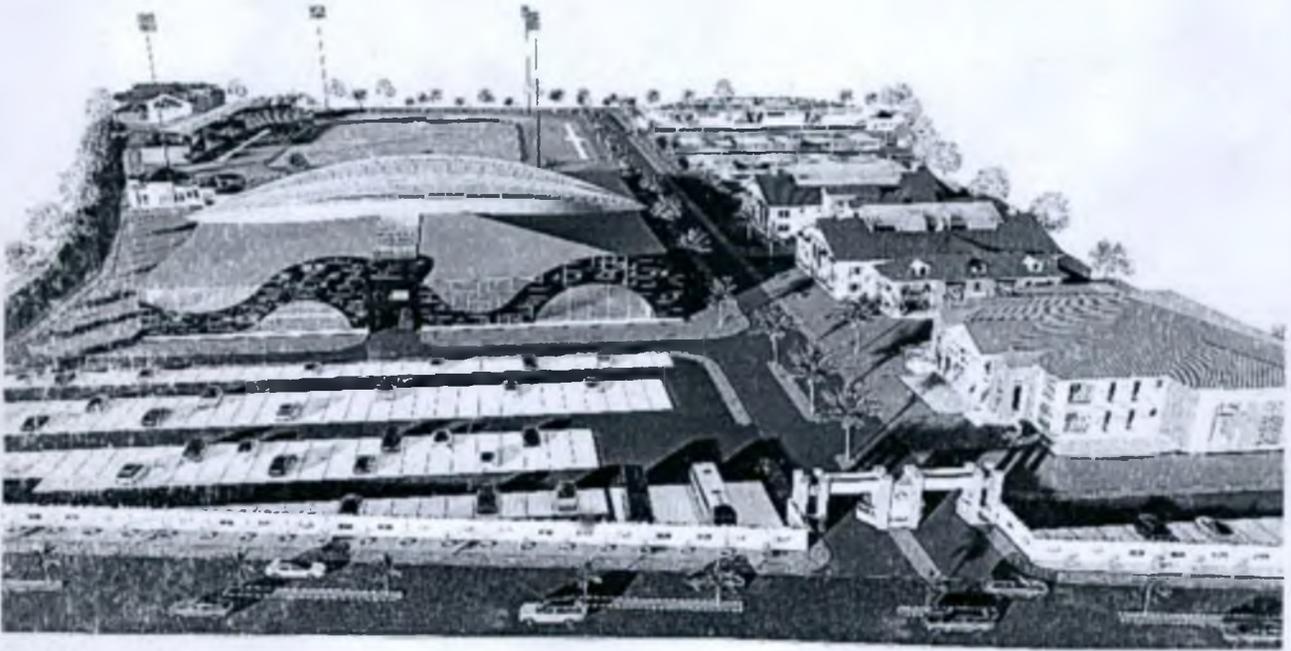




PAKISTAN SPORTS BOARD
SRINAGAR HIGHWAY, AABPARA ISLAMABAD

PROJECT: CONSTRUCTION OF PSB COACHING CENTRE AT SKARDU.



TENDER DOCUMENTS

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INSTRUCTIONS TO BIDDERS



INSTRUCTIONS TO BIDDERS

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 project of the funds will be applied to eligible payments under the Federal PSDP.

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) C-2 and above with Codes (BC01, CE01, CE09, CE10).

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 respective 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.

B.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 respect 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 respect 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 (Appendix-D to Bid).
9. Form of Bid Security.
10. Form of Contract Agreement.
11. Forms of Performance Security and Mobilization Advance Guarantee.
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 respect 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 07 days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers 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 purchasers 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 alongwith 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-K 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 partner without prior written consent of the Employer / procuring entity.

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, in favour 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) 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 purchasers 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 initialled 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 initialled 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) Complete Bids must be received by the Procuring Entity at the address specified no later than the time and date stipulated in the Bidding Data. In the event of the specified date for the submission of bids declared a holiday for the Procuring Entity, the Bids will be received up to the appointed time on the next working day.
- (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

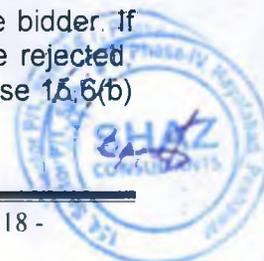
- 25.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing but no change in the price or substance of the 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, including discounts or other price modification in the bids.
- 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:
- 29.3 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 14 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, interalia, 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-L 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.



BIDDING DATA



[NOTES ON BIDDING DATA]

This Section is intended to assist the Employer in providing the specific information in relation to corresponding clauses in Instructions to Bidders and should be prepared to suit each individual contract.

The Employer should provide in the Bidding Data information and requirements specific to the circumstances of the Employer, the processing of the Bid, the applicable rules regarding Bid Price and currency, and the Bid evaluation criteria that will apply to the Bids. In preparing this section, the following aspects should be checked:

- (a) Information that specifies and complements the provisions of section; Instruction to Bidders must be incorporated.
- (b) Amendments and/or supplements, if any, to the provisions of Instructions to Bidders, necessitated by the circumstances of each individual contract, can be introduced only in this section since Instructions to Bidders will remain unchanged.



BIDDING DATA

Instructions to Bidders
Clause Reference

- 1.1 Name and address of the Employer:**
Director General of Pakistan Sports board (PSB), Islamabad.
- 1.1 Name of the Project & Summary of the Works:**
Name of the Project

CONSTRUCTION OF PSB COACHING CENTER AT SKARDU.

Summary of the Works

Detailed scope of work is provided in the Bill of Quantities, Specifications and Drawings.

- 2.1 Name of the Borrower/Source of Financing/Funding Agency:**
The project of the funds will be applied to eligible payments under the the federal PSDP

- 3.1 Eligible Bidder:**
- Duly licensed by the Pakistan Engineering Council (C-2) and above having validity upto 30.06.2026.
 - Registration with FBR with active status

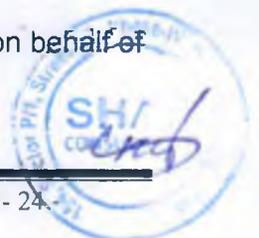
- 8.1 Time limit for clarification:**
"07 days".

- 10.1 Bid language:**
English

11.1 Document Accompanying the Bid:

11.1 Each bidder shall prepare and submit the following documents with its bid:

- (a) Dully filled-in signed and stumped form of Bid and following appendices to bid.
- Appendix-A to Bid; Special Stipulations
 - Appendix-B to Bid; Foreign Currency Requirements
 - Appendix-C to Bid; Price Adjustment (Under Clause 70)
 - Appendix-D to Bid; Bill of Quantities
 - Appendix-E to Bid; Proposed Construction Schedule
 - Appendix-F to Bid; Method of Performing the Work
 - Appendix-G to Bid; List of Major Equipment – Related Items
 - Appendix-H to Bid; Construction Camp and Housing Facilities
 - Appendix-I to Bid; List of Subcontractors
 - Appendix-J to Bid; Estimated Progress Payments
 - Appendix-K to Bid; Organization Chart of the Supervisory Staff and Labour
 - Appendix-L to Bid; Integrity Pact
 - Appendix-M to Bid; List of Recommended Manufacturers
- (b) Bid Security
- (c) Name & Proof of owner ship of the company
- (d) Wirrtten power of attorney authorizing the signatory of the bid to act for & on behalf of the bidder;



- (e) Updated information including the following;
 - (i) Evidence of access to financial resources alongwith average annual Construction turnover;
 - (ii) Latest status of Financial resources & commitment for last two years (including the current year);
 - (iii) Work commitments since Pre-Qualification;
 - (iv) Availibility of essential critical equipment;
 - (v) Information about litigation presently in process
- (f) Copy of Draft Joint Venture agreement, in case bid is submitted by joint venture;
- (g) Any other document required to be submitted in accordance with these bidding documents.
- (h) Detail of similar works executed during the last (5) years

12.4 Discount offered by the Bidder

“In case of any discrepancy or difference in the rate or amount of discount mention on the form of bid (as dully filled – in and signed), and on the summary page of the priced BOQ, the discount shown on the summary page of priced BOQ shall prevail”.

13.1 Currency of Bid & Payment:

“Bidders are required to quote entirely Pak Ruppes”.

14.1 Period of Bid Validity:

Ninety (90) days

15.1 Amount of Bid Security:

Bid security in the amount of not less than Rs.15.000 million (Rupees fifteen million)

15.2 Format of Bid Security:

“The bid security shall be, at the option of the bidder, in the form of deposite 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 favour of the Employer valid for a period 28 days beyond the bid validity date”

17.1 Venue, time, and date of the pre-Bid meeting:

As per NIT in newspaper.

18.1 Format and Signing of Bid:

Add word “Bid” before Amount in the first line.



18.4 Number of copies of the Bid to be completed and returned:
One (01) Original and two (02) Copies.

19.2 (a) Employer's address for the purpose of Bid submission:
As per NIT in newspaper.

19.2 (b) Name & Identification Number of the Contract:

CONSTRUCTION OF PSB COACHING CENTER AT SKARDU.

19.2 (c)Warning:

Do not open before the time and date of Bid opening intimated through Invitation Letter / Notice.

20.1 (a)Deadline for submission of bids:
As per NIT in newspaper.

22.3 Modification, Substitution and withdrawal of Bids:
In first line after modified delete the text 'by a bidder'.

23.1 Venue, time, and date of Bid opening:
Venue, time & date of bid opening, as per NIT in newspaper.

23.2 Bid Opening:
Add the following after the text 'read out first' in second "and the documents contained therein shall have precedence on all documents submitted by the bidder in accordance with clause IB.11 hereof".

28.2(b)Evaluation and comparison of Bids:
Delete the text; but including Priced day work.

32.1 Period, Form and amount of Performance Security acceptable to the Employer:

"The contractor shall provide Performance Security valid till the end of Defect Liability Period, to the employer in the prescribed form. The said security shall be furnished or caused to be furnished by the contractor within Fourteen 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 either (a) Bank guarantee from any scheduled bank in Pakistan or (b) bank guarantee from a bank located out side Pakistan duly counter – guaranteed by a scheduled Bank in Pakistan. The cost of complying with requirements of this sub-clause shall be borne by the Contractor".

33 Period of Furnishing & Signing of Contract Agreement:

33.1 Within 07 days from the date of furnishing of acceptable Performance Security under the the conditions of contract, the successful bidder shall submit the contract agreement in form provided in the Bidding Document, incorporating all agreements between the parties.

33.2 Delete the text '14 days of the receipt of the contract Agreement by the successful bidder from the Employer' in the second line and replace "within following 07 days of receipt of the Contract Agreement by the Employer".



PART-I
GENERAL CONDITIONS OF CONTRACT





[Notes on the Conditions of Contract]

The Conditions of Contract comprise two parts:

- (a) **Part I - General Conditions of Contract**
- (b) **Part II - Particular Conditions of Contract**

Part-I – General Condition of contract is based on FIDIC (Federation Internationale des Ingenieurs-Conseils) condition of Contracts Fourth Edition, 1987, reprinted in 1992 with further amendments.

The standard text of the General Conditions of Contract chosen must be retained intact to facilitate its reading and interpretation by bidders and its use by the Client. Any amendments and additions to the General Conditions, specific to the contract in hand, should be introduced in the Particular Conditions of Contract.

* Add the following text if the bidding documents, as issued, do not include a copy:

Copies of the FIDIC Conditions of Contract can be obtained from:

FIDIC Secretariat
P.O. Box 86
1000 Lausanne 12
Switzerland

e-mail: fidic.pub@fidic.org – FIDIC.org/bookshop



**PART-II
PARTICULAR CONDITIONS OF CONTRACT**



PART II - PARTICULAR CONDITIONS OF CONTRACT
(Mandatory Provisions not to be Amended / Substituted except as instructed by PEC)

1.1 Definitions

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- (a) (i) The Employer is The Director General of Pakistan Sports board (PSB), Islamabad

"Employer Representative" is the The Executive Engineer of Pakistan Sports board (PSB), Islamabad or any other person / Firm / Authority appointed by and be Responsible to the Employer and shall carry out such duties and exercise such authority as may be delegated to him by the Employer.

The Employer may from time-to-time delegate the Employers representative any of the duties and authorities vested in the Employer and he may at any time revoke such delegation.

Any communication given by the Employer Representative to the Engineer and the Contractor is accordance with such delegation shall have the same effect as though it had been given by the Employer.

- (a) (iv) The Engineer is "Executive Engineer, Pakistan Sports Board, Islamabad".

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)(viii) Amend the text to read as under:

"Appendices to tender" means appendices A through M annexed to the tender and forming part thereof.

The term 'Appendix to tender' wherever appears in the text shall be replaced by the term "Appendices to Tender"

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 therefrom as may be made and remedying of any defects therein in accordance with the provisions of the Contract.



1.2 Headings and Marginal Notes

The headings and marginal notes in these Conditions shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

1.3 Interpretation

Words importing persons or parties shall include firms and corporations and any organisation having legal capacity.

1.4 Singular and Plural

Words importing the singular only also include the Plural and vice versa where the context requires.

1.5 Notices, Consents, Approvals, Certificates and Determinations

Wherever in the Contract provision is made for the giving or issue of any notice, consent, approval, certificate or determination by any person, unless otherwise specified such notice, consent, approval, certificate or determination shall be in writing and the words "notify", "certify" or "determine" shall be construed accordingly. Any such consent, approval, certificate or determination shall not unreasonably be withheld or delayed.

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) Issuance of "Taking Over Certificate" under Clause 48.
- (vii) Issuing a Variation Order under Clause 51, except in an emergency situation, as stated in Appendix-A to Bid.
- (viii) Fixing rates or prices under Clause 52.
- (ix) Extra payment as a result of Contractor's claims under Clause 53.
- (x) Release of Retention Money to the Contractor under Sub-Clause 60.3 "Payment of Retention Money".
- (xi) Issuance of "Final Payment Certificate" under Sub-Clause 60.8.
- (xii) Issuance of "Defect Liability Certificate" under Sub-Clause 62.1.
- (xiii) Any change in the ratios of Contract currency proportions and payments thereof under Clause 72 "Currency and Rate of Exchange".

* (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 respect of such instruction, in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.)



2.2 Engineer's Representative

The following paragraph is added:

The Employer shall ensure that the Engineer's Representative is a professional engineer as defined in the Pakistan Engineering Council Act 1975 (V of 1976)

The following Sub-Clauses 2.7 and 2.8 are added:

2.3 Engineer's Authority to Delegate

The Engineer may from time to time delegate to the Engineer's Representative any of the duties and authorities vested in the Engineer and he may at any time revoke such delegation. Any such delegation or revocation shall be in writing and shall not take effect until a copy thereof has been delivered to the Employer and the Contractor.

Any communication given by the Engineer's Representative to the Contractor in accordance with such delegation shall have the same effect as though it had been given by the Engineer. Provided that:

- (a) any failure of the Engineer's Representative to disapprove any work, materials or Plant shall not prejudice the authority of the Engineer to disapprove such work, materials or Plant and to give instructions for the rectification thereof;
- (b) if the Contractor questions any communication of the Engineer's Representative he may refer the matter to the Engineer who shall confirm, reverse or vary the contents of such communication.

2.4 Appointment of Assistants

The Engineer or the Engineer's Representative may appoint any number of persons to assist the Engineer's Representative in the carrying out of his duties under Sub-Clause 2.2. He shall notify to the Contractor the names, duties and scope of authority of such persons. Such assistants shall have no authority to issue any instructions to the Contractor save in so far as such instructions may be necessary to enable them to carry out their duties and to secure their acceptance of materials, Plant or workmanship as being in accordance with the Contract, and any instructions given by any of them for those purposes shall be deemed to have been given by the Engineer's Representative.

2.5 Instructions in Writing

Instructions given by the Engineer shall be in writing, provided that if for any reason the Engineer considers it necessary to give any such instruction orally, the Contractor shall comply with such instruction. Confirmation in writing of such oral instruction given by the Engineer, whether before or after carrying out of the instruction shall be deemed to be an instruction within the meaning of this Sub-Clause. Provided further that if the Contractor, within 7 days, confirms in writing to the Engineer any oral instruction of the Engineer and such confirmation is not contradicted in writing within 7 days by the Engineer it shall be deemed to be an instruction of the Engineer.

The provisions of this Sub-Clause shall equally apply to instructions given by the Engineer's Representative and any assistants of the Engineer or the Engineer's Representative appointed pursuant to Sub-Clause 2.4.

2.6 Engineer to Act Impartially

Wherever, under the Contract, the Engineer is required to exercise his discretion by:

- (a) giving his decision, opinion or consent, or
- (b) expressing his satisfaction or approval, or



- (c) determining value, or
- (d) otherwise taking action which may affect the rights and obligations of the Employer or the Contractor

He shall exercise such discretion impartially within the terms of the Contract and having regard to all the circumstances. Any such decision, opinion, consent, expression of satisfaction, or approval, determination of value or action may be opened up, reviewed or revised as provided in Clause 67.

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."

3.1 Assignment of Contract

The Contractor shall not, without the prior consent of the Employer (which consent, notwithstanding the provisions of Sub-Clause 1.5, shall be at the sole discretion of the Employer), assign the Contract or any part thereof, or any benefit or interest therein or thereunder, otherwise than by:

- (a) a charge in favour of the Contractor's bankers of any monies due or to become due under the Contract, or
- (b) assignment to Contractor's insurers (in cases where the insurers have discharged the Contractor's loss or liability) of the Contractor's right to obtain relief against any other party liable.

4.1 Subcontracting

The Contractor shall not subcontract the whole of the Works. Except where otherwise provided by the Contract, the Contractor shall not subcontract any part of the Works without the prior consent of the Engineer. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen.

Provided that the Contractor shall not be required to obtain such consent for:

- (a) the provision of labour, or
- (b) the purchase of materials which are in accordance with the standards specified in the Contract, or
- (c) the subcontracting of any part of the Works for which the Subcontractor is named in the Contract.



4.2 Assignment of Subcontractors' Obligations

In the event of a Subcontractor having undertaken towards the Contractor in respect of the work executed, or the goods, materials, Plant or services supplied by such Subcontractor, any continuing obligation extending for a period exceeding that of the Defects Liability Period under the Contract, the Contractor shall at any time, after the expiration of such Period, assign to the Employer, at the Employer's request and cost, the benefit of such obligation for the unexpired duration thereof.

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 including Appendices A to M except Appendix D to Bid (i.e. priced Bill of Quantities).
- (4) The Particular Conditions of Contract – Part II
- (5) The General Conditions – Part I
- (6) The Specifications
- (7) The Drawings
- (8) The Priced Bill of Quantities (Appendix D to Bid)

In case of discrepancies between drawings, those of larger scale shall govern unless they are superseded by a drawing of later date regardless of scale. 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.

The following Sub-Clauses 6.6 and 6.7 are added:

6.1 Custody and Supply of Drawings and Documents

The Drawings shall remain in the sole custody of the Engineer, but two copies thereof shall be provided to the Contractor free of charge. The Contractor shall make at his own cost any further copies required by him. Unless it is strictly necessary for the purposes of the Contract, the Drawings, Specification and other documents provided by the Employer or the Engineer shall not, without the consent of the Engineer, be used or communicated to a third party by the Contractor. Upon issue of the Defects Liability Certificate, the Contractor shall return to the Engineer all Drawings, Specification and other documents provided under the Contract.

The Contractor shall supply to the Engineer four copies of all Drawings, Specification and other documents submitted by the Contractor and approved by the Engineer in accordance with Clause 7, together with a reproducible copy of any material which cannot be reproduced to an equal standard by photocopying. In addition the Contractor shall supply such further copies of such Drawings, Specification and other documents as the Engineer may request in writing for the use of the Employer, who shall pay the cost thereof.



6.2 One Copy of Drawings to be Kept on Site

One copy of the Drawings, provided to or supplied by the Contractor as aforesaid, shall be kept by the Contractor on the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and by any other person authorised by the Engineer in writing.

6.3 Disruption of Progress

The Contractor shall give notice to the Engineer, with a copy to the Employer, whenever planning or execution of the Works is likely to be delayed or disrupted unless any further drawing or instruction is issued by the Engineer within a reasonable time. The notice shall include details of the drawing or instruction required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.

6.4 Delays and Cost of Delay of 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.

6.5 Failure by Contractor to Submit Drawings

If the failure or inability of the Contractor to issue any drawings or instructions is caused in whole or in part by the failure of the Contractor to submit Drawings, Specification or other documents which he is required to submit under the Contract, the Engineer shall take such failure by the Contractor into account when making his determination pursuant to Sub-Clause 6.4.

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.

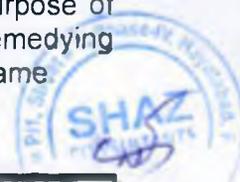
Review and approval by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and that the Engineer's review or approval shall not relieve the Contractor of any of his responsibilities under the Contract.

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 with the Works as built. The price of such Drawings shall be deemed to be included in the Contract Price.

7.1 Supplementary Drawings and Instructions

The Engineer shall have authority to issue to the Contractor, from time to time, such supplementary Drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and completion of the Works and the remedying of any defects therein. The Contractor shall carry out and be bound by the same.



7.2 Permanent Works Designed by Contractor

Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall submit to the Engineer, for approval:

- a. such drawings, specifications, calculations and other information as shall be necessary to satisfy the Engineer as to the suitability and adequacy of that design, and
- b. operation and maintenance manuals together with drawings of the Permanent Works as completed, in sufficient detail to enable the Employer to operate, maintain, dismantle, reassemble and adjust the Permanent Works incorporating that design. The Works shall not be considered to be completed for the purposes of taking over in accordance with Clause 48 until such operation and maintenance manuals, together with drawings on completion, have been submitted to and approved by the Engineer.

7.3 Responsibility Unaffected by Approval

Approval by the Engineer, in accordance with Sub-Clause 7.2, shall not relieve the Contractor of any of his responsibilities under the Contract.

8.1 Contractor's General Responsibilities

The Contractor shall, with due care and diligence, design (to the extent provided for by the Contract), execute and complete the Works and remedy any defects therein in accordance with the provisions of the Contract. The Contractor shall provide all superintendence, labour, materials, Plant, Contractor's Equipment and all other things, whether of a temporary or permanent nature, required in and for such design, execution, completion and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

8.2 Site Operation and Methods of Construction

The Contractor shall take full responsibility for the adequacy, stability and safety of all Site operations and methods of construction. Provided that the Contractor shall not be responsible (except as stated hereunder or as may be otherwise agreed) for the design or specification of Permanent Works, or for the design or specification of any Temporary Works not prepared by the Contractor. Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall be fully responsible for that part of such Works, notwithstanding any approval by the Engineer.

9.1 Contract Agreement

The Contractor shall, if called upon so to do, enter into and execute the Contract Agreement, to be prepared and completed at the cost of the Employer, in the form annexed to these Conditions with such modifications as may be necessary.

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 either (a) bank guarantee from any Scheduled Bank in Pakistan or (b) bank guarantee from a bank located outside Pakistan duly counter-guaranteed by a 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:

10.2 Period of Validity of Performance Security

The performance security shall be valid until the Contractor has executed and completed the Works and remedied any defects therein in accordance with the Contract. No claim shall be made against such security after the issue of the Defects Liability Certificate in accordance with Sub-Clause 62.1 and such security shall be returned to the Contractor within 14 days of the issue of the said Defects Liability Certificate

10.3 Claims under Performance Security

Prior to making a claim under the performance security the Employer shall, in every case, notify the Contractor stating the nature of the default in respect of which the claim is to be made

10.4 Performance Security Binding on Variations and Changes

The Performance Security shall be binding irrespective of changes in the quantities or variations in the Works or extensions in Time for Completion of the Works which are granted or agreed upon under the provisions of the Contract.

11.1 Inspection of Site

The Employer shall have made available to the Contractor, before the submission by the Contractor of the Tender, such data on hydrological and sub-surface conditions as have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works but the Contractor shall be responsible for his own interpretation thereof.

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself (so far as is practicable, having regard to considerations of cost and time) before submitting his Tender, as to:

- (a) The form and nature thereof, including the sub-surface conditions,
- (b) The hydrological and climatic conditions,
- (c) The extent and nature of work and materials necessary for the execution and completion of the Works and the remedying of any defects therein, and 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 Tender.

12.1 Sufficiency of Tender

The Contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices stated in the Bill of Quantities, all of which shall, except insofar as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods,

materials, Plant or services or of contingencies for which there is a Provisional Sum) and all matters and things necessary for the proper execution and completion of the Works and the remedying of any defects therein.

12.2 Adverse Physical Obstructions or Conditions

If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer, with a copy to the Employer. On receipt of such notice, the Engineer shall, if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.

13.1 Work to be in Accordance with Contract

Unless it is legally or physically impossible, the Contractor shall execute and complete the Works and remedy any defects therein in strict accordance with the Contract to the satisfaction of the Engineer. The Contractor shall comply with and adhere strictly to the Engineer's instructions on any matter, whether mentioned in the Contract or not, touching or concerning the Works. The Contractor shall take instructions only from the Engineer or, subject to the provisions of Clause 2, from the Engineer's Representative.

14.1 Programme to be Submitted

The programme shall be submitted within 14 days from the date of receipt of Letter of Acceptance, which shall be in the form of a Bar Chart identifying the critical path / activities for individual facility / wing as well as for overall project using appropriate software.

14.2 Revised Programme

If at any time it should appear to the Engineer that the actual progress of the Works does not conform to the programme to which consent has been given under Sub-Clause 14.1, the Contractor shall produce, at the request of the Engineer, a revised programme showing the modifications to such programme necessary to ensure completion of the Works within the Time for Completion.

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:

14.4 Contactor not Relieved of Duties or Responsibilities

The submission to and consent by the Engineer of such programmes or the provision of such general descriptions or cash flow estimates shall not relieve the Contractor of any of his duties or responsibilities under the Contract



14.5 Detailed Programme and Monthly Progress Report

- a) For purposes of Sub-Clause 14.1, the Contractor shall submit to the Engineer detailed programme for the following:
- (1) Execution of Works;
 - (2) Labour Employment;
 - (3) Local Material Procurement;
 - (4) Material Imports, if any; and
 - (5) Other details as required by the Engineer.
- (b) During the period of the Contract, the Contractor shall submit to the Engineer not later than the 8th day of the following month, 03 copies each 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 progress ;and
 - (6) Information about problems and difficulties encountered, if any, and proposals to overcome the same.
- (c) 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.

The following Sub-Clauses 15.2 and 15.3 are added:

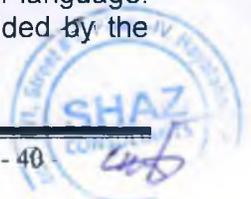
15.1 Contractor's Superintendence

The Contractor shall provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor, or a competent and authorised representative approved of by the Engineer, which approval may at any time be withdrawn, shall give his whole time to the superintendence of the Works. Such authorised representative shall receive, on behalf of the Contractor, instructions from the Engineer or, subject to the provisions of Clause 2, the Engineer's Representative.

If approval of the representative is withdrawn by the Engineer, the Contractor shall, as soon as is practicable, having regard to the requirement of replacing him as hereinafter mentioned, after receiving notice of such withdrawal, remove the representative from the Works and shall not thereafter employ him again on the Works in any capacity and shall replace him by another representative approved by the Engineer.

15.2 Language Ability of Contractor's Representative

The Contractor's authorised 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.



15.3 Contractor's Representative

The Contractor's authorised representative shall having 10 years experience in relevant field and his other professional engineers working at Site shall register themselves with the Pakistan Engineering Council.

The Contractor's authorised representative at Site shall be authorised 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 16.3 and 16.4 are added:

16.1 Contractor's Employees

The Contractor shall provide on the Site in connection with the execution and completion of the Works and the remedying of any defects therein

- (a) only such technical assistants as are skilled and experienced in their respective callings and such foremen and leading hands as are competent to give proper superintendence of the Works, and
- (b) such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely fulfilling of the Contractor's obligations under the Contract.

16.2 Engineer at Liberty to Object

The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person provided by the Contractor who, in the opinion of the Engineer, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose presence on Site is otherwise considered by the Engineer to be undesirable, and such person shall not be again allowed upon the Works without the consent of the Engineer. Any person so removed from the Works shall be replaced as soon as possible.

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 staff are 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:

17.1 Setting-out The Contractor shall be responsible for

The Contractor shall be responsible for:

the accurate setting-out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing,

- (a) the correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of the Works, and
- (b) the provision of all necessary instruments, appliances and labour in connection with the foregoing responsibilities.

If, at any time during the execution of the Works, any error appears in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Engineer, shall, at his own cost, rectify such error to the satisfaction of the Engineer, unless such error is based on incorrect data supplied in writing by the Engineer, in which case the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

The checking of any setting-out or of any line or level by the Engineer shall not in any way relieve the Contractor of his responsibility for the accuracy thereof and the Contractor shall carefully protect and preserve all bench-marks, sight-rails, pegs and other things used in setting-out the Works.

18.1 Boreholes and Exploratory Excavation

If, at any time during the execution of the Works, the Engineer requires the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be the subject of an instruction in accordance with Clause 51, unless an item or a Provisional Sum in respect of such work is included in the Bill of Quantities.

19.1 Safety, Security and Protection of the Environment

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:

- (a) have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons, and
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and
- (c) take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

19.2 Employer's Responsibilities

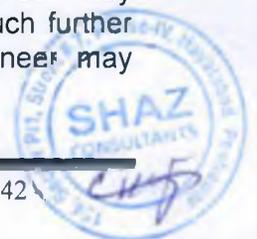
If under Clause 31 the Employer shall carry out work on the Site with his own workmen he shall, in respect of such work:

- (a) have full regard to the safety of all persons entitled to be upon the Site, and
- (b) keep the Site in an orderly state appropriate to the avoidance of danger to such persons.

If under Clause 31 the Employer shall employ other contractors on the Site he shall require them to have the same regard for safety and avoidance of danger.

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.

20.1 Care of Works

The Contractor shall take full responsibility for the care of the Works and materials and Plant for incorporation therein from the Commencement Date until the date of issue of the Taking-Over Certificate for the whole of the Works, when the responsibility for the said care shall pass to the Employer. Provided that:

- (a) if the Engineer issues a Taking-Over Certificate for any Section or part of the Permanent Works the Contractor shall cease to be liable for the care of that Section or part from the date of issue of the Taking-Over Certificate, when the responsibility for the care of that Section or part shall pass to the Employer, and
- (b) the Contractor shall take full responsibility for the care of any outstanding Works and materials and Plant for incorporation therein which he undertakes to finish during the Defects Liability Period until such outstanding Works have been completed pursuant to Clause 49.

20.2 Responsibility to Rectify Loss or Damage

If any loss or damage happens to the Works, or any part thereof, or materials or Plant for incorporation therein, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the risks defined in Sub-Clause 20.4., the Contractor shall, at his own cost, rectify such loss or damage so that the Permanent Works conform in every respect with the provisions of the Contract to the satisfaction of the Engineer. The Contractor shall also be liable for any loss or damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under Clauses 49 and 50.

20.3 Loss or Damage Due to Employer's Risks

In the event of any such loss or damage happening from any of the risks defined in Sub-Clause 20.4, or in combination with other risks, the Contractor shall, if and to the extent required by the Engineer, rectify the loss or damage and the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer. In the case of a combination of risks causing loss or damage any such determination shall take into account the proportional responsibility of the Contractor and the Employer.

20.4 Employer's Risks

The Employer's risks are:

Delete the text and substitute with the following:

- (a) insofar as they directly affect the execution of the Works in Pakistan:
 - (i) war and hostilities (whether war be declared or not), invasion, act of foreign enemies,



- (ii) rebellion, revolution, insurrection, or military or usurped power, or civil war,
- (iii) ionizing radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof,
- (iv) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (v) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works;
- (b) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (c) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- (d) any operation of the forces of nature (insofar as it occurs on the Site) which an experienced contractor:
 - (i) could not have reasonably foreseen, or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures:
 - (a) prevent loss or damage to physical property from occurring by taking appropriate measures, or
 - (b) insure against.

21.1 Insurance of Works and Contractor's Equipment

Add the following para (d) at the end:

- d) Automobile liability insurance of all licensed vehicles owned and operated on the contract for a sum sufficient to provide their replacement at the side.

21.2 Scope of Cover

The insurance in paragraphs (a) and (b) of Sub-Clause 21.1 shall be in the joint names of the Contractor and the Employer and shall cover:

- (a) the Employer and the Contractor against all loss or damage from whatsoever cause arising, other than as provided in Sub-Clause 21.4, from the start of Work at the Site until the date of issue of the relevant Taking-Over Certificate in respect of the Works or any Section or part thereof as the case may be, and
- (b) the Contractor for his liability:
 - (i) during the Defects Liability Period for loss or damage arising from a cause occurring prior to the commencement of the Defects Liability Period, and
 - (ii) for loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under Clauses 49 and 50.

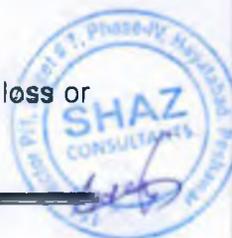
21.3 Responsibility for Amounts not Recovered

Any amounts not insured or not recovered from the insurers shall be borne by the Employer or the Contractor in accordance with their responsibilities under Clause 20.

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 paras (a) (i) to (iv).



The following Sub-Clause 25.5 is added:

22.1 Damage to Persons and Property

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:

- (a) death of or injury to any person, or
- (b) loss of or damage to any property (other than the Works), which may arise out of or in consequence of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 22.2.

22.2 Exceptions

The "exceptions" referred to in Sub-Clause 22.1 are:

- (a) The permanent use or occupation of land by the Works or any part thereof,
- (b) The right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land,
- (c) Damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract,
- (d) Death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or, where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

22.3 Indemnity by Employer

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause 22.2.

23.1 Third Party Insurance (including Employer's Property)

The Contractor shall, without limiting his or the Employer's obligations and responsibilities under Clause 22, insure, in the joint names of the Contractor and the Employer, against liabilities for death of or injury to any person (other than as provided in Clause 24) or loss of or damage to any property (other than the Works) arising out of the performance of the Contract, other than the exceptions defined in paragraphs(a), (b) and (c) of Sub-Clause 22.2.

23.2 Minimum Amount of Insurance

Such insurance shall be for at least the amount stated in Appendix A to Tender.

23.3 Cross Liabilities

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer as separate insureds



24.1 Accident or Injury to Workmen

The Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

24.2 Insurance Against Accident to Workmen

The Contractor shall insure against such liability and shall continue such insurance during the whole of the time that any persons are employed by him on the Works. Provided that, in respect of any persons employed by any Subcontractor, the Contractor's obligations to insure as aforesaid under this Sub-Clause shall be satisfied if the Subcontractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Contractor shall require such Subcontractor to produce to the Employer, when required, such policy of insurance and the receipt for the payment of the current premium.

25.1 Evidence and Terms of Insurances

The Contractor shall provide evidence to the Employer prior to the start of Work at the Site that the insurances required under the Contract have been effected and shall, within the time stated in Appendix A to Tender, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer.

25.2 Adequacy of Insurances

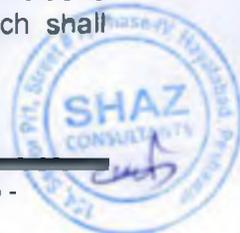
The Contractor shall notify the insurers of changes in the nature, extent or programme for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums.

25.3 Remedy on Contractor's Failure to Insure

If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 25.1, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for the purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor.

25.4 Compliance with Policy Conditions

In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure.



26.1 Compliance with Statutes, Regulations

The Contractor shall conform in all respects, including by the giving of all notices and the paying of all fees, with the provisions of:

- (a) Any National or State Statute, Ordinance, or other Law, or any regulation, or bye-law of any local or other duly constituted authority in relation to the execution and completion of the Works and the remedying of any defects therein, and
- (b) The rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works, and the Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such provisions. Provided always that the Employer shall be responsible for obtaining any planning, zoning or other similar permission required for the Works to proceed and shall indemnify the Contractor in accordance with Sub-Clause 22.3.

27.1 Fossils

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Employer and the Contractor, be deemed to be the absolute property of the Employer. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same. If, by reason of such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

28.1 Patent Rights

The Contractor shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of any Contractor's Equipment, materials or Plant used for or in connection with or for incorporation in the Works and from and against all damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, except where such infringement results from compliance with the design or Specification provided by the Engineer.

28.2 Royalties

Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the Works.

29.1 Interference with Traffic and Adjoining Properties

All operations necessary for the execution and completion of the Works and the remedying of any defects therein shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with:

- (a) the convenience of the public, or



- (b) the access to, use and occupation of public or private roads and footpaths to or of properties whether in the possession of the Employer or of any other person.
The Contractor shall save harmless and indemnify the Employer in respect of all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of, or in relation to, any such matters insofar as the Contractor is responsible therefor.

