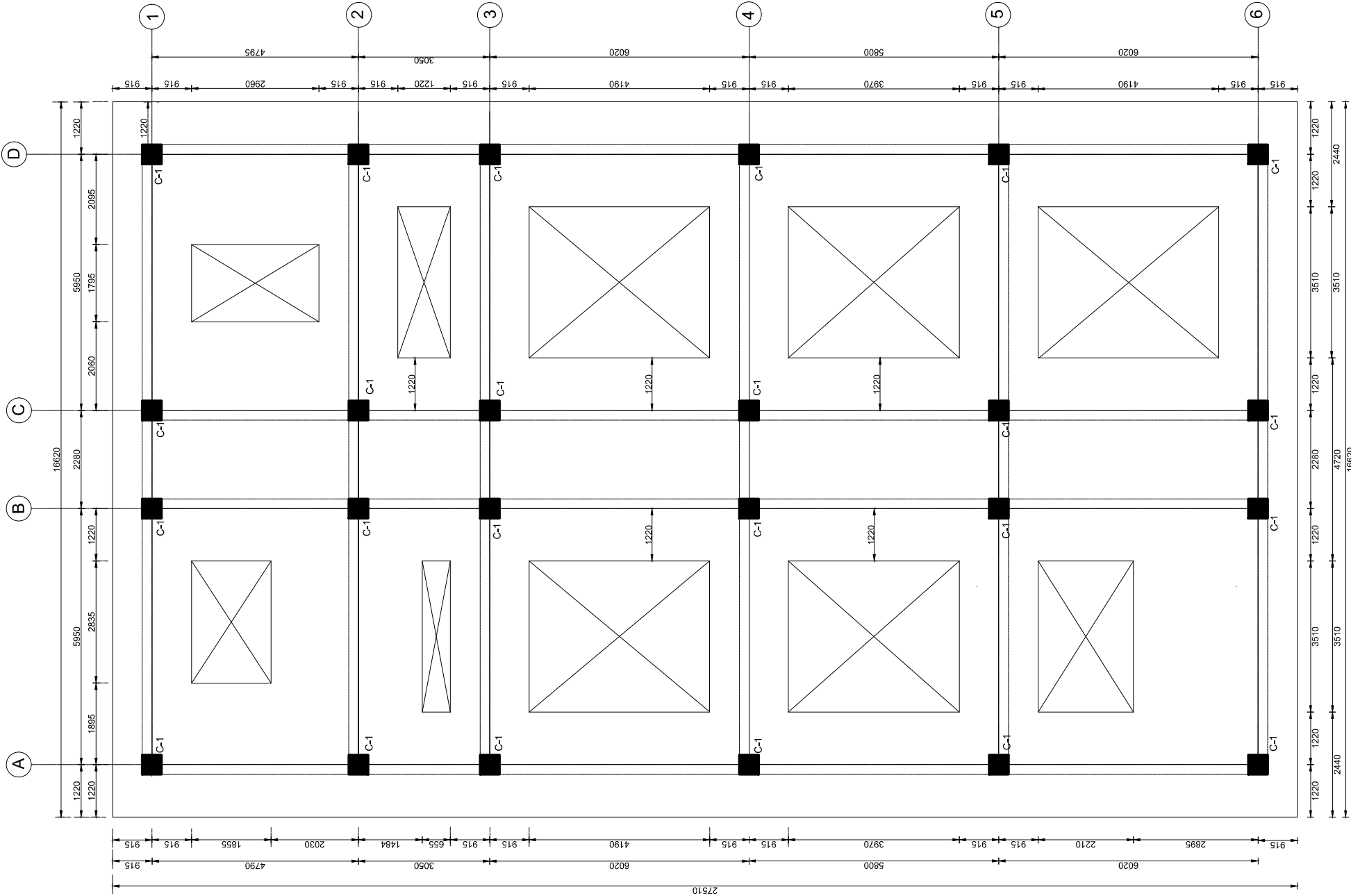
SECTION B-B
SCALE 1:5

PLINTH PROTECTION

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c) #5 BARS = 800mm
d) #6 BARS = 975mm
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d) #6 BARS = 1170mm
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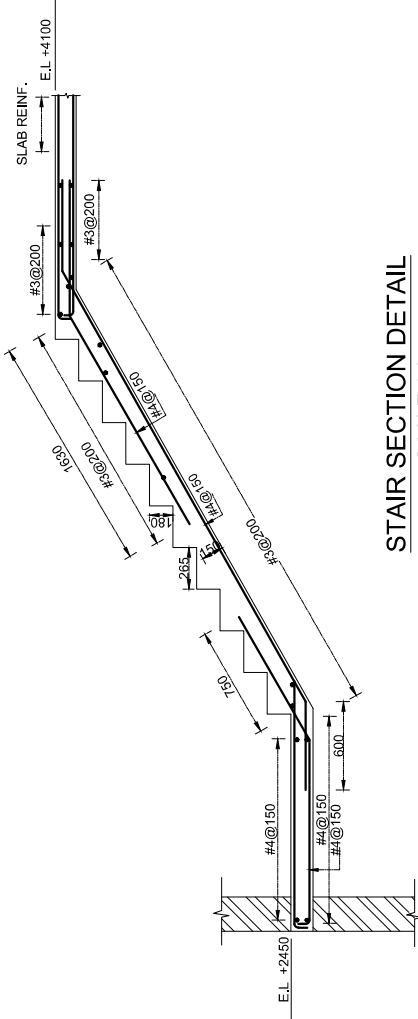
NATIONAL TRANSMISSION AND DESPATCH COMPANY		DESIGN (NTDC)	
DRAWN	----		
ASSTT. MANAGER	MARYAM MANSHA		
DY. MANAGER	ATTIA MUHAMMAD		
DY. MANAGER	----		
MANAGER	MUHAMMAD AZIZ	SCALE - AS SHOWN	DATE - 03-12-2020

DESIGN OF BARRACKS FOR SECURITY STAFF (60 MEN)
(SHEET 6 OF 8)