30.1 Avoidance of Damage to Roads

The Contractor shall use every reasonable means to prevent any of the roads or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his Subcontractors and, in particular, shall select routes, choose and use vehicles and restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of materials, Plant, Contractor's Equipment or Temporary Works from and to the Site shall be limited, as far as reasonably possible, and so that no unnecessary damage or injury may be occasioned to such roads and bridges.

30.2 Transport of Contractor's Equipment or Temporary Works

Save insofar as the Contract otherwise provides, the Contractor shall be responsible for and shall pay the cost of strengthening any bridges or altering or improving any road communicating with or on the routes to the Site to facilitate the movement of Contractor's Equipment or Temporary Works and the Contractor shall indemnify and keep indemnified the Employer against all claims for damage to any such road or bridge caused by such movement, including such claims as may be made directly against the Employer, and shall negotiate and pay all claims arising solely out of such damage.

30.3 Transport of Materials or Plant

If, notwithstanding Sub-Clause 30.1, any damage occurs to any bridge or road communicating with or on the routes to the Site arising from the transport of materials or Plant, the Contractor shall notify the Engineer with a copy to the Employer, as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim. Where under any law or regulation the haulier of such materials or Plant is required to indemnify the road authority against damage the Employer shall not be liable for any costs, charges or expenses in respect thereof or in relation thereto. In other cases the Employer shall negotiate the settlement of and pay all sums due in respect of such claim and shall indemnify the Contractor in respect thereof and in respect of all claims, proceedings, damages, costs, charges and expenses in relation thereto. Provided that if and so far as any such claim or part thereof is, in the opinion of the Engineer, due to any failure on the part of the Contractor to observe and perform his obligation under Sub-Clause 30.1, then the amount, determined by the Engineer, after due consultation with the Employer and the Contractor to be due to such failure shall be recoverable from the Contractor by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Provided also that the Employer shall notify the Contractor whenever a settlement is to be negotiated and, where any amount may be due from the Contractor, the Employer shall consult with the Contractor before such settlement is agreed.



30.4 Waterborne Traffic

Where the nature of the Works is such as to require the use by the Contractor of waterborne transport the foregoing provisions of this Clause shall be construed as though "road" included a lock, dock, sea wall or other structure related to a waterway and "vehicle" included craft, and shall have effect accordingly.

31.1 Opportunities for Other Contractors

The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to:

- (a) any other contractors employed by the Employer and their workmen,
- (b) the workmen of the Employer, and
- (c) the workmen of any duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works.

31.2 Facilities for Other Contractors

If, however, pursuant to Sub-Clause 31.1 the Contractor shall, on the written request of the Engineer:

- (a) make available to any such other contractor, or to the Employer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible, or
- (b) permit the use, by any such, of Temporary Works or Contractor's Equipment on the Site, or
- (c) provide any other service of whatsoever nature for any such, the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

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:

32.1 Contractor to Keep Site Clear

During the execution of the Works the Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment and surplus materials and clear away and remove from the Site any wreckage, rubbish or Temporary Works no longer required.

33.1 Clearance of Site on Completion

Upon the issue of any Taking-Over Certificate the Contractor shall clear away and remove from that part of the Site to which such Taking-Over Certificate relates all Contractor's Equipment, surplus material, rubbish and Temporary Works of every kind, and leave such part of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer. Provided that the Contractor shall be entitled to retain on Site, until the end of the Defects Liability Period, such materials, Contractor's Equipment and Temporary Works as are required by him for the purpose of fulfilling his obligations during the Defects Liability Period.



34.1 Engagement of Staff and Labour

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

34.2 Rates of Wages and Conditions of Labour

The Contractor shall pay rates of 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

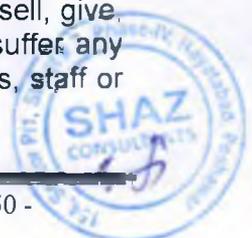
In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for purpose of dealing with and overcoming the same.

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 recognised 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 neighbourhood 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.

The following Sub-Clauses 35.2 and 35.3 are added:

35.1 Returns of Labour and Contractor's Equipment

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting Contractor's Equipment as the Engineer may require.

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:

36.1 Quality of Materials, Plant and Workmanship

All materials, Plant and workmanship shall be

- (a) of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and
- (b) subject from time to time to such tests as the Engineer may require at the place of manufacture, fabrication or preparation, or on the Site or at such other place or places as may be approved by the Engineer, or at all or any of such places.
The Contractor shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or Plant and shall supply samples of materials, before incorporation in the Works, for testing as may be selected and required by the Engineer.



36.2 Cost of Samples

All samples shall be supplied by the Contractor at his own cost if the supply thereof is clearly intended by or provided for in the Contract.

36.3 Cost of Tests

The cost of making any test shall be borne by the Contractor if such test is

- (a) clearly intended by or provided for in the Contract, or
- (b) particularised in the Contract (in cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfil) in sufficient detail to enable the Contractor to price or allow for the same in his Tender.

36.4 Cost of Tests not Provided for

If any test required by the Engineer which is

- (a) not so intended by or provided for, or
- (b) (in the cases above mentioned) not so particularised, or
- (c) (though so intended or provided for) required by the Engineer to be carried out at any place other than the Site or the place of manufacture, fabrication or preparation of the materials or Plant tested, shows the materials, Plant or workmanship not to be in accordance with the provisions of the Contract to the satisfaction of the Engineer, then the cost of such test shall be borne by the Contractor, but in any other case Sub-Clause 36.5 shall apply

36.5 Engineer's Determination where Tests not Provided for

Where, pursuant to Sub-Clause 36.4, this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

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.

37.1 Inspection of Operations

The Engineer, and any person authorised by him, shall at all reasonable times have access to the Site and to all workshops and places where materials or Plant are being manufactured, fabricated or prepared for the Works and the Contractor shall afford every facility for and every assistance in obtaining the right to such access.

37.2 Inspection and Testing

The Engineer shall be entitled, during manufacture, fabrication or preparation to inspect and test the materials and Plant to be supplied under the Contract. If materials or Plant are being manufactured, fabricated or prepared in workshops or places other than those of the Contractor, the Contractor shall obtain permission for the Engineer to carry out such inspection and testing in those workshops or places. Such inspection or testing shall not release the Contractor from any obligation under the Contract.



37.3 Dates for Inspection and Testing

The Contractor shall agree with the Engineer on the time and place for the inspection or testing of any materials or Plant as provided in the Contract. The Engineer shall give the Contractor not less than 24 hours notice of his intention to carry out the inspection or to attend the tests. If the Engineer, or his duly authorised representative, does not attend on the date agreed, the Contractor may, unless otherwise instructed by the Engineer, proceed with tests, which shall be deemed to have been made in the presence of the Engineer. The Contractor shall forthwith forward to the Engineer duly certified copies of the test readings. If the Engineer has not attended to tests, he shall accept the said readings as accurate.

37.4 Rejection

If, at the time and place agreed in accordance with Sub-Clause 37.3, the materials or Plant are not ready for inspection or testing or if, as a result of the inspection or testing referred to in this Clause, the Engineer determines that the materials or Plant are defective or otherwise not in accordance with the Contract, he may reject the materials or Plant and shall notify the Contractor thereof immediately. The notice shall state the Engineer's objections with reasons. The Contractor shall then promptly make good the defect or ensure that rejected materials or Plant comply with the Contract. If the Engineer so requests, the tests of rejected materials or Plant shall be made or repeated under the same terms and conditions. All costs incurred by the Employer by the repetition of the tests shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer and may be deducted from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

37.5 Independent Inspection

The Engineer may delegate inspection and testing of materials or Plant to an independent inspector. Any such delegation shall be effected in accordance with Sub-Clause 2.4 and for the purpose such independent inspector shall be considered as an assistant of the Engineer. Notice of such appointment (not being less than 14 days) shall be given by the Engineer to the Contractor.

38.1 Examination of Work before Covering up

No part of the Works shall be covered up or put out of view without the approval of the Engineer and the Contractor shall afford full opportunity for the Engineer to examine and measure any such part of the Works which is about to be covered up or put out of view and to examine foundations before any part of the Works is placed thereon. The Contractor shall give notice to the Engineer whenever any such part of the Works or foundations is or are ready or about to be ready for examination and the Engineer shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such part of the Works or of examining such foundations.

38.2 Uncovering and Making Openings

The Contractor shall uncover any part of the Works or make openings in or through the same as the Engineer may from time to time instruct and shall reinstate and make good such part. If any such part has been covered up or put out of view after compliance with the requirement of Sub-Clause 38.1 and is found to be executed in accordance with the Contract, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of the Contractor's costs in respect of such of uncovering, making openings in or through, reinstating and



making good the same, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer. In any other case all costs shall be borne by the Contractor.

39.1 Removal of Improper Work, Materials or Plant

The Engineer shall have authority to issue instructions from time to time, for:

- (a) the removal from the Site, within such time or times as may be specified in the instruction, of any materials or Plant which, in the opinion of the Engineer, are not in accordance with the Contract,
- (b) the substitution of proper and suitable materials or Plant, and
- (c) the removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefor, of any work which, in respect of
 - (i) materials, Plant or workmanship, or
 - (ii) design by the Contractor or for which he is responsible, is not, in the opinion of the Engineer, in accordance with the Contract.

39.2 Default of Contractor in Compliance

In case of default on the part of the Contractor in carrying out such instruction within the time specified therein or, if none, within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

40.1 Suspension of Work

The Contractor shall, on the instructions of the Engineer, suspend the progress of the Works or any part thereof for such time and in such manner as the Engineer may consider necessary and shall, during such suspension, properly protect and secure the Works or such part thereof so far as is necessary in the opinion of the Engineer. Unless such suspension is

- (a) otherwise provided for in the Contract, or
 - (b) necessary by reason of some default of or breach of Contract by the Contractor or for which he is responsible, or
 - (c) necessary by reason of climatic conditions on the Site, or
 - (d) necessary for the proper execution of the Works for the safety of the Works or any part thereof (save to the extent that such necessity arises from any act or default by the Engineer or the Employer or from any of the risks defined in Sub-Clause 20.4)
- Sub-Clause 40.2 shall apply.

40.2 Engineer's Determination following Suspension

Where, pursuant to Sub-Clause 40.1, this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount, which shall be added to the Contract Price, in respect of the Cost incurred by the Contractor by reason of such suspension, and shall notify the Contractor accordingly, with a copy to the Employer.



40.3 Suspension lasting more than 84 Days

If the progress of the Works or any part thereof is suspended on the written instructions of the Engineer and if permission to resume work is not given by the Engineer within a period of 84 days from the date of suspension then, unless such suspension is within paragraph (a), (b), (c) or (d) of Sub-Clause 40.1, the Contractor may give notice to the Engineer requiring permission, within 28 days from the receipt thereof, to proceed with the Works or that part thereof in regard to which progress is suspended. If, within the said time, such permission is not granted, the Contractor may, but is not bound to, elect to treat the suspension, where it affects part only of the Works, as an omission of such part under Clause 51 by giving a further notice to the Engineer to that effect, or, where it affects the whole of the Works, treat the suspension as an event of default by the Employer and terminate his employment under the Contract in accordance with the provisions of Sub-Clause 69.1, whereupon the provision of Sub-Clause 69.2 and 69.3 shall apply

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 from the date of receipt by him from the Engineer of a written Notice to Commence. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.

The following Sub-Clause 47.3 is added:

42.1 Possession of Site and Access Thereto

Save insofar as the Contract may prescribe:

- (a) the extent of portions of the Site of which the Contractor is to be given possession from time to time, and
- (b) the order in which such portions shall be made available to the Contractor and subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will, with the Engineer's/Employer's notice to commence the Works, give to the Contractor possession of so much of the Site, and
- (c) such access as, in accordance with the Contract, is to be provided by the Employer.
as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the programme referred to in Clause 14, if any, and otherwise in accordance with such reasonable proposals as the Contractor shall, by notice to the Engineer with a copy to the Employer, make. The Employer will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch in accordance with such programme or proposals, as the case may be:

42.2 Failure to Give Possession

If the Contractor suffers delay and/or incurs costs from failure on the part of the Employer to give possession in accordance with the terms of Sub-Clause 42.1, the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer



42.3 Wayleaves and Facilities

The Contractor shall bear all costs and charges for special or temporary wayleaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional facilities outside the Site required by him for the purposes of the Works.

43.1 Time for Completion

The whole of the Works and, if applicable, any Section required to be completed within a particular time as stated in the Appendix to Tender, shall be completed, in accordance with the provisions of Clause 48, within the time stated in the Appendix to Tender for the whole of the Works or the Section (as the case may be), calculated from the Commencement Date, or such extended time as may be allowed under Clause 44.

44.1 Extension of Time for Completion

In the event of

- (a) the amount or nature of extra or additional work, or
- (b) any cause of delay referred to in these Conditions, or
- (c) exceptionally adverse climatic conditions, or
- (d) any delay, impediment or prevention by the Employer, or
- (e) other special circumstances which may occur, other than through a default of or breach of Contract by the Contractor or for which he is responsible, being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer

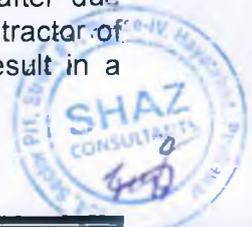
44.2 Contractor to Provide Notification and Detailed Particulars

Provided that the Engineer is not bound to make any determination unless the Contractor has

- (a) within 28 days after such event has first arisen notified the Engineer with a copy to the Employer, and
- (b) within 28 days, or such other reasonable time as may be agreed by the Engineer, after such notification submitted to the Engineer detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time.

44.3 Interim Determination of Extension

Provided also that where an event has a continuing effect such that it is not practicable for the Contractor to submit detailed particulars within the period of 28 days referred to in Sub-Clause 44.2(b), he shall nevertheless be entitled to an extension of time provided that he has submitted to the Engineer interim particulars at intervals of not more than 28 days and final particulars within 28 days of the end of the effect resulting from the event. On receipt of such interim particulars, the Engineer shall, without undue delay, make an interim determination of extension of time and, on receipt of the final particulars, the Engineer shall review all the circumstances and shall determine an overall extension of time in regard to the event. In both such cases the Engineer shall make his determination after due consultation with the Employer and the Contractor and shall notify the Contractor of the determination, with a copy to the Employer. No final review shall result in a decrease of any extension of time already determined by the Engineer.



45.1 Restriction on Working Hours

Subject to any provision to the contrary contained in the Contract, none of the Works shall, save as hereinafter provided, be carried on during the night or on locally recognised days of rest without the consent of the Engineer, except when work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer. Provided that the provisions of this Clause shall not be applicable in the case of any work which it is customary to carry out by multiple shifts.

46.1 Rate of Progress

If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any Section is at any time, in the opinion of the Engineer, too slow to comply with the Time for Completion, the Engineer shall so notify the Contractor who shall thereupon take such steps as are necessary, subject to the consent of the Engineer, to expedite progress so as to comply with the Time for Completion. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Engineer under this Clause, the Contractor considers that it is necessary to do any work at night or on locally recognised days of rest, he shall be entitled to seek the consent of the Engineer so to do. Provided that if any steps, taken by the Contractor in meeting his obligations under this Clause, involve the Employer in additional supervision costs, such cost shall, after due consultation with the Employer and the Contractor be determined by the Engineer and shall be recoverable from the Contractor by the Employer and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

47.1 Liquidated Damages for Delay

If the Contractor fails to comply with the Time for Completion in accordance with Clause 48, for the whole of the Works or, if applicable, any Section within the relevant time prescribed by Clause 43, then the Contractor shall pay to the Employer the relevant sum stated in the Appendix to Tender as liquidated damages for such default and the liquidated damages for each day of delay in completion of the whole of the Works, or if applicable any Section, shall be as given in Appendix to Tender, subject to a maximum limit stated in Appendix to Tender of the Contract Price stated in the Letter of Acceptance (which sum shall be the only monies due from the Contractor for such default) for every day or part of a day which shall elapse between the relevant Time for Completion and the date stated in a Taking-Over Certificate of the whole of the Works or the relevant Section, subject to the applicable limit stated in the Appendix to Tender. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

47.2 Reduction of Liquidated Damages

If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking-Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or that Section shall, for any period of delay after the date stated in such Taking-Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-



Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

47.3 Interm Liquidated Damages

If the Contractor is found to be lagging behind the required rate of progress as per approved programme of works as per Clause 14.1 for three consecutive months, an interm liquidated damages shall be deducted @ 0.1% per day delay upto a maximum of 10% of the contract price. In case the contractor makes up the progress as per approved schedule, these interm liquidated damages shall be reimbursed.

48.1 Taking-Over Certificate

When the whole of the Works have been substantially completed and have satisfactorily passed any Tests on Completion prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer, with a copy to the Employer, accompanied by a written undertaking to finish with due expedition any outstanding work during the Defects Liability Period. Such notice and undertaking shall be deemed to be a request by the Contractor for the Engineer to issue a Taking-Over Certificate in respect of the Works. The Engineer shall, within 21 days of the date of delivery of such notice, either issue to the Contractor, with a copy to the Employer, a Taking-Over Certificate, stating the date on which, in his opinion, the Works were substantially completed in accordance with the Contract, or give instructions in writing to the Contractor specifying all the work which, in the Engineer's opinion, is required to be done by the Contractor before the issue of such Certificate. The Engineer shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Taking-Over Certificate within 21 days of completion, to the satisfaction of the Engineer, of the Works so specified and remedying any defects so notified.

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".

48.3 Substantial Completion of Parts

If any part of the Permanent Works has been substantially completed and has satisfactorily passed any Tests on Completion prescribed by the Contract, the Engineer may issue a Taking-Over Certificate in respect of that part of the Permanent Works before completion of the whole of the Works and, upon the issue of such Certificate, the Contractor shall be deemed to have undertaken to complete with due expedition any outstanding work in that part of the Permanent Works during the Defects Liability Period.

48.4 Surfaces Requiring Reinstatement

Provided that a Taking-Over Certificate given in respect of any Section or part of the Permanent Works before completion of the whole of the Works shall not be deemed to certify completion of any ground or surfaces requiring reinstatement, unless such Taking-Over Certificate shall expressly so state.

49.1 Defects Liability Period

In these Conditions the expression "Defects Liability Period" shall mean the defects liability period named in the Appendix to Tender, calculated from:

- (a) the date of completion of the Works certified by the Engineer in accordance with Clause 48, or



- (b) in the event of more than one certificate having been issued by the Engineer under Clause 48, the respective dates so certified and in relation to the Defects Liability Period the expression "the Works" shall be construed accordingly.

49.2 Completion of Outstanding Work and Remedying Defects

To the intent that the Works shall, at or as soon as practicable after the expiration of the Defects Liability Period, be delivered to the Employer in the condition required by the Contract, fair wear and tear excepted, to the satisfaction of the Engineer, the Contractor shall:

- (a) complete the work, if any, outstanding on the date stated in the Taking-Over Certificate as soon as practicable after such date and
- (b) execute all such work of amendment, reconstruction, and remedying defects, shrinkages or other faults as the Engineer may, during the Defects Liability Period or within 14 days after its expiration, as a result of an inspection made by or on behalf of the Engineer prior to its expiration, instruct the Contractor to execute.

49.3 Cost of Remedying Defects

All work referred to in Sub-Clause 49.2(b) shall be executed by the Contractor at his own cost if the necessity thereof is, in the opinion of the Engineer, due to:

- (a) the use of materials, Plant or workmanship not in accordance with the Contract, or
- (b) where the Contractor is responsible for the design of part of the Permanent Works, any fault in such design, or
- (c) the neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract.

If, in the opinion of the Engineer, such necessity is due to any other cause, he shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

49.4 Contractor's Failure to Carry Out Instructions

In case of default on the part of the Contractor in carrying out such instruction within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and if such work is work which, in the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

50.1 Contractor to Search

If any defect, shrinkage or other fault in the Works appears at any time prior to the end of the Defects Liability Period, the Engineer may instruct the Contractor, with copy to the Employer, to search under the directions of the Engineer for the cause thereof. Unless such defect, shrinkage or other fault is one for which the Contractor is liable under the Contract, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount in respect of the costs of such search incurred by the Contractor, which shall be added to the Contract Price and shall notify the Contractor accordingly, with a copy to the Employer. If such defect, shrinkage or other fault is one for which the Contractor is liable, the cost of the work carried out in searching as aforesaid shall be borne by the Contractor and he shall in such case remedy such defect, shrinkage or other fault at his own cost in accordance with the provisions of Clause 49.



51.1 Variations

The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following:

- (a) increase or decrease the quantity of any work included in the Contract,
- (b) omit any such work (but not if the omitted work is to be carried out by the Employer or by another contractor),
- (c) change the character or quality or kind of any such work,
- (d) change the levels, lines, position and dimensions of any part of the Works,
- (e) execute additional work of any kind necessary for the completion of the Works,
- (f) change any specified sequence or timing of construction of any part of the Works.

No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause 52. Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of Contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.

51.2 Instructions for Variations

The Contractor shall not make any such variation without an instruction of the Engineer in writing. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

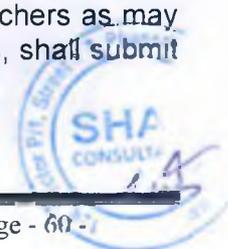
52.1 Valuation of Variations

All variations referred to in Clause 51 and any additions to the Contract Price which are required to be determined in accordance with Clause 52 (for the purposes of this Clause referred to as "varied work"), shall be valued at the rates and prices set out in the Contract if, in the opinion of the Engineer, the same shall be applicable. If the Contract does not contain any rates or prices applicable to the varied work, the rates and prices in the Contract shall be used as the basis for valuation so far as may be reasonable, failing which, after due consultation by the Engineer with the Employer and the Contractor, suitable rates or prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer, 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, shall fix such rates or prices as are, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

52.4 Daywork

The Engineer may, if in his opinion it is necessary or desirable, issue an instruction that any varied work shall be executed on a daywork basis. The Contractor shall then be paid for such varied work under the terms set out in the daywork schedule included in the Contract and at the rates and prices affixed thereto by him in the Tender.

The Contractor shall furnish to the Engineer such receipts or other vouchers as may be necessary to prove the amounts paid and, before ordering materials, shall submit to the Engineer quotations for the same for his approval.



In respect of such of the Works executed on a daywork basis, the Contractor shall, during the continuance of such work, deliver each day to the Engineer an exact list in duplicate of the names, occupation and time of all workmen employed on such work and a statement, also in duplicate, showing the description and quantity of all materials and Contractor's Equipment used thereon or therefor other than Contractor's Equipment which is included in the percentage addition in accordance with such daywork schedule. One copy of each list and statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor.

At the end of each month the Contractor shall deliver to the Engineer a priced statement of the labour, materials and Contractor's Equipment, except as aforesaid, used and the Contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if the Engineer considers that for any reason the sending of such lists or statements by the Contractor, in accordance with the foregoing provision, was impracticable he shall nevertheless be entitled to authorise payment for such work, either as daywork, on being satisfied as to the time employed and the labour, materials and Contractor's Equipment used on such work, or at such value therefor as shall, in his opinion, be fair and reasonable.

53.1 Notice of Claims

Not with standing any other provision of the Contract, if the Contractor intends to claim any additional payment pursuant to any Clause of these Conditions or otherwise, he shall give notice of his intention to the Engineer, with a copy to the Employer, within 28 days after the event giving rise to the claim has first arisen.

53.2 Contemporary Records

Upon the happening of the event referred to in Sub-Clause 53.1, the Contractor shall keep such contemporary records as may reasonably be necessary to support any claim he may subsequently wish to make. Without necessarily admitting the Employer's liability, the Engineer shall, on receipt of a notice under Sub-Clause 53.1, inspect such contemporary records and may instruct the Contractor to keep any further contemporary records as are reasonable and may be material to the claim of which notice has been given. The Contractor shall permit the Engineer to inspect all records kept pursuant to this Sub-Clause and shall supply him with copies thereof as and when the Engineer so instructs

53.3 Substantiation of Claims

Within 28 days, or such other reasonable time as may be agreed by the Engineer, of giving notice under Sub-Clause 53.1, the Contractor shall send to the Engineer an account giving detailed particulars of the amount claimed and the grounds upon which the claim is based. Where the event giving rise to the claim has a continuing effect, such account shall be considered to be an interim account and the Contractor shall, at such intervals as the Engineer may reasonably require, send further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. In cases where interim accounts are sent to the Engineer, the Contractor shall send a final account within 28 days of the end of the effects resulting from the event. The Contractor shall, if required by the Engineer so to do, copy to the Employer all accounts sent to the Engineer pursuant to this Sub-Clause.



53.4 Failure to Comply

If the Contractor fails to comply with any of the provisions of this Clause in respect of any claim which he seeks to make, his entitlement to payment in respect thereof shall not exceed such amount as Employer or any arbitrator or arbitrators appointed pursuant to Sub-Clause 67.3 assessing the Claim considers to be verified by contemporary records (whether or not such records were brought to the Engineer's notice as required under Sub-Clauses 53.2 and 53.3).

53.5 Payment of Claims

The Contractor shall be entitled to have included in any interim payment certified by the Engineer pursuant to Clause 60 such amount in respect of any claim as the Engineer, after due consultation with the Employer and the Contractor, may consider due to the Contractor provided that the Contractor has supplied sufficient particulars to enable the Engineer to determine the amount due. If such particulars are insufficient to substantiate the whole of the claim, the Contractor shall be entitled to payment in respect of such part of the claim as such particulars may substantiate to the satisfaction of the Engineer. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer.

54.1 Contractor's Equipment, Temporary Works and Materials; Exclusive Use for the Works

All Contractor's Equipment, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent of the Engineer. Provided that consent shall not be required for vehicles engaged in transporting any staff, labour, Contractor's Equipment, Temporary Works, Plant or materials to or from the Site.

54.2 Employer not Liable for Damage

The Employer shall not at any time be liable, save as mentioned in Clauses 20 and 65, for the loss of or damage to any of the said Contractor's Equipment, Temporary Works or materials.

54.3 Customs Clearance

Add the following at the end, before the full stop:

"but shall not be liable to the contractor for any loss resulting from clearance being delayed or refused".

54.4 Re-export of Contractor's Equipment

In respect of any Contractor's Equipment which the Contractor has imported for the purposes of the Works, the Employer will use his best endeavours to assist the Contractor, where required, in procuring any necessary Government consent to the re-export of such Contractor's Equipment by the Contractor upon the removal thereof pursuant to the terms of the Contract.

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.



54.6 Costs for the Purpose of Clause 63

In the event of the Employer entering into any agreement for the hire of Contractor's Equipment pursuant to Sub-Clause 54.5, all sums properly paid by the Employer under the provisions of any such agreement and all costs incurred by him (including stamp duties) in entering into such agreement shall be deemed, for the purpose of Clause 63, to be part of the cost of executing and completing the Works and the remedying of any defects therein.

54.7 Incorporation of Clause in Subcontracts

The Contractor shall, where entering into any subcontract for the execution of any part of the Works, incorporate in such subcontract (by reference or otherwise) the provisions of this Clause in relation to Contractor's Equipment, Temporary Works or materials brought on to the Site by the Subcontractor.

54.8 Approval of Materials not Implied

The operation of this Clause shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any time by the Engineer.

55.1 Quantities

The quantities set out in the Bill of Quantities are the estimated quantities for the Works, and they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfilment of his obligations under the Contract.

56.1 Works to be Measured

The Engineer shall, except as otherwise stated, ascertain and determine by measurement the value of the Works in accordance with the Contract and the Contractor shall be paid that value in accordance with Clause 60. The Engineer shall, when he requires any part of the Works to be measured, give reasonable notice to the Contractor's authorised agent, who shall:

- (a) forthwith attend or send a qualified representative to assist the Engineer in making such measurement, and
- (b) supply all particulars required by the Engineer.

Should the Contractor not attend, or neglect or omit to send such representative, then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of such part of the Works. For the purpose of measuring such Permanent Works as are to be measured by records and drawings, the Engineer shall prepare records and drawings as the work proceeds and the Contractor, as and when called upon to do so in writing, shall, within 14 days, attend to examine and agree such records and drawings with the Engineer and shall sign the same when so agreed. If the Contractor does not attend to examine and agree such records and drawings, they shall be taken to be correct. If, after examination of such records and drawings, the Contractor does not agree the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor, within 14 days of such examination, lodges with the Engineer notice of the respects in which such records and drawings are claimed by him to be incorrect. On receipt of such notice, the Engineer shall review the records and drawings and either confirm or vary them.



57.1 Method of Measurement

The Works shall be measured net, notwithstanding any general or local custom, except where otherwise provided for in the Contract.

57.2 Breakdown of Lump Sum Items

For the purposes of statements submitted in accordance with Sub-Clause 60.1, the Contractor shall submit to the Engineer, within 28 days after the receipt of the Letter of Acceptance, a breakdown for each of the lump sum items contained in the Tender. Such breakdowns shall be subject to the approval of the Engineer.

58.1 Definition of "Provisional Sum"

"Provisional Sum" means a sum included in the Contract and so designated in the Bill of Quantities for the execution of any part of the Works or for the supply of goods, materials, Plant or services, or for contingencies, which sum may be used, in whole or in part, or not at all, on the instructions of the Engineer. The Contractor shall be entitled to only such amounts in respect of the work, supply or contingencies to which such Provisional Sums relate as the Engineer shall determine in accordance with this Clause. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer.

58.2 Use of Provisional Sums

In respect of every Provisional Sum the Engineer shall have authority to issue instructions for the execution of work or for the supply of goods, materials, Plant or services by:

- (b) (a) the Contractor, in which case the Contractor shall be entitled to an amount equal to the value thereof determined in accordance with Clause 52,
- (c) (b) a nominated Subcontractor, as hereinafter defined, in which case the sum to be paid to the Contractor therefor shall be determined and paid in accordance with Sub-Clause 59.4.

58.3 Production of Vouchers

The Contractor shall produce to the Engineer all quotations, invoices, vouchers and accounts or receipts in connection with expenditure in respect of Provisional Sums, except where work is valued in accordance with rates or prices set out in the Tender.

59.1 Definition of "Nominated Subcontractors"

Delete Clause 59 in its entirety

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-Cause 60.11 (a)(6) hereof".

(in case Clause 60.11 is applicable)

60.2 Monthly Payments

The Engineer shall, within 14 days of receiving such statement, certify to the Employer the amount of payment to the Contractor which he considers due and payable in respect thereof, subject:

- (a) firstly, to the retention of the amount calculated by applying the Percentage of Retention stated in Appendix A to Tender, to the amount to which the Contractor is entitled under paragraphs (a), (b), (c) and (e) of Sub-Clause 60.1 until the



amount so retained reaches the Limit of Retention Money stated in Appendix A to Tender, and

- (b) secondly, to the deduction, other than pursuant to Clause 47, of any sums which may have become due and payable by the Contractor to the Employer.

Provided that the Engineer shall not be bound to certify any payment under this Sub-Clause if the net amount thereof, after all retentions and deductions, would be less than the Minimum Amount of Interim Certificates stated in Appendix A to Tender.

Notwithstanding the terms of this Clause or any other Clause of the Contract no amount will be certified by the Engineer for payment until the performance security, if required under the Contract, has been provided by the Contractor and approved by the Employer.

60.3 Payment of Retention Money

- (a) Upon the issue of the Taking-Over Certificate with respect to the whole of the Works, one half of the Retention Money, or upon the issue of a Taking-Over Certificate with respect to a Section or part of the Permanent Works only such proportion thereof as the Engineer determines having regard to the relative value of such Section or part of the Permanent Works, shall be certified by the Engineer for payment to the Contractor.

- (b) Upon the expiration of the Defects Liability Period for the Works the other half of the Retention Money shall be certified by the Engineer for payment to the Contractor. Provided that, in the event of different Defects Liability Periods having become applicable to different Sections or parts of the Permanent Works pursuant to Clause 48, the expression "expiration of the Defects Liability Period" shall, for the purposes of this Sub-Clause, be deemed to mean the expiration of the latest of such periods. Provided also that if at such time, there shall remain to be executed by the Contractor any work ordered, pursuant to Clauses 49 and 50, in respect of the Works, the Engineer shall be entitled to withhold certification until completion of such work of so much of the balance of the Retention Money as shall, in the opinion of the Engineer, represent the cost of the work remaining to be executed.

60.4 Correction of Certificates

The Engineer may by any interim certificate make any correction or modification in any previous certificate which shall have been issued by him and shall have authority, if any work is not being carried out to his satisfaction, to omit or reduce the value of such work in any interim certificate.

60.5 Statement at Completion

Not later than 84 days after the issue of the Taking-Over Certificate in respect of the whole of the Works, the Contractor shall submit to the Engineer a Statement at Completion with supporting documents showing in detail, in the form approved by the Engineer,

- (a) the final value of all work done in accordance with the Contract up to the date stated in such Taking-Over Certificate
- (b) any further sums which the Contractor considers to be due and
- (c) an estimate of amounts which the Contractor considers will become due to him under the Contract.

The estimated amounts shall be shown separately in such Statement at Completion. The Engineer shall certify payment in accordance with Sub-Clause 60.2



60.6 Final Statement

Not later than 56 days after the issue of the Defects Liability Certificate pursuant to Sub-Clause 62.1, the Contractor shall submit to the Engineer for consideration a draft final statement with supporting documents showing in detail, in the form approved by the Engineer,

- (a) the value of all work done in accordance with the Contract and
- (b) any further sums which the Contractor considers to be due to him under the Contract.

If the Engineer, disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed (for the purposes of these Conditions referred to as the "Final Statement").

60.7 Discharge

Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall become effective only after payment due under the Final Certificate issued pursuant to Sub-Clause 60.8 has been made and the performance security referred to in Sub-Clause 10.1, if any, has been returned to the Contractor.

60.8 Final Certificate

Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall issue to the Employer (with a copy to the Contractor) a Final Certificate stating

- (a) the amount which, in the opinion of the Engineer, is finally due under the Contract, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled under the Contract, other than Clause 47, the balance, if any, due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.

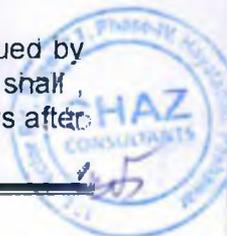
60.9 Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or execution of the Works, unless the Contractor shall have included a claim in respect thereof in his Final Statement and (except in respect of matters or things arising after the issue of the Taking-Over Certificate in respect of the whole of the Works) in the Statement at Completion referred to in Sub-Clause 60.5.

60.10 Time for Payment

The text is deleted and substituted with the following:

"The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other terms of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 14 days after



60.10 Time for Payment

The text is deleted and substituted with the following:

"The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other terms of the Contract, shall , subject to Clause 47, be paid by the Employer to the Contractor within 14 days after such Interim Payment Certificate has been jointly verified by Employer and Contractor, or, in the case of the Final Certificate referred to in Sub Clause 60.8, within 28 days after such Final Payment Certificate has been delivered to the Employer, provided that the Interim Payment shall be caused in 42 days and Final Payment in 56 days in case of foreign funded project. In the event of the failure of the Employer to make payment within the times stated, the Employer shall pay to the Contractor compensation at the rate of 28 days before the date of payment for IPC and 70 days before the date of payment of final bill of KIBOR+2% per annum for local currency upon all sums unpaid from the date by which the same should have been paid. The provisions of this Sub-Clause are without prejudice to the Contractor's entitlement under Clause 69".

The following Sub-Clause 60.11 is added:

60.11 Secured Advance on Materials

- a) The Contractor shall be entitled to receive from the Employer Secured Advance against an indemnity bond acceptable to the Employer of such sum as the Engineer may consider proper in respect of such non-perishable materials as or brought at Site and or directed by the engineer, but not yet incorporated in the Permanent Works provided that:
- (1) The materials are in accordance with the Specifications for the Permanent Works;
 - (2) Such materials have been delivered to the Site and are properly stored and protected against loss or damage or deterioration to the satisfaction of the Engineer but at the risk and cost of the Contractor;
 - (3) The Contractor's records of the requirements, orders, receipts and use of materials are kept in a form approved by the Engineer, and such records shall be available for inspection by the Engineer and the Employer;
 - (4) The Contractor shall submit with his monthly statement the estimated value of the materials on Site together with such documents as may be required by the Engineer for the purpose of valuation of materials and providing evidence of ownership and payment therefor;
 - (5) Ownership of such materials shall be deemed to vest in the Employer and these materials shall not be removed from the Site or otherwise disposed of without written permission of the Employer; and
 - (6) The sum payable for such materials on Site shall not exceed 75% of the (i) landed cost of imported materials, or (ii) ex-factory / ex-warehouse price of locally manufactured or produced materials, or (iii) market price of other materials.
- (b) The recovery of Secured Advance paid to the Contractor under the above provisions shall be effected from the monthly payments on actual consumption basis.