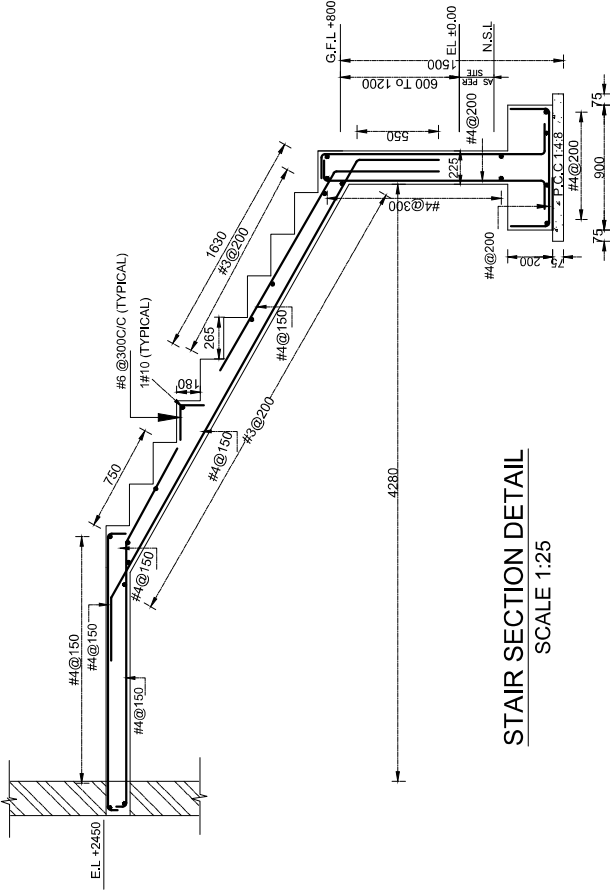
FOOTING, COLUMN & PLINTH BEAM PLAN

SCALE 1:60



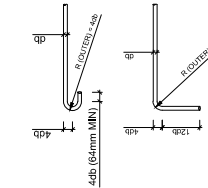
STAIR SECTION DETAIL

SCALE 1:25



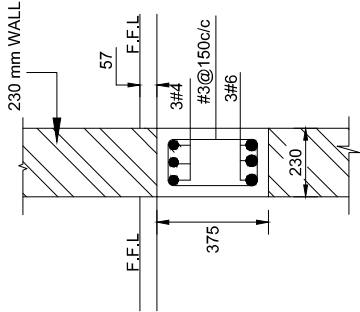
STAIR SECTION DETAIL

SCALE 1:25



STANDARD HOOK DETAILS

SCALE 1:15



SECTION OF PLINTH BEAM

(TYP.)

SCALE N.T.S

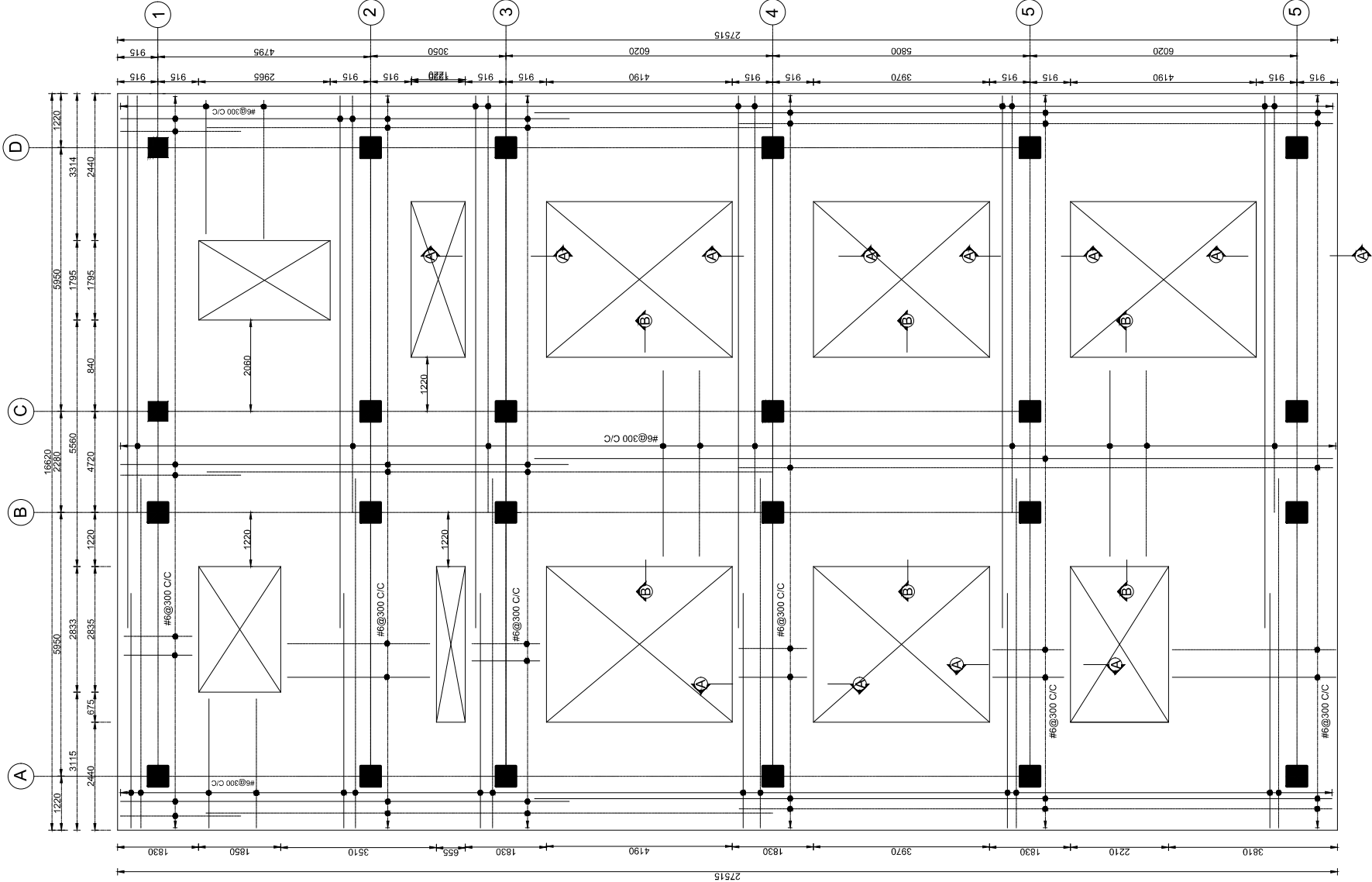
PLINTH PROTECTION

- 75 mm THICK P.C.C 1:2:4 OVER 50 mm THICK SAND CUSHION OVER RAMMED EARTH DRESSED TO PROPER SLOPE. P.C.C TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.

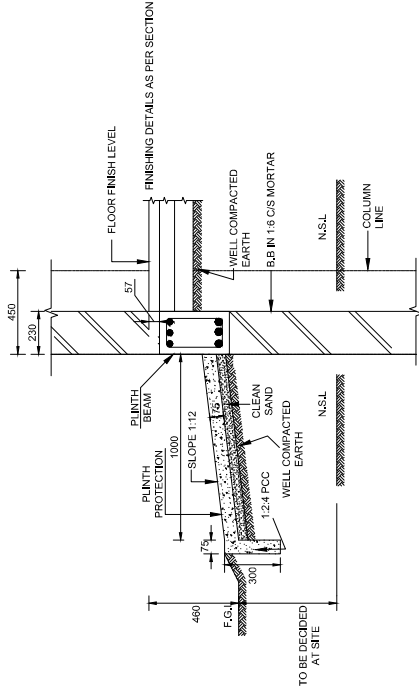
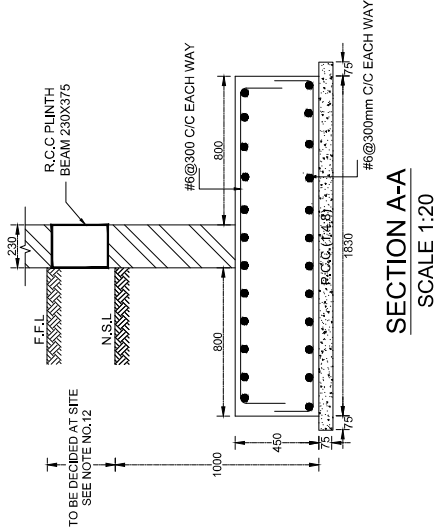
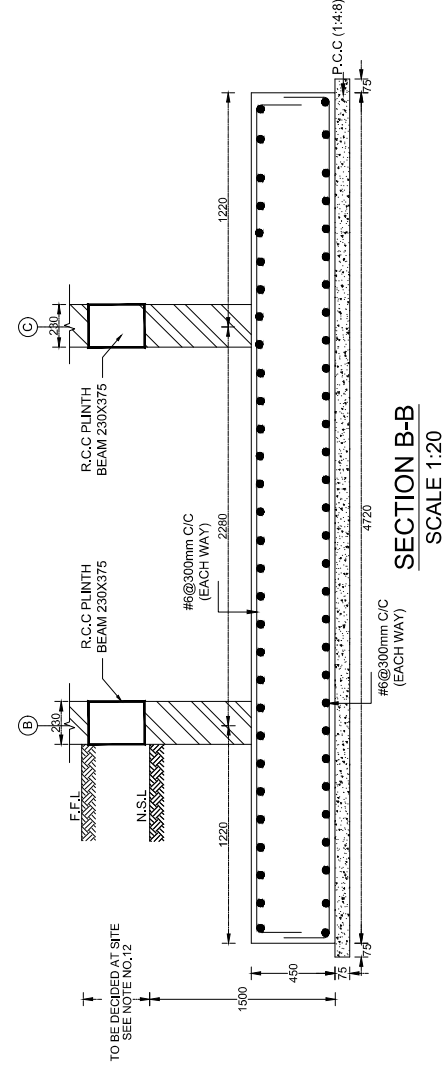
NOTES:-