The following Sub Clause 60.12 is added.

60.12 Financial Assistance to Contractor

Financial assistance shall be made available to the Contractor by the Procuring Entity by adopting any one of the following three Alternatives:
(Appropriate alternative only to be retained)

Alternative One: Mobilization Advance

- (a) An interest-free Mobilization Advance 15% of the Contract Price stated in the Letter of Acceptance shall be paid by the Procuring Entity to the Contractor in two equal parts
- (b) upon submission by the Contractor of a Mobilization Advance Guarantee 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) This Advance shall be recovered in equal installments; first installment at the expiry of third month after the date of payment of first part of Advance and the last installment two months before the date of completion of the Works as per Clause 43 hereof.

Alternative Two: Mobilization / Demobilization Cost

Deleted

Alternative Three: Materials Supplied by Procuring Entity

Deleted

61.1 Approval only by Defects Liability Certificate

Only the Defects Liability Certificate, referred to in Clause 62, shall be deemed to constitute approval of the Works.

62.1 Defects Liability Certificate

The Contract shall not be considered as completed until a Defects Liability Certificate shall have been signed by the Engineer and delivered to the Employer, with a copy to the Contractor, stating the date on which the Contractor shall have completed his obligations to execute and complete the Works and remedy any defects therein to the Engineer's satisfaction. The Defects Liability Certificate shall be given by the Engineer within 28 days after the expiration of the Defects Liability Period, or, if



different defects liability periods shall become applicable to different Sections or parts of the Permanent Works, the expiration of the latest such period, or as soon thereafter as any works instructed, pursuant to Clauses 49 and 50, have been completed to the satisfaction of the Engineer. Provided that the issue of the Defects Liability Certificate shall not be a condition precedent to payment to the Contractor of the second portion of the Retention Money in accordance with the conditions set out in Sub-Clause 60.3

62.2 Unfulfilled Obligations

Notwithstanding the issue of the Defects Liability Certificate the Contractor and the Employer shall remain liable for the fulfilment of any obligation incurred under the provisions of the Contract prior to the issue of the Defects Liability Certificate which remains unperformed at the time such Defects Liability Certificate is issued and, for the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties to the Contract.

63.1 Default of Contractor

Delete this Sub-Clause in its entirety and replace with the following

If the contractor is deemed by law unable to pay his debts as they fall due, or enters into voluntary or in voluntary bankruptcy, liquidation or dissolution (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or becomes insolvent, or makes any arrangement with, or assignments in favour of, his creditor, or agrees to carry out the contract under a committee of inspection of his creditors, or if a receiver, administrator, trustee or liquidator is appointed over any substantial part of his assets, or if, under any law or regulation relating to reorganization, arrangements or readjustment of debts, proceeding or commenced against the contractor or resolution passed in connection with dissolution or liquidation or if any steps are taken to enforce any security interest over a substantial part of the assets of the contractor, or if any act is done or event occurs with respect to the contractor or his assets which, under any applicable law has a substantially similar effect to any of the foregoing acts or events, or if the contractor has contravened sub-clause 3.1, or has an execution levied on his goods, or contract, if the Engineer certifies to the Employer, with a copy to the contractor, that, in his opinion, the contractor:

- (a) Has repudiated the contract, or
- (b) Without reasonable excuse has failed
 - (i) To commence the works in accordance with sub-clause 41.1,
 - (ii) To proceed with the works, or any section thereof, within 14 days after receiving notice pursuant to the sub-clause 46.1,
- (c) Has failed to comply with a notice issued pursuant to sub-clause 37.4 or any instructions issued pursuant to sub-clause 39.1 within 14 days after having received it.
- (d) Despite previous warning from the Engineer, in writing, is otherwise persistently or flagrantly neglecting to comply with any obligations under the contract, or

(e) Has contravened sub-clause 4.1,

Then the Employer may, after giving 14 days notice to the contractor, enter upon the site and the work and terminate the employment of the contractor without thereby releasing the contractor from any office obligations or liabilities under the contract, or affecting the rights and authorities conferred on the Employer or the Engineer by the contract, and may himself complete the work or may Employ any other contractor to complete the works. The Employer or such other contractor may used for such completion so much of the contractor's equipment, temporary works and material as he or they may think proper

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.

63.2 Valuation at Date of Termination

The Engineer shall, as soon as may be practicable after any such entry and termination by the Employer, fix and determine ex parte, or by or after reference to the parties or after such investigation or enquiries as he may think fit to make or institute, and shall certify:

- (a) what amount (if any) had, at the time of such entry and termination, been reasonably earned y or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract, and
- (b) the value of any of the said unused or partially used materials, any Contractor's Equipment and any Temporary Works

63.3 Payment after Termination

If the Employer terminates the Contractor's employment under this Clause, he shall not be liable to pay to the Contractor any further amount (including damages) in respect of the Contract until the expiration of the Defects Liability Period and thereafter until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any) and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum (if any) as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount exceeds the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

63.4 Assignment of Benefit of Agreement

Unless prohibited by law, the Contractor shall, if so instructed by the Engineer within 14 days of such entry and termination referred to in Sub-Clause 63.1, assign to the Employer the benefit of any agreement for the supply of any goods or materials or services and/or for the execution of any work for the purposes of the Contract, which the Contractor may have entered into.



64.1 Urgent Remedial Work

If, by reason of any accident, or failure, or other event occurring to, in, or in connection with the Works, or any part thereof, either during the execution of the Works, or during the Defects Liability Period, any remedial or other work is, in the opinion of the Engineer, urgently necessary for the safety of the Works and the Contractor is unable or unwilling at once to do such work, the Employer shall be entitled to employ and pay other persons to carry out such work as the Engineer may consider necessary. If the work or repair so done by the Employer is work which, in the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer, from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Provided that the Engineer shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Contractor thereof.

65.1 No Liability for Special Risks

The Contractor shall be under no liability whatsoever in consequence of any of the special risks referred to in Sub-Clause 65.2, whether by way of indemnity or otherwise, for or in respect of:

- (a) destruction of or damage to the Works, save to work condemned under the provisions of Clause 39 prior to the occurrence of any of the said special risks, or
- (b) destruction of or damage to property, whether of the Employer or third parties, or
- (c) injury or loss of life

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 paragraphs (a) (i) to (a) (v).

65.3 Damage to Works by Special Risks

If the Works or any materials or Plant on or near or in transit to the Site, or any or the Contractor's Equipment, sustain destruction or damage by reason of any of the said special risks, the Contractor shall be entitled to payment in accordance with the Contract for any Permanent Works duly executed and for any materials or Plant so destroyed or damaged and, so far as may be required by the Engineer or as may be necessary for the completion of the Works, to payment for:

- (a) rectifying any such destruction or damage to the Works, and
- (b) replacing or rectifying such materials or Contractor's Equipment

and the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 (which shall in the case of the cost of replacement of Contractor's Equipment include the fair market value thereof as determined by the Engineer) and shall notify the Contractor accordingly, with a copy to the Employer.

65.4 Projectile, Missile

Destruction, damage, injury or loss of life caused by the explosion or impact, whenever and wherever occurring, of any mine, bomb, shell, grenade, or other projectile, missile, munition, or explosive of war, shall be deemed to be a consequence of the said special risks:



65.5 Increased Costs arising from Special Risks

Save to the extent that the Contractor is entitled to payment under any other provision of the Contract, the Employer shall repay to the Contractor any costs of the execution of the Works (other than such as may be attributable to the cost of reconstructing work condemned under the provisions of Clause 39 prior to the occurrence of any special risk) which are howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risks, subject however to the provisions in this clause hereinafter contained in regard to outbreak of war, but the Contractor shall, as soon as any such cost comes to his knowledge, forthwith notify the Engineer thereof. The Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of the Contractor's costs in respect thereof which shall be added to the Contract Price and shall notify the Contractor accordingly, with a copy to the Employer.

65.7 Removal of Contractor's Equipment on Termination

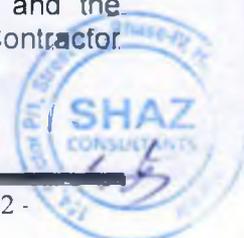
If the Contract is terminated under the provisions of Sub-Clause 65.6, the Contractor shall, with all reasonable dispatch, remove from the Site all Contractor's Equipment and shall give similar facilities to his Subcontractors to do so.

65.8 Payment if Contract Terminated

If the Contract is terminated as aforesaid, the Contractor shall be paid by the Employer, insofar as such amounts or items have not already been covered by payments on account made to the Contractor, for all work executed prior to the date of termination at the rates and price provided in the Contract and in addition:

- (a) The amounts payable in respect of any preliminary items referred to in the Bill of Quantities, so far as the work or service comprised therein has been carried out or performed, and a proper proportion of any such items which have been partially carried out or performed.
- (b) The cost of materials, Plant or goods reasonably ordered for the Works which have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery, such materials, Plant or goods becoming the property of the Employer upon such payments being made by him.
- (c) A sum being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works insofar as such expenditure has not been covered by any other payments referred to in this Sub-Clause.
- (d) Any additional sum payable under the provisions of Sub-Clauses 65.3 and 65.5.
- (e) Such proportion of the cost as may be reasonable, taking into account payments made or to be made for work executed, of removal of Contractor's Equipment under Sub-Clause 65.7 and, if required by the Contractor, return thereof to the Contractor's main plant yard in his country of registration or to other destination, at no greater cost.
- (f) The reasonable cost of repatriation of all the Contractor's staff and workmen employed on or in connection with the Works at the time of such termination.

Provided that against any payment due from the Employer under this Sub-Clause, the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of Contractor's Equipment, materials and Plant and any other sums which, at the date of termination, were recoverable by the Employer from the Contractor under the terms of the Contract. Any sums payable under this Sub-Clause shall, after due consultation with the Employer and the Contractor, be determined by the Engineer who shall notify the Contractor accordingly, with a copy to the Employer.



65.9 Outbreak of War

If, during the currency of the Contract, there is an outbreak of war, whether war is declared or not, in any part of the world which, whether financially or otherwise, materially affects the execution of the Works, the Contractor shall, unless and until the Contract is terminated under the provisions of this Clause, continue to use his best endeavours to complete the execution of the Works. Provided that the Employer shall be entitled, at any time after such outbreak of war, to terminate the Contract by giving notice to the Contractor and, upon such notice being given, the Contract shall, except as to the rights of the parties under this Clause and to the operation of Clause 67, terminate, but without prejudice to the rights of either party in respect of any antecedent breach thereof.

66.1 Payment in Event of Release from Performance

If any circumstance outside the control of both parties arises after the issue of the Letter of Acceptance which renders it impossible or unlawful for either party to fulfil his contractual obligations, or under the law governing the Contract the parties are released from further performance, then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 65 if the Contract had been terminated under the provisions of Clause 65.

67.1 Engineer's Decision

If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the eighty-fourth day after the day on which he received such reference the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either the Employer or the Contractor be dissatisfied with any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the eighty-fourth day after the day on which he received the reference, then either the Employer or the Contractor may, on or before the seventieth day after the day on which he received notice of such decision, or on or before the seventieth day after the day on which the said period of 84 days expired, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to Sub-Clause 67.4, no arbitration in respect thereof may be commenced unless such notice is given.



If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the seventieth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor.

67.1 Amicable Settlement

Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub-Clause 67.1, arbitration of such dispute shall not be commenced unless an attempt has first been made by the parties to settle such dispute amicably. Provided that, unless the parties otherwise agree, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of intention to commence arbitration of such dispute was given, whether or not any attempt at amicable settlement thereof has been made.

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 Peshawar, Pakistan.

67.4 Failure to Comply with Engineer's Decision

Where neither the Employer nor the Contractor has given notice of intention to commence arbitration of a dispute within the period stated in Sub-Clause 67.1 and the related decision has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure to arbitration in accordance with Sub-Clause 67.3. The provisions of Sub-Clauses 67.1 and 67.2 shall not apply to any such reference.

68.1 Notice 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 Notice to Employer and Engineer

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

a) The Employer :

The Office of the Director General, Pakistan Sports board (PSB), Islamabad

Employer Representative:

The Director General,
Pakistan Sports Board(PSB) Islamabad.



- b) **The Engineer:**
Executive Engineer, Pakistan Sports Board, Islamabad

68.3 Change of Address

Either party may change a nominated address to another address in the country where the Works are being executed by prior notice to the other party, with a copy to the Engineer, and the Engineer may do so by prior notice to both parties.

69.1 Default of Employer

In the event of the Employer:

- (a) failing to pay to the Contractor the amount due under any certificate of the Engineer within 28 days after the expiry of the time stated in Appendix A to Tender within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract, or
- (b) interfering with or obstructing or refusing any required approval to the issue of any such certificate, or
- (c) becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation, or
- (d) giving notice to the Contractor that for unforeseen reasons, due to economic dislocation, it is impossible for him to continue to meet his contractual obligations

The Contractor shall be entitled to terminate his employment under the Contract by giving notice to the Employer, with a copy to the Engineer. Such termination shall take effect 14 days after the giving of the notice.

69.2 Removal of Contractor's Equipment

Upon the expiry of the 14 days' notice referred to in Sub-Clause 69.1, the Contractor shall, notwithstanding the provisions of Sub-Clause 54.1, with all reasonable despatch, remove from the Site all Contractor's Equipment brought by him thereon.

69.3 Payment on Termination

In the event of such termination the Employer shall be under the same obligations to the Contractor in regard to payment as if the Contract had been terminated under the provisions of Clause 65, but, in addition to the payments specified in Sub-Clause 65.8, the Employer shall pay to the Contractor the amount of any loss or damage to the Contractor arising out of or in connection with or by consequence of such termination.

69.4 Contractor's Entitlement to Suspend Work

Without prejudice to the Contractor's entitlement to interest under Sub-Clause 60.10 and to terminate under Sub-Clause 69.1, the Contractor may, if the Employer fails to pay the Contractor the amount due under any certificate of the Engineer within 28 days after the expiry of the time stated in Appendix A to Tender within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract, after giving 28 days' prior notice to the Employer, with a copy to the Engineer, suspend work or reduce the rate of work.

If the Contractor suspends work or reduces the rate of work in accordance with the provisions of this Sub-Clause and thereby suffers delay or incurs cost the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

69.5 Resumption of Work

Where the Contractor suspends work or reduces the rate of work, having given notice in accordance with Sub-Clause 69.4, and the Employer subsequently pays the amount due, including interest pursuant to Sub-Clause 60.10, the Contractor's entitlement under Sub-Clause 69.1 shall, if notice of termination has not been given, lapse and the Contractor shall resume normal working as soon as is reasonably possible.

70.1 Increase or Decrease of Cost

Sub-Clause 70.1 is deleted in its entirety, and substituted with the following:
The amounts payable to the Contractor, pursuant to Sub-Clause 60.1, shall be adjusted in respect of the rise or fall in the cost of labor, materials, and other inputs to the Works as specified in the Appendix-C to Bid, 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.

(b) Adjustment Formula

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

$$P_n = A + b \frac{L_n}{L_o} + c \frac{M_n}{M_o} + d \frac{E_n}{E_o} + \dots$$

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 Paragraph 60.1 (a), and with Paragraphs 60.1 (b) and (e), where any variations and daywork are not otherwise subject to adjustment;

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

b, c, d, \dots , are weightages or coefficients representing the estimated proportion of each cost element (labour, cement and reinforcing steel etc.) in the Works or Sections thereof, net of Provisional Sums and Prime Cost; the sum of A, b, c, d, \dots , shall be one;

L_n, M_n, E_n, \dots , are the current cost indices or reference prices of the cost elements for month "n", determined pursuant to Sub-Clause 70.1(d), applicable to each cost element; and

L_o, M_o, E_o, \dots , are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 70.1(d)



(c) Sources of Indices and Weightages

The sources of indices shall be those listed in Appendix-C to Bid, as approved by the Engineer. As the basis for price adjustment, value of weightages or coefficient representing the Estimated proportion of each cost element have been determined and provided in Appendix-C to Bid.

(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. If 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. If contractor fails to submit Monthly statement then rates applicable to that monthly statement shall be applied to the monthly statement submitted at a later date. In case of de-escalation indices favorable to the Employer shall be applicable.

(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-C 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.

The following Sub-Clauses 73.1, 73.2, 74.1, 75.1, 76.1, 77.1, 78.1, 79.1 & 80.1 are added:

70.2 Subsequent Legislation

If, after the date 28 days prior to the latest date for submission of tenders for the contract there occurs in the country in which the works are being or are to be executed changes to any National or State Statute, Ordinance, Decree or other Law or any regulation or bye-law of any local or other duly constituted authority or the introduction of any such state statute, Ordinance, Decree, Law regulation or bye-law which causes additional or reduced cost to the contractor, other than under Sub-Clause 70.1, in the execution of the contract, such additional or reduced cost shall, after due consultation with employer and the contractor, be determined by the Engineer and shall be added to or deducted from the Contract Price and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.



71.1 Currency Restrictions

If, after the date 28 days prior to the latest date for submission of tenders for the Contract, the Government or authorized agency of the Government of the country in which the Works are being or are to be executed imposes currency restrictions and/or transfer of currency restrictions in relation to the currency or currencies in which the Contract Price is to be paid, the Employer shall reimburse any loss or damage to the Contractor arising therefrom, without prejudice to the right of the Contractor to exercise any other rights or remedies to which he is entitled in such event.

72.1 Rates of Exchange

Where the Contract provides for payment in whole or in part to be made to the Contractor in foreign currency or currencies, such payment shall not be subject to variations in the rate or rates of exchange between such specified foreign currency or currencies and the currency of the country in which the Works are to be executed.

72.2 Currency Proportions

Where the Employer has required the Tender to be expressed in a single currency but with payment to be made in more than one currency and the Contractor has stated the proportions or amounts of other currency or currencies in which he requires payment to be made, the rate or rates of exchange applicable for calculating the payment of such proportions or amounts shall, unless otherwise stated in Part II of these Conditions, be those prevailing, as determined by the Central Bank of the country in which the Works are to be executed, on the date 28 days prior to the latest date for the submission of tenders for the Contract, as has been notified to the Contractor by the Employer prior to the submission of tenders or as provided for in the Tender.

72.3 Currency Proportions

Where the Contract provides for payment in more than one currency, the proportions or amounts to be paid in foreign currencies in respect of Provisional Sums shall be determined in accordance with the principles set forth in Sub-Clauses 71.1 and 71.2 as and when these sums are utilised in whole or in part in accordance with the provisions of Clauses 58 and 59.

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

The contractor shall pay all customs duty and taxes payable by him under the contract. Such duties and taxes shall be deemed included in the rates and prices in the Bill of Quantities.

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-L 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.

74.2 Bribery and Collusion

- (1) The Employer shall be entitled to terminate the Contract and recover from the Contractor the amount of any loss resulting from such termination if the Contractor shall have offered or given to any person any gift or consideration of any kind as an inducement or reward for doing, or forbearing to do, any action in relation to obtaining, or in the execution of the Contract or any other contract with the Employer, or for showing favour to any person in relation to the Contract or any other contract with the Employer, or if any of the like acts shall have been done by any person employed by the Contractor or acting on his behalf (whether with or without the knowledge of the Contractor) or if the Contractor shall have come to any agreement with another contractor or number of contractors whereby an agreed quotation or estimate shall be offered as a bid to the Employer by one or more Contractors.
- (2) In the event of such termination, the Contractor shall
 - (a) proceed as provided in Sub-Clause 65.7 hereof; and
 - (b) be paid by the Employer as provided in Sub-Clause 65.8 hereof, provided that any loss referred to in Sub-Clause (1) of this Sub-Clause shall first be deducted.

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.

76.2 Joint and Several Liability

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 fulfillment 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.

76.3 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 Employer whose award shall be final.

77.1 Joint and Several Liability

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.

79.1 Management Meetings

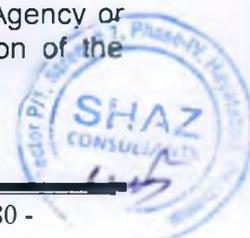
The Engineer may require the Contractor to attend a management meeting in order to review the arrangement for future work. The presence of the Employer or his Representative is mandatory in this meeting. The Engineer shall record the business of Management meeting and supply copies of the record to those attending the meeting and to the Employer. In the record, responsibilities of any actions to be taken shall be in accordance with the contract.

79.2 Appointment of Supervisory Staff

Contractor will appoint on the recommendation of the employer, One graduate Civil Engineer with 15 years experience and two Associate-Engineers (Diploma in Civil Technolog), to maintain quality of work. Salary of such staff shall be paid by the contractor on verification and recommendation of the Project Engineer. No separate payment shall be paid to the contractor to this affect.

80.1 Protection of the Environment

The Contractor shall meet atleast the minimum requirements for environmental management as per the guidelines of Pakistan Environmental Protection Agency or as directed by the Engineer, In respect of safety, security and protection of the Environment.



The contractor shall be responsible for ensuring that all subcontractor's and contractor personnel also understand and operate in accordance with the requirements mentioned hereinabove.

80.2 Engineer's Office for Consultant

The Contractor shall construct, provide and maintain Engineer's, Employer's representative and Consultant's site office & accommodation services as per requirements provided in this tender and contract documents along with stabilized access road, at his own cost.

The site office shall be furnished and equipped with adequate new and unused furniture and brand new equipment including, a Core i7 Laptop (5th Generation), Desktop Computer (Core i7) with 500 G.B hard disk, 8-GB Ram, 8-GB USB, 23-inch LED Screen including UPS with dry batteries (02 Nos), stabilizer etc. and A-3 size, Scanner, One laser printer, a separate telephone STD telephone connection for the exclusive use of the Engineer / Employer and pay telephone/Internet bill upto Rs.3,000/- per month. If any equipment, furniture and installations become unserviceable for any reason whatsoever, the contractor shall promptly replace the same as and when directed by the Engineer. The Contractor shall provide stationery and other related items upto a maximum limit of Rs.5,000/- per month. The Contractor will provide two vehicles 01 "Toyota (REVO) & 01 "Toyota Car (1600 cc)" which will be registered in the name of Pakistan Sports Board. Monthly fuel of 250 liter for each vehicle will be provided by the Contractor till completion of the project.

The site office shall be connected to the electrical system, potable water supply system and sewage disposal system.



PART II –PARTICULAR CONDITIONS OF CONTRACT

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Rates of Wages and Conditions of Labour	34.2
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Reporting of Accidents	35.3
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**FORM OF BID
AND
APPENDICES TO BID**



FORM OF BID

Bid Reference No. 51-21/2025-26/PSB(P&D)

CONSTRUCTION OF PSB COACHING CENTER AT SKARDU.

To:

Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract. Specifications, Drawings and Bill of Quantities and Addenda Nos. _____ for the execution of the above-named Works, we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the Conditions of Contract. Specifications, Drawings, Bill of Quantities and Ajenda for the sum of Rs. _____ (Rupees _____) or such other sum as may be ascertained in accordance with the said conditions.
2. We understand that all the Appendices attached hereto form part of this Bid.
3. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favour or made payable to you and valid for a period of _____ days beginning from the date Bids are opened.
4. We undertake, if our Bid is accepted, to commence the Works and to complete the whole of the Works comprised in the Contract within the time stated in Appendix-A to Bid.
5. We agree to abide by this Bid for the period of _____ days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other bidder for the Works.
8. We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated this _____ day of _____ 2026

Signature: _____

in the capacity of _____ duly authorized to sign Bids for and on behalf of



(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address: _____

Occupation _____



SPECIAL STIPULATIONS
Clause
Conditions of Contract

1.	Bid Security	2.1	Rs.15.000 million
2.	Amount of Performance Security	10.1	10% of Contract Price stated in the Letter of Acceptance.
3.	Time for Furnishing Programme	14.1	Within 14 days from the date of receipt of Letter of Acceptance.
4.	Minimum amount of Third Party Insurance	23.2	Rs.1,000,000 per occurrence with number of occurrences unlimited.
5.	Time for Commencement	41.1	Within 14 days from the date of receipt of Engineer's Notice to Commence which shall be issued within Seven (07) days after signing of Contract Agreement.
6.	Time for Completion	43.1, 48.2	18-Months (from the date of Engineer's notice)
7.	a) Amount of Liquidated Damages	47.1	Rs. 0.1% 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.
8.	Defects Liability Period	49.1	365 days from the effective date of taking Over Certificate.
9.	Percentage of Retention Money	60.2	10 % of the amount of Interim Payment Certificate.
10.	Limit of Retention Money	60.2	8% of Contract Price stated in the Letter of Acceptance.
11.	Minimum amount of Interim Payment Certificates (Running Bills)	60.2	15 Million
12.	Time of Payment from delivery of Engineer's Interim Payment Certificate to the Employer.	60.10	28 days
13.	Mobilization Advance * (Interest Free)	60.12	15 % of Contract Price stated in the Letter of Acceptance and it shall be in two stages as per relevant clauses.

* Delete if alternative one is not adopted.



FOREIGN CURRENCY REQUIREMENTS

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	-----
-----	-----
-----	-----

Not Applicable



**PRICE ADJUSTMENT UNDER CLAUSE 70
OF CONDITIONS OF CONTRACT**

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

(To be filled by the Employer)

Cost Element	Description	Weightages	Applicable index
1	2	3	4
(i)	Fixed Portion	a= 0.30	
(ii)	Local Labour (Unskilled), per day [Labourer (unskilled) per day shall be taken as representative of all types of labour]	0.10	Government of Pakistan (GP) Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin.
(iii)	Cement (OPC) – in bags, per bag [OPC per bag shall be taken as representative of all types of cement used at site]	0.10	" " "
(iv)	Reinforcing Steel Bars, M.Ton [Iron bars ½" round (M.S) bars per tonne shall be taken representative of all types and diameters of steel reinforcement]	0.25	" " "
(v)	Blocks / Bricks	0.15	" " "
(vi)	High Speed Diesel (HSD), Liter	0.10	Pakistan State Oil
	Total	1.000	

Notes:

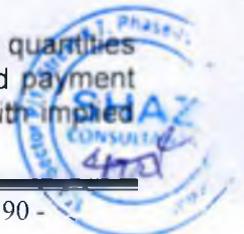
- 1) Indices for "(ii)" to "(vii)" are taken from the Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin. The base cost indices or prices shall be those applying 28 days prior to the latest day for submission of bids. Current indices or prices shall be those applying 28 days prior to the last day of the billing period.
- 2) Any fluctuation in the indices or prices of materials other than those given above shall not be subject to adjustment of the Contract Price.
- 3) Fixed portion shown here is for typical road project, Procuring Entity to determine the weightage of Fixed Portion considering only those cost elements having cost impact of seven (7) percent or more on his specific project

Authorized Signature. _____

BILL OF QUANTITIES

A. Preamble

1. The Bill of Quantities shall be read in conjunction with the Conditions of Contract, Specifications and Drawings.
2. The quantities given in the Bill 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 Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix as per the Contract.
3. The rates and prices entered in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract include all costs of Contractor's plant, labour , 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, are be included in the rates and prices.
4. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill 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.
5. Complete description of items of works in the Bill of Quantities, general directions, conditions and limitations of works, location and place of works, applicable methods, means to be adopted, type and quality of materials, use of tools, plant and machinery are not necessarily repeated nor summarized in the Bill of Quantities. Reference to the relevant Section of the Technical specifications and Drawings shall be made before entering prices against each item in the priced Bill of Quantities.
6. Provisional sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clause 58.2 of Part I, General Conditions of Contract.
7. The "Ref Specs" mentioned in the Bill of Quantities indicates the Technical Specifications section number (s) which are not to be followed during execution of item of work in accordance with the applicable drawings.
8. Notwithstanding provisions of clause 51 of Part-I, General Conditions, no claim for extra payment will be admissible on account of anticipated profit or variation in overheads expenditure for the works not actually performed nor will any adjustment in the unit rate set forth in the Bill of Quantities be made because of any increase or decrease in the quantities indicated therein.
9. Unless other wise stated in the text of the Priced Bill of Quantities, the quantities have to be measured and paid in accordance with the measurement and payment clause given in the relevant Technical Specifications or in accordance with implied



meaning of the specifications. Any special method of measurement stated in the text of priced Bill of Quantities is limited to the concerned items only.

The following abbreviations for the Units have been used in the Bill of Quantities.

Unit	Abbrevuations
Running Feet	Rft / Ft
Running Meter	M
Square Feet	Sft
Cubic Feet	Cft
Square Meter	m2
Cubic Meter	m3
Metric Ton	M.Ton
Per Number	No. / Each
Lump Sum Job	Job
Kilogram	Kg



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 take in to consideration the following mandatory sections of works while preparing the schedule;

Section of Works

Time for Completion from the receipt of Engineer's Notice to Commence

The Bidder provide as Appendix-E to Bid his Construction Schedule in the bar chart from showing the sequence of work items and the period of time during which he proposes to complete each work item in such a manner that his proposed programme for completion of the whole of the Works and any section of the Works meets the Employer's completion targets in Months noted below and counted from the date of issue of Engineer's Notice to Commence (Bidder to attach sheets as required for the specified form of Construction Schedule):

Description

Time for Completion

Whole Works

18 Months



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. 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.
3. The method of executing the Works, the procedures for installation of equipment and machinery and transportation of equipment and materials to the site and providing all services including but not limited to supply of power, water, maintenance of facilities, safety and security and all what is required for completion works in accordance with the contract.
4. Quality control / Quality assurance measures to be adopted.
5. The bidder while preparing his methodology for performing and executing the works shall also consider the following:
 - a. The timely completion of the project as per the time provided in Appendix-A to this bid.
 - b. The contractor may carryout construction work at site in multiple shifts. If the contractor opts to schedule his work program in more than single shift then he shall take into consideration that all costs related to the superintendence to be provided by the Engineer and his staff during any such additional shift(s) shall be borne by the contractor.
 - c. The contractor shall also elaborate the harnessing of additional resources in case of delay in completion / meeting the scheduled progress of work as per approved Program.



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.



LIST OF MAJOR EQUIPMENT

Owned Purchased or Leased	Description of Unit (Make, Model, Year)	Capacity HP Rating	Condition	Present Location or Source	Date of Delivery at Site	Period of Work on Project
1	2	3	4	5	6	7
a. Owned						
b. To be Purchased						
c. To be arranged on Lease						



LIST OF MAJOR EQUIPMENT

Note: Data provided hereunder will be scrutinized for general conformity with requirements of Bidding Documents. Acceptance of bid will not mean acceptance of these data. The Bidder will have to submit detailed equipment submittals for approval of the Engineer in accordance with the particulars of items specification later after award of Contract. Failure to complete these forms may make the bid non-responsive.

Typewritten technical data on loose sheets if submitted by the Bidder will not be considered and will be simply ignored.

Technical catalogues are required only to substantiate the data provided in these forms. Catalogues of equipment not listed in these forms shall not be submitted and if submitted, will be ignored. Acceptance of Bid will not mean the acceptance of information given in those catalogues.

A. PANNEL TYPE HOT WATER RADIATOR

1. Make

2. Country of manufacture



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.).

The Contractor shall construct, provide and maintain Engineer's, Employer's representative and Consultant's site office & accommodation services as per requirements provided in this tender and contract documents along with stabilized access road, at his own cost.

The site office shall be furnished and equipped with adequate new and unused furniture and brand new equipment including, a Core i7 Laptop (5th Generation), Desktop Computer (Core i7) with 500 G.B hard disk, 8-GB Ram, 8-GB USB, 23-inch LED Screen including UPS with dry batteries (02 Nos), stabilizer etc. and A-3 size, Scanner, One laser printer, a separate telephone STD telephone connection for the exclusive use of the Engineer / Employer and pay telephone/Internet bill upto Rs.3,000/- per month. If any equipment, furniture and installations become unserviceable for any reason whatsoever, the contractor shall promptly replace the same as and when directed by the Engineer. The Contractor shall provide stationery and other related items upto a maximum limit of Rs.5,000/- per month. The Contractor will provide two vehicles 01 "Toyota (REVO) & 01 "Toyota Car (1600 cc)" which will be registered in the name of Pakistan Sports Board. Monthly fuel of 250 liter for each vehicle will be provided by the Contractor till completion of the project.

The site office shall be connected to the electrical system, potable water supply system and sewage disposal system.

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



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 Programme of the Works and the Rates in the Bill of Quantities, expressed in thousands of Pakistani Rupees:

Quarter/ Year/ Period	Amounts (1,000 Rs.)
1	2
1 st Month	
2 nd Month	
3 rd Month	
4 th Month	
5 th Month	
6 th Month	
7 th Month	
8 th Month	
n- Month	
Bid Price	



**ORGANIZATION CHART
FOR THE
SUPERVISORY STAFF AND LABOUR**



(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 respect 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 time 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 Bidder / Contractor:
Signature:
[Seal]



LIST OF RECOMMENDED MANUFACTURERS

The manufacturer references provided here below are indicative of minimum quality and specifications required for such materials. Any other manufacturer items having at least the same quality and specifications are acceptable subject to the approval of the Employer/Engineer).

The Contractor should note that only material from those manufacturers specified in the list of recommended manufacturers shall be allowed to be used on this Project. The Contractor shall submit literature/catalogue/samples etc. of all the items from each of the specified manufacturer to the Engineer who shall then decide and approve the sample and the manufacturer. Where the item involves any finishes such as paints, external coatings, etc. The Contractor shall erect mock-up samples of the specified manufacturers for the selection and approval of the Engineer.