- ALL DIMENSIONS ARE GIVEN IN MILLIMETERS.
- ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 20 N/mm² AT 28 DAYS.
- REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 280 N/mm² (GRADE 40) CONFORMING TO ASTM-A615.
- CONCRETE COVER FOR DIFFERENT STRUCTURAL ELEMENTS SHALL BE AS FOLLOWS:
a) BEAM = 40mm
b) SLAB = 19mm
c) FOUNDATION = 50mm
5. PROVIDE BAR SPLICE (LAP) LENGTH FOR BOTTOM BAR AS UNDER
a) #3 BARS = 450mm
b) #4 BARS = 600mm
c) #5 BARS = 800mm
d) #6 BARS = 975mm
e) #8 BARS = 1350mm
6. PROVIDE BAR SPLICE (LAP) LENGTH FOR TOP BAR AS UNDER
a) #3 BARS = 550mm
b) #4 BARS = 730mm
c) #5 BARS = 950mm
d) #6 BARS = 1170mm
e) #8 BARS = 1620mm
7. FOR POSITIVE/TOP STEEL LAP SHOULD BE PROVIDED AT SUPPORT AND FOR NEGATIVE/BOTTOM STEEL LAP SHOULD BE PROVIDED AT MID SPAN FOR FOUNDATION RAFT.
8. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 20mm CONFORMING TO ASTM C-33.
9. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
10. CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
11. CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
12. IF THE HEIGHT BETWEEN NSL AND FFL EXCEEDS 1200 mm, THE MATTER SHOULD BE REFERRED BACK TO DESIGN NITDC.
13. POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING. ALL STRUCTURAL CONCRETE SHALL BE FAIR FACED. FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK) AND WITHOUT PLASTER.
14. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING, THE MATTER SHALL BE REFERRED BACK TO DESIGN NITDC PRIOR TO THE EXECUTION AT SITE.
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NATIONAL TRANSMISSION AND DESPATCH COMPANY				CE DESIGN (NTDC)	
DRAWN	---				
ASSTT:	MARIAM MANISHA				
BY MANAGER	ATTA MUHAMMAD				
BY MANAGER	---				
MANAGER	MUHAMMAD AZIZ				
CHIEF ENGINEER	IMRAN RASHID				
DESIGN OF BARRACKS FOR SECURITY STAFF (60 MEN) (SHEET 7 OF 8)				SCALE:-	AS SHOWN
				DATE:-	03-12-2020
				DWG. NO. PDW/TQ-388	