The responsibility lies with the Contractor for establishing the genuineness of any material/product/item for its make and origin as specified below:

S.No	Item		Manufacturer(s) / Supplier(s)
CIVIL WORKS			
1.	Sand, Crushed stone Aggregate	i. ii. iii.	Margalla Lawrencepur Khanpur Or Approved equivalent
2.	Steel Reinforcement	i. ii. iii. iv. v.	Nomi Islamabad FF Lahore Zia Or Approved equivalent
3.	Cement	i. ii. iii. iv.	Cherat Cement Askari Cement Kohat Cement Lakki Cement
4.	Paints & Varnish	i. ii. iii. iv.	ICI Dulux Burger Robbialac Nippon Paint Diamond
5.	Hardware stays and Handels	i. ii. iii.	Pistol Sitara Milas or approved equivalent
6.	Mirror (Looking Glass)		Best quality locally available as approved by the Engineer
7.	Glass for Windows & Ventilators		Best quality locally available as approved by the Engineer
8.	Concrete Pavers	i. ii. iii.	Smart RCC Tuff Pavers Envicrete Or Approved equivalent
9.	False Ceiling & Paneling for Doors	i. ii.	DAMPA Industries OWA Industries Or Approved equivalent
10.	Aluminum Works	i. ii. iii. iv.	Sana Alluminium Lucky Pak Altech Aluminum Pakistan ALCO (Pvt) Ltd Or Approved equivalent



S.No	Item		Manufacturer(s) / Supplier(s)
11.	Admixture	i. ii. iii. iv. v.	Sika Silver Streak (Pvt) Ltd FEB Vandex Frosrock Or Approved equivalent
12.	Termite Proofing	i. ii. iii.	Frontline Plus Global Group Termidor Or approved equivalent
13.	Ceramic Tiles	i. ii. iii.	Time Master Forte
14.	Porcelain Tiles	i. ii.	Time Grannito Or Approved equivalent
15.	Textured Coating	i. ii. iii.	Rock Shield Rock Wall Grit Wall Finishes Or approved equivalent
16.	Concrete Blocks / Tuff Tiles	i. ii. iii. iv.	Bannu Mukhtar Smart RCC Pever Craft Supercrete Or approved equivalent
17.	Door Locks	i. ii.	Yale Abloy Or approved equivalent
18.	Door, Kitchen cabinet	i. ii. iii.	Inter wood Holztic Stirling
PLUMBING WORKS			
1.	Polyethylene (PE) Pipes	i. ii. iii. iv. v.	Dadex Hitech Beta Pelikan Pipe (Civic) Plasco Allied (PMS) Care Pipe Or approved equivalent
2.	Fittings in Polyethylene (PE)		As recommended by the manufacturer
3.	G.I Pipes	i. ii. iii.	ILL Jamal Bashir
4.	Pipes and Fittings in Polyethylene Random (PPR)	i. ii. iii. iv. v. vi. vii.	Dadex (Polydex) Alpha Polo Pak Light Papular Plasco Rak Therm Allied Care Pipe Or approved equivalent
5.	Gate Valves and Sluice Valves	i. ii. iii.	SCON KITZ TOYO Or approved equivalent



S.No	Item		Manufacturer(s) / Supplier(s)
6.	uPVC Pipes and Fittings	i. ii. iii. iv. v. vi. vii.	Dadex (Nikasi) Alpha Polo Pak Light Papular Plasco Rak Therm Allied Care Pipe Or approved equivalent
7.	CI Pipes and Fittings	i. ii. iii. iv. v.	Tepu Master Key Engineering Works KSA & Sons Alpine CME Or approved equivalent
8.	CI Gate Valves	i. ii. iii.	SCON NIKO KITZ (Japan) Or approved equivalent
9.	RCC Pipes	i.	Shalimar Smart RCC NISCON As per technical specifications and as approved by the Engineer
10.	Fire Extinguishers	i. ii. iii.	NAFFCO (UAE) SFFECO (UAE) Fesco Or approved equivalent
11.	Sanitary Fixtures	i. ii. iii. iv. v.	Porta (China) ICL Bosch Master IFO Or approved equivalent
12.	Sanitary Fitting	i. ii. iii.	Sonex Master Faisal
13.	Pumps	i. ii.	KSB HMA Or approved equivalent
14.	Stain less Steel sink	i. ii.	Atlas Super Asia Or approved equivalent
ELECTRICAL WORKS			
1.	Main Panel Boards, Distribution Boards, Telephone Distribution Boards	i. ii. iii. iv. v.	Siemens Pakistan Tecman Power Teck Quality Switch Gear Gain Engineering
2.	Circuit Breakers	i. ii. iii. iv.	Siemens Pakistan Schneider Electric ABB LS
3.	Diesel Generator	i. ii. iii. iv.	Greaves Cater Pillar FG Walson Cummins Or approved equivalent



S.No	Item		Manufacturer(s) / Supplier(s)
4.	Meters	i. ii. iii. iv.	Hobut Revalco Entes Sew Or approved equivalent
5.	CAM / Selector Switches (Ammeter Selector) ASS (Voltmeter Selector) VSS	i. ii. iii.	Breter Kraus & Niamer Camsco Or approved equivalent
6.	Protection Fuses	i. ii. iii.	Legrand Nikdim DF Electric Or approved equivalent
7.	Indication Lamps	i. ii. iii.	Telemechanique General Electric Legrand Or approved equivalent
8.	Terminal Blocks / Connectors	i. ii. iii.	Onka Ciama Conta Clip Or approved equivalent
9.	LT/HT Cables, Single Core & Multi Core	i. ii. iii. iv.	Pakistan Cables Allied Cables Fast Cables COPPER GAT
10.	Wiring Accessories (Switches, Sockets)	i. ii.	Legrand Orange Or approved equivalent
11.	ON / OFF Push Buttons	i. ii. iii.	General Electric Orange Legrand Or approved equivalent
12.	PVC Conduits & accessories	i. ii. iii. iv. v. vi. vii.	Dadex (Polydex) Alpha Polo Pak Light Papular Plasco Allied Pipes Care Pipe Or approved equivalent
13.	Fans (Ceiling, Bracket, Exhaust)	i. ii. iii.	Royal Pak Fan GEC
14.	Structured Cabling System	i. ii. iii.	3M Schneider Electric Molex Or approved equivalent
15.	Fire Alarm System	i. ii. iii.	Shield C-Tech Cooper Electronics Or approved equivalent
16.	CCTV System	i. ii. iii. iv. v.	DAHUA Technology Samsung Panasonic Aeztek Bouch Or approved equivalent
17.	Transformers / HT Panels	i. ii. iii. iv. v.	Validus (Ex-SIEMENS) Transfo Power Grid (Pvt) Ltd Elemtec PEL Or as approved standard of PESCO
18.	Lighting Fixtures	i. ii. iii.	Philips Goldway Pak Lights Or approved equivalent



S.No	Item		Manufacturer(s) / Supplier(s)
19.	Cable Tray	i. ii. iii.	Progressive marketing Tecman PESCO Or approved equivalent
20.	Electricity Measuring Meter	i. ii.	Syed Bhais PEL Or approved equivalent
21.	Fire Hydrant	i. ii. iii.	Naffco (UAE) Sffeco (UAE) Fesco (UAE)
22.	GI Poles (Street Light)	i. ii.	Jamal Pipe Bashir Pipe
23.	Lightning Protection System & Earthing	i. ii. iii.	AN Wallis C-XOR Black Beem Or approved equivalent
24.	Multi mode relays and sockets	i. ii. iii. iv.	General Electric Orange Fuji Zahra Or approved equivalent
25.	Telephone Exchange	i. ii. iii.	Panasonic Samsung Siemens
24.	Contactors / Overload Relays	i. ii. iii. iv.	General Electric Schneider Electric ABB L.S Or approved equivalent
25.	Air Conditioning	i. ii. iii. iv.	Samsung Mitsubishi Greaves (Euro Air) Orient
26.	UPS	i. ii. iii. iv.	GE APC by Schneider Vertiv Omaga Or approved equivalent
27.	Data Networking Switches	i. ii. iii. iv.	CISCO HP DELL Juniper Or approved equivalent
28.	Passenger Lift	i. ii. iii.	Otis Hondai Braun

NOTE: The bidder should note that only equipment/materials from the above approved manufacturers or approved equal shall be allowed to be used on this project provided their products meet the specified requirements. All equipment/materials must be supplied from authorized/sole distributors. Manufacturer's authorization certificate in original must be provided. The bidder should provide atleast 03 samples from the above approved manufacturers or approved equal to Engineer Incharge for approval, before use / installation at site.

Authorized Signature and official Seal: _____

Name: _____

Date: _____



**BID SECURITY
PERFORMANCE SECURITY
CONTRACT AGREEMENT
MOBILIZATION ADVANCE GUARANTEE**



BID SECURITY
(Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with Address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address _____

Penal 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 from a Scheduled Bank in Pakistan or from a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan, 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 for such work and furnish the required Performance Security, the entire said sum be paid immediately to the said Employer pursuant to Clause 15.6 of the Instruction 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 twenty eight (28) 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 fulfilment 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 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 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.

SURETY (Bank)

WITNESS:

1. _____

Corporate Secretary (Seal)

2. _____

Name, Title & Address

Signature _____

Name _____

Title _____

Corporate Guarantor (Seal)



**FORM OF PERFORMANCE SECURITY
(Bank Guarantee)**

Guarantee No. _____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Contractor) with address: _____

Penal Sum of Security (express in words and figures) _____

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 penal sum of the amount 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.

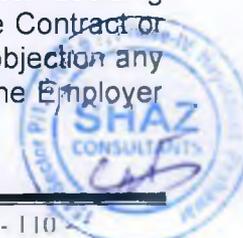
THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has accepted the Employer's above said Letter of Acceptance for _____ (Name of Contract) for the _____ (Name of Project).

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents 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 all requirements of Clause 49, Defects Liability, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated 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, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay 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 any sum or sums up to the amount 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 and final judge for deciding whether the Principal (Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations 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.



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:

1. _____

Corporate Secretary (Seal)

2. _____

Name, Title & Address

Guarantor (Bank)

Signature _____

Name _____

Title _____

Corporate Guarantor (Seal)



TECHNICAL EVALUATION CRITERIA



S.No	Description	Maximum Marks
4	PERSONNEL	15
i)	Organization Chart.	1
ii)	Project Manager, BE Civil (PEC Registered) with 10 Years Experience.	3
iii)	HSE Manager, 05 years Experience with HSE Certificate (if BE, 02 Years Experience).	2
iv)	Planning Engineer, BE Civil (PEC Registered) with 05 years Experience.	2
v)	Site Engineers, 2 Nos. BE Civil (PEC Registered) with 05years/Associate Eng. with 10 years' Experience.	2
vi)	QA/QC Engineer, BE Civil (PEC Registered) with 05 years/Associate Eng. with 10 years' Experience.	1
vii)	Surveyor, Associate Eng. with 5 years' Experience.	1
viii)	Quantity Surveyor, Associate Eng. with 5 years' Experience.	1
ix)	Materials Engineer, BE Civil with 5 years'/Associate Eng. With 10 years' experience.	1
x)	Account Assistant.	1
5	OTHERS	20
i)	Proposed Methodology.	6
ii)	Proposed Work Schedule.	6
iii)	QA/QC Manual.	4
iv)	HSE Manual.	4
Total Marks		100

- For each bidder, it is essential to obtain minimum 70% total marks and minimum 50% marks in each category of the criteria, points to be technically qualified and eligible for opening of his financial proposal.

Mandatory Required:

- Each page of the pre-qualification Documents (clear & readable) of the Applicant must be signed and stamped by the duly authorized representative of the Applicant.
- Valid registration with Pakistan Engineering Council (PEC) with valid certificate upto 30.06.2026 with Codes (BC01, CE01, CE09, CE10).
- Affidavit of "non-blacklisting" on stamp paper prepared within the current month for submission of prequalification documents.
- The contractor should provide proof of non-involvement in any Court case with the Department.
- Audit Report of last three (03) years duly audited by a firm of Chartered Accountants must be provided.
- Income Tax return of last three (03) years must be provided.
- The Contractor should provide the ownership documents of the fleet (Vehicles & Machinery).

Note: The Documents provided by the contractor will be thoroughly checked and the Firm providing fake documents shall be recommended for blacklisting under relevant clause of FIDIC / PEC.



TECHNICAL EVALUATION CRITERIA

S.No	Description	Maximum Marks
1	EXPERIENCE	30
i)	Incorporation of the Company and address of the Registered Office.	6
ii)	Executed / completed 03 No Projects of 500 (M) or more each in last 5 years (05 marks Per Project especially sports related project particularly Gymnasia for indoor games having 10,000 Sq.Ft, including, iron truss and girder roof, PU Flooring / wooden flooring), which would demonstrate their up-to-date knowledge of the latest building standards and construction techniques in this specialized field of Sports industry.	15
iii)	Present Work Load 03 No Projects of 300 (M) or more each (3 marks per Project).	9
2	FINANCIAL STATUS	20
i)	Currently dated Credit Facility offered by the Bank, 4 marks for each 50 Million.	8
ii)	Income Tax Return for the last 3 years including the most recent submission (2 marks for each year).	6
iii)	Audited reports with Annual Turnover for the last 3 years (2 marks for the year having equal or more than 200 M).	6
3	EQUIPMENTS	15
i)	Dumper Trucks / trolly = 06	1
iii)	Concrete Mixer Machine = 04	1
iv)	Hand Roller / Compactor = 06	1
v)	Water Boozers = 02	1
vi)	JCB Backhoe / excavator = 02	3
vii)	Personal Protective Equipment sets = 10	2
viii)	Concrete Vibrator = 04	1
ix)	Survey Equipment = 02	1
x)	Formwork = 40,000 Sft	2
xi)	Compressor + Tools Kits	1
xii)	Diesel Generator = 02	1



FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the "Agreement") made on the _____ day of _____(month) 2026 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 witnesseth 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 – Part II;
 - (f) The General Conditions – Part I;
 - (g) The priced Bill of Quantities (Appendix-D to Bid);
 - (h) The completed Appendices to Bid (B, C, E to L);
 - (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 (BANK GUARANTEE)

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. _____

2. _____

Corporate Secretary (Seal)

Corporate Guarantor (Seal)



TECHNICAL SPECIFICATION (Vol-II)

Technical Specifications

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PART I
CIVIL WORKS

1. REMOVAL OF TREES

1.1 Scope

The work done under this section of specifications consist of the removal of trees and stumps to a depth not less than fifty (50) centimeters or as designated by the Engineer to ensure complete removal of roots and stumps and their disposal.

1.2 Construction requirements

Such individual trees as the Engineer may designate and mark in white paint shall be left standing uninjured. All other trees to be removed.

When necessary to prevent injury to other trees or structures or to minimize danger, trees shall be cut in sections from top downwards.

Hole or loose earth resulting from the removal of trees shall be filled and re-compacted to a degree of compaction of adjoining area. Any extra material required for such purpose shall be at the cost of the contractor.

1.3 General requirements

Contractor shall prevent damage to all under ground utilities, such as pipes cables or conduits etc. For this purpose if so required, removal of trees shall be carried out manually. Any under ground or over ground property damaged by the contractor shall be immediately repaired by the contractor at his own expense.

1.4 Property of materials

All the removed trees shall be the property of the contractor and shall be disposed off from the site.

1.5 MEASUREMENTS AND payments

No. Measurement and payment will be made to the contractor, it is deemed that price of removed trees materials are in excess to the price of removal and other liabilities of the contractor as mentioned above, therefore contractor will credit/ pay a lump sum amount to the employer as quoted in the Bill of Quantities.

2. DEWATERING

2.1 Scope

The work for dewatering shall consist of lowering the ground water to the required predetermined ground elevation and includes:

- a) Dewatering foundations and care of water to maintain all excavations and access free of water as required for the proper construction of the Works including designing of the dewatering system.
- b) Protecting the excavated areas and structures to be constructed from damage by rains, surface run off and infiltration of sub-soil water into the areas of construction during the entire construction period including construction and maintenance of drains ditches and sumps.

2.2 Contractor's responsibility

Dewatering and removal of impounded water shall be done in accordance with the plans and works (if any) or as directed by the Engineer in charge but nothing in the Contract shall relieve the Contractor from full responsibility of such operations. The Contractor shall be responsible for and repair at his expense any damage to the Works resulting from failure of his operations. Failure of protection works or similar events which may occur in the area during the entire construction period shall be corrected by the Contractor at his expense. The Contractor shall neither interrupt nor interfere with the natural or normal flow of any channel, watercourse or drain for any reason or purpose without the written approval of the Engineer.

2.3 Products

2.3.1 General

The Contractor shall furnish tube wells, well points, pumping equipment, disposal lines, coffer-dams, ditches, drains, sumps, weirs, bunds, or any other work, material or equipment required to protect the Works against water.

2.3.2 Protective works

The Contractor shall construct and provide the protective works as may be required to protect the excavated areas and all other works from rains, surface run-off and infiltration of subsoil water into the areas of constructions.

2.3.3 Dewatering systems

The overall dewatering system shall include the Basic Dewatering System, the Standby Dewatering System, Power Supply Systems, Monitoring devices and all associated equipment as specified herein.

The Basic Dewatering System shall be the minimum required to achieve the specified results.

The Standby Dewatering System shall be that system which may be required to achieve the specified results in case a part or all of the Basic Dewatering System becomes ineffective for any reason.

Power Supply System shall consist of supply of power to various points for running the two dewatering systems and to provide lighting required to perform the work at night.

The Standby Power System shall be that independent generating system which may be required to keep the Dewatering System fully operational in the event of a power failure of the main system.

2.4 Execution

2.4.1 Dewatering operations

The Contractor shall install, maintain and operate all the systems as required for dewatering the various parts of the Works and for maintaining the foundations free from water. The Contractor's method of removal of water from the foundations shall be as approved by the Engineer. Dewatering shall be accomplished in a manner that will prevent loss of fines from the foundation, will maintain stability of excavated slopes, will result in all construction operations being performed free from standing water and will result in all foundations being sufficiently dry for proper bonding of the backfill material with the foundations and proper compaction of the material placed. The Contractor shall be required to control the seepage along the bottom of the foundations and elsewhere to prevent the accumulation of standing water.

2.4.2 Protection of works

Particular care shall be taken in all dewatering operations to ensure that the removal or lowering of water impounded in and around structures is at all times controlled and done in a manner that shall not result in sloughing of banks or damage to excavations and structures during the entire construction period.

2.4.3 Monitoring

The Contractor shall constantly keep watch on the sub- surface water levels and likely flooding from surface run off. He shall install piezometers (if required) and arrange recording of water levels data and correlate this data with dewatering operations on a continuous basis to ensure the dewatering as required.

2.5 Measurement and payment

Except as otherwise stated the payment for dewatering item shall be made on a lump sum basis. The payment shall include, but not be limited to, all costs incurred in connection with provision, installation, operation, maintenance and removal of the complete Dewatering System consisting of Basic Dewatering System, Standby Dewatering System together with power supply arrangements. The item also includes transportation of all plant, equipment, supplies and personnel to the Site; making all the necessary arrangements for satisfactory performance of the Dewatering System throughout the Contract period; grouting holes as required, cost of provision and maintenance of protective Works and ditches, drains and sumps required for the Work.

The cost of providing power supply to run the system and the cost incurred on designing of the Dewatering System shall be deemed to be included in the price for the item.

3. EXCAVATION, FILLING, BACKFILLING AND DISPOSAL

3.1 Scope of Work

The work covered under this section of the specifications consists of furnishing all plants, labour, equipment, appliances and materials in performing all operations in connection with excavation, filling, backfilling, dewatering and disposal for all construction works and other foundations complete in accordance with the specification, applicable drawings, description of items of work in the Bill of Quantities and directed by the Engineer.

- 3.1.1 The Contractor shall prepare the site or other areas where indicated on the Drawings or ordered by Engineer, by clearance of all the ground and by removing trees and other vegetation to permit the proper execution of the work. No payments shall be made to the Contractor for the site clearance.
- 3.1.2 Excavation shall include the removal of all materials of every name and nature. If rock is encountered it shall be removed carefully. Blasting shall only be under taken with the written permission of Engineer.
- 3.1.3 Excavation shall conform to the dimensions and elevations as indicated on the drawings or as directed by the Engineer. Foundations on made up ground shall have to be taken down to natural bottom soil as per drawing or as directed by the Engineer.
- 3.1.4 Excavation shall extend to a sufficient distance from wall and footing to allow for placing and removal of forms and for inspection but shall not be paid separately. Excess excavation beyond the levels shown on the drawings shall be made good by placing 1:4:8. Concrete at contractor's cost.
- 3.1.5 The Contractor shall provide at his own cost, where required, all shoring, walls, support etc. to the sides of the excavation to prevent sliding or any movement. Where necessary, excavated sides shall be sloped as directed by the Engineer with no extra cost.
- 3.1.6 After each excavation is completed the contractor shall notify the Engineer and no concrete shall be poured until the Engineer has approved the size and depth of the excavation and the character of ground strata and has given permission in writing.
- 3.1.7 Back filling of the excavated pits/trenches shall be done with the excavated stuff in layers not exceeding 6" thickness. Clods etc shall be broken. Broken bricks, stone pieces and all other external materials shall be removed. Each layer shall be properly moistened and compacted.
- 3.1.8 Filling shall be approved selected material obtained from outside sources. It shall be predominantly granular material and free from slurry mud, organic or other unsuitable matter and capable of compaction by ordinary means.
- 3.1.9 Back-filling of trenches/foundations shall be carried out only after the pipe line/structural works within the excavations have been inspected, tested and approved by the Engineer.
- 3.1.10 The rejected unsuitable material and surplus excavated material shall be disposed off within 10 kilometer lead measured along the most direct route from boundary of the Project, as shown on the Drawings or as directed by the Engineer.
- 3.1.11 The disposal of surplus/unsuitable excavated material shall include loading, unloading, transporting, stacking, spreading and leveling as directed by the Engineer.

3.2 **Measurement and Payment**

- 3.2.1 Measurement of payment for excavation shall be made for the volume calculated from the dimension shown on the drawing, depth being from the existing ground level. No allowance shall be made in the measurement for working space, side slope etc for which the Contractor shall be deemed to have made provision in his rates.
- 3.2.2 The measurement for payment of filling shall be for the compacted volume of the space to be filled. No measurement shall be made for bulking, filling for over excavated portion for working space, side slopes etc for which the contractor shall be deemed to have made provision in his rates.
- 3.2.3 No extra payment shall be made to the contractor for the site clearance including clearing, grubbing and disposal of surplus material to any lead. The contractor shall be deemed to have made provision in his rates for excavation.

4. TERMITE CONTROL

4.1 Scope of Work

The scope of work for anti-termite treatment includes injection of insecticide in sides and bottom of foundation trenches, spraying on stockpiled backfill material and injections of the insecticide in floor sub-grade of the building.

4.2 Material

A working solution of one of following chemical elements & concentrations shall be provided:

Chloride:	1.0% in water emulsion
Aldrin:	0.5% in water emulsion
Dieldrin:	0.5% in water emulsion
Heptachlor:	0.5% in water emulsion
Chlordane & Heptachlor:	0.5% Chlordane plus 0.25% Heptachlor in water emulsion.

Other solutions may be used if acceptable to Engineer. Only those soil treatment solutions shall be used which are not injurious to plants. Insecticides shall be obtained from the Department of Agriculture, Government of Pakistan in sealed drums in quantity necessary for the requirement of works. All mixing shall be done at site and the Engineer shall verify mixing proportion of insecticide with water.

4.3 Extent of Application

Insecticide solution shall be applied with approved pressure spraying equipment maintaining a pressure of 150 psi to all applications to on/in earth. A professional operator shall be hired who shall have license in accordance with regulations of governing authorities for application of soil treatment.

Soil treatment shall begin after all work of preparation of earth prior to installation of concrete has been done. After application, no additional earth moving or work upon sub-grade shall be done. No covering of earth or concrete should be applied over soil treatment until at least 24 hours after the treatment has been made.

Insecticide solution shall not be applied during wet weather, or when the earth surface is excessively wet. Application shall be made to all areas beneath concrete slabs-on-grade, sidewalks and paving abutting buildings for distance of at least 6 feet beyond building line. Solution shall be applied in amounts of not less than 12.28gallons/100 sft of area. If applied over gravel or sand fill, application shall not be less than 15.35 gallons/100 sft. of area. Insecticide shall penetrate to a minimum depth of 1 inch in porous earth at bottom and 2 inch to 3 inch at sides of excavations.

Sides of foundation excavations, grade beams and similar areas shall be treated with the solution at a rate of 0.37 gallons per square feet upon inner sides of such excavations, and at all locations where column bases and similar work occur at or below grade slabs.

4.4 Measurement and Payment

Measurement for acceptably completed works of termite control treatment shall be made on the basis of number of square feet of floor area treated by measuring the length and breadth of the treated area. No separate measurement will be made for the vertical or horizontal surfaces of the foundation. Payment shall be made for acceptable measured quantity of termite control treatment on the basis of unit rate per square foot of floor area quoted in the bill of quantities as a full payment for all the works related to the item.

5. PLAIN & REINFORCED CONCRETE

a. Scope of Work

The work covered by this section of the specification consists of furnishing all plants, labour, equipment, appliances and materials in performing all operations in connection with supply and installation of plain and reinforced concrete works complete in accordance with this section of the specifications and the applicable drawings & B.O.Q. and as approved by the Engineer. Adequate arrangement and skilled manpower shall be provided to produce homogenous concrete without honeycomb and to correct levels, grades and plumb. Any defective work shall be removed and reconstructed without undue delay to the approval of Engineer. Any previous inspections (checks) by the Engineer shall not in any way relieve the contractor of his responsibility in respect of quality and accuracy of work.

5.1 Applicable Standards

Latest editions of the following Standards are relevant to these specifications wherever applicable.

5.1.1 ASTM (American Society for Testing and Materials)

- C33 Concrete Aggregates.
- C40 Organic impurities in sand for concrete.
- C87 Effect of organic impurities in fine aggregates on strength of mortar.
- C88 Soundness of aggregates
- C109 Compressive strength of hydraulic cement mortars.
- C117 Material finer than No. 200 (0.075mm) sieve.
- C125 Concrete and concrete aggregates
- C127 Specific gravity and absorption of coarse aggregate
- C128 Specific gravity and absorption of fine aggregate
- C131 Resistance to abrasion of small size coarse aggregate
- C136 Sieve or screen analysis of fine and coarse aggregate
- C143 Slump of Portland cement Concrete.
- C150 Portland cement.
- C156 Water retention by concrete curing material.
- C171 Sheet material for curing concrete.
- C188 Density of hydraulic cement.
- C191 Time of setting of hydraulic cement by Vicat needle
- C494 Chemical admixtures for concrete.
- C535 Resistance to abrasion of large size coarse aggregates
- C75 Aggregate sampling.
- C39-93a Test method for compressive strength of Cylindrical Concrete Specimen
- C31-91 Practice for Making and Curing Concrete Test Specimens in the Field

5.1.2 ACI (American Concrete Institute)

- 211 Recommended practice for selection proportions for normal and heavy weight concrete
- 214 Quality control charts
- 301 Specifications for structural concrete for building
- 304 Recommended practice for measuring, mixing, transporting and placing concrete.
- 305 Hot weather concreting
- 318 Building Code requirements of reinforced concrete.
- 347 Recommended practice for concrete formwork

5.1.3 British Standards

- BS12 Portland cement, ordinary and rapid hardening.
- BS410 Test Sieves
- BS822 Concrete aggregates from natural sources
- BS1881 Methods of testing concrete.
- BS3148 Tests for water for making concrete.
- BS4027 Sulphate-resisting Portland Cement
- CP8110 Structural use of concrete
- CP114 Structural use of reinforced concrete in buildings.

In addition, the latest editions of other Pakistan and British Standards, American Concrete Institute Standards, American Society for Testing and Materials Standards and other Standards as may be specified by the Engineer for special Materials and Construction are also relevant.

5.2 Materials

5.2.1 Cement

Grey Portland Cement shall be normal setting cement of make and source as approved by the Engineer. Sulphates resistant cement where required shall be Sulphate resistant Portland cement of make & source as approved by the Engineer. Cement shall conform to the requirements of ASTM C 150 unless otherwise acceptable to the Engineer. One brand of cement shall be used throughout the project, unless otherwise acceptable to the Engineer.

No cement shall be used in the works until it has been passed as satisfactory by the Engineer. The Cement shall be delivered to the Works in sound and properly sealed bags. The cement, which has been damaged in transit to the Site or has become stale or otherwise unsuitable and formed hardened lumps or cakes of cement which cannot be crumbled into fine powder in the hand, shall not be used in the Permanent Works except with the specific approval of the Engineer. The contractor shall remove the rejected cement without delay from the site.

5.2.2 Aggregates

All fine and coarse aggregates to be used shall be supplied from approved sources, which shall not be changed without prior permission in writing from the Engineer. Aggregate shall conform to the requirements of ASTM C-33.

1. Fine Aggregates

Fine Aggregate shall be clean River sand from an approved source of supply and of uniform quality having fineness modules between 2.3 and 3.10.

Fine aggregates shall comply with the requirements of the relevant ASTM C-33 Specifications, and shall be graded as follows:

<u>Sieve Number/Size</u>	<u>%age (by weight) passing</u>
9.50 mm 3/8"	100
4.75 mm (No.4) 3/16"	95-100
2.36 mm (No.8) 3/32"	80-100
1.18 mm (No.16) 3/64"	50-85
0.6 mm (No.30)	25-60
0.3 mm (No.50)	10-30
0.15 mm (No.100)	2-10

Limits for deleterious substances of total sample shall be:

- Clay lumps and friable particles	Maximum 3% by weight
- Material passing No.200 sieve	Maximum 3% by weight
- Coal and lignite	Maximum 0.5% by weight

Weight loss of sand subjected to 5 cycles of soundness test when sodium sulphate is used shall not be greater than 10%.

2. Coarse Aggregates

Coarse aggregate shall be 3/4" down, hard crushed stone from a source approved by the Engineer. For members upto 3" thickness, 1/2" down crushed stone shall be used. Coarse aggregate shall comply with the gradation requirements of ASTM C-33 and shall be graded as follows:

Nominal Size of Graded Aggregates shall be 19 mm (3/4") down

<u>Sieve Number/Size</u>	<u>%age (by weight) passing</u>
19.00 mm (3/4")	90-100
12.50 mm (1/2")	-
09.50 mm (3/8")	20-55
04.75 mm (3/16")	0-10
02.36 mm (3/32")	0-5

Weight loss of coarse aggregate when subjected to 5 cycles of soundness test using sodium sulphate shall not exceed 12% and %age loss for Los Angeles Abrasion (500 revolutions) not be greater than 50. Aggregates shall be screened and washed if required to the satisfaction of the Engineer.

5.2.3 Water

Water to be used in the work shall be clean potable water approved by the Engineer. The Contractor shall supply sufficient water for all purposes including mixing the concrete, curing, and cleaning plant and tools. It should be clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials or other substances that may be deleterious to concrete or reinforcement. Where doubt exists as to the suitability of water, it should be tested in accordance with BS 3148.

5.3 Nominal Concrete Mixes

5.3.1 Proportioning of Concrete Mixes

The Contractor shall prepare design mixes for each type and strength of concrete by laboratory trial batch method as specified in ACI 401. The Contractor shall use an independent testing facility acceptable to the Engineer for preparing and reporting proposed mix designs. The cost of designing the mix shall be borne by the Contractor. The Contractor shall submit to the Engineer the design of each proposed mix for each class of concrete at least Fifteen (15) days prior to the start of work. The Contractor shall not begin concrete production until Engineer has reviewed and approved the designed mixes.

Concrete mixes to be used in various parts of the works shall be indicated on the drawings and mentioned in the bill of quantities. The proportions of cement to fine aggregates and coarse aggregates shall be adjusted so as to provide the concrete of the required strength when tested as set out in Table 1 below.

Table-1: Minimum required compressive strength of 12 inch concrete cylinder and minimum quantity of cement required per 100 c. ft. of finished concrete for various mixes and under various conditions:

Concrete Mix Ratio (Typical mix)	Minimum No. of cement bags (110 lbs.) per 100 c. ft of compacted concrete	Cylinder Crushing Strength		Max. water consumption per bag (110 lbs.) of cement(gallons)
		7 Days (Psi)	28 Days (Psi)	
1:4:8 concrete	9	800	1150	7.25
1:3:6 concrete	12	1200	1700	7.0
1:2:4 concrete	18	2100	3000	5.25

Note: The cylinder strengths shown against the mix ratios are only for illustration. Actual mix design shall specify the correct mix ratios for the required strength.

5.3.2 Mixing

1. All Concrete shall be machine mixed in an approved batch mixer. The minimum time of mixing shall be 2 to 3 minutes per batch for drum mixers. The machine must be capable of discharging their contents while running.
2. Where it is not possible to employ machine mixing and approval has been obtained from the Engineer, concrete can be mixed by Hand and, shall be done with (ten percent) 10% extra cement at the cost of the Contractor. The contractor shall provide clean mixing platforms of sufficient area for the proper execution of the work. These platforms if constructed in timber shall consist of planks closely jointed so as to avoid the loss of any grout or liquid from the wet concrete. The whole of the aggregate and cement shall be turned over on the platform in a dry state at least twice. The water shall then be added gradually, after which the material shall again be entirely turned over in a wet state at least three times.
3. Controls shall be provided to ensure that the batch cannot be discharged until the required mixing time has elapsed. At least three quarters of the required mixing time shall take place after the last of mixing water has been added.
4. Concrete shall be mixed only in quantities for immediate use. Concrete that has set shall not be re-tempered and shall be discarded.

5.3.3 Transporting and Placing Concrete

1. The concrete shall be transported from the place of mixing to the place of final deposit in the shortest possible time ensuring that no segregation or loss/addition to ingredients takes place. It shall be deposited as nearly as practicable in its final position so as to avoid re-handling or flowing. All containers used for transporting the concrete shall be thoroughly clean.
2. The free fall of concrete shall not exceed 6 feet. Where it is necessary for the concrete to be lowered by more than this depth, it shall not be dropped but placed properly through a suitable arrangement.
3. Before placing concrete, all forms shall have been completed and cleaned, water shall have been removed, reinforcement shall have been properly secured in position, and all embedded items shall have been kept in position. The Engineer shall approve the entire preparation in writing before pouring of concrete.
4. The workmen carrying concrete to the site and all other workmen moving about on the reinforcement before the concrete is placed shall move only along planks placed for the purpose. No person shall be allowed to walk on the reinforcement.
5. All concrete shall be consolidated by vibration, spading, roding or forking so that the concrete is thoroughly worked around the reinforcement, around the embedded items, and into the corners of forms, eliminating all air or stone pockets which may cause honeycombing or planes of weakness. Vibrators shall be inserted and withdrawn at points approximately 18 inches apart. At each insertion the duration shall be sufficient to consolidate the mix but not excessive so as to cause segregation, generally from 5 – 15 seconds.

5.3.4 Construction Joints

Concreting shall be carried out continuously up to construction joints, the position and arrangement of which shall be predetermined by the Engineer.

Joints not shown on the drawings shall be so made and located and as to least impair the strength of the structure and shall need prior approval of the Engineer. In general, they shall be located near the middle of the spans of slabs and beams unless a secondary beam intersects a main beam at this point, in which case the joint in the main beam shall not be at the underside of floor slabs or beams, and at the top of footings or floor slabs. Beams, panels shall be placed at the same time as slabs. Joints shall be perpendicular to the main reinforcement.

All reinforcement steel shall be continued across joints. Key and inclined dowels shall be provided as directed by the Engineer. Longitudinal keys at least 1-1/2 inch deep shall be provided in all joints in walls and between walls and slabs or footings.

When the work has to be resumed on a surface which has hardened, such surface shall be roughened in an approved manner which will expose the aggregate uniformly and will not leave laitance, loosened particles of aggregate or damaged concrete at the surface.

The hardened concrete of construction joints and of joints between footings and walls or columns, between walls or columns and beams or floors they support, joints in unexposed walls and all others not mentioned herein shall be dampened (but not saturated) immediately prior to placing of fresh concrete.

5.3.5 Expansion Joints

Expansion joints shall be provided wherever indicated on the Drawings or as directed by the Engineer. In no case shall the reinforcement, corner protection angles, or other embedded items be run continuous or through an expansion joint.

All expansion joints shall be carefully placed so as not to be displaced during concreting. The method of placing the expansion joints shall be strictly in accordance with the Drawings and/or as directed by the Engineer. All materials for use in the expansion joints shall have prior approval of the Engineer before placing order for supply.

5.3.6 Embedded Items

Electric conduits and other pipes which are planned to be embedded shall not, with their fittings, displace more than four percent of the area of the cross section of a column on which stress is calculated or which is required for fire protection. Sleeves, conduits, or other pipes passing through floors, walls, or beams shall be of such size or in such location as not to impair unduly the strength of the construction; such sleeves, Conduits, or pipes may be considered as replacing structurally in compression the displaced concrete, provided that they are not exposed to rusting or other deterioration, are of uncoated or galvanized iron or steel not thinner than standard steel pipe, have a nominal inside diameter not over 2 inch and are spaced not less than three diameters on centres, Except when plans of conduits and pipes are approved by the Engineer, embedded pipes and conduits other than those merely passing through , shall not be larger in outside diameter than one third the thickness of the slab, wall, or beams in which they are embedded nor so located as to impair unduly the strength of the construction. Sleeve pipe, or conduits of any material not harmful to concrete and within the limitations of this section may be embedded in concrete with the approval of the Engineer provided they are not considered to replace the displaced concrete.

5.3.7 Protection and Curing

1. Beginning immediately after placement, concrete shall be protected from premature drying, excessively hot or cold temperatures and the mechanical injury, and shall be maintained with a minimum moisture loss at a relatively constant temperature during the period necessary for hardening of concrete.
2. All exposed concrete surfaces not in contact with forms shall be cured by either ponding or continuous sprinkling of water for 10 days. Vertical surfaces shall be kept wet by covering these with moisture retaining covers as approved by Engineer.
3. Moisture loss from concrete surfaces placed against wooden or metal forms exposed to heating by the sun shall be minimized by keeping the forms wet until they can be safely removed.
4. When the mean daily outdoor temperature is less than 5 degree C, temperature of the concrete shall be maintained between 10 and 20 degree C for the required curing period as mentioned in clause 2 above.

5.3.8 Concreting in Extreme Weather

1. No concreting shall be carried out during rain.
2. The temperature of the plastic concrete, as placed, shall not be lower than 13 degree C when the temperature of the surrounding air is expected to fall below 5 degree C during placing or 24 hours thereafter. Water and aggregates shall be heated uniformly to obtain concrete mix temperature of 13 degree C. If the water or aggregate is heated above 38 degree C the water shall be combined with aggregate in the mixer before cement is added. Cement shall not be mixed with water or mixture of water and aggregate having a temperature greater than 38 degree C.
3. During hot weather, the temperature of the concrete, as placed, shall not be greater than 32 degree C. When the temperature of the concrete exceeds 32

degree C, precautionary measures, as approved by the Engineer, shall be adopted. When the temperature of the steel reinforcement exceeds 50 degree C, steel forms and reinforcement shall be sprayed with water prior to placing the concrete. Flaked or crushed ice of a size that will melt during mixing may be substituted for all or part of the mixing water if so required.

5.3.9 Sampling and Testing Concrete Quality

1. Slump test shall be carried out in accordance with ASTM C-143 to determine the workability of concrete mix. The slump for each class of concrete mix shall be determined during the Preliminary Test mixes and the Value obtained shall not be modified without the written consent of the Engineer. Unless otherwise specified, the concrete shall have a slump of not more than 3 inches if the consolidation is to be by vibration and 5 inches if the consolidation is to be by methods other than vibration. A tolerance of 1 inch above the indicated maximum shall be allowed for individual batches provided the average of all batches or the most recent 10 batches tested, whichever is fewer, does not exceed the maximum limit.
2. The compressive strength of the concrete shall be determined by performing work cylinder tests consisting of 12 inch cylinders cured and tested in compression in accordance with ASTM requirements. The strength shall comply with the minimum requirements of Table 1. Complete record shall be kept of all test cylinders identifying the mix, the section of work for which the concrete was used, and the date poured.
3. Five test cylinders shall be tested for compressive strength, two shall be tested at 7 days and three at 28 days and the strength determined are to comply with Table 1. Tests shall be carried out in an independent laboratory approved by the Engineer.
4. For all types of concrete mixes, the appropriate strength requirement shall be considered to have been met if:
 - none of the cylinder strength is below the specified strength or
 - The average strength of the three cylinders is not less than the specified cylinder strength and the difference between the greatest and the least strength is not more than 20% of the average.
5. When the results of the work cylinder strength show that the strength of any concrete is below the minimum specified, the Engineer may give instructions for the whole or part of the work concerned to be removed and replaced at the expense of the Contractor.

5.4 Concrete Construction Tolerances

Where tolerances are not stated in the specifications or drawings for any individual structure or feature thereof, maximum permissible deviations from established lines, grades and dimensions shall conform to the following. The Contractor is expected to set and maintain concrete forms so as to ensure complete work within tolerance limits. These allowable tolerances shall not relieve the Contractor of his responsibility for correct fitting of indicated materials. These tolerances are not cumulative.

5.4.1 Variation from the plumb

- | | | |
|---|---|----------|
| 1 | - In any 10 feet of length or height | 1/4 Inch |
| | - In any storey or 20 feet maximum | 3/8 Inch |
| | - Maximum for the entire length or height | 1 Inch |

- 2 For exposed corner columns, control joint grooves, and the other conspicuous lines.
- In any bay or 20 feet maximum 1/4 Inch
 - Maximum for the entire length or height 1/2 Inch

5.4.2 Variation from the level or from the grades indicated on the drawings.

- 1 In floors, ceilings, beams soffits measured before removal of supporting shores.
- In any 10 feet of length 1/4 Inch
 - In any bay or in any 20 feet maximum 3/8 Inch
 - Maximum for the entire length 3/4 Inch
- 2 For exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines.
- In any bay or 20 feet maximum 1/4 inch
 - Maximum for the entire length 1/2 inch
3. Variation of the linear building lines from established position in plan and related position of columns, walls and partitions.
- In any bay or 20 feet 1/2 Inch
 - Maximum for the entire length 1 Inch
4. Variation in the sizes and locations of sleeves, floor openings, and wall openings.
- ±1/4 Inch
5. Variation in cross-sectional dimensions of columns and beams and in the thickness of slabs and walls
- Minus 1/4 Inch
 - Plus 1/2 Inch

5.4.3 Footings

- 1 Variation in dimensions in plan
- Minus 1/2 Inch
 - Plus (plus variation applies to concrete only, not to reinforcing bars or dowels)
- 2 Misplacement or Eccentricity
- 2 Percent of the footing width in the direction of misplacement but not more than 2 Inch
- 3 Reduction in Thickness
- Minus 5 percent of specified thickness

5.4.4 Variation in Steps

- 1 Rise 1/8 Inch
- Tread 1/4 Inch
- 2 In consecutive steps
- Rise 1/16 Inch
 - Tread 1/8 Inch

5.5 Measurement and Payment

5.5.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bills of Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective items of the Bills of Quantities.

- 1 providing, fixing, striking, etc. of formwork.
- 2 providing, placing & fixing of anchor bolts or any other embedded parts.
- 3 Providing & installing all type of joints in concrete structure, including expansion joints.
- 4 providing and fixing water stopper.

5.5.2 Plain and Reinforced Concrete

1 Measurement

Concrete shall be measured as executed but no deduction shall be made for the following:

- Volume of any steel embedded in the concrete.
- Volume occupied by water pipes, conduits etc., not exceeding 4 sq. inch each in cross-sectional area.
- Voids not exceeding 1 sq. feet in work given in square feet. If any void exceeds 1 sq. feet, total void shall be deducted.

Voids, which are not to be deducted as specified above, refer only to openings or vents wholly within the boundaries of measured areas. Openings or vents at the boundaries of measured areas shall always be subject to deductions irrespective of size.

Concrete work shall be classified and measured separately as listed under items of Bills of Quantities.

Columns shall be measured from the top of footing/footing beam or floor surfaces to the underside of beams or slabs as the case may be. Where the width of beams is less than the width of columns, the extra width at the junction shall be included in the beams.

The depth of the beams shall be measured from bottom of the slab to the bottom of the beams except in case of inverted beams where it shall be measured from top of slab to the top of beam. The cross-section of the beam shall be the actual cross-section below or above the slab.

Measurement of acceptably completed works of plain and reinforced cement concrete will be made on the basis of number of cubic feet concrete placed and compacted in position within the neat lines of the structure as shown on the Drawings or as directed by the Engineer.

2 Payment

Payment will be made for the acceptable measured quantity of plain and reinforced cement concrete on the basis of unit rate per cubic feet quoted in the Bills of Quantities and shall constitute full compensation for all the works related to the item.

6. FORMWORK

6.1 Scope of Work

The work under this section of the Specifications consists of furnishing all plant, labour, equipment, appliances and materials and in performing all operations in connection with the supply and installation of formwork for the purpose of shuttering in concreting work, complete in strict accordance with this section of the specifications and the applicable drawings and subject to the terms and conditions of the Contract.

6.2 Materials

1. The Contractor shall use steel forms for slabs, beams and columns. The formwork shall conform to the shape, lines and dimensions as shown on the plans, and be so constructed as to remain sufficiently rigid during the placing and compacting of the concrete. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete and shall have sufficient rigidity to maintain specified tolerances. Forms shall be sufficiently tight to prevent loss of liquid from the concrete. Joints shall be sealed using a suitable and approved sealing material.
2. Supports for slabs shall be rigid, vertical, and be placed on firm ground. Spacing of vertical supports for roof shall not exceed 2'-0" in any direction.
3. The Contractor shall establish and maintain in an undisturbed condition and until final completion and acceptance of the project, sufficient control points and benchmarks to be used as references for checking upon tolerances.
4. Runways or planks for moving labour and equipment shall be provided with struts or legs and shall be supported directly on the formwork or upon the structural member without resting on the reinforcing steel.
5. In normal circumstances (generally where temperatures are above 20 ° C and where ordinary cement is used, forms may be struck after expiry of the following periods.
 - Walls, columns and vertical sides of beams - 48 hours or as may be decided by the Engineer.
 - Side of slab (shores or props left under) - 6 days.
 - Beams soffits (shores or props left under). - 12 days.
 - Removal of shores or props to slabs.
 1. Spanning upto 12 feet. - 10 days
 2. Spanning over 12 feet. - 16 days
 - Removal of shores or props to beams.
 1. Spanning upto 18 feet. - 18 days
 2. Spanning over 18 feet. - 25 days

The number of shores or props, their sizes and disposition shall be such as to be able to safely carry the full dead load of the slab and beams, as the case may be.

Proper allowance shall be made for the decrease in rate of hardening of concrete in cold weather and above minimum duration must be increased when the mean daily temperature is below 20 ° C.

6. The Contractor shall establish and maintain in an undisturbed condition and until final completion and acceptance of the project, sufficient control points and benchmarks to be used as reference for checking upon tolerances.

6.3 Measurement and Payment

1. No payment will be made for the works involved within the scope of this section of the specifications unless otherwise specifically stated in the Bills of Quantities or herein.
2. The cost thereof shall be deemed to have been included in the quoted unit rate of relevant items of the Bills of Quantities.

7. REINFORCEMENT

7.1 Scope of Work

The work under this section of the specifications consists of furnishing, cutting, fabricating, bending, and placing steel reinforcement in concrete structures or elsewhere as shown on the drawings or as directed by the Engineer. The scope of this section of specification is covered with detailed specifications as laid down herein.

Applicable Standards

<u>British</u>	<u>Standard</u>
B.S. 693	General requirements for Oxy-acetylene welding of mild steel.
B.S. 785	Hot rolled bars and hard drawn wire for the reinforcement of Concrete.
B.S. 1856	General requirement for the metal arc welding of mild steel.
B.S. 4449	Hot rolled steel bars for reinforcement of concrete.
B.S. 4461	Cold worked steel bars for reinforcement of concrete.
B.S. 4466	Bending dimensions and scheduling of bars for the reinforcement of concrete.
<u>ASTM</u>	<u>Standards</u>
A 305	Minimum requirement for the deformations of deformed steel bars for concrete reinforcement.
A 615	Specifications for Plain & Deformed billet steel bars for concrete reinforcement.

7.2 Material

7.2.1 Unless otherwise specified, all deformed reinforcing bars shall comply with the requirements of ASTM 615 for deformed cold worked new stock billet steel bars and shall have a minimum characteristic strength of 40,000 lb. per square inch.

7.2.2 Binding wire shall be 16 gauge Soft iron wire

7.2.3 Reinforcement shall be obtained only from manufacturers approved by the Engineer. Each consignment of reinforcement steel shall be accompanied by manufacture certificate or shall refer to a previous certificate, if the consignment is from the same batch, showing that the reinforcement steel complies with the specified requirement. If such certificate is not made available or if the Engineer considers that the manufacturer's tests are inadequate, samples shall be taken for acceptance test from different consignments as the Engineer may direct and shall be tested at the contractor's cost. If the result of such test shows that the sample does not meet with the specifications, the whole consignment shall be rejected and removed from the site at the Contractor's cost.

7.2.4 Reinforcement shall be free from all loose or flaky rust and mill scale, or coating, including ice, and any other substance that would reduce or destroy the bend. Reduced section steel reinforcement shall not be used.

7.3 Bar Bending Schedules

The Contractor shall prepare bar bending schedules of all the reinforcing steel bars and these bar bending schedules shall be submitted to the Engineer for his approval. The Contractor shall obtain approval of the bar bending schedules before starting the actual bar bending works.

7.4 Fabricating, Bending & Placing

- 7.4.1 Reinforcement is to be accurately placed as shown in the drawings, and secured against displacement by using 16 gauge GI wire ties or suitable slips at intersections and supported from the formwork by using concrete, metal or plastic chairs and spacers or hangers of an approved pattern. Where concrete blocks are used for ensuring the cover, they shall be made of mortar not leaner than 1 part of cement to 2 parts of sand.
- 7.4.2 Bars used for concrete reinforcement shall be fabricated in accordance with the dimension shown in the bar-bending schedule approved by the Engineer.
- 7.4.3 The cutting tolerance for all bars shall be ± 1 inch.
- 7.4.4 Bars shall be placed to the following tolerances:
- | | | |
|----|--|-----------------------------|
| 1. | Concrete cover to formed surfaces | $\pm 1/5$ inch |
| 2. | Minimum spacing between bars | $- 1/5$ inch |
| 3. | Top bars in slabs and beams | |
| | a. Members less than or 8 inch deep | $\pm 1/5$ inch |
| | b. Members more than 8 inch but not over 2 feet deep | $\pm 3/8$ inch |
| | c. Members more than 2 feet deep | ± 1 inch |
| 4. | Crosswise members | Spaced evenly within 2 inch |
| 5. | Length-wise members | ± 2 inches |
- 7.4.5 Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter or enough to exceed the above tolerances, the resulting arrangement of bars shall be subject to approval of Engineer.
- 7.4.6 Vertical bars in columns shall be offset at least one bar diameter at lapped splices. To ensure proper placement, templates shall be furnished for all column dowels.
- 7.4.7 Reinforcement shall not be bent or straightened in a manner that will injure the material. No bar shall be bent twice in the same place, nor shall it be straightened after bending. Unless permitted, by Engineer, reinforcement shall not be bent after being partially embedded in hardened concrete.
- 7.4.8 No splice of reinforcement shall be made except as shown on the working drawings.
- 7.4.9 No concreting is to be carried out until the reinforcement has been checked and approved by the Engineer.
- 7.4.10 All detailing shall be done as per ACI standards ACI-315 and ACI-318.

7.5 **Concrete Clear Cover for Reinforcing Steel shall be as follows:**

Structural Members	Minimum Cover, Inch
a) Concrete cast against and permanently exposed to earth	3
b) Concrete exposed to earth or weather: No. 6 through No. 18 Bars	2
No. 5 and smaller Bars	1-1/2
c) Concrete not exposed to weather or in contact with ground:	
i) Slabs, Walls (No. 11 & smaller bars)	3/4
ii) Beams, Columns: (Primary Reinf., ties, stirrups, spirals)	1-1/2

All reinforcing steel shall be held firmly in place before and during the placing of concrete by means of wires and supports adequate to prevent displacement during the course of construction.

7.6 **Measurement & Payment**

7.6.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bills of Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective items of the Bills of Quantities.

- 1 Providing and installing chairs, supports, hooks, spacers, binding wires, and laps not shown on Drawings including wastage and rolling margin.

7.6.2 Mild Steel and Deformed Steel

1. Measurement:

Measurement for acceptably completed works of reinforcement according to bar bending schedules approved by the Engineer shall be made by weight.

2 Payment

Payment will be made for acceptable measured quantity of reinforcement on the basis of unit rate per ton quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item.

8. BRICK MASONRY WORK

8.1 Scope of Work

The work under this section of the specification consists of furnishing all plant, labour, equipment, appliance and materials, and performing all operations in connection with furnishing and installing brick masonry in position including Portland cement and sand for mortar & masonry, complete in strict accordance with this section of the specifications and applicable drawings, and subject to the terms and conditions of the Contract.

8.2 Materials

8.2.1 Portland cement for mortar shall conform to the applicable requirements specified in the section "Plain and Reinforced Concrete".

8.2.2 Sand for mortar shall be furnished by the Contractor and shall conform to the applicable requirements for sand specified in the section "Plain and Reinforced Concrete".

8.2.3 Water used in the manufacture of bricks and in the preparation of mortar shall be free from objectionable quantities of silt, organic matter, alkali, salts and other impurities, and will be tested and approved by the Engineer.

8.3 Mortar

8.3.1 Mortar for first class brick masonry, except where otherwise directed by the Engineer, shall consist of one part Portland cement to six parts of damp loose mortar sand (1:6) by volume and intended use.

8.3.3 Methods and equipment used for mixing mortar be such as will accurately determine and control the amount of each separate ingredient entering into the mortar and shall be subject to the approval of the Engineer. Mortar shall be mixed only in sufficient quantities for immediate use and all mortar not used within 30 minutes after addition of water to the mix shall be rejected. Re-tempering of mortar shall not be allowed.

8.4 Bricks

8.4.1 All bricks, except otherwise specified, shall be of first class quality made from good brick earth, free from saline deposits and shall be hand moulded. They shall be thoroughly burnt without being vitrified, shall be regular, uniform in shape and size with sharp and square edges, parallel, faces and of deep red or copper colour. First class bricks shall be homogeneous in texture and shall emit a clear ringing sound when struck, and shall be free from flaws, cracks, chips, stones and modules of lime. First class brick in an oven dried condition shall not absorb more than 1/5 of its weight of water when immersed one hour in water at 21 to 27 degrees centigrade and shall show no signs of efflorescence on subsequent drying. The average compressive strength of five representative first class bricks shall be not less than 1700 psi and not less than 1500 psi for any individual brick.

8.4.2 Samples of first class bricks shall be submitted to the Engineer with test reports for his approval. Bricks of approved samples shall only be used in the works. If at any time, during the progress of the works, the Engineer finds use of sub-standard material, such work shall be rejected and the Contractor shall replace the rejected work at his cost.

8.5 Placing

8.5.1 The methods and equipment used for transporting the bricks and mortar shall be such as will not damage the brick nor delay the use of mixed mortar. Brick shall not be placed during rains sufficiently heavy or prolonged to wash the mortar from the brick. Mortar already spread that becomes diluted by rain shall be removed and replaced before continuing with the workman. All brick to be used in brick masonry shall be moistened with water for three to four hours, before they are used, by a method that will ensure that

each brick is thoroughly and uniformly wetted. All bricks shall be free from water adhering to their surface when they are placed in the brick masonry.

- 8.5.2 Bricks shall be laid “frog” upward with mortar joints and in English and Flemish bond as shown on the Drawings or as directed by the Engineer. Both bed and vertical joints shall be 3/8” in thickness completely filled with cement mortar as specified herein, and each brick shall be bedded by firmly tapping with the handle of the trowel. All horizontal joints shall be parallel and all vertical joints in alternate courses shall be directly over one another. Excess mortar at the outer edges shall be removed and joints drawn straight with the edge of a trowel and a straight edge. All anchors and similar work required to be embedded in the brick masonry shall be installed as the work progresses. At the completion of the work all holes or defective mortar joints shall be cut out and re-pointed.
- 8.5.3 Where shown on the drawing, the exterior faces of the walls shall be finished by striking the joints as the work proceeds. The joints shall be struck by raking the green mortar after the brick work has been laid and finishing the joint with a pointing tool. Horizontal joints shall be struck to form a weathered joint and vertical joints shall be struck with a V-notch. Care shall be taken that the striking tools do not develop a cutting edge, as the object of striking the joint is to compress the mortar into the joints.
- 8.5.4 The exposed faces of all brick masonry shall be thoroughly cleaned and left bare with struck joints as specified above.

8.6 Curing and Repair

- 8.6.1 All brick masonry shall be water cured and shall be kept wet for at least seven days by an approved method that will keep all surfaces to be cured continuously wet. Water used for curing shall meet the requirements of the Specifications for water used in the manufacture of bricks.
- 8.6.2 If, after the completion of any brick masonry work, the bricks are not in alignment or level, or does not conform to the lines and levels shown on the drawings, or show a defective surface, they shall be removed and replaced by the Contractor at his expense unless the Engineer grants permission, in writing, to patch or replace the defective area.

8.7 Scaffolding

Contractor shall provide safe scaffolding of adequate strength for use of workman at levels and heights at his own expense. Scaffolding which is unsafe in the opinion of the Engineer shall not be used until it has been strengthened and made safe for use of workmen. Cost of scaffolding etc. shall be included by the Contractor in the unit rate for masonry items.

The Contractor shall repair damage to masonry from scaffolding or from any other cause at his own cost.

8.8 Tolerances

All brick works shall be erected plumb and true to line and level with maximum variation in any storey height or any length of wall being 1/8” in 10 feet. The maximum tolerance in the length, height or width of any single masonry unit shall be $\pm 1/8$ ”.

8.9 Measurement and Payment

8.9.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bills Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective items of the Bills of Quantities.

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- 8.9.1.1 Cutting & chiselling of masonry wherever required.
 - 8.9.1.2 Cement sand mortar used in laying bricks including wastage.
 - 8.9.1.3 Curing and repairing the masonry work.
 - 8.9.1.4 All joint reinforcing bars, reinforcing anchor bars and dovetail anchors.

8.9.2 Brick Masonry

8.9.2.1 Measurement

Measurement of acceptably completed works of brick masonry will be made on the basis of number of cubic feet provided & installed in position as shown on the Drawing or as directed by the Engineer.

8.9.2.2 Payment

Payment will be made for acceptable measured quantity of brick masonry on the basis of unit rate per cubic feet quoted in the Bills of Quantities and shall constitute full compensation for all the works related to the item.

9. STONE MASONRY

9.1 Scope of Work

The work under this section of the specification consists of furnishing all plant, labour, equipment, appliance and materials, and performing all operations in connection with furnishing and installing stone masonry in position including Portland cement and sand for mortar & masonry, complete in strict accordance with this section of the specifications and applicable drawings, and subject to the terms and conditions of the Contract.

9.2 Materials

9.2.1 Portland cement for mortar shall conform to the applicable requirements specified in the section "Plain and Reinforced Concrete".

9.2.2 Sand for mortar shall be furnished by the Contractor and shall conform to the applicable requirements for sand specified in the section "Plain and Reinforced Concrete".

9.2.3 Water used in the preparation of mortar shall be free from objectionable quantities of silt, organic matter, alkali, salts and other impurities, and will be tested and approved by the Engineer.

9.3 Mortar

9.3.1 Mortar for first class stone masonry, except where otherwise directed by the Engineer, shall consist of one part Portland cement to six parts of damp loose mortar sand by volume and intended use.

9.3.2 Methods and equipment used for mixing mortar be such as will accurately determine and control the amount of each separate ingredient entering into the mortar and shall be subject to the approval of the Engineer. Mortar shall be mixed only in sufficient quantities for immediate use and all mortar not used within 30 minutes after addition of water to the mix shall be rejected. Re-tempering of mortar shall not be allowed.

9.4 Stone

9.4.1 Stone for all-purpose shall be the best of its kind, sound and durable, free from flaws and from soft weathered or decomposed parts. The stone and the quarry from which it is obtained shall be subject to the approval of the Engineer. The contractor shall submit samples of the stone to be used in the works for Engineer's approval before such stone is used or any order is placed. The stone used shall be clean and must be washed if necessary in the opinion of the Engineer.

9.4.2 Stones for face-work shall be as far as possible quarry split and not bull-nosed or hammer dressed. A moderate amount of dressing to trim off large projections will however be permitted. Exposed faces of stones from masonry shall be free from tool marks except such as are inherent in the nature of any dressing that may be specified. In rock-faced work the surface roughness shall not project more than 1.5" inches for stone less than 3 Square Feet face area and not more than 2.5" for large stones.

9.5 Placing

9.5.1 Stone Masonry shall be built to the lines and levels shown on the Drawings.

9.5.2 The jambs or doors and windows openings shall be formed with quoins of the full height of the course. The breadth of the quoins shall be at least 1.5 times the depth of the course and length shall be at least twice the depth. The quoins shall be laid header and stretcher in alternate courses and shall ordinarily be of the full height of the course.

9.5.3 Large flat stones shall be laid under the end of the girders, roof trusses etc. according to the required dimensions.

9.5.4 The stones shall be set in mortar with their natural bedding plane (if any) as near to normal as possible to the face or normal to the line of thrust in the case of load bearing

structures. Particular care shall be given to obtaining a sound bond both horizontally and vertically and there shall be at least one bond stone of length not less than two thirds of the wall thickness in each square yard of wall face.

- 9.5.5 The mortar shall, unless otherwise specified, be cement-sand mixed in the proportion of 1:6 generally or as mentioned in the B.O.Q. or drawings. Mortar shall completely fill all interstices between the stones.
- 9.5.6 Masonry work shall not be carried out in heavy rain without the written consent of the Engineer. Construction shall only proceed when suitable precautions to the satisfaction of the Engineer have been taken against the action of rain on newly placed mortar. If for any reason of urgency the consent of the Engineer should be desired to a departure from these provisions, the Contractor shall submit to the Engineer for approval his proposals for protecting the materials and work from the weather.
- 9.5.7 Unless otherwise directed by the Engineer all masonry stone, when incorporated in the Works shall be laid on its natural bed.
- 9.5.8 As far as practical the whole of the masonry wall shall be carried up at one uniform level throughout, but where breaks are unavoidable the joints shall be made in long steps so as to prevent cracks between the new and the old work. All junctions of the walls shall be formed at the time the walls are being built and the cross walls shall be carefully bonded into the main walls.
- 9.5.9 Unless otherwise shown on the drawings, pointing to masonry joints shall be flush and shall be formed by raking the joint clean and then filling it with mortar which shall be given a flush face with a steel trowel.
- 9.5.10 Hand Placed Rubble Filling shall consist of stones individually selected and placed by hand firmly in place in bearing contact with each other or with the sides of the space to be filled. The voids shall be carefully filled with small rocks and spills wedged together to form a compact mass. The sides of stones shall be roughly trimmed if necessary with a spilling hammer to obtain a reasonably close fit. On the exposed face the stones shall be placed with their flattened sides outermost and in the plane of the face.

9.6 Types of Masonry

9.6.1 Random Rubble Masonry

1. The face stones shall be laid absolutely without pinning on the face. Each stone shall be carefully fitted so as to form neat and closed joints. The edges shall be dressed with a chisel to ensure close jointed work. The joints shall not exceed 3/8 inch in thickness.
2. The stone shall be chisel dressed and those with uniform color and approximately of equal size shall be used for face work. They shall be carefully laid and solidly bedded in mortar and shall tail back and bound well with backing and shall not be greater in height (average) than either their breadth on face (average) or of tail in the work.
3. The stones shall be arranged to break joints as much as possible. Long vertical lines of joining shall be avoided in the face work.
4. Through stones shall be inserted in at least every square yard of the face and shall run right through the wall if it is not more than 2 feet thick.
5. The quoins shall be of the same height as the course in which they occur. It shall be formed of stones at least 1.5 feet long laid stretcher and header alternatively. They shall be laid square on the beds, which shall be fair dressed to a depth of at least 4 inches.

9.6.2 Coursed Rubble Masonry

1. The stone shall be laid in horizontal courses not less than 6 inches in height. The stones in each course shall be of equal height and all courses shall be of same height unless otherwise specified; but no course shall be thicker than any course below it. All stones shall be set full in mortar of specified proportions.
2. The face stone shall be squared on all joints and beds. The beds shall be hammer or chisel dressed true and square for at least 3 inches from the back and 1.5 inches from the joints. The face of the stone shall be hammer dressed and shall not project more than 1.5 inches.
3. No pinning shall be allowed on the face. All side joints shall be vertical and beds horizontal and no joints shall be more than 3/8 inches in thickness.
4. No face stone shall be lesser in breadth than the height and all stone shall tail into the work to a length equal to the height. At least one-third of the stones shall tail into the work by twice their height.
5. Through stones shall be inserted between 5 to 6 feet apart (clear) in every course and shall run right through the wall.
6. Stones shall break the joint at least half the height of the course.
7. The quoins shall be of the same height as the course in which they occur. It shall be formed of stones at least 1.5 feet long laid stretcher and header alternatively. They shall be laid square on the beds, which shall be fair dressed to a depth of at least 4 inches.
8. The work in the interior face shall be precisely the same as in the exterior face except when the work is to be plastered in which case the side joints need not be vertical.
9. Hearting shall consist of flat-bedded stones, which shall be carefully laid on their proper beds and solidly bedded in mortar, chips and spalls of stones being wedged in wherever necessary so as to avoid thick beds and joints of mortar. No dry work or hollow spaces shall be left anywhere in the masonry.
10. The face work and backing shall be brought up evenly but the backing shall be leveled up at each course by use of the chips

9.7 Pitching

- 9.7.1 Pitching shall be used to form a covering on horizontal or sloping ground. It shall consist of a one stone deep layer of hand placed stones giving an even exposed surface. Pitching on slopes shall be built upwards from the toe unless otherwise directed by the Engineer. Pitching shall be of one of the two types specified below:-
- 1 "Dry pitching" shall be pitching in which no binder is used; instead the interstices shall be filled with well-rammed approved granular material or sand.
 - 2 "Fully mortared pitching" shall be pitching in which the interstices are filled with cement mortar. The stone shall be laid in a bed of concrete 1:4:8 while it is still fresh.

9.8 Measurement and Payment

9.8.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bills Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective items of the Bills of Quantities.

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- 9.8.1.1 Cutting & chiselling of masonry wherever required.
 - 9.8.1.2 Cement sand mortar used in laying stones including wastage.
 - 9.8.1.3 Curing and repairing the masonry work.
 - 9.8.1.4 All joint reinforcing bars, reinforcing anchor bars and dovetails anchors.

9.8.2 Stone Masonry

9.8.2.1 Measurement

Measurement of acceptably completed works of stone masonry will be made on the basis of number of cubic feet provided & installed in position as shown on the Drawing or as directed by the Engineer.

9.8.2.2 Payment

Payment will be made for acceptable measured quantity of stone masonry on the basis of unit rate per cubic feet quoted in the Bills of Quantities and shall constitute full compensation for all the works related to the item.

10. FLOORING

10.1 Scope of Work

The work under this section of the Specification consists of furnishing all plant, labour, equipment, appliances, materials, and performing all operation in connection with the installation of cement concrete floors and for finishes including marble topping, bases and skirting complete in strict accordance with this section of the specifications and the applicable drawings and subject to the terms and conditions of the Contract. The scope of this section of specifications is covered with detailed specifications as laid down herein.

10.2 Materials

10.2.1 Specifications for the materials (cement, sand coarse aggregates, water) shall conform to the relevant sections under "Plain & Reinforced Concrete" (section 5.2).

10.2.2 Specifications for nominal concrete mixes (PCC 1:2:4 & PCC 1:4:8) shall conform to the relevant sections under "Plain & Reinforced Concrete" (section 5.3)

10.2.3 Marble (Badal type) 3/4" thick & 12" x 12" size.

10.3 Cement Concrete Floor/ Marble topping

10.3.1 The base shall consist of 4 inches thick layer of sand and 4 inches thick brick ballast respectively, laid over thoroughly compacted natural ground surface. A layer of 4 inches thick PCC 1:4:8 shall be laid in panels of the sizes as indicated on the drawings and approved by the Engineer.

After the cement concrete bed has been cured, as directed by the Engineer, it shall be roughened and well watered before floor finishing is laid. The floor finishing shall comprise of 2 inches thick PCC 1:2:4 laid in panels as shown in drawings and as directed by the Engineer. After laying concrete, it shall be thoroughly rammed and mortar worked up to the top and smoothed with a steel trowel.

For floors with marble topping, the 2 in PCC 1:2:4 layers is replaced with 3/4" thick marble tiles laid in 1:1 Rich CS Mortar.

Freshly placed concrete floor and completed portions of the floor as finished shall be protected to prevent the loss of water by damp sand and shall be kept constantly damp for a period of ten days or longer as directed by the Engineer. The concrete shall be allowed to dry out slowly over a period of four days after wet curing is completed.

10.4 Measurement and Payment

10.4.1 Measurement of acceptably completed works of cement concrete floor finished with steel trowel will be made on the basis of net actual area in square feet laid in position as shown on the drawings or as directed by the Engineer.

10.4.2 Payment will be made for acceptable measured quantity of cement concrete floor with steel trowel finish on the basis of unit rate per square feet quoted in the Bills of Quantities and shall constitute full compensation for all the works related to the item.

11. WATER PROOFING OF ROOFS

11.1 Scope of Work

The work under this section of the Specifications consists of furnishing all plant, labour, equipment, appliances and materials and in performing all operations in connection with installation of insulation, water-proofing and built-up roofing, including water proof treatment to foundations and basement structures complete in strict accordance with this section of the specifications and the applicable drawings and subject to the terms and conditions of the Contract.

11.2 Materials

11.2.1 Bitumen 10/20 grade shall be according to BSS.

11.2.2 Polyethylene building visqueen film standard or approved equal. The film shall be 250 micron thick (100 gauge).

11.2.3 Cement and aggregates shall be in accordance with specifications of "Plain and reinforced concrete".

11.2.4 Tiles shall be in accordance with the specifications for "Brick Masonry".

11.2.5 Pea gravel shall be stone chips or well-worn, washed river gravel and shall be clean dry opaque and ranging in size from 1/4" to 1/2" uniformly proportioned.

11.2.6 Puddled earth shall be composed of stiff clay to which an equal bulk of chopped rice husk/bhoosa (not less than 4" long) shall be added.

11.3 Preparatory Work

11.3.1 All scuppers and roof drains shall be placed and metal flashing flanges etc. shall be provided in time to be installed along with the roofing assembly.

11.3.2 All surfaces, to be treated shall be dust free and dry. Application of roof finishes shall not start unless the preparatory work has been inspected and approved by the Engineer.

11.4 Application of Roofing

11.4.1 Roofing shall not be applied during rain or while surfaces are damp, it shall be applied only to surfaces that are clean and dry.

11.4.2 Mopping of surface with bitumen shall be performed so that the surface shall be completely covered. Coats of bitumen shall be at the rate of 20 lb./100 square feet each coat. All bitumen shall be applied with mops except that the hot surfacing application shall be poured from a dipper.

11.4.3 Polyethylene sheet shall be laid in position wherever shown in drawings where joint is necessary at the side or end of the sheet, this shall be a double weld folded joint made by placing the edges together and folding over twice continuously taking the top edge prior to plastering or screening. The Contractor shall protect the sheets from damages during laying and subsequent operation and shall replace at his own cost all damaged sheets to the satisfaction of the Engineer.

11.4.4 The clay containing sand not more than 5 % shall be laid out in stacks not exceeding 12" in height and saturated with water and allow standing for not less than 3 days, water being added during this period to ensure complete saturation. The binding material (rice husk/bhoosa) shall then be added and the mixture well puddled and left for at least two days. It will then be thoroughly mixed to the required consistency of mortar. Then the mud plaster shall be laid to the required slope.

11.4.5 The burnt brick tiles of specified size and first class quality shall be laid wet, grouted and pointed flush in cement sand mortar 1:3. The top surface shall be smooth and accurately levelled in accordance with the specified slope. No broken or cracked tiles shall be used.

11.5 Water Proofing & Built Up Roofing

The water proofing treatment to reinforced cement concrete roof slabs shall be done in the following manner as indicated on the drawings or as directed by the Engineer.

Over Roof Terraces

- a) 2 coats of hot bitumen SIB 10/20 grade @ 20 lbs/100 sft. each coat shall be applied over R.C.C slab.
- b) One layer of polyethylene sheet shall be laid over bitumen coating.
- c) 4" thick average Puddled earth mixed with chopped rice husk/bhoosa shall be laid in slope as per the drawings.
- d) First class brick tiles 10" x 5" x 1-1/4" grouted and pointed in cement sand mortar 1:3.

11.6 Measurement and Payment

11.6.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bills of Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective items of the Bills of Quantities.

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|----------|--|
| 11.6.1.1 | All preparatory work, scrapping, scratching, clenching, cant strips, gravel strips, etc. |
| 11.6.1.2 | Formwork |
| 11.6.1.3 | Class 'C' cement reinforced concrete screed in roof treatment. |
| 11.6.1.4 | Coats of bitumen in roof treatment type I and type II. |
| 11.6.1.5 | Polyethylene sheet in roof treatment type I and type II. |
| 11.6.1.6 | Puddled earth mixed with chopped rice husk/bhoosa. |
| 11.6.1.7 | Pea size gravel. |

11.6.2 Water Proofing & Built-Up Roofing over Terraces

11.6.2.1 Measurement

Measurement of acceptably completed works of water proofing & built-up roofing over terraces will be made on the basis of net actual area in square feet as shown on the Drawings or as directed by the Engineer.

11.6.2.2 Payment

Payment will be made of acceptable measured quantity of water proofing & built-up roofing over Terraces on the basis of unit rate per square feet quoted in the Bills of Quantities and shall constitute full compensation for all the works related to the item.

12. PLASTERING AND POINTING

12.1 Scope of Work

The work under this section of the Specifications consists of furnishing all plant, labour, equipment, appliances, and materials and in performing all operations in connection with providing and installing of cement plaster, and specified external rendering complete in strict accordance with this section of the Specifications and the applicable drawings and subject to the terms and conditions of the Contract. The scope of this section of Specification is covered with detailed Specifications as laid down herein.

12.2 Material

- 12.2.1 Cement for plaster shall be Ordinary Portland Cement (BS 12 or PS 232) and shall conform to requirements specified in the section "Plain and Reinforced Concrete".
- 12.2.2 Sand for plaster shall comply with the requirements as specified in of BS 1199, BS 1200 or the draft Pakistan Standard "Sand for Plaster" as directed by the Engineer.
- 12.2.3 Water for plaster shall conform to requirements specified in the section for "plain and reinforced concrete".

12.3 Proportion and Mixing

- 12.3.1 Measurement of materials by volume shall be by containers of known capacity to maintain consistent proportions. No lumpy or caked material shall be used. Mixing equipment's boxes and tools shall be clean. Materials shall be proportioned as specified on the Drawings, in the Bill of Quantities or as directed by the Engineer. Mixing shall be continuous until all ingredients are evenly distributed and thoroughly mixed.
- 12.3.2 Only limited water shall be added for proper workability and such quantity of mortar shall be prepared which can be consumed in thirty minutes after preparation. Preparation of mortar in bulk quantity for use during the entire day or for any other time more than that stipulated above is expressly prohibited. Re-tempering shall not be permitted and all mortar that has begun to stiffen shall be discarded.
- 12.3.3 Plaster ingredients shall be thoroughly mixed either by mechanical mixer as directed by the Engineer or by hand on a clean platform using 10 % extra cement.

12.4 Preparation of Surface for Plastering

- 12.4.1 Concrete surface to be plastered shall be cleaned to remove all grease, form oil and other surface impurities that will otherwise adversely affect the adhesion of plaster to the surface concerned. The surface of concrete ceilings, beams and columns shall be lightly hacked by approved means to give the required key for plastering.
- 12.4.2 All masonry surfaces to be plastered shall be cleaned to remove all matter that will otherwise adversely affect the adhesion of plaster to the surface concerned. The surface shall be washed with clean water and kept damp for 24 hours before further treatment.