FOOTING REINFORCEMENT PLAN
SCALE 1:60



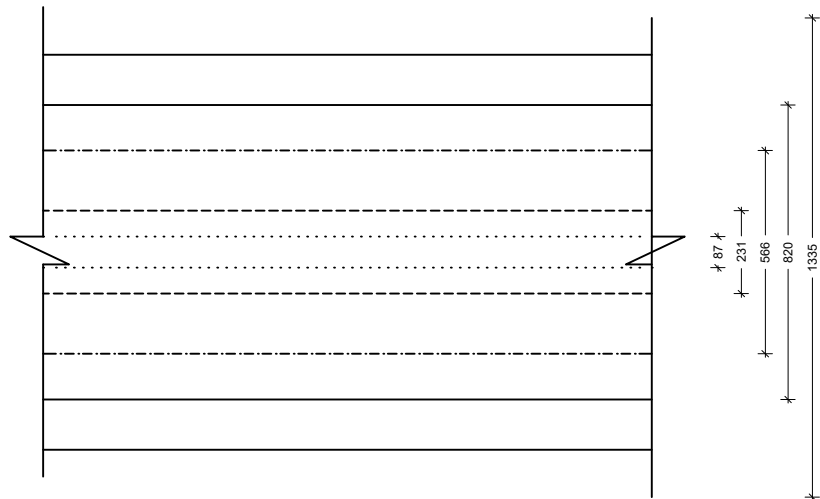
PLINTH PROTECTION DETAILS
SCALE= N.T.S

PLINTH PROTECTION

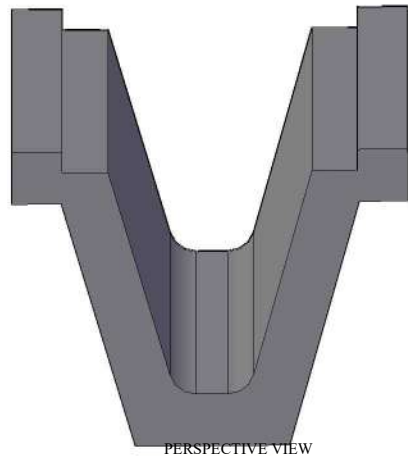
- 75 mm THICK P.C.C 1:2:4 OVER 50 mm THICK SAND CUSHION OVER RAMMED EARTH DRESSED TO PROPER SLOPE. P.C.C TO BE LAID IN PANELS OF SIZE NOT MORE THAN 1000 mm IN LENGTH.
- ALL DIMENSIONS ARE GIVEN IN MILLIMETERS.
- ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 21N/mm² AT 28 DAYS.
- REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED TO ASTM A-615.
- CONCRETE COVER FOR DIFFERENT STRUCTURAL ELEMENTS SHALL BE AS FOLLOWS:
a) BEAM = 40mm
b) SLAB = 19mm
c) FOUNDATION = 50mm
6. PROVIDE BAR SPLICE (LAP) LENGTH FOR BOTTOM BAR AS UNDER
a) #3 BARS = 450mm
b) #4 BARS = 600mm
c) #5 BARS = 800mm
d) #6 BARS = 975mm
e) #8 BARS = 1350mm
7. PROVIDE BAR SPLICE (LAP) LENGTH FOR TOP BAR AS UNDER
a) #3 BARS = 550mm
b) #4 BARS = 730mm
c) #5 BARS = 950mm
d) #6 BARS = 1170mm
e) #8 BARS = 1620mm
8. FOR POSITIVE/BOTTOM STEEL, LAP SHOULD BE PROVIDED AT SUPPORT AND FOR NEGATIVE/TOP STEEL, LAP SHOULD BE PROVIDED AT MID SPAN FOR FOUNDATION RAFT.
9. AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 20mm CONFORMING TO ASTM C-33.
10. COARSE SAND SHALL BE FREE FROM SILT AND DUST.
11. CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
12. IF THE HEIGHT BETWEEN NSL AND PFL EXCEEDS 1200 mm, THE MATTER SHOULD BE REFERRED BACK TO DESIGN NTDC.
13. POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING ALL STRUCTURAL CONCRETE SHALL BE FAIR FACED, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK) AND WITHOUT PLASTER.
14. IF THE DRAWING IS FELT SILENT OR ANY CHANGE IS NOTICED AT SITE FROM DESIGN DRAWING OR ANY CONFUSION ARISES IN DRAWING, THE MATTER SHALL BE REFERRED BACK TO DESIGN NTDC PRIOR TO THE EXECUTION AT SITE.
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NATIONAL TRANSMISSION AND DESPATCH COMPANY				C.E DESIGN (NTDC)	
DRAWN	---				
ASSTT:	MARYAM MANSHA				
DY. MANAGER	ATTA MUHAMMAD				
DY. MANAGER	---				
MANAGER	MUHAMMAD AZIZ				
CHIEF ENGINEER	MURAD RASHID				
NO	DATE	REVISIONS	D.M	M	
				SCALE:-	AS SHOWN
				DATE:-	03-12-2020
				DWG. NO. PDW/TQ-388	