12.5 Application of Plaster

- 12.5.1 The plaster of thickness less than the specified thickness shall be rejected. If the plaster is to be more than 1/2" thick, it shall be done in two coats. The surface of first coat shall be made rough before the second coat is applied. The plaster shall not have wavy surface and shall be perfectly in plumb. The edges and corners shall represent a straight line. The plaster shall be kept wet continuously for at least ten (10) days. No extra payment shall be allowed for jambs, junctions, corners, edges, round surfaces or for more than one layer of plaster required due to any unevenness in the work done by the Contractor. The plasterwork is to cover all conduits, pipes etc., fixed in the walls and

ceiling. The plaster surface shall be tested frequently with a 10 feet straight edge and plumb bob.

- 12.5.2 Plaster containing cracks, blisters, pits, discoloration or any defects shall not be acceptable. Any such plaster or loose plaster shall be removed and replaced with plaster in conformity with these specifications and as additionally directed by the Engineer.

Contractor shall cut out and patch all defective work at his own cost. All damaged plaster shall be patched as directed by the Engineer. Patching plaster shall match appearance of and shall be finished level with adjoining plaster.

12.6 **Struck Pointing**

Where shown on the drawing the exterior faces of the walls shall be finished by struck pointing the joints in 1:3 cement sand mortar. The green mortar shall be deep raked after the brickwork has been laid. 1:3 cement sand mortar shall then be applied within the exposed joints. The joints shall then be struck with the help of a pointing tool to form a groove 3/8"x1/4" deep. Care shall be taken that the striking tools do not develop a cutting-edge as the object of striking the joint is to compress the mortar into the joints.

The exposed faces of all brick masonry shall be thoroughly cleaned and left bare with struck joints as specified above.

12.7 **Tolerances**

Surface at plaster work shall be finished with a true plane to correct line and level with all angle and corners to a right angle unless otherwise specified and with walls and reveals plumb and square. Maximum permitted tolerances shall not exceed 1/8" in 6 feet variation from plumb or level in any exposed line or surface and 1/16" variation between planes of abutting edges or ends.

12.8 **Measurement and Payment**

12.8.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bill of Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective item of the Bill of Quantities.

- 12.8.1.1 Joints, junctions, corners, beads, drip course edge, and rounding.
- 12.8.1.2 More than one layer due to any unevenness in the finished works
- 12.8.1.3 Cutting & patching of all defective works.
- 12.8.1.4 Surface preparation, cleaning and protection as specified.
- 12.9.1.5 1:3 cement sand mortar for struck pointing.

12.8.2 Plain Plaster

12.8.2.1 Measurement

Deductions shall not be made for ends of joints, beam posts, etc., and openings not exceeding 5 square feet each and no addition shall be made for reveals, jambs, soffits, sills, etc. of these openings nor for finishing the plaster around ends of joints, beams posts, etc.

In case of opening to area exceeding 5 square feet each, deduction shall be made of the openings and also no addition shall be made for reveals jambs soffits, sills, etc. of these openings.

Measurement of acceptably completed works of plaster will be made on the basis of number of square feet of the surface area plaster as shown on the drawings, or as directed by the Engineer.

12.8.2.2 Payment

Payment will be made for acceptable measured quantity of plaster on the basis of unit rate per square feet quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item.

12.8.3 Struck Pointing

12.8.3.1 Measurement

Measurement of acceptably completed work of struck pointing will be made on the basis of number of square feet of the surface area struck pointed as shown on the Drawings, or as directed by the Engineer.

12.8.3.2 Payment

Payment will be made for acceptable measured quantity of struck pointing on the basis of unit rate per square feet quoted in the Bill of Quantities and shall constitute full compensation of all the Works related to the item.

13. PAINTING WORK

13.1 Scope of Work

The work under this section of the Specifications consists of furnishing all materials, plant, labour, equipment, appliances and performing all operations in connection with surface preparation, mixing, painting concrete work, gates, frames, walls, ceilings and all such surfaces as shown on the Drawings and/or as directed by the Engineer. The scope of this section of specification is covered with detailed specifications as laid down herein.

13.2 Materials

All Paints shall be of ICI Dulux Pak Ltd. or approved equivalent.
All paints shall be of freshly manufactured batches.

13.3 Samples

Samples of each type of paint & primer etc. along with manufactures technical literature, instructions & shade card shall be submitted to the Engineer for approval.

13.4 Preparation of Surface

13.4.1 General

Hardware accessories, plates lighting fixtures and similar items shall be removed/protected prior to painting operation. All surfaces to be painted shall be clean, smooth & dry.

13.4.2 Concrete & Plastered Surfaces

Plaster shall be at least one month old and shall be thoroughly dry and clean. Cracks and holes shall be repaired with patching plaster with approved epoxy bonding compound and treated with Berger make Plastron.

13.4.3 Metal Work

All metal work shall be coated with primer (red oxide paint) at shop. Metal work to be painted shall be clean and free from corrosion. All rust shall be removed by sand blasting or by chipping and wire brushing.

13.5 Application of Paints

All the work shall be done in a workman like manner, with no drips, ridges, waves, laps & brush marks on the finished work. Sufficient time shall be allowed between coats to ensure proper drying. Paints shall be thoroughly stirred and kept at a uniform consistency during application.

13.6 Internal Finish of concrete/plaster

13.6.1 All surfaces shall be prepared as in sub-Section-13.5

13.6.2 Irregular surface shall be made smooth by rubbing or grinding & applying proper putty.

13.6.3 Three coats of white wash shall be applied.

13.7 External Finish of Brick Work

13.7.1 No external paint/white wash is required. Instead external brickwork will be pointed. Color wash/red oxide shall be applied on pointed brickwork.

13.8 Painting of Steel Ventilator, Windows and Fly Screen panels (Enamel Paint)

All operations as 13.6 above

13.9 **Cleaning**

Upon completion of all work, all staging, scaffolding and containers shall be removed from site. Paint spots, oils or stains on adjacent surfaces shall be removed, the entire job left clean & acceptable.

13.10 **Measurement and Payment**

Painting work shall be measured and paid only where included in Bill of Quantities as separate pay item and not otherwise. In case of it being a pay item, it shall be measured in square feet of painted surface.

14. DOORS, WINDOWS, VENTILATORS, GRILL & WIRE GAUZE PANELS

14.1 Materials

- 14.1.1 Heavy duty Steel Z-Section/Box section (For Door Jambs) shall be of the sizes and gauge as shown in drawing or BOQ and shall conform to ASTM A-36 with minimum yield strength of 36000 Psi.
- 14.1.2 Aluminum pipe sections for windows and vents, tensile strength 240Mpa, Elongation 12% in 50mm, Brinell Harness No. 75-80 & as specified in relevant sections of International Wrought Aluminum Association.
- 14.1.3 Deodar wood door frame with 1" thick MDF panels.

14.2 Fabrication and Installation

- 14.2.1 Structural Steel work shall be fabricated and assembled in the shop.
- 14.2.2 Contractor shall be responsible for fitting of members as shown on the drawing.
- 14.2.3 All holes/voids shall be accurately located. Holes/voids shall be drilled and shall not be made or enlarged by burning either in the fabrication shop or in the field.
- 14.2.4 All connections, unless otherwise shown on the drawings, shall be made by welding. The welding shall be executed by duly qualified welders. Full width and depth of the joint shall be welded and grinded smooth.
- 14.2.5 Finished windows and ventilators shall be painted. After removing rust, shop primer coat shall be applied. Further 3 coats of approved enamel paint shall be applied.
- 14.2.6 Windows and ventilators shall be erected in prepared opening in accordance with the relevant drawings/details. They shall be set in plumb and properly aligned and securely anchored.

14.3 Glazing

- 14.3.1 All windows and ventilators shall be provided with best quality 5-mm thick clear glass, fixed with Putty/aluminum/ steel beading.

14.4 Steel Grills

Steel grills of approved design shall be of 1/2" M.S Square bars or 1/8" thick flat iron of width shown in drawings or described in BOQ. Full joints will be welded and grinded smooth. Grills shall be painted with one primer coat and 3 coats of approved enamel paint.

14.5 Wire Gauze Panels (applies only to toilets)

Operable wire gauze panels shall be manufactured with steel Z-Sections/Box sections of sizes described in the drawings or in BOQ. Wire gauze shall be heavy duty GI netting 18x16 type (18 No. Wire with 16 squares per inch). Steel members shall be painted as for windows.

14.6 Measurement

Measurement of acceptably completed works of all types of doors will be made on the basis of net actual area in square feet fabricated and installed in position as shown on the Drawings or as directed by the Engineer.

14.7 Payment

Payment will be made for acceptable measured quantity of all types of doors on the basis of unit rate per square feet quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item.

15. FALSE CEILING

15.1 Scope of work

The work under this section of the specifications, consists of furnishing all plant, labour, equipment, appliances and materials and in performing all operations in connection with providing and installing different types of false ceiling including suspension system complete, in strict accordance with this section of the specifications and the applicable drawings and subject to the terms and conditions of the Contract.

15.2 General

False ceiling shall be installed wherever indicated on the drawings by skilled technicians experienced in this type of work.

15.3 Material

15.3.1 Gypsum board

The Gypsum board with top polyvinyl having size 2' x 2' of approved manufacturer shall be used.

The surface pattern shall be textured, with a dimension of 2 feet x 2 feet (O.C) and a thickness of at least 3/8". All four edges shall be revealed to be installed by an approved recessed suspensions system, strictly in accordance with the approved shop drawings, manufacturer's recommendations or instructions of the Engineer.

15.3.2 Suspension System

15.3.2.1 Material Gypsum board /Aluminium False Ceiling.

The suspension system shall be in accordance with the recommendations of the approved false ceiling manufacturer and approved shop drawings, consisting of anodized aluminium universal approved channel/main T/Cross-T Bars, wall mouldings/edge items, hold down/adjustment clips, galvanized hanger strips with adjustment clips, etc.

15.3.2.2 No materials shall be procured prior to approval of shop drawings and details.

15.3.2.3 The Contractor shall incorporate the required access panels of false ceiling in shop drawings.

15.4 Product delivery, storage and handling

15.4.1 Material shall be delivered in original, unopened, protective packaging, with manufacturer's labels indicating brand name pattern, size, thickness and fire rating.

15.4.2 Material shall be stored in original protective packaging to prevent soiling, physical damage or wetting.

15.4.3 Cartons shall be stored in the installation area, opened at each end to stabilize moisture content and temperature, for 48 hours prior to installation.

15.5 Jobsite conditions

15.5.1 Work which will be concealed by false ceilings shall be completed, tested, inspected and accepted before ceiling work is started.

15.5.2 False Ceiling installation shall not begin until the area has been closed in, and temperature and humidity approximate acceptance conditions. Wet work shall be cured and dry before ceiling work is started.

15.5.3 Surface which will support the ceilings, and those to which the ceiling abut, shall be inspected and accepted for completeness adequacy to receive the ceilings before the work begins.

15.6 Installation and workmanship

False ceiling suspension system and panels shall be installed in accordance with the requirements of BSI-CP.290 and with the manufacturer's recommendations as approved by the Engineer.

15.6.1 Suspension System

The hangers as specified shall be evenly disposed as per drawings. Details and place and position as indicated. The suspension system should be installed by making holes directly in the roof and shall be made good as directed by the Engineer. Their lengths clear of roofing slab shall be as per shop drawings details.

The framing of the specified section and run at spacing as per shop drawings. The jointing of runners to hangers shall be as per approved shop drawing details. The extra framing if required shall be provided for light receptacles as per approved shop drawing details.

Wall hangers shall be positively and rigidly connected to the structure and to cross runners.

cross runners of steel angles, channels clips or other devices as approved by the Engineer.

1/2" thick cement sand plaster in the mortar ratio of 1:4 shall be applied smooth over metal lath to completely both internal and external surfaces of the metal lath.

Ceiling shall be applied with two coats of approved paint and finished fine, smooth to the acceptance of the Engineer.

15.7 Fixtures

Light fixtures shall be installed as per approved pattern and supported in accordance with manufacturer's recommendations.

15.8 Finishing

After installation, dirty, soiled or discoloured surfaces shall be cleaned and left free from defects and ready to receive any painted finish if required.

The panels which are damaged or improperly installed shall be removed and replace by the Contractor at his cost.

15.9 Measurement and payment

15.9.1 General

Except otherwise specified herein or elsewhere in the Contract Documents, no measurement and payment will be made of the under mentioned specified works related to the relevant items of the Bill of Quantities. The cost there shall be deemed to have been included in the quoted unit rate of the respective item of the Bill of Quantities.

15.9.1.1 Anodized aluminium approved suspension system including main channels, main tee/cross tee bars, wall moulding and edge trims, hanger strips and accessories, hold down clips, mineral fibre board/Aluminium acoustic strips etc. complete of acoustic mineral fibre board/aluminium acoustic lineal strip false ceiling.

15.9.1.2 Metal suspension system including MS angles tube matt pipes, corner plaster stoppers, vent screens, corner heads, metal lath of interior/exterior ceilings and so fits and C.S. Plaster etc.

15.9.2 Measurement

Measurement of acceptably completed works of respective types of false ceiling will be made on the basis of net actual area in square feet of false ceiling provided and installed in position as shown on the Drawings or as directed by the Engineer.

15.9.3 Payment

Payment will be made of acceptable measured quantity of respective type of false ceiling on the basis of unit rate per square feet quoted in the Bills of Quantities and shall constitute full compensation for all the works related to the item.

16. STRUCTURAL STEEL WORKS FOR ROOF TRUSSES

16.1 Scope of Work

The work covered under this section consists of supply of all materials, labor, plant, equipment and appliances including welding, bolts, nuts, washers, anchor bolts, embedded parts etc., fabrication, erection & painting in accordance with the specifications and as per drawings, and as directed by the Engineer.

16.2 Material

Except otherwise stated in the drawings the structural steel shall conform to the requirements of ASTM A-36, however, whenever necessary the contractor may use equivalent alternative material subject to approval of the Engineer.

16.3 Fabrication and Installation

The contractor shall notify the engineer about any problems or doubts/errors discovered in the drawings for clarification/rectification well in time to prevent any fabrication & installation errors. Fabrication & installation shall not be commenced until approval has been obtained from the Engineer.

Welding shall be continuous along entire line of contact. Expose welds shall be grinded & smoothed.

Bolting where specified shall be done with proper sized bolts. Nuts shall be drawn tight & thread nicked.

All structural steel members shall receive one coat rust proof metal primer (red lead oxide) & two coats of finish painting with enamel paint for which no separate payment shall be made to the contractor.

16.4 Measurement

Measurement for acceptably completed works of steel trusses will be made on the basis of number of tonnes & unit rates shall be full compensation for all work described under this section including welding, welding rods, nuts, bolts, screws, cutting & shaping to size, all paint materials & painting. No separate payment shall be made for false work, any unspecified work done in fabricating workshops or yards or other erection expenses.

16.5 Payment

Payment for measured quantity will be made at unit rate per Tonne quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item.

17. Corrugated Galvanized Iron (C.G.I.) Sheet Roofing

17.1 Scope of Work

The work covered by this section consist of supply of all materials, labour, plant equipment & appliances including bolts, nuts, washer, cleat & purlins fabrication & painting in accordance with the specification & as per drawings & as directed by the Engineer.

17.2 Material

Except otherwise stated in the drawings, best quality standard size 22 SWG CGI sheet shall be used. It shall be ensured that the galvanizing is intact & has not been damaged or rubbed off.

17.3 Fixing & laying

The sheets shall be laid with a minimum lap of 6” at the ends and of 2 corrugations at the sides. Sheets shall be fixed to the purlin or other roof members as mentioned in the drawings. There shall be a minimum of three hook bolts placed at the ridges of corrugation in each sheet on every purlin & their spacing shall not exceed 1 foot. Top surface of purlin should be painted before sheets are fixed. Holes in the CGI sheets should be drilled & not punched in the ridges of the corrugation and should be made on the ground. The holes in the washers shall be of the exact diameter of the hook bolts or seam bolts. The nut shall be tightened from above. Three coats of approved enamel paint shall be applied on the surface of the CGI sheet.

17.4 Measurement

Measurement for acceptably completed works of CGI roof covering will be made on the basis of net actual area in Square Feet fixed & installed in position, which includes the cost of paint, sheet overlapping, hooks, bolts, rivets, welds, etc as shown in the drawings or as directed by the Engineer.

17.5 Payment

Payment for measured quantity will be made at unit rate per Square Feet quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item.

PART II

WATER SUPPLY AND SANITATION WORKS

1. PLUMBING FIXTURES

1.1 Scope

The work under this section of specification consist of providing all material & labor for supply & proper installation of plumbing fixtures of water closet, wash basin, taps, cocks, glazed earthen wares, alongwith all their accessories, complete in all respect as specified herein or as shown on the drawings &/or as directed by the Engineer.

1.2 Materials and Installations

- 1.2.1 Materials shall conform to the latest referenced standard specifications & other provisions stipulated herein & shall be new & unused.
- 1.2.2 All fixtures shall be of best quality & finish & shall be approved locally manufactured.
- 1.2.3 All taps & cocks to be installed with plumbing fixtures shall be chrome plated (CP) & shall be of appropriate class to work without damage or leakage on the specified pressure of 128 psi. The taps & cocks shall be of the best quality locally manufactured.
- 1.2.4 When practical, all pipes from fixtures shall be run to the nearest wall. Where fixtures come in contact with wall floors, the joint shall be watertight.
- 1.2.5 Wall hung fixtures shall be rigidly supported by metal supporting members so that no strain is transmitted to the connections & shall be secured by approved non-corrosive screw or bolts
- 1.2.6 Fixtures shall be set level and in proper alignment with reference to the adjacent walls. The supply lines or fittings for every plumbing fixture shall be installed as to prevent back flow.
All cuttings, making holes etc & making it good shall be included in the work.

1.3 Water Closet (Orrissa)

Squatting/ European type water closet shall be of vitreous china, best quality of white color manufactured by Karam Cera, Three Star, Victory or equal or as acceptable to the Engineer. It shall be installed as complete unit including ½" chromium plated stop cock, approved water inlet connection pipe, cast iron P-traps, joints, jointing and sealing material etc. with all other minor accessories.

1.4 Wash Basin

Wash Basin White in color of 55cm in size with pedestal, vitreous china best quality, manufactured by Karam Cera, Three Star, Victory or as approved by the Engineer. It shall be installed as a complete unit with ½" chromium plated stopcocks, CP brass chain including 32mm rubber plug, CP brass strainer, heavy cast iron brackets with bolts, approved plastic water inlet connection pipe, .CP waste pipe, joints, jointing & sealing material etc. including all other minor accessories required to complete the job in all respect.

1.5 Glazed Earthenware

These shall be of best & approved quality & water seal shall not be less than 50mm, manufactured by Three Star or equal or as acceptable to the Engineer.

1.6 Floor Trap

These shall be of cast iron or of other anti-corrosive metal. They shall be provided with removable stainless steel strainers. The traps shall be self-cleaning type. Floor traps shall be well set in position so that there is no leakage at the joints between trap & the floor. They shall have water seal of 50 mm.

1.7 **Taps & Cocks**

All taps and cocks shall be of brass or gunmetal, chromium plated, heavy duty, and best quality locally made as approved by the Engineer. Washers for water cocks shall be best quality leather, rubber asbestos or other equally suitable material. These shall be manufactured by Three Star, Crown, Mehran or equal as acceptable to the Engineer.

1.8 **Flush Tank**

The flushing Cistern shall be of plastic body, of 3 gallons capacity manufactured by Golden or equal or as acceptable to the Engineer.

1.9 **Measurement**

Measurement for wash basin, water closet, glazed earthenware, floor traps, taps & cocks, flushing tanks shall be made as per actual number provided & installed. The contractor's bid against these items shall include supply & installation of complete unit as specified herein, inclusive of all work from inlet connection of water supply to outlet connection with the sanitary system complete as per drawings

1.10 **Payment**

Payment for wash basins, water closet, glazed earthenware, floor traps, taps & cocks, flushing tanks shall be at the applicable unit price per number bid for the respective item in the Bill of Quantities. The bid amount shall be full payment for the works specified herein & as shown on the drawings

2. CAST IRON SOIL, WASTE, VENT, RAIN-WATER, DRAINAGE PIPES AND PIPE FITTINGS

2.1 Scope

The work under this section of the specifications consists of providing all plants, equipment, appliances, material & labor for supply & proper installation of soil, waste & vent pipes & pipe fittings including, clamping, cleaning, painting etc., as shown on the drawings or as specified herein.

2.2 Materials

Cast Iron/ Dadex soil pipe, waste pipe & fittings should be of best quality. The CI pipes shall be centrifugal (SUNP) cast. The joints shall be Lead/ fused or elastomeric (Rubber Ring) caulked. The packing material shall be pure jute. Cast iron pipe shall be CME manufactured or equivalent or as approved by the Engineer.

2.3 Installation

All cast iron pipes & fittings shall be installed to the lines & grades shown on the drawings or as directed by the Engineer. No piping shall be hung from the piping of other system. All steel clamps shall be given one coat of red oxide primer & two coats of synthetic enamel paint. All exposed CI soil/vent pipes shall be given two coats of synthetic enamel paint. Caulked joints for cast iron bell shall be firmly packed with jute & filled with molten lead not less than 25 mm (1") deep. All vent pipes to be installed in the system shall be provided with approved cowl & shall rise at least 2'-6" above the roof.

The contractor under water head test shall test the entire system of drains, waste & vent piping inside the building.

2.4 Measurement

Measurement for acceptably completed works of supply & installation of CI/ Dadex pipes will be in running feet and the work to be done shall include pipe fitting, jointing, cutting & breaking concrete and then making it good, applying protective painting, coating, cleaning & testing.

2.5 Payment

Payment will be made at the unit rate of bid per running feet length of pipe supplied & installed.

3. GALVANIZED IRON PIPES AND PIPE FITTINGS

3.1 Scope

The work under this section of the specifications consists of providing all plants, equipment, appliances, material & labor for proper supply & installation of G.I pipes & pipe fittings for water supply, both above, ground & underground & embedded in walls as shown on the drawings or as specified herein.

3.2 Material

The galvanized pipe shall be of medium grade & conform to BSS 1387 manufactured by KMP, ILL or equivalent or as approved by Engineer.

3.3 Installation

The run and arrangement of all pipes shall be as shown on the drawings and as directed during the installation. All vertical pipes shall be erected plumb & shall parallel to wall & other pipes. All horizontal runs of piping shall be kept close to the wall. Screwed joints in G.I pipes shall be made perfectly tight with approved jointing compound or tape. All water distribution system shall be pressure tested. The contractor shall pay for all devices, material, supplies, labor & power required for the test.

3.4 Measurement

Measurement for acceptably completed works of supply & installation of G.I water pipes shall be in running feet length. No measurement shall be made for earthworks, pipe fittings, jointing, hangers, and clamps, cutting & breaking of concrete/masonry & then making it good.

3.5 Payment

Payment for measured quantities will be made at unit rate per Running Foot length of GI water pipes quoted in the bill of quantities

4. REINFORCED CEMENT CONCRETE PIPES

4.1 Scope

The work under this section of the specifications consists of providing all plants, equipment, appliances, material & labor for proper supply & installation of under ground RCC pipes for sewerage & waste water disposal as shown on the drawings or as specified herein.

4.2 Material

RCC pipes shall be best quality, having 1:2:4 cement, sand & aggregate ratio & reinforcement cage according to prevailing RCC pipes standards.

4.3 Laying of RCC Pipes

Pipes & accessories shall be carefully examined before being laid & defective/damaged pipes shall not be used. The bottom of the trench shall be shaped to give substantially uniform circumferential support to the lower fourth of each pipe. Each pipe shall be laid true to line & grade & in such manner as to form close joint with the adjoining pipe. For RCC pipes the cement-sand mortar to be used on joints shall be of 1:1 ratio or as per plans. Trenches shall be kept free from water until the pipe jointing material has set.

Test shall be applied before the pipes are hunched with concrete or covered after back filling of the trench. Water test shall be carried out in drainage lines of RCC. Water should be added until absorption by pipes & joints has ceased. A slight amount of uniform sweating may be over looked but excessive sweating in a particular part or joint shall be taken as defect.

4.4 Measurement

All pipe work shall be measured in Running Feet of finished length. No wastage or length consumed in joints shall be measured for payment. Sockets, spigots & RCC collars shall not be measured separately.

4.5 Payment

Payment will be made at the quoted unit rate per Running Feet length of pipe supplied and installed. The amount quoted in the bid shall be full payment for the work specified herein.

5. CONSTRUCTION OF MANHOLE

5.1 Scope

The work consists of constructing manhole for sewerage at positions shown on the plans or where otherwise directed by the Engineer.

5.2 Material

Brick masonry, cement, concrete & other materials shall meet the specified requirements of the relevant sections of specifications.

5.3 Construction Requirements

Manholes shall be constructed with brick masonry of specified wall thickness laid in 1:4 cement-sand mortar built in concrete slab. The cover slab shall be of RCC 1:2:4 fitted with heavy-duty CI frame with CI cover. The internal walls of the manhole should be plastered in CSM 1:4. Benching and channels in PCC 1:2:4 shall be provided at the bottom of the manhole & mild steel steps should be provided as shown in the drawings.

5.4 Measurements

Measurements shall be made for the actual number of manholes as shown in Bill of Quantities

5.5 Payment

The unit rate quoted in the priced bill of quantities for the construction of man hole shall be considered as full compensation for the cost of all materials including frame-work & concrete, brick masonry, excavation, back filling, steps, frame including all the labor involved as per drawings, specifications & direction of the Engineer Incharge.

PART III
ELECTRICAL WORKS

1 EXTERNAL ELECTRIFICATION

1.1 General Instructions

- 1.1.1 The electrification work shall be carried out by licensed workmen authorized to undertake such work under the provisions of the Electricity Act, 1910 and the Pakistan Electricity Rules 1937.
- 1.1.2 The installation in general, shall be carried out in conformity with the Pakistan Electricity Rules, 1937 and the latest edition of the Regulations for the Electrical Equipment of Buildings by the Institution of electrical Engineers, London (I.E.E.). However, in case of conflict between these, the specification as detailed herein shall be followed.
- 1.1.3 The Contractor shall be responsible for submitting the test certificates and getting the installation passed by the Electric inspector, Government of NWFP. Any special requirements of the local Electric Supply Company shall be complied with.
- 1.1.4 The Contractor shall set out the work himself and if any discrepancy is found, he shall report the matter to the Engineer and shall act as directed. If any the Contractor on his own carries out defective or modified setting, he shall rectify or make it good at his own cost.
- 1.1.5 The Contractor shall keep pace with the work of the civil contractor and any other specialist contractor. The Engineer shall be kept informed about the program and the progress of the work so that there is no hindrance in the progress of work at site.
- 1.1.6 The Contractor shall take care not to damage the structure during execution of work. If so done he shall repair and make good all losses at his own cost.
- 1.1.7 The Contractor shall furnish all materials and equipment at site, required for completion of the job conforming fully to the specifications given herein and to the accepted standards and generally accepted practice and must comply with the standards listed in these specifications under a separate heading "standards".
- 1.1.8 It is not the intent of these Specifications to include all details of design and construction of each and every material and equipment to be supplied under this Contract. All materials and equipment supplied by the Contractor shall be new engineering design and workmanship; performance and function as herein specified and fully meet the quality level and ruggedness requirements. The Contractor shall supply and install all materials and equipment specified herein and also all installation and small materials, such as nuts, bolts, washers, shims, angles, leveling material, insulation tape, lugs, and all such other materials whether specified herein or otherwise required for complete installation as intended by the Specifications.

1.2 Scope of Work

Following shall be the scope of work as covered under this contract.

- 1.2.1 Providing & Installing HT VCB switching Panel consisting of one incoming and two outgoing VCB Panels
- 1.2.2 HT Cable Work complete with Underground Cable Ducts.
- 1.2.3 Kiosk type Sub Stations with Loop Feed.
- 1.2.4 LV Cable Work
- 1.2.5 MV Switching Station & Sub station Earthing.
- 1.2.6 LV Cable Work, ductwork and Area Lighting

The latest relevant Pakistan Standard Specifications shall be followed. The British Standards Specifications and Codes, VDE, IEC recommendations & reports and I.E.E. recommendations shall be applicable and be followed for the equipment and installation specified herein provided these do not contradict the Pakistan Standard Specifications and Pakistan Electricity Rules and Act. In case of contradictions between these codes, standards and recommendations, Engineer's ruling will be final.

1.3 Climatic Conditions

All material and equipment supplied and installed shall be designed, manufactured, and tested to meet the following ambient conditions unless specifically stated otherwise for any material/equipment:

Maximum In-door Ambient Temperature	:	35 degree Celsius
Minimum In-door Ambient Temperature	:	0 degree Celsius
Maximum Out-door Ambient Temperature	:	40 degree Celsius
Minimum Out-door Ambient Temperature	:	- 10 degree Celsius
Maximum Relative Humidity	:	90%
Minimum Relative Humidity	:	10%
Maximum Altitude of the Project	:	1350 meters above mean sea level

1.4 Drawings and Data

The Contractor shall submit the Engineer four sets of Shop drawings that shall be prepared by the Contractor before commencing any installation work so as to avoid any hindrance and mistakes during the works. Such shop drawings shall be prepared on scale not greater than 1:75 and shall include all details of installation and co-ordination with other services as also the pertinent technical data. The Engineer's approval of shop drawings is necessary before the Contractor starts any work of installation. The approval of shop drawings shall not in any way relieve the Contractor from his responsibilities and guarantee under the contract.

For the equipment to be supplied by the Contractor, the Contractor shall submit the manufacturer's drawings for the approval of Engineer before commencing the manufacture or fabrication. Three sets of such drawings and data shall be submitted for obtaining the approval of the Engineer.

1.5 As-Built Drawings

Upon completion of work the Contractor is required to prepare the As-Built Drawings showing the actually installed, fitted position and location of all equipment, material and fixtures and submit to the Engineer for approval. Such drawings shall be in the form, size and scale equivalent to the

construction drawings issued by the Engineer before and during the Contractor's work. After approval of the As-Built drawings the Contractor shall submit 3 Nos. ammonia prints sets and one reproducible set of As-Built drawings to the Employer. The work of the Contractor shall not be considered completed unless approved "As-Built" drawings are received by the Employer duly checked and certified by the Engineer.

1.6 Installation Instructions

The Contractor shall provide all labor, installation materials, jigs, tools and instruments for complete installation, testing and commissioning of the entire electrical works specified herein and on drawing and Bills of Quantities. The installation instruction given herein may be supplemented by the Engineer's directions at site for general guidance for carrying out the work. The Contractor shall follow these instructions and where instructions are not available; generally accepted best practice shall be adopted under the guidance of the Engineer.

2 INTERNAL ELECTRIFICATION

2.1 General

- 2.1.1 Work shall be carried out by a licensed electrical Contractor or under the direct supervision of a licensed supervisor and shall conform to the 16th Edition of IEE Regulations of UK for electric installations, Electricity Rules-Electricity Act (as adopted by Pakistan), requirements of WAPDA, Electrical Inspector to the Govt. of Pakistan, Telecommunications Corporation, and to the entire satisfaction of the Engineer-in-Charge. The contractor shall be responsible to have the installation passed by the relevant authorities and obtain all necessary approvals without any extra cost to the department. Provisions given hereunder shall however take precedence if at variance. In case of any doubt, the decision given by the Engineer shall be final and conclusive.
- 2.1.2 Internal electrification work shall consist of (but shall not be limited to) providing all materials, labor, tools/plants and supporting services for the complete supply, installation, connecting up, testing and commissioning of the following: -
- 2.1.2.1 Wiring for Lights, Fans, and Socket Outlets.
 - 2.1.2.2 Light Fittings.
 - 2.1.2.3 Distribution Boards Complete with Breakers.
 - 2.1.2.4 Switches, Switch Sockets, Holders, Brackets
 - 2.1.2.5 Ceiling Fans
 - 2.1.2.6 Earth System (if new Distribution Board is provided.)
- 2.1.3 The Contractor, without any extra cost, shall provide all allied and small works/materials not mentioned in the BOQs/Drawings that are required to complete the installation.

2.2 Cables/Wires

- 2.2.1 All cables and wires shall be PVC insulated, PVC insulated/sheathed, and copper conductor conforming to latest BSS. Cable/wire selection shall be as shown on the drawings or as directed in writing by the Engineer-in-Charge according to the site requirement. All cables/wires for internal electrification works shall be of 450/750 volts grade. Specified conductor size shall be 3/0.029 (or 1.5 mm², if ordered by Engineer-in-Charge) for lighting, fans and sockets.
- 2.2.2 Loop-in wiring system shall be used and separate neutral conductor shall be run for each lighting/socket circuit. Following color code shall be used: -
- | | | |
|----|---------------------|----------------------|
| a. | Phases | Red - Yellow - Blue. |
| b. | Neutral | Black |
| c. | Single Phase wiring | Red |
- 2.2.3 In case of non-availability of Yellow or Blue color cables, arrangement shall be made in DBs & Junction boxes for proper identification mark for each phase at each end/terminal. PVC/PVC twin core flexible cords shall be used for connections to luminaries, ceiling/wall lights from the ceiling roses/outlet boxes, min. conductor size of flexible cord being 1.0 mm. sq.
- 2.2.4. Mounting heights of all wiring accessories, fixtures and fittings shall be as per drawings. In case this height is not mentioned for some fittings/fixtures, necessary instructions shall be obtained in writing from the Engineer-in-Charge. The contractor is not allowed to fix light fittings and other fixtures at his own.

- 2.2.5 Loose joints in cable runs shall not be allowed in any case. All cable runs shall be in single length and joints shall only be provided at loop in points or as directed by the Engineer-in-Charge.

2.3 PVC Conduit

- 2.3.1. PVC Conduit shall be installed concealed in roof, wall, column etc. At all joints, bends etc., PVC jointing solution as manufactured by Pakistan PVC LTD (or approved equivalent) shall be used to strengthen and seal the joints. Smooth bends shall be used. Bending of conduit by heating or otherwise including sharp 90 degrees bends and or tees shall not be allowed. The conduit shall have a minimum concrete cover of 38 mm. In RCC work the conduit shall be laid before pouring of concrete. Under no circumstances shall chases be made in RCC structures for concealing conduit and accessories. The conduit shall be supported on top of bottom reinforcement of slab and shall be firmly secured by tying to the reinforcement in order to avoid any displacement during pouring of concrete. All outlet boxes shall be firmly supported and installed in such a position that they finish flush with the soffit of the slab/beam.
- 2.3.2. Where conduits have to be concealed in cement concrete, concrete blocks or brick /stone masonry, chase shall be made with appropriate tools and shall not be made deeper than required. Conduit shall then be fixed firmly in the recess and covered with cement concrete mixture (1:1) with a cover of 32 mm. before plastering. Approval of route & sitting shall be obtained from the Engineer-in-Charge or a deputed engineer/supervisor, before starting chasing/cutting. Entire conduit system shall be laid and tested before wiring is carried out. Pull boxes and adaptable boxes shall be provided in conduit runs wherever required to facilitate Cable/Wire pulling operation.
- 2.3.3 Wherever the conduit lengths cross the expansion joint either along the slab or columns, suitable sleeve shall be provided so that the conduit passing therein neither develops cracks nor breaks down.
- 2.3.4 As far as possible only one phase shall be fed in switchboard for lighting/fans/sockets etc. In case it is unavoidable to feed more than one phase, the switchboards shall be divided into suitable compartments to avoid double phasing.

2.4 Switches

- 2.4.1 Switches for controlling light and fan points shall be single pole (one way/two way) rated for 5 amps, 250 volts a/c. The body of switches shall be made of Bakelite with white face plate suitable for flush mounting. The switches shall be piano type having silver tipped contacts and operate with snap action.
- 2.4.2 Watertight switches shall be rated for 5 amps, 250 volts a/c., shall have cast iron or steel body and cover with gasket. Conduit entry hole in the body shall have long threads to provide watertight fittings

2.5 Switch - Socket Units

- 2.5.1 Switch - socket units shall be 250 volts A/C 5 holes, rated for 5 amps for general use. Units shall be having white plastic faceplate and suitable for mounting on sheet steel box of appropriate dimensions. Sockets shall have shrouded line contacts such that the earth pin of plug is engaged to socket earth before making live contacts. Where specified, the socket units shall be of spring loaded shutter pattern.

2.6 Fans

- 2.6.1 Ceiling fans shall be capacitor type, of sweep indicated in the bills of quantities/drawings, suitable for operation on 250 volts 50 Hz, single phase AC with plus/minus 10 % tolerance.
- 2.6.2 These fans shall comply with BS 367 - 1241 and relevant PSI with respect to suspension, fan speed regulator, starting, radio interference, and temperature rise and air displacement.
- 2.6.3 Exhaust fans (if provided) shall be complete with half-closing louvers of approved specifications and shall comply with standards as laid down by Pakistan Standards Institute.
- 2.6.4 All ceiling fans shall be suspended by hook or clamps having double nuts with bolts. Size of the clamp rod shall not be less than 16 mm. Fan hooks in RCC work shall be installed in steel box of sufficient dimensions to allow free access by hand and tools. It shall be placed in position before the pouring of concrete. All joints in suspension rods shall be screwed tight and further secured by means of split pins. Fans shall be hung at the heights specified in drawings or as directed by Engineer-in-charge. All fans shall be controlled by a separate switch and regulator. The regulator shall be mounted with the switch and if concealed shall have the steps clearly indicated on the covering of the box.
- 2.6.5 Depending upon the frame of the exhaust fan (circular or square) the contractor shall make a hole in the wall at the specified location/level where the fan is to be installed. Foundation bolts shall then be grouted aligning the holes already provided in the body of the fan. Fan body shall be fastened to these bolts by means of nuts properly as per instructions of the manufacturer.

2.7 Lighting

- 2.7.1 General lighting shall be provided in all buildings. All lights shall be provided in locations marked on the drawings. Engineer-in-charge may however change the location before installation, through a written order.
- 2.7.2 Following type of lighting systems shall be adopted:
- | | | |
|----|---------------------------|-----------------------------|
| a. | Class Rooms/Wards/Offices | Fluorescent Tube Lights. |
| b. | Verandas | Fixed Ceiling Lights |
| c. | Stairs | Combination of a & b above. |

2.8 Mounting Heights

- 2.8.1 Following mounting heights in respect of luminaries, light fittings and fans etc. shall be followed:
- | | | |
|----|----------------|---|
| a. | Light Fittings | |
| | i. | Class Rooms/Wards/Offices 2.44 Meters or as ordered |
| | ii. | Stairs /Veranda Flush with roof soffit |
| b. | Fans | |
| | i. | Ceiling Fans 2.75 Meters. |
| | ii. | Bracket Fans 2.40 Meters or as directed by Engineer |
| | iii. | Exhaust Fans 2.40 Meters. |

Note: All dimensions are from finished floor level.

2.8.2 Mounting height of the convenient outlets (i.e. 5 or 15 amps socket outlets) shall be generally 225 to 300 mm from finished floor level or as shown on the drawings. This height can however be altered by the Engineer-in-Charge as a result of a particular requirement.

2.9 Light Fittings

2.9.1 Description of light fittings and their quantities have been shown on the drawings and in the relevant Bills of Quantities (BOQs).

2.9.2 All light fittings shall be finished in standard color schemes as given in manufacturers' catalogues/brochures. The contractor shall submit a sample of each type and obtain approval of the Engineer-in-Charge before purchasing the light.

2.9.3 Light fittings shall be designed for an ambient temperature of 45° C and for operation on 230 volts 50 Hz AC power supply suitable to sustain a voltage variation of plus/minus 10 % On the declared voltage. All fittings shall be factory wired using heat - resistant wires.

2.9.4 All light fittings using chokes shall be provided with power factor improvement capacitors suitable to maintain the power factor between 0.9 - 1.0.

2.10 Earthing

2.10.1 Earthing system shall consist of (but not limited to):

- a. Earth electrodes
- b. Earth continuity conductor
- c. Earthing leads
- d. Earth connecting points

It shall also include all other accessories to complete an effective earthing system.

2.11 Earth Electrodes

2.11.1 Earth electrodes shall be made of perforated G.I pipe and minimum diameter of pipe shall be 25 mm and shall not be less than 2.0 meters long.

2.11.2 Copper conductor from the Distribution Board shall be connected at the top by means of brass bolt/ nuts with washers on both ends.

2.11.3 A minimum of one earth electrode shall be provided for buildings where Distribution Board is to be provided.

2.11.4 A 300 mm. (12 inches) diameter hole shall be excavated in the ground at a minimum distance of 2 meters from nearest plinth protection and pipe electrode shall be erected vertically in the hole. A mixture of coke breeze and salt shall be packed around the pipe electrode up to a depth of 1 meter from ground level. The remaining portion of the hole shall be filled with sweet earth duly watered and rammed. Top end of the pipe shall be covered with a G.I socket and plug.

2.12. Earth Resistance

Earth resistance of the earth electrode system shall not exceed 4 ohms

2.13 Applicable Standards

- a. Steel Conduit & Fittings including boxes BS-31

b.	PVC insulated copper conductor cables (Un-sheathed) 450/750 volts grade	BS-6004
c.	Copper Strip	BS-4608
d.	Flexible cords with stranded copper Conductor, PVC insulated and PVC sheathed	BS-6500
e.	Fans - ceiling, bracket and exhaust	BS-3456 BS-5285 PSI-1991(R)
f.	Luminaries and Light fittings	BS-4533
g.	MCBs & MCCBs	BS-3871 BS-4752 BSEN-60947
h.	PVC conduit & conduit fittings for electric wiring	BS-6099

2.14 Tables

a. Table 1 Cable Capacities of PVC & steel conduits

S. No.	PVC insulated Cable Size	Conduit Size			
		One bends		Two bends	
		20 mm - 25mm		20 mm - 25 mm	
1	1.5 mm square	9	16	6	10
2	2.5 mm square	6	11	5	8
3	4.0 mm square	5	8	4	6
4	6.0 mm square	3	6	2	4

b. Table 2 Recommended Makes of Equipment, Cables, Luminaries and other Main Components/Fittings

Serial No	Description	Make
1	LV Electric cables, & cords	M/S Pakistan/ AGE/ New Age Cables
2	Electric Fittings like Ordinary Switches Switch-Sockets, Holders etc	M/S Busch M/S PPI
3	Ceiling/Bracket/Exhaust fans	Asia, Climax, Pak Fans
4	Light Fittings etc	M/S Philips, M/S FKS
5	Miniature Circuit Breakers (MCB)/ Molded /MCCBs	M/S Merlin Gerin France M/S Fuji Japan
6	Ordinary DBs	M/S Electromech Eng. Services M/S REM, M/S FICO
7	PVC conduit	M/S Pakistan PVC M/S GALCO

2.15 Tests

2.15.1 Installation after completion shall be tested for the following:

- a. Test for insulation resistance.
- b. Polarity test.
- c. Earth continuity
- d. Earth resistance test.
- e. Performance test.

2.15.2 The contractor shall arrange instruments required for these tests. Tests shall be carried out by the licensed supervisor of the contractor in the presence of an authorized representative of the Engineer-in-Charge.

2.15.3 Test results shall be recorded and signed by both the parties including the licensed supervisor of the contractor.

2.15.4 Installation shall only be accepted and taken over when all the test results are in accordance with the laid down rules/standards.

2.15.5 In case of any doubtful result, the contractor shall immediately attend to the affected installation to bring it to the desired standard. Any fitting/fixture and or cable etc. requiring replacement etc. shall have to be done by the contractor without extra charge.

BILL OF QUANTITIES (Vol -III)

SUMMARY OF COST

BILL OF QUANTITIES

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

S.N	SUB-HEAD	SCHEDULE ITEMS (Rs.)	NON-SCHEDULE ITEMS (Rs.)	TOTAL AMOUNT (Rs.)
1.	GYMNASIUM/ARENA BLOCK			
A.	Civil Works			
B.	Plumbing Work			
C.	Electrical Work			
D.	Fire Alarm			
2.	CLIMBING WALL			
	Civil Work			
3.	PUBLIC TOILET			
A.	Civil Work			
B.	Plumbing Work			
C.	Electrical Work			
4.	ROADS			
	Civil Work			
5.	CAR PARKING & PAVED AREA			
	Civil Work			
6.	TUBEWELL			
	Civil Work			
7.	OPEN DRAINS			
	Civil Work			
8.	SEPTIC TANK			
	Civil Work			
9.	MAIN HOLE			
	Civil Work			
10.	SEWERAGE LINE			
	Civil Work			
11.	EXTERNAL WATER SUPPLY			
	Civil Work+ Plumbing Work			
12.	EXTERNAL ELECTRIFICATION			
	External Electrification			
Total Amount				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
1. GYMNASIUM / ARENA BLOCK						
A. CIVIL WORKS						
SCHEDULE ITEMS						
1	103/10.	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	4,376.11	479.84	2,099,834.93
2	104/8.	Selectred/approved earthfill under floors in layers, earth brought from out side including transportation, ramming, watering, compacting, leveling and all necessary lead and lift, complete (Ref. Clause 1.3.13)	Cum	576.04	1,149.46	662,139.40
3	104/1.	Filling excavated earth available at site in foundation, plinth or under floor, etc. including breaking clods, dressing, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction complete within a lead of one chain (30.5 R.m) and lift of 5 feet (1.52m).	Cum	1,312.83	259.63	340,851.21
4	104/9.	Supplying stacking and filling sand of approved quality from outside sources in foundation, trenches, plinth or under floor, etc. including dressing, watering and consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction	Cum	2,346.06	1,719.80	4,034,761.82
5	102/15,21.	Disposal of surplus excavated stuff distinct from the materials and the rubbish acCumulated during construction upto one chain lead (average) and 5 feet (1.52 m) lift, levelling etc. complete.	Cum	667.07	483.19	322,321.55
6	124/199.	Providing and carrying out Termite Proofing in foundations, under floors and wood work surface with a solution using of confront TC with water and spraying the solution on the area to be treated, complete as per direction of the Engineer Incharge	Sqm	201.31	141.28	28,440.64



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount
7	105/14.	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	194.66	8,300.58	1,615,755.37
8	105/14.	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects. (Plinth Protection)	Cum	1,205.77	8,300.58	10,008,595.89
9	106/5.	providing and laying in situ 1:2:4 (1 cement, 2 sand & 4 coarse aggregate) cement concrete using screend graded bajri 3/4 inch (19mm) and down guage in foundation, basement and plinth incl formwork, compacted, curing & removal of formwork etc. complete, foundation and basement upto 5 feet depth(1.52m) and plinth upto 4 feet (1.2m) height from ground level.	Cum	325.65	13,635.78	4,440,499.36
10		Provide, mix, lay, compact, vibrate, level, finish, cure etc. cast - in site structural concrete of 3000 PSI 28 days Cylindrical strength having the nominal mix proportions not leaner than 1:2:4, including form work and its removal, complete in all respects, excluding only the steel reinformcemnt, in :-				-
a	114/1.36	Footing, bases	Cum	1,384.36	13,454.47	18,625,793.82
b	114/8,136.	Plinth Beam	Cum	163.08	14,254.88	2,324,691.64
c		Suspended beams, linels etc.				-
i	114/38, 136,163	Ground Floor	Cum	219.64	22,773.59	5,001,906.20
ii	114/92.		Cum			-
d		Suspended slabs, projections, shelves and like:				-
i	144/56, 136,164	Ground Floor	Cum	754.13	21,480.16	16,198,862.50
ii	114/92.		Cum			-
e		Stair concrete (steps, waiste slab understep, mid-air landings and wall above footing etc.) upto any height any any floor.				-
i	114/50 136,163	Ground Floor	Cum	266.99	21,480.16	5,735,063.60
11		Provide, clean, cut, bend, place in position, bind etc., steel reinforcement including cost of binding wire, spacer block, wastage, steel chairs/pins and the overlaps not shown in drawings, complete in all respects:-				-



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount
a		1): Round deformed steel bars 60,000 PSI yield strength (intermediate grade)				-
i	114/166.	a): Ground Floor including col. bases	Kg	403,606.00	282.45	113,998,514.70
12	109/107, 123,148, 111, 112	R.C.C (1:2:4) coping Architrives and Cornices	Cum	59.20	19,348.65	1,145,440.08
13		2):Dito as item 203 but in Columns concrete of 4000 PSI 28 days cylindrical strength heaving the nominal mix proportions not leaner than 1:1 ½ :3).				-
a	114/4, 134, 137	a): Column up to Plinth Level	Cum	28.67	16,120.72	462,124.26
b	114/24, 134, 137, 161	b): Columns - /Ground Floor	Cum	76.44	21,757.07	1,663,196.18
c	114/92.					-
		c): Columns - First Floor	Cum	-	22,749.93	-
14	111-3	Providing and laying 1:2:4 cement concrete hollow block masonry of any thickness using graded screened bajri 1/2 inch (13 mm) and down gauge set in cement mortar 1:6 including scaffolding, raking, out joints and curing etc. complete in basement and ground floor superstructure	m2	2,641.00	8,800.43	23,241,935.63
15	117/6.	Provide, lay, compact, finish, cure etc. 2"thick PCC 1:2:4 topping/flooring in panels using marble dividers in joints, including curing and form work etc. complete. (Panels size not more that 25 sft, marble divider strips paid separately)	Sqm	102.30	740.53	75,756.22
15	105/8.25	Provide, fill, compact, level etc. (in raised floors of baths/toilets) mass concrete 1:2:4 including curing etc. complete.	Cum	138.50	15,070.57	2,087,273.95
17	117/180.	Providing and laying light colour, glazed/non skid vitrified Porcelain tiles (Polished) exceeding 1600 Sqcm and upto 3600 Sqcm each, (Pak made) on walls and floors, in any floor, laid with dry bond (stile bond) over a base of 1" thick cement mortar (1:3) includingointing to tiles with joint filler of approved quailty as per direction of the Engineer incharge.	Sqm	4,880.41	4,371.30	21,333,735.43
a	117/180.	First floor	Sqm	-	4,371.30	-



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
18	118/40.	Providing and fixing 1/4 inch or 6.4 mm (approx.) thick approved Pakistani make white / coloured glazed tiles from 1.5 Square feet size in dado and skirting in ground floor, over 1/2 " (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base, including filling the joints and wasing the tiles with white cement slurry curing and cleaning etc.complete	Sqm	178.13	2,983.98	531,521.44
24	117/178-a.	Providing and laying in floor C.C. 1:2:4: tuff pavers 2" thick of approved design and colour and pattren (average strength 7000 psi) laid on sand cushion filling of joint with sand and warring etc. complete as per direction of Engineer Incharge. (the cost of sand cushion is included)	Sqm	-	1,306.47	-
		<p>Note:-</p> <p>1) For all plaster work approved Local sand complying with specified gradation limits shall be used.</p> <p>Rates for all kinds of plaster include the cost of labour as well as the materials related to providing/fixing this expanded metal and no separate/additional payment shall be made for this work/item.</p> <p>2) All non-compression joints between concrete and masonry shall be specially treated before plastering, as under:-</p> <p>A 8 inch wide heavy gauge approved quality expanded metal strip shall be tightly fixed centrally over the joint with 1 inch steel nails 12 inches centre to centre longitudinally on both side of joint.</p>				
19		Provide, apply, finish, smooth, cure, etc. 1/2" thick 1:5 cement sand internal plaster to wall upto any height etc. complete.				-
a	122/5.	a): Ground Floor	Sqm	6,545.21	452.02	2,958,565.84
b	122/5, 87	b): First Floor	Sqm	-	485.12	-
20		Provide, apply, finish, smooth, cure, etc. 1/2" thick 1:3 cement sand ceiling plaster, complete upto any height (Ref.Specs. Clause 6.4)				-
a	122/1.	a): Ground Floor	Sqm	4,392.98	432.14	1,898,383.79
b	122/87.	b): First Floor	Sqm	-	465.24	-
21		Provide, apply, finish, smooth, cure etc. 3/4" thick 1:4 cement sand external plaster, complete upto any height (Ref. Specs. Clause 6.4)				-
a	122/8.	a):Ground Floor	Sqm	1,303.72	574.26	748,672.80
b	122/8,88.	b): First Floor	Sqm	-	618.39	-



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
22		Providing 3/4" thick ornamental plaster with 1:3 ratio on wall, column and slab finish smooth to basement, plinth, G.floor upto any height.				-
a	122/24.	a):Ground Floor	Sqm	1,303.72	2,343.97	3,055,874.64
b	122/24, 88	b): First Floor	Sqm	-	2,388.10	-
23	108/8.	Provide, lay, finish, cure, horizontal DPC in 1-1/2" thick PCC 1:2:4, one coat of bitumen (S.I. or 10/20) and one layer of 50 gauge (0.001 inch) polythene sheet, complete, (Ref. Specs. Clause 7.4)	Sqm	281.34	789.49	222,112.57
24	108/11,12, 29	Provide, lay, finish, cure, etc. vertical DPC in 3/4" thick 1:3 cement sand plaster, one coat of bitumen (S.I or 10/20) and one layer of 50 gauge (0.001 inch) polythene sheet, complete, (Ref. Specs. Clause 7.5)	Sqm	543.22	887.42	482,060.40
25	108/12.	Providing a coat of bitumen emulsion at 10 Lbs. per % sft. (0.49 Kg/sm) on walls and floor in ground floor.	Sqm	824.55	108.80	89,711.30
		Note:- All C.I. down pipes and specials shall be painted in approved enamel paint (2 coat) in colour matching with the surrounding walls/area and no separate payment shall be made for this work.				-
26		Provide and install C.I. rain water down pipe lines, pipes of M/S Faisal or Tipu or approved equal, jointed in spun yarn and cement, including clamps testing and painting, complete in all respects.				-
a	124/45.	1) 4" inside dia	Rft	245.00	740.94	181,530.30
b	124/44.	2) 3" inside dia	Rft	235.00	538.44	126,533.40
27		Provide and install 4" dia PVC rain water down pipe with mild steel clamps bolts and nuts fixed in cement concrete 1:2:4 etc complete.				-
a	124/65.	1) 4" inside dia	Rft	122.00	718.67	87,677.74
b	124/64.	2) 3" inside dia	Rft	385.00	495.48	190,759.80
28		Provide and install 4" dia PVC bend of any degree for rain water down pipe with clamps bolts and nuts fixed in cement concrete 1:2:4 etc complete.				-
a	124/69.	1) 4" inside dia	Each	45.00	1,748.63	78,688.35
b	124/68	2) 3" inside dia	Each	47.00	1,590.63	74,759.61
29		Provide and install C.I. plug bend of M/S Faisal or Tipu jointed in spun yarn and cement, painting on exterior and testing etc. complete in all respect.				-
a	124/46.	1) 4" inside dia	Each	36.00	1,973.75	71,055.00
b	124/47.	2) 3" inside dia	Each	38.00	2,184.88	82,341.44



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
30		Provide and install C.I. rain water shoe bend outlet of M/S Faisal/Tipu, including jointing in spun yarn and cement, painting on exterior exposed surface and testing etc. complete in all respect.				-
a	124/49.	1) 4" inside dia	Each	22.00	1,704.38	37,496.36
b	124/48.	2) 3" inside dia	Each	41.00	1,541.88	63,217.08
31	124/143.	Provide, laying 1:2:4 cement concrete 2" thick Khurrahs 2'-0" x 2'-0" size on roof including finishing with cement plaster 1:4, curing etc. complete	Each	45.00	174.83	7,867.35
32	119/70.	Providing and fixing fully glazed Bronx anodized or Powder Coated aluminium Sliding windows as per British standard manufactured by Lucky, Prine, Chawla, Krudson and Pakistan Cables. (fixing through their approved fabricators), Execitive model section dubble or single glazed 101mm x 37mm and 2mm thick including the cost of aluminium netting ,fitting, with all accessories cutting holes etc. and making good damages to wall etc. complete as required in any floor as per direction of Engineer in-charge, but Excluding the cost of glass pans.	Sqm	281.31	18,752.73	5,275,390.43
33	119/32.	Providing and fixing window iron grills with required section of angle iron and M.S square bar as per approved desgin including welding all sides of the section at the junction, and fixing with sunk iron screws, painting two coats of rd oxide paint etc. Complete as required in any floor in masonry or concrete work.				-
a	119/32.	Ground Floor	Kg	600.00	290.89	174,534.00
34	124/202.	Providing and fixing of 2" dia stainless steel pipe (18SWG) railing alongwith 4 Nos 3/4" dia parallel pipe having S/S pipe vertical post 2" dia at 3ft C/C average spacing and 4" dia vertical post at start turning and at end point including cost of labour, welding charges fitting & fixing in marbel floor and wall etc complete as per direction of the Engineer Incharge	Rum		7,330.63	-
35	122/162.	Provide and apply one coat of Dulux/ Robbialac Primeon/ Alkali Resisting Masonry Sealer and minimum 2 coats of Dulux Special Plastic Emulsion or Robbialac VIP including surface preparation filling and rubbing etc., as per Specs. Section-6700-5, complete in all respects, upto any height at any floor	Sqm	4,392.98	725.20	3,185,791.47



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
36	122/172.	Providing/applying 3 coats of ICI weather Shield paint to plastered surface in approved colour/shade and according to the approved colour scheme including applying primer of same manufacturer. The surface is to be properly prepared by rubbing, sand papering, cleaning and making smooth before applying the priming coats, complete as directed any height at any floor.	Sqm	-	474.55	-
37	124/185.	Providing and fixing dumpa ceiling aluminium , china make 2'x2' tiles/strip including all accessories i.e. plump, rod etc complete as required in any floor.	Sqm	5,453.00	4,472.91	24,390,778.23
Total						279,462,817.72
Below / above Premium % age						
Total (Scheduled Items)						
NON-SCHEDULE ITEMS						
1	NSI	Providing and laying of 3/4" thick polished white Marble top on windows sill, length eaqual to the size of the windows sills complete in all respects as specified.	Sqm	50.00		
2	NSI	Providing, fixing and testing of watering system including all tyes of pumping machinery, pipes, fittings, nuts, bolts, welding, electrification etc complete in all respects including all other required accessories and fittings specified and shown in drawings and specification and as specified by the engineer in charge.	Job	1.00		
4	NSI	Providing and laying of maple leaf wood flooring in panels including wooden frame divided in required panels, termite spray and other allied accessories complete in all respects as specified in drawings and as directed by the engineer in charge.	Sqm	418.22		
5	NSI	Providing and fixing of approved color and desing fiber glass chair including all necessary fittings complete in all respects as specified.	No	500.00		
6	NSI	Providing and fixing of marking the basket ball court inclduing the requires basket poles with required size including all necessary fittings, markings etc complete in all respects as specified	Job	1.00		



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
7	NSI	Supply, fixing and installation of moveable goal post as per standard specifications complete in all respects	Job	1.00		
8	NSI	Synthetic Futsal Grass i/c Shock Pad, Covers, Custom Duty, Sales Tax, Income Tax, Transportation, Port Handling Charges, Warfare Clearance Charges, Insurance, i/c Charges, Installation Charges, Lane Marking And Certification of turf and its laying by FIFA Class-II & any other tax levied by Government (only European or USA & FIFA approved turf will be accepted).	Sqm	1.00		
9	NSI	Supply, fixing and installation of moveable goal post as per standard specifications complete in all respects	Job	1.00		
10	NSI	Supply, fixing and installation of moveable goal post as per standard specifications complete in all respects	Job	1.00		
12	NSI	providing and laying marble flooring comprising 24" x12" x7/8" tiles fixed in neat cement buttering laid over 1 1/4" thick PCC 1:2:4 using 1/4" down course aggregates to final level/slopes, including filling joints with white cement, curing, grinding, sand papering and polishing in chemical polish complete as per specification. Marble quality to be subject to prior approval by the Engineer. The floor shall be laid in pattern using tiles of different colours/shades as directed by the Engineer, at any floor. Also using 3" x 24" x7/8" jet back marble strips as boarder as per given pattern, complete.	Sft	1,653.00		
13	NSI	providing and laying marble flooring comprising 24" x 24" x7/8" tiles fixed in neat cement buttering laid over 1 1/4" thick PCC 1:2:4 using 1/4" down course aggregates to final level/slopes, including filling joints with white cement, curing, grinding, sand papering and polishing in chemical polish complete as per specification. Marble quality to be subject to prior approval by the Engineer. The floor shall be laid in pattern using tiles of different colours/shades as directed by the Engineer, at any floor. Also using 3" x 24" x7/8" jet back marble strips as boarder as per given pattern, complete.	Sft	4,285.00		



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
14	NSI	Providing and fixing marble skirting cladding etc.in 24"x4"x 3/8" pre-polished (in chemical polish) tiles with neat cement buttering over 1/2" thick 1:3 cement sand rough plaster including filling joints, curing etc., complete as per specification . Marble quality shall be the same as used in the flooring (Ref.Item No. P.II.A-29) and shall comply with the pattern requirements as directed.	Sft	7,498.00		
15	NSI	Providing and laying marble flooring in tiles of size from 3 to 8 S.ft each and 7/8" thick, in stair treads, risers and where directed, pre-polished in chemical polish, laid/bedded in 3/4" thick cement mortar 1:4 with neat cement buttering including curing, finishing, at any floor, complete. The marble quality shall be subject or prior approval by the Engineer.	Sft	2,578.00		
16	NSI	Supply and fixing Roller ventian Blinds of imported (Marvi-UK) consisting of chain etc, complete in all respect as per entire satisfaction of Engineer Incharge.	Sft	1,850.00		
17	NSI	Providing and fixing of approved quality feature walls including all necessary requirement complete in all respect as directed by engineer incharge.	Sqm	700.00		
18	NSI	Providing and laying of Aluminium Cladding on walls(12" x 12") complete in all respects as per engineer in charge.	m2	5,450.00		
19	NSI	Supply and Installation of pre-engineering roofing system complete as per drawing as approved and directed by the Engineer-in-charge	Sqm	5,453.00		
		Total (Non-Scheduled Items)				
		Grand Total (Civil Works)				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
B. PLUMBING WORKS (WATER SUPPLY, SAINRARY, PLUMBING, FIXTURES & SEWRAGE)						
SCHEDULE ITEMS						
1	301	Providing and fixing best quality squatting type with glazed earthen wire W.C. pan Pakistani (of not less than 18" clear opening as measured between flushing rims) complete with and including the cost of best quality low level plastic slushing cistern of standard size with internal fittings complete, P.V.C flushing pipe suitable for squatting type with extra bends and length with fittings, C.I trap 4 inches (100mm) dia and making requisite number of holes in walls, plinth & floor for pipe connection and making good in cement concrete 1:2:4.	Each	28.00	12,602.50	352,870.00
2	301	Providing and fixing Pakistani best quality European style white glazed eathenware W.C pan complete with and including cost of plastic seat with Buffers, best quality low level plastic flushing cistern of standard size with internal fittings complete, P.V.C. flushing cistern of standard size with requisite number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4	Each	10.00	14,312.50	143,125.00
3	301	Providing and fixing 25 inches x 18 inches (635 mm x 457 mm) lavatory basin in white glazed earthenware (Pakistani) complete with and including the cost of Brass oxidized bolts kit built into wall 1/2 inch (15mm) dia chrome plated mixer 1-1/4" inches (32mm) rubber plug and chrome plated 1/4 inches (32mm) dia, Malleable iron or C.P brass traps malleable iron or brass unions and making requisite number of holes in walls plinth and floor for pipe connections and making good in cement concrete 1:2:4	Each	22.00	15,262.50	335,775.00
4	302	Providing and fixing 20 inches x 16 inches (508 mm x 406 mm) Looking mirror of Belgium glass complete with plastic frame and C.P. Brass screws	Each	22.00	3,045.74	67,006.28
5	302	Providing and fixing Plastic shelf of standard size of any colour and design with CP brass screws	Each	22.00	1,079.24	23,743.28
6	302	Providing and fixing 30" x 3/4" (762 mm x 20 mm) fdia approved quality of chrome plated brass towel rail complete with brackets fixed with 1" (25 mm) long C.P brass screws and rawal plug	Each	22.00	2,720.91	59,860.02



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
7	302	Providing and fixing plastic (PVC) toilet paper holder in wall complete of any colour	Each	22.00	964.66	21,222.52
8		Providing G.I. pipes, specials and clamps etc, including fixing cutting and fitting complete with and including the cost of breaking through walls and roof, making good etc, painting 2 coats after cleaning the pipe etc, with white zinc paint with pigment to match the colour of the building and testing with water to a pressure head of 200 feet (61 M) and cartages within 10 miles (16.09 km). (ILLM).				
	305	i): 1/2" dia (14 SWG)	Rft	100.00	202.94	20,294.00
	305	ii): 3/4" dia (13 SWG)	Rft	450.00	257.38	115,821.00
	305	iii): 1" dia (12 SWG)	Rft	500.00	366.46	183,230.00
	305	iv): 1-1/2" dia (11 SWG)	Rft	500.00	534.17	267,085.00
	305	v): 2" dia (11 SWG)	Rft	350.00	718.54	251,489.00
9	304	Providing and fixing 4 inches (100 mm) dia C.I. soil and vent pipes spun including cutting and fitting and extra painting to match the colour of the building and cartage within 10 miles (16,09 km)	Rft	500.00	789.06	394,530.00
10	304	Providing and fixing 3 inches (80mm) dia C.I. waster and vent pipe including cutting fitting and extra painting to match the the colour of the building and cartage within 10 miles (16.09 km) (for Spun pipe).	Rft	500.00	695.74	347,870.00
11	304	Providing and fixing 4 inches x 4 inches (100 mm x 100 mm) dia C.I. branch of the required degree with access doors rubber washer 1/8 inch (3.2 mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles (16.09km) (for Spun pipe)	Each	30.00	3,663.05	109,891.50
12	304	Providing and fixing 3 inches x 3 inches (80mm x 80mm) dia C.I. branch of the required degree with access door rubber washer 1/8 inches (3.2mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles. (16.09 km) (for Spun pipe)	Each	30.00	1,751.83	52,554.90
13	304	Providing and fixing 4 inches x 4 inches x 4 inches (100 mm x 100 mm x 100 mm) dia C.I. branch of the required degree with access doors rubber washer 1/8 inch (3.2 mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles (16.09km) (for Spun pipe)	Each	30.00	3,663.05	109,891.50



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
14	304	Providing and fixing 3 inches x 3 inches x 3 inches (80mm x 80mm x 80mm) dia C.I. branch of the required degree with access door rubber washer 1/8 inches (3.2mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles. (16.09 km) (for Spun pipe)	Each	30.00	2,696.83	80,904.90
15		Providing and fixing Plug Tee of required degree with access door and rubber washer including lead caulked joints and paint as specified.				-
16	304	Providing and fixing 4 inches x 4 inches x 4 inches (100 mm x 100 mm x 100 mm) dia C.I. branch of the required degree including extra painting to match the colour of the building and cartage within 10 miles (16.09km) (for Spun pipe)	Each	30.00	3,619.30	108,579.00
17	304	Providing and fixing 3 inches x 3 inches (80mm x 80mm) dia C.I. branch of the required degree including extra painting to match the colour of the building and cartage within 10 miles. (16.09 km) (for Spun pipe)	Each	50.00	1,620.58	81,029.00
18	314	Providing and fixing 6"x 6" (305 mm x 305 mm) 4 inches (100 mm) outlet cement concrete C.I. gully trap wt: 42 lbs. (19 Kg). Complete with 4 inches thick (100 mm) 1:2:4 cement concrete for bed and kerb, 1/2 inch (13 mm) thick cement plaster (1:3) to the kerb, C.I. grating 6 inches x 6 inches (150 mm x 150 mm) and C.I. cover and frame 12 inches x 12 inches (305 mm x 305 mm) (inside) etc. complete	Each	20.00	4,139.00	82,780.00
19		Providing and fixing gun-metal non-return valves with male and female ends as required. 1/2 inches (15 mm) dia				-
20	307	i): 3/4" dia	Each	8.00	2,069.10	16,552.80
21	307	ii): 1" dia	Each	12.00	4,271.60	51,259.20
22	307	iii): 1-1/2" dia	Each	12.00	8,271.60	99,259.20
23	307	iv): 2" dia	Each	6.00	7,389.10	44,334.60
24	301	Providing and fixing C.I. trap with 4 inches (100 mm) dia inlet and 4 inches (100 mm) dia outlet of approved self cleansing design with C.I. grating with or without a vent arm including cost of making requisite number of holes in wall, plinth and floor for pipe connection and making good in cement concrete 1:2:4.	Each	80.00	2,239.25	179,140.00
25	301	Extra over item No. 8 and 9 for providing and fixing best available (Pakistani make) white glazed earthenware pedestal.	Each	-	33,478.50	-