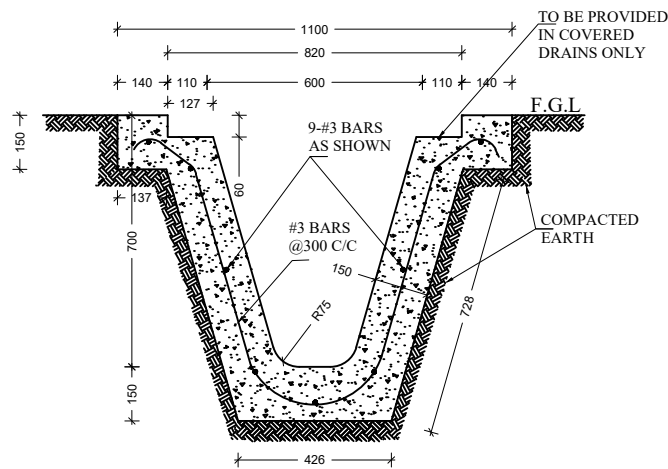
DESIGN OF BARRACKS FOR
SECURITY STAFF (60 MEN)
(SHEET 8 OF 8)



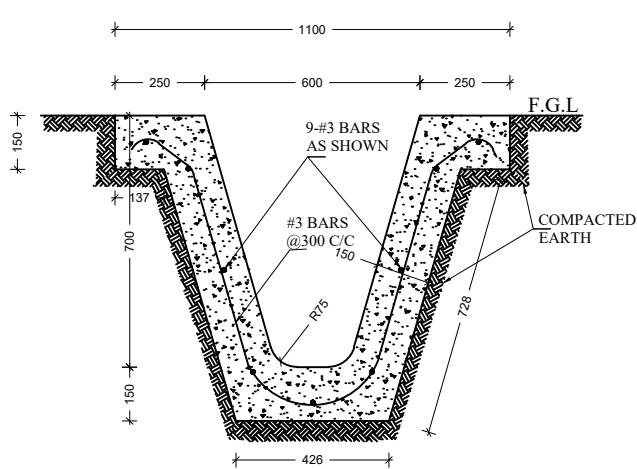
PLAN OF DRAIN



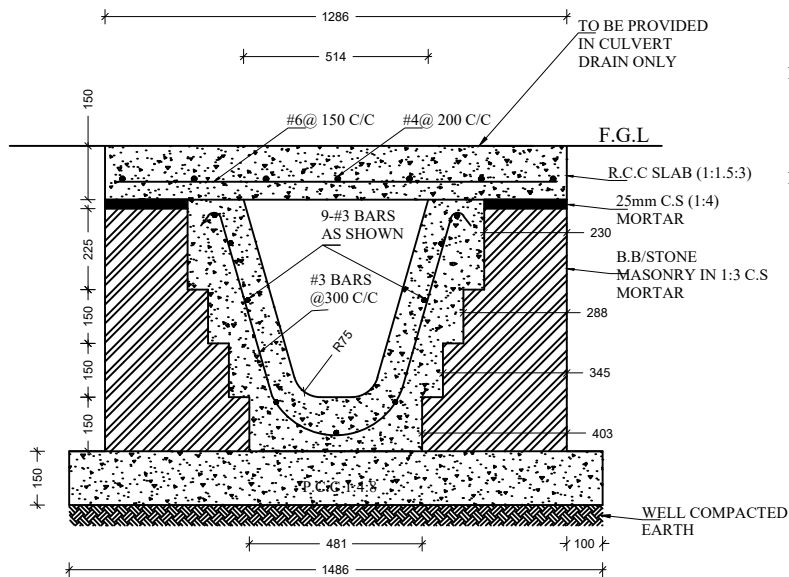
PERSPECTIVE VIEW



CROSS SECTION OF DRAIN WITH STEEL OR CONCRETE GRATING COVER



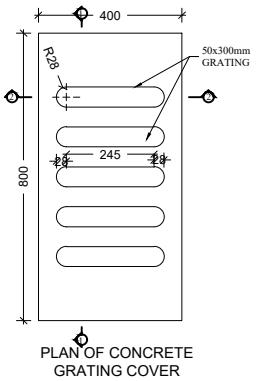
CROSS SECTION OF DRAIN WITHOUT COVER



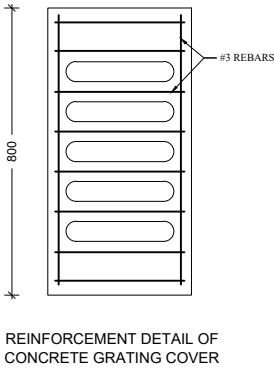
CROSS SECTION OF DRAIN WITH SLAB CULVERT

NOTES:-

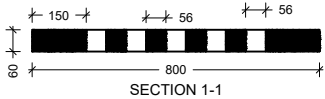
- ALL CONCRETE SHALL HAVE MINIMUM CYLINDER CRUSHING STRENGTH OF 21N/MM² AT 28 DAYS.
- REINFORCEMENT SHALL BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 420N/MM² (GRADE-60) CONFORMING TO ASTM-A-615.
- USE REINFORCEMENT BARS AS PER ASTM IMPERIAL SYSTEM
- AGGREGATE SHALL BE WELL GRADED AND MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 19MM CONFORMING TO ASTM C-33.
- COARSE SAND SHALL BE FREE FROM SILT AND DUST.
- CONCRETE SHALL BE MIXED BY MECHANICAL MEANS.
- CONCRETE SHALL BE VIBRATED WITH A VIBRATOR OF 7000 RPM MAXIMUM.
- POTABLE WATER SHALL BE USED FOR ALL CONCRETING AND CURING.
- CURING MUST BE CONTINUED FOR ATLEAST 10 DAYS.
- ALL FACES OF CONCRETE SHALL BE FAIR, FLAWLESSLY SMOOTH (WITHOUT SHUTTERING MARK)
- ALL JOINTS IN STEEL GRATING COVER SHALL BE PROPERLY WELDED AS PER WAPDA/NTDC SPECIFICATIONS
- ALL STEEL GRATING SHALL BE COATED WITH RED OXIDE PRIMER AND 2-COATS OF APPROVED METAL PAINT
- ALL MATERIAL AND WORKMANSHIP SHALL BE ACCORDING TO STANDARD SPECIFICATIONS AS LAID DOWN IN WAPDA C.S.R. LATEST EDITION.
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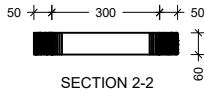
PLAN OF CONCRETE GRATING COVER



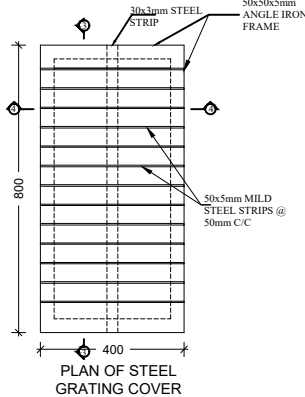
REINFORCEMENT DETAIL OF CONCRETE GRATING COVER



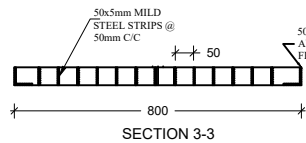
SECTION 1-1



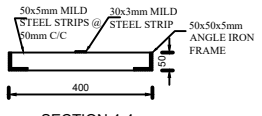
SECTION 2-2



PLAN OF STEEL GRATING COVER



SECTION 3-3



SECTION 4-4

NATIONAL TRANSMISSION AND DESPATCH COMPANY				C.E. DESIGN NTDC SERVICES DIVISION	
DRAWN	FARID BARKI			STANDARD DESIGN OF STORM WATER DRAIN (TRAPEZOIDAL 700x600)	
ASSTT. MANAGER	MUHAMMAD MUNIR ANJUM				
DEPUTY MANAGER	ATTA MUHAMMAD				
DEPUTY MANAGER	FARID BARKI				
MANAGER (CIVIL)	MUHAMMAD AZIZ			SCALE:- AS SHOWN	DATE:- 01-01-2019
CHIEF ENGINEER	HAZHAR ALI			DWG. NO. PDW/TQ-383	