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
26	301	Extra over item No. 8 and 9 for providing single holes chromium plated mixer tap 1/2 inch (15 mm) dia (English or approved foreign make)	Each	-	3,698.75	-
27		Providing and fixing un platized polyvinyl chloride pipe (P.V.C) "D" class and Specials etc. including cutting and fitting complete with and including the cost of cutting trench upto 1-1/2 feet deep refilling, watering, ramming, and disposal of surplus earth within one chain and after cleaning the pipe and cartage within 10 miles (16.09 km) (working pressure 12 Kg/cm ²) 1-1/4 inches (32 mm) dia				
a	306	i): 8" dia	Rft	100.00	998.82	99,882.00
b	306	ii) 6" dia	Rft	120.00	716.62	85,994.40
c	306	iii): 5" dia	Rft	80.00	665.21	53,216.80
d	306	iv): 4" dia	Rft	150.00	600.01	90,001.50
e	306	v): 3" dia	Rft	160.00	503.47	80,555.20
f	306	vi) 2" dia	Rft	120.00	434.72	52,166.40
28		Providing R.C.C. pipes and collars of class 'C' and fixing in trench including cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) and back filling the excavated material in trench including testing with water to a pressure head of 80 feet (25 m) and cartage within 10 miles (16.09 km.), 4 inches (100 mm) dia pipe..				
a	312	Do. Do. 12 inches (305 mm) dia. pipe..	Rft	150.00	674.52	101,178.00
b	312	Do. Do. 18 inches (460 mm) dia. pipe..	Rft	200.00	1,186.69	237,338.00
29	302	Providing and fixing bath room accessories of set of 7 pieces consist of one cosmetic shelf, one towel rod with bracket, one soap dish, one tooth brush holder with glass and cover, one tissue paper holder one double hook one towel ring etc complete of approved quality as per direction of Engineer in-charge	Each	60.00	12,062.50	723,750.00
30	302	Providing & fixing chromium plated Muslim bib-cock with Muslim Shower of approved quality.	Each	40.00	3,381.75	135,270.00
31	307	Providing and fixing Cp mixer 1/2 inch dia (15mm) (Faisal/Master or equivalent) lever type Pakistani complete in all respect	Each	40.00	10,750.00	430,000.00
Total						5,689,450.00
Below / above Premium % age						
Total (Scheduled Items)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
NON-SCHEDULE ITEMS						
1	NSI	Providing & fixing glazed earthen ware Vanity Over counter & under counter Cupboard of Porta standard size , shape and colour as approved by the Engineer in charge.	Each	10.00		
2	NSI	Providing and fixing of Bath Room Shower Faucet Set compete for bath rooms faisal/sonex make complete in all respects as specified and as directed by Engineer incharge at site.	Each	20.00		
3	NSI	Providing and Fixing of Hand Dryer as per approved by Engineer in Charge.	Each	12.00		
4	NSI	Providing and Fixing of Soap Dispenser as per approved by Engineer in Charge.	Each	12.00		
5	NSI	Providing and Fixing of wall mounted tiisue paper holder as per approved by Engineer in Charge.	Each	18.00		
6	NSI	Providing and fixing looking Glass of imported Belgium glass or equivalent as approved, 5mm thick with bevelling edge fixed to wall with s.s spacers using C.P. screw 2" long complete.as approved by Engineer Incharge.	Sft	300.00		
Total (Non-Scheduled Items)						
Grand Total (Water Supply, Saintry, Plumbing, Fixtures & Sewrage)						
C. INTERNAL ELECTRICAL WORKS						
SCHEDULE ITEMS						
1	2-1-01	Wiring for light, fan or bell point with (3/.029") PVC insulated wire in 20mm ² , (3/4") dia uPVC conduit fitted on surface, including 1mm ² single core PVC insulated wire as ECC as required.	Each	2,848.00	1,175.00	3,346,400.00
2	2-7-03	Extension/Additional wiring for light, fan, call bell or light plug point controlled with same switch with (3/.029") PVC insulated wire in 20mm (3/4") dia uPVC conduit recessed in wall , column or roof including 1mm ² single core, PVC insulated wire as ECC as required.	Each	1,179.00	241.00	284,139.00
3	2-80-03	Providing & Installing 140Cm (56") sweep ceiling fan with blades, canopy, standard length of down rod including connection with 14.0076" flexible wire complete as required, (without regulator) Pak, Royal, GFC, Younas, Millat.	Each	9,349.00	201.00	1,879,149.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
4	2-81-03	Providing & Installing 45 Cm (18") sweep wall bracket fan complete with blades, regulator & pulling cord switch, fitted on wall or column with GI clip including connection as required. Pak, Royal, GFC, Younas, Millat	Each	5,370.00	61.00	327,570.00
5	2-63-10	Providing & fixing flush type, Piano Fan Dimmer for all sweep fans, fitted on existing/given sheet or board including connection as required	Each	231.00	357.00	82,467.00
6	2-84-03	Providing & installing 30 Cm (12") sweep, Plastic body Exhaust fan complete with blades, motor, etc fixed in existing hole including connection with 14/0075" flexible wire complete as required Pak, Royal, GFC, Younas, Millat	Each	4,672.00	14.00	65,408.00
7	2-77-01	Providing, Installation, Testing & Commissioning of recessed / surface mounted ceiling lights / downlights including driver, having warm / neutral white / cool whitecolour, 80-90 lm/watts efficiency, 0.9 or above power factor, 20000 - 25000 hours life cycle, including connection, complete in all respect as approved by the Engineer Incharge.				
	e	14-15 Watts	Each	2,935.00	250.00	733,750.00
	g	22-24 Watts	Each	4,585.00	381.00	1,746,885.00
8	2-78-03	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 1x2000 lumens output and fixture, complete in all respects				
		4 Feet 36 Watts	Each	3,854.00	105.00	404,670.00
9	2-66-01	Providing and fixing 10 Amps Polycarbonate flame retardant S.P switch with fancy required gang plate fixed in die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	471.00	201.00	94,671.00
10	2-66-02	Providing and fixing 10 Amps Polycarbonate flame retardant Two way switch with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	531.00	250.00	132,750.00
11	2-66-04	Providing and fixing 10 Amps Polycarbonate flame retardant 2-Pin switch Socket unit (Universal) with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	933.00	300.00	279,900.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
12	2-66-05	Providing and fixing 10 Amps Polycarbonate flame retardant 3-Pin switch Socket unit with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	1,120.00	204.00	228,480.00
13	2-66-07	Providing and fixing 10/15 Amps Polycarbonate flame retardant 2-Pin switch Socket unit (GR-Earth pin) with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	1,893.00	120.00	227,160.00
14	2-61-02	Supply & fixing 25mm (1") dia uPVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required.	P/Rft	58.00	1,500.00	87,000.00
15	2-61-05	Supply & fixing 50mm (2") dia uPVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required.	P/Rft	231.00	500.00	115,500.00
16	2-33-01	Wiring for sub-main with 2x 1.5mm ² , PVC insulated wire 300/500 volts grade, single core, strandedcopper conductor wire in 20mm (3/4") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	85.00	1,500.00	127,500.00
17	2-33-02	Wiring for sub-main with 2x 2.5mm ² , PVC insulated wire 300/500 volts grade, single core, strandedcopper conductor wire in 20mm (3/4") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	115.00	1,000.00	115,000.00
18	2-33-03	Wiring for sub-main with 2x 4 mm ² , PVC insulated wire 300/500 volts grade, single core, strandedcopper conductor wire in 20mm (3/4") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	153.00	1,200.00	183,600.00
19	2-33-04	Wiring for sub-main with 2x 6 mm ² , PVC insulated wire 300/500 volts grade, single core, strandedcopper conductor wire in 25mm (1") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	209.00	500.00	104,500.00
20	2-33-06	Wiring for sub-main with 2x 16 mm ² , PVC insulated wire 450/750 volts grade, single core, strandedcopper conductor wire in 25mm (1") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	454.00	520.00	236,080.00
21	2-33-09	Wiring for sub-main with 2x 50 mm ² , PVC insulated wire 450/750 volts grade, single core, strandedcopper conductor wire in 40mm (1-1/2") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	1,212.00	500.00	606,000.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
22	2-15-03	Wiring for sub-main with 3x7/.029", PVC insulated wire 250/440 volts grade, single core copper conductor wire in 20 mm (3/4") dia uPVC conduit fitted on surface as required	P/Rft	102.00	250.00	25,500.00
23	2-20-04	Wiring for sub-main with 2x6 mm ² , PVC insulated wire 300/500 volts grade, single core, stranded copper conductor wire in 25 mm (1") dia uPVC conduit fitted on surface as required.	P/Rft	210.00	180.00	37,800.00
24	2-20-03	Wiring for sub-main with 2x4 mm ² , PVC insulated wire 300/500 volts grade, single core, stranded copper conductor wire in 20 mm (3/4") dia uPVC conduit fitted on surface as required.	P/Rft	152.00	220.00	33,440.00
25	2-77-03	Providing, Installation, Testing & Commissioning of recessed / surface mounted LED Pannel light including driver, having warm/neutral white/cool white colour, 80-100 lm/watts efficiency, 0.9 or above power factor, 20000-25000 hours life cycle, including connection, complete in all respect as approved by the Engineer Incharge.				
	b	38-40 Watts (2x2)	Each	16,069.00	100.00	1,606,900.00
26		Distribution Board in Ground Floor				
	2-73-01	Providing & Fixing Cubical type metal sheet Distribution board with locking arrangement as per drawing, vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required.	P/Sft	6,006.00	36.00	216,216.00
	2-72-04	Providing & Fixing 75 to 100 Amps (High Breaking Capacity) TP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	15,191.00	12.00	182,292.00
	2-74-02	Providing and Fixing 70 to 100 Amps, 4 pole, three phase bus bar strip fitted in given Distribution board complete with bus bar insulator, screws, bolts etc as required	Each	12,973.00	60.00	778,380.00
	2-72-01	Providing & Fixing 6 to 32 Amps DP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	2,410.00	65.00	156,650.00
	2-72-02	Providing & Fixing 15 to 60 Amps (Low Breaking Capacity) TP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	9,481.00	40.00	379,240.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
27		Distribution Board in First Floor				
	2-73-01	Providing & Fixing Cubical type metal sheet Distribution board with locking arrangement as per drawing, vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required.	P/Sft	6,006.00	12.00	72,072.00
	2-72-03	Providing & Fixing 75 to 100 Amps (Low Breaking Capacity) TP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	10,830.00	2.00	21,660.00
	2-74-02	Providing and Fixing 70 to 100 Amps, 4 pole, three phase bus bar strip fitted in given Distribution board complete with bus bar insulator, screws, bolts etc as required	Each	12,973.00	2.00	25,946.00
	2-72-01	Providing & Fixing 6 to 32 Amps DP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	2,410.00	16.00	38,560.00
	2-72-02	Providing & Fixing 15 to 60 Amps (Low Breaking Capacity) TP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	9,481.00	6.00	56,886.00
Total						15,040,121.00
Below / above Premium % age						
Total (Scheduled Items)						
NON-SCHEDULE ITEMS						
1	NSI	LED Flood Light, 315 watt, 220-240 Volts, approved type "Premium.", complete supply and fixing.	Each	25.00		
Total (Non-Scheduled Items)						
Grand Total (Internal Electrical Work)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
D. Fire Alarm System						
SCHEDULE ITEMS						
1	7-1-03	Providing, fixing, testing and commissioning of microprocessor based 04 loop addressable fire control panel surface /recessed mounting type with full Switching programming capabilities ,system suitable for operation at 230 volts 50hz with full functionality as per specification, drawing, etc. complete in all respect as approved by the Engineer Inchargeinsulated wire as ECC as required.	Each	519,225.00	2.00	1,038,450.00
2	7-1-05	Providing, fixing, testing and commissioning of Network card as per specification of manufacturer complete in all respect as approved by the Engineer Inchargeconduit recessed in wall , column or roof including 1mm2 single core, PVC insulated wire as ECC as required.	Each	82,392.00	2.00	164,784.00
3	7-1-08	Providing. fixing. testing and commissioning of addressable multi detector (smoke & heat) with addressable base with full functioning programming capabilities system as per specification & recommended of drawing manufacturer with allied components, complete in all respect as approved by the Engineer Incharge	Each	9,175.00	18.00	165,150.00
4	7-1-9	Providing, fixing, testing and commissioning of addressable manual call point with addressable base with full functioning switching programming capabilities system as per specification & recommended of drawing manufacturer with allied components, complete in all respect as approved by the Engineer Incharge	Each	12,522.00	18.00	225,396.00
5	7-1-10	Providing, fixing, testing and commissioning of addressable Loop Powered Sounder, ceiling mounted, performing full functioning Switching programming capabilities system as per specitication& recommended of drawing/manufacturer, complete in all respect as approved by the Engineer Incharge	Each	19,844.00	18.00	357,192.00
6	7-1-20	Providing, fixing, testing and commissioning of analogue addressable Touch screen repeater panel surface /recessed mounting type with full switching programming capabilities, system suitable operation of 230 volts 50hz with full functionality as per specification of manufacturer allied components. complete in all respect as approved by the Engineer Incharge	Each	300,493.00	1.00	300,493.00
Total						2,251,465.00
Below / above Premium % age						
Total (Fire Alarm System)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
2. <u>CLIMBING WALL</u>						
NON-SCHEDULE ITEMS						
1	NSI	Providing and fixing Fiber Glass Sheet 11mm thick including jointing, fixing, complete in all respect as per direction of Engineer-in-charge	Sqm	5.00		
2	NSI	Angle correction of existing structure including all arrangements complete in all respect as per direction of Engineer-in-charge	Job	1.00		
3	NSI	Providing and fixing of platform on the top climbing wall 3ft wide and 2 meter long, structure made of angle steel, roof made of fiber including railing of stainless steel having height 2.5 feet complete in all respect as per direction of Engineer-in-charge	Job	1.00		
4	NSI	Providing and fixing of saftey stairs from bottom to top having size 2 feet wide and 53 feet long made of steel complete in all respect as per direction of Engineer-in-charge	Job	1.00		
5	NSI	Providing and fixing of Auto belly complete in all respect as per direction of Engineer-in-charge	Each	1.00		
6	NSI	Providing and fixing of Climbing holds 02 sets and safety gear complete in all respect as per direction of Engineer-in-charge	Job	1.00		
Grand Total (Climbing Wall)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
3. PUBLIC TOILET						
A. CIVIL WORKS						
SCHEDULE ITEMS						
1	103/10.	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	98.23	479.84	47,134.91
2	104/8.	Selectred/approved earthfill under floors in layers, earth brought from out side including transportation, ramming, watering, compacting, leveling and all necessary lead and lift, complete (Ref. Clause 1.3.13)	Cum	39.29	1,149.46	45,164.80
3	104/1.	Filling excavated earth available at site in foundation, plinth or under floor, etc. including breaking clods, dressing, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction complete within a lead of one chain (30.5 R.m) and lift of 5 feet (1.52m).	Cum	39.29	259.63	10,201.43
4	104/9.	Supplying stacking and filling sand of approved quality from outside sources in foundation, trenches, plinth or under floor, etc. including dressing, watering and consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction	Cum	26.12	1,719.80	44,918.33
5	102/15,21.	Disposal of surplus excavated stuff distinct from the materials and the rubbish acCumulated during construction upto one chain lead (average) and 5 feet (1.52 m) lift, levelling etc. complete.	Cum	20.00	483.19	9,663.80
		NOTE:- Rate shall be with use of Lawrence pur Approved quality sand and Margla Crushed Stone 1/2", 3/4"(PURE) in all types of concrete Steel Shuttering/Plate Including Pipe will be used for Form work.				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
6	105/14.	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	9.88	8,300.58	82,018.75
7	105/14.	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects. (Plinth Protection)	Cum	6.53	8,300.58	54,199.36
8		Provide, mix, lay, compact, vibrate, level, finish, cure etc. cast - in site structural concrete of 3000 PSI 28 days Cylindrical strength having the nominal mix proportions not leaner than 1:2:4, including form work and its removal, complete in all respects, excluding only the steel reinforcement, in :-				-
a	114/1,36	Footing, bases	Cum	9.87	13,454.47	132,754.33
b		Suspended beams, linels etc.				-
i	114/166.	a): Ground Floor including col. bases	Kg	1,161.83	282.45	328,159.20
9	112/2,76	Provide, lay, cure etc. first class burnt brickwork in foundation and plinth, 9" and over thick, set in 1:5 cement sand mortar, complete.	Cum	27.36	13,824.38	378,203.09
14		Provide, lay, cure etc. first class burnt brickwork in walls in superstructure, including form work etc. complete:-				-
a		1) - 9" and over thick, set in 1:6 cement sand mortar				-
i	112/25.	a) Ground Floor	Cum	34.94	14,571.19	509,099.52
ii	112/25, 70	b) First Floor	Cum	-	15,397.94	-
10	117/6.	Provide, lay, compact, finish, cure etc. 2"thick PCC 1:2:4 topping/flooring in panels using marble dividers in joints, including curing and form work etc. complete. (Panels size not more that 25 sft, marble divider strips paid separately)	Sqm	6.47	740.53	4,788.27
11	105/8,25	Provide, fill, compact, level etc. (in raised floors of baths/toilets) mass concrete 1:2:4 including curing etc. complete.	Cum	6.47	15,070.57	97,446.27
20	117/82.	Providing and laying floor of 6mm (approx: 1/4") thick white glazed tiles 12" x12" (304mm x 304mm) of master make (Pakistani) first grade in ground floor laid over 1" (25mm) thick cement mortar 1:2 (1 cement and 2 sand) including jointing and washing the tiles with white cement slurry and curing etc, complete.	Sqm	85.73	3,252.04	278,811.05



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
21	118/40	Providing and fixing 1/4"(6mm approx.) thick of Pakistani make white/coloured glazed tiles upto 1.5 square feet size in dado and skirting in ground floor over 1/2" (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base including filling the joint with white cement and washing the tile, curing and cleaning etc. complete.	Sqm	144.05	2,983.86	429,831.13
22	117/40.	Providing and laying floor of 3/4 inch (19 mm) thick white marble tiles more than 5 Sq.ft. upto 7 Sq.ft. (more than 0.46 Sq-m upto 0.65 Sqm) size fine dressed on the surface, without winding in ground floor over 1 inch (25 mm) lime mortar 1:2 (one lime two sand) setting the marble tiles with grey cement slurry over lime mortar, jointing and washing the tiles with white cement slurry including curing, rubbing and polishing etc. complete, including the cost of mortar..	Sqm	-	5,924.83	-
		<p>Note:-</p> <p>1) For all plaster work approved Local sand complying with specified gradation limits shall be used.</p> <p>Rates for all kinds of plaster include the cost of labour as well as the materials related to providing/fixing this expanded metal and no separate/additional payment shall be made for this work/item.</p> <p>2) All non-compression joints between concrete and masonry shall be specially treated before plastering, as under:-</p> <p>A 8 inch wide heavy gauge approved quality expanded metal strip shall be tightly fixed centrally over the joint with 1 inch steel nails 12 inches centre to centre longitudinally on both side of joint.</p>				
23		Provide, apply, finish, smooth, cure, etc. 1/2" thick 1:5 cement sand internal plaster to wall upto any height etc. complete.				-
a	122/5.	a): Ground Floor	Sqm	142.94	452.02	64,610.29
24		Provide, apply, finish, smooth, cure etc. 3/4" thick 1:4 cement sand external plaster, complete upto any height (Ref. Specs. Clause 6.4)				-
a	122/8.	a):Ground Floor	Sqm	323.42	574.26	185,727.21
25	108/8.	Provide, lay, finish, cure, horizontal DPC in 1-1/2" thick PCC 1:2:4, one coat of bitumen (S.I. or 10/20) and one layer of 50 gauge (0.001 inch) polythene sheet, complete, (Ref. Specs. Clause 7.4)	Sqm	24.00	789.49	18,950.62



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
26	108/11,12, 29	Provide, lay, finish, cure, etc. vertical DPC in 3/4" thick 1:3 cement sand plaster, one coat of bitumen (S.I or 10/20) and one layer of 50 gauge (0.001 inch) polythene sheet, complete, (Ref. Specs. Clause 7.5)	Sqm	53.90	887.42	47,834.91
27	108/12.	Providing a coat of bitumen emulsion at 10 Lbs. per % sft. (0.49 Kg/sm) on walls and floor in ground floor.	Sqm	77.91	108.80	8,476.28
		Note:- All C.I. down pipes and specials shall be painted in approved enamel paint (2 coat) in colour matching with the surrounding walls/area and no separate payment shall be made for this work.				
28		Provide and install C.I. rain water down pipe lines, pipes of M/S Faisal or Tipu or approved equal, jointed in spun yarn and cement, including clamps testing and painting, complete in all respects.				
a	124/45.	1) 4" inside dia	Rft	20.00	740.94	14,818.80
b	124/44.	2) 3" inside dia	Rft	20.00	538.44	10,768.80
29		Provide and install 4" dia PVC rain water down pipe with mild steel clamps bolts and nuts fixed in cement concrete 1:2:4 etc complete.				
a	124/65.	1) 4" inside dia	Rft	10.00	718.67	7,186.70
b	124/64.	2) 3" inside dia	Rft	10.00	495.48	4,954.80
30		Provide and install 4" dia PVC bend of any degree for rain water down pipe with clamps bolts and nuts fixed in cement concrete 1:2:4 etc complete.				
a	124/69.	1) 4" inside dia	Each	5.00	1,748.63	8,743.15
b	124/68	2) 3" inside dia	Each	5.00	1,590.63	7,953.15
31		Provide and install C.I. plug bend of M/S Faisal or Tipu jointed in spun yarn and cement, painting on exterior and testing etc. complete in all respect.				
a	124/46.	1) 4" inside dia	Each	5.00	1,973.75	9,868.75
b	124/47.	2) 3" inside dia	Each	5.00	2,166.88	10,834.40
32		Provide and install C.I. rain water shoe bend outlet of M/S Faisal/Tipu, including jointing in spun yarn and cement, painting on exterior exposed surface and testing etc. complete in all respect.				
a	124/49.	1) 4" inside dia	Each	5.00	1,704.38	8,521.90
b	124/48.	2) 3" inside dia	Each	5.00	1,541.88	7,709.40



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PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
33	120/2.	Providing and fixing best quality deodar wood frames for doors, windows, ventilator, clerestorey windows, cupboard frames and trollies work including the cost of required number of iron holdfasts (1-1/2" x 1/8" x 9" long) PCC 1:2:4 and painting the back side/embedded portions of the frame in 2 coats of hot bitumen etc. complete.	Cum	1.02	449,626.18	459,606.20
34	120/22.	Providing and fixing 1-1/2" thick best quality deodar wood panelled shutter as per drawings (A-08 & Gen-01). Door fittings to be fixed as per hardware schedule i/c hinges, handles and tower bolts etc. complete but excluding cost of kick plates, door lock and sliding bolts. (Drawing 10/A)	Sqm	16.26	17,778.30	289,037.76
35	121/144.	Extra for providing and fixing Haps and Staples C.P. brass 4" long.	Each	10.00	194.96	1,949.60
36	121/132.	Providing and fixing approved chromium plated brass sliding (aldrop) bolts 9" x 5/8" with necessary chromium plated brass screw and galvanised iron bolts and nuts.	Each	10.00	2,759.72	27,597.20
37	121/80.	Providing and fixing mortise door lock with handle and duplicate keys, made in Hungry (imported) or equivalent.	Each	10.00	4,024.38	40,243.80
38	121/68	Providing and fixing with brass screws or specially supplied screws hydraulic Door Closer imported heavy duty Ruby Make (Japan) medium size, complete as per specification	Each	10.00	8,206.25	82,062.50
39	119/70,121	Providing and fixing fully glazed Bronx anodized or Powder Coated aluminium Sliding windows as per British standard manufactured by Lucky, Prine, Chawla, Krudson and Pakistan Cables. (fixing through their approved fabricators), Executive model section double or single glazed 101mm x 37mm and 2mm thick including the cost of aluminium netting, fitting, with all accessories cutting holes etc. and making good damages to wall etc. complete as required in any floor as per direction of Engineer in-charge, but Excluding the cost of glass pans.	Sqm	10.41	22,754.99	236,766.90
40	120/230.	Providing and fixing G.I. Wire Gauze of 24 gauge and 144 mesh per Sq. inch fixing with M.S. Flat Putty 3/8" x 1/8" with screws to window including painting etc. complete as directed.	Sqm	10.41	2,827.48	29,420.08



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
41	122/162.	Provide and apply one coat of Dulux/Robbialac Primeon/ Alkali Resisting Masonry Sealer and minimum 2 coats of Dulux Special Plastic Emulsion or Robbialac VIP including surface preparation filling and rubbing etc., as per Specs. Section-6700-5, complete in all respects, upto any height at any floor	Sqm	148.70	725.20	107,836.43
42	122/172.	Providing/applying 3 coats of ICI weather Shield paint to plastered surface in approved colour/shade and according to the approved colour scheme including applying primer of same manufacturer. The surface is to be properly prepared by rubbing, sand papering, cleaning and making smooth before applying the priming coats, complete as directed any height at any floor.	Sqm	92.94	474.55	44,103.16
43	119/40.	Providing and fixing M.S. tees, angles and flats including rivetting, fixing with gusset plates, bolts, nuts etc. complete with hoisting and erecting in position in steel trusses, frames, towers, etc. of any design in ground floor.	Kg	2,420.00	347.91	841,942.20
44	116/2.	Providing and fixing 20 B.W.G. corrugated galvanized iron sheets with galvanized iron hooks, bolts, nuts, limpets and bitumen washers etc. without valleys and ridges (excluding the cost of frame work) in ground floor.	Sqm	112.45	4,480.57	503,855.92
45	124/185.	Providing and fixing dumpa ceiling aluminium , china make 2'x2' tiles/strip including all accessories i.e. plump, rod etc complete as required in any floor.	Sqm	102.23	4,472.91	457,267.75
Total						5,991,042.89
Below / above Premium % age						
Total (Scheduled Items)						
NON-SCHEDULE ITEMS						
1	NSI	Providing and applying wash terrazzo of 1-3/4 inches (44 mm) thick consisting of 3/4 inch (19 mm) thick topping 1:2 (1 cement 2 approved marble chips No. 6 to 8) of approved color over palstered surface, laid in panels (aluminum strips) or pattern including form work, curing, cutting, rubbing and polishing(if required) etc. complete...	Sqm	92.94		
2	NSI	Providing and laying of 3/4" thick polished white Marble top on windows sill, length equal to the size of the windows sills complete in all respects as specified.	Sqm	15.00		
Total (Non-Scheduled Items)						
Grand Total (Civil Works)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
B. PLUMBING WORKS (WATER SUPPLY, SAINRARY, PLUMBING, FIXTURES & SEWRAGE)						
SCHEDULE ITEMS						
1	301	Providing and fixing best quality squatting type with glazed earthen wire W.C. pan Pakistani (of not less than 18" clear opening as measured between flushing rims); complete with and including the cost of best quality low level plastic slushing cistern of standard size with internal fittings complete, P.V.C flushing pipe suitable for squatting type with extra bends and length with fittings, C.I trap 4 inches (100mm) dia and making requisite number of holes in walls, plinth & floor for pipe connection and making good in cement concrete 1:2:4.	Each	10.00	12,602.50	126,025.00
2	301	Providing and fixing Pakistani best quality European style white glazed eathenware W.C pan complete with and including cost of plastic seat with Buffers, best quality low level plastic flushing cistern of standard size with internal fittings complete, P.V.C. flushing cistern of standard size with requisite number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4	Each	2.00	14,312.50	28,625.00
3	301	Providing and fixing 25 inches x 18 inches (635 mm x 457 mm) lavatory basin in white glazed earthenware (Pakistani) complete with and including the cost of Brass oxidized bolts kit built into wall 1/2 inch (15mm) dia chrome plated mixer 1-1/4" inches (32mm) rubber plug and chrome plated 1/4 inches (32mm) dia, Malleable iron or C.P brass traps malleable iron or brass unions and making requisite number of holes in walls plinth and floor for pipe connections and making good in cement concrete 1:2:4	Each	10.00	15,262.50	152,625.00
4	302	Providing and fixing 20 inches x 16 inches (508 mm x 406 mm) Looking mirror of Belgium glass complete with plastic frame and C.P. Brass screws	Each	10.00	3,045.74	30,457.40
5	302	Providing and fixing Plastic shelf of standard size of any colour and design with CP brass screws	Each	10.00	1,079.24	10,792.40
6	302	Providing and fixing 30" x 3/4" (762 mm x 20 mm) fdia approved quality of chrome plated brass towel rail complete with brackets fixed with 1" (25 mm) long C.P brass screws and rawal plug	Each	10.00	2,720.91	27,209.10
7	302	Providing and fixing plastic (PVC) toilet paper holder in wall complete of any colour	Each	10.00	964.66	9,646.60



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
8		Providing G.I. pipes, specials and clamps etc, including fixing cutting and fitting complete with and including the cost of breaking through walls and roof, making good etc, painting 2 coats after cleaning the pipe etc, with white zinc paint with pigment to match the colour of the building and testing with water to a pressure head of 200 feet (61 M) and cartages within 10 miles (16.09 km). (ILLM).				
	305	i): 1/2" dia (14 SWG)	Rft	50.00	202.94	10,147.00
	305	ii): 3/4" dia (13 SWG)	Rft	150.00	257.38	38,607.00
	305	iii): 1" dia (12 SWG)	Rft	150.00	366.46	54,969.00
	305	iv): 1-1/2" dia (11 SWG)	Rft	10.00	534.17	5,341.70
	305	v): 2" dia (11 SWG)	Rft	10.00	718.54	7,185.40
9	304	Providing and fixing 4 inches (100 mm) dia C.I. soil and vent pipes spun including cutting and fitting and extra painting to match the colour of the building and cartage within 10 miles (16.09 km)	Rft	50.00	789.06	39,453.00
10	304	Providing and fixing 3 inches (80mm) dia C.I. waster and vent pipe including cutting fitting and extra painting to match the the colour of the building and cartage within 10 miles (16.09 km) (for Spun pipe).	Rft	50.00	695.74	34,787.00
11	304	Providing and fixing 4 inches x 4 inches (100 mm x 100 mm) dia C.I. branch of the required degree with access doors rubber washer 1/8 inch (3.2 mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles (16.09km) (for Spun pipe)	Each	2.00	3,663.05	7,326.10
12	304	Providing and fixing 3 inches x 3 inches (80mm x 80mm) dia C.I. branch of the required degree with access door rubber washer 1/8 inches (3.2mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles. (16.09 km) (for Spun pipe)	Each	2.00	1,751.83	3,503.66
13	304	Providing and fixing 4 inches x 4 inches x 4 inches (100 mm x 100 mm x 100 mm) dia C.I. branch of the required degree with access doors rubber washer 1/8 inch (3.2 mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles (16.09km) (for Spun pipe)	Each	2.00	3,663.05	7,326.10



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
14	304	Providing and fixing 3 inches x 3 inches x 3 inches (80mm x 80mm x 80mm) dia C.I. branch of the required degree with access door rubber washer 1/8 inches (3.2mm) thick and bolts and nuts and extra painting to match the colour of the building and cartage within 10 miles. (16.09 km) (for Spun pipe)	Each	2.00	2,696.83	5,393.66
15		Providing and fixing Plug Tee of required degree with access door and rubber washer including lead caulked joints and paint as specified.				
16	304	Providing and fixing 4 inches x 4 inches x 4 inches (100 mm x 100 mm x 100 mm) dia C.I. branch of the required degree including extra painting to match the colour of the building and cartage within 10 miles (16.09km) (for Spun pipe)	Each	2.00	3,619.30	7,238.60
17	304	Providing and fixing 3 inches x 3 inches (80mm x 80mm) dia C.I. branch of the required degree including extra painting to match the colour of the building and cartage within 10 miles. (16.09 km) (for Spun pipe)	Each	2.00	1,620.58	3,241.16
18	314	Providing and fixing 6"x 6" (305 mm x 305 mm) 4 inches (100 mm) outlet cement concrete C.I. gully trap wt: 42 lbs. (19 Kg). Complete with 4 inches thick (100 mm) 1:2:4 cement concrete for bed and kerb, 1/2 inch (13 mm) thick cement plaster (1:3) to the kerb, C.I. grating 6 inches x 6 inches (150 mm x 150 mm) and C.I. cover and frame 12 inches x 12 inches (305 mm x 305 mm) (inside) etc. complete	Each	2.00	4,139.00	8,278.00
19		Providing and fixing gun-metal non-return valves with male and female ends as required. 1/2 inches (15 mm) dia				
20	307	i): 3/4" dia	Each	2.00	2,069.10	4,138.20
21	307	ii): 1" dia	Each	1.00	4,271.60	4,271.60
22	307	iii): 1-1/2" dia	Each	1.00	8,271.60	8,271.60
23	307	iv): 2" dia	Each	1.00	7,389.10	7,389.10
24	301	Providing and fixing C.I. trap with 4 inches (100 mm) dia inlet and 4 inches (100 mm) dia outlet of approved self cleansing design with C.I. grating with or without a vent arm including cost of making requisite number of holes in wall, plinth and floor for pipe connection and making good in cement concrete 1:2:4.	Each	22.00	2,239.25	49,263.50



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
25		Providing and fixing un platized polyvinyl chloride pipe (P.V.C) "D" class and Specials etc. including cutting and fitting complete with and including the cost of cutting trench upto 1-1/2 feet deep refilling, watering, ramming, and disposal of surplus earth within one chain and after cleaning the pipe and cartage within 10 miles (16.09 km) (working pressure 12 Kg/cm ²) 1-1/4 inches (32 mm) dia				
a	306	ii) 6" dia	Rft	20.00	716.62	14,332.40
26		Providing R.C.C. pipes and collars of class 'C' and fixing in trench including cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) and back filling the excavated material in trench including testing with water to a pressure head of 80 feet (25 m) and cartage within 10 miles (16.09 km.), 4 inches (100 mm) dia pipe..				
a	312	Do. Do. 12 inches (305 mm) dia. pipe..	Rft	20.00	674.52	13,490.40
29	302	Providing and fixing bath room accessories of set of 7 pieces consist of one cosmetic shelf, one towel rod with bracket, one soap dish, one tooth brush holder with glass and cover, one tissue paper holder one double hook one towel ring etc complete of approved quality as per direction of Engineer in-charge	Each	4.00	12,062.50	48,250.00
30	302	Providing & fixing chromium plated Muslim bib-cock with Muslim Shower of approved quality.	Each	12.00	3,381.75	40,581.00
31	307	Providing and fixing Cp mixer 1/2 inch dia (15mm) (Faisal/Master or equivalent) lever type Pakistani complete in all respect	Each	10.00	10,750.00	107,500.00
Total						915,665.68
Below / above Premium % age						
Total (Scheduled Items)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
NON-SCHEDULE ITEMS						
1	NSI-1	Providing & fixing glazed earthen ware Vanity Over counter & under counter Cupboard of Porta standard size , shape and colour as approved by the Engineer in charge.	Each	2.00		
2	NSI-1	Providing and fixing of Bath Room Shower Faucet Set compete for bath rooms faisal/sonex make complete in all respects as specified and as directed by Engineer incharge at site.	Each	2.00		
3	NSI-1	Providing and Fixing of Hand Dryer as per approved by Engineer in Charge.	Each	10.00		
4	NSI-1	Providing and Fixing of Soap Dispenser as per approved by Engineer in Charge.	Each	10.00		
5	NSI-1	Providing and Fixing of wall mounted tissue paper holder as per approved by Engineer in Charge.	Each	15.00		
6	NSI-6	Providing and fixing looking Glass of imported Belgium glass or equivalent as approved, 5mm thick with bevelling edge fixed to wall with s.s spacers using C.P. screw 2" long complete.as approved by Engineer Incharge.	Sft	200.00		
Total (Non-Scheduled Items)						
Grand Total (Plumbing Works)						
C. INTERNAL ELECTRICAL WORKS						
SCHEDULE ITEMS						
1	2-1-01	Wiring for light, fan or bell point with (3/029") PVC insulated wire in 20mm ² (3/4") dia uPVC conduit fitted on surface, including 1mm ² single core PVC insulated wire as ECC as required.	Each	2,848.00	34.00	96,832.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
2	2-7-03	Extension/Additional wiring for light, fan, call bell or light plug point controlled with same switch with (3/029") PVC insulated wire in 20mm (3/4") dia uPVC conduit recessed in wall, column or roof including 1mm ² single core, PVC insulated wire as ECC as required.	Each	1,179.00	5.00	5,895.00
3	2-84-03	Providing & installing 30 Cm (12") sweep, Plastic body Exhaust fan complete with blades, motor, etc fixed in existing hole including connection with 14/0075" flexible wire complete as required Pak, Royal, GFC, Younas, Millat	Each	4,672.00	10.00	46,720.00
4	2-77-01	Providing, Installation, Testing & Commissioning of recessed / surface mounted ceiling lights / downlights including driver, having warm / neutral white / cool white colour, 80-90 lm/watts efficiency, 0.9 or above power factor, 20000 - 25000 hours life cycle, including connection, complete in all respect as approved by the Engineer Incharge.				
	e	14-15 Watts	Each	2,935.00	20.00	58,700.00
	g	22-24 Watts	Each	4,585.00	2.00	9,170.00
5	2-78-03	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 1x2000 lumens output and fixture, complete in all respects				
		4 Feet 36 Watts	Each	3,854.00	2.00	7,708.00
6	2-66-01	Providing and fixing 10 Amps Polycarbonate flame retardant S.P switch with fancy required gang plate fixed in die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	471.00	10.00	4,710.00
7	2-66-02	Providing and fixing 10 Amps Polycarbonate flame retardant Two way switch with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	531.00	5.00	2,655.00
8	2-66-04	Providing and fixing 10 Amps Polycarbonate flame retardant 2-Pin switch Socket unit (Universal) with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	933.00	2.00	1,866.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
9	2-66-05	Providing and fixing 10 Amps Polycarbonate flame retardant 3-Pin switch Socket unit with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	1,120.00	2.00	2,240.00
10	2-66-07	Providing and fixing 10/15 Amps Polycarbonate flame retardant 2-Pin switch Socket unit (GR-Earth pin) with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (Schneider / Philips)	Each	1,893.00	2.00	3,786.00
11	2-61-02	Supply & fixing 25mm (1") dia uPVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required.	P/Rft	58.00	10.00	580.00
12	2-61-05	Supply & fixing 50mm (2") dia uPVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required.	P/Rft	231.00	10.00	2,310.00
13	2-33-01	Wiring for sub-main with 2x 1.5mm ² , PVC insulated wire 300/500 volts grade, single core, strandedcopper conductor wire in 20mm (3/4") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	85.00	20.00	1,700.00
14	2-33-02	Wiring for sub-main with 2x 2.5mm ² , PVC insulated wire 300/500 volts grade, single core, strandedcopper conductor wire in 20mm (3/4") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	115.00	20.00	2,300.00
15	2-33-06	Wiring for sub-main with 2x 16 mm ² , PVC insulated wire 450/750 volts grade, single core, strandedcopper conductor wire in 25mm (1") dia uPVC conduit recessed in the wall, column and roof etc as required.	P/Rft	454.00	20.00	9,080.00
16		Distribution Board				
	2-73-01	Providing & Ffixing Cubical type metal sheet Distribution board with locking arrangement as per drawing, vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required.	P/Sft	6,006.00	3.00	18,018.00
	2-72-04	Providing & Fixing 75 to 100 Amps (High Breaking Capacity) TP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	15,191.00	1.00	15,191.00
	2-74-02	Providing and Fixing 70 to 100 Amps, 4 pole, three phase bus bar strip fitted in given Distribution board complete with bus bar insulator, screws, bolts etc as required	Each	12,973.00	1.00	12,973.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
	2-72-01	Providing & Fixing 6 to 32 Amps DP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	2,410.00	4.00	9,640.00
	2-72-02	Providing & Fixing 15 to 60 Amps (Low Breaking Capacity) TP MCCB fixed on metal board recessed in the wall duly covered with fiber sheet, l/c inter-connection as required.	Each	9,481.00	2.00	18,962.00
		Total				331,036.00
		Below / above Premium % age				
		Grand Total (Internal Electrical Work)				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
4. <u>ROADS</u>						
CIVIL WORKS						
SCHEDULE ITEMS						
1	5	Levelling and dressing the ground by cutting and filling earth upto 6 inches (152mm) in depth including consolidating and watering, complete as required.	Sqm	21,000.00	26.82	563,220.00
2	10+14+16	Making earthen embankments with earth taken from approved borrow pits including cost of excavation, placing earth in layers not exceeding 9" (229 m) depth as per approved section including dressing top and sides of the bank within a lift of 5 ft. (1.52m) and lead upto 100ft. (30.5 m) in all kinds of soil (except gravelly, murum, wet silt, clay or mud and rock).	Cum	7,875.00	891.31	7,019,066.25
		Total				7,582,286.25
		Below / above Premium % age				
		Grand Total (Roads)				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
5. <u>CAR PARKING & PAVED AREA</u>						
CIVIL WORKS						
SCHEDULE ITEMS						
1	103	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	89.92	479.84	43,147.56
2	104	Supplying stacking and filling sand of approved quality from outside sources in foundation, trenches, plinth or under floor, etc. including dressing, watering and consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compacti	Cum	147.23	1,719.80	253,198.19
3	127	Making earthen embankments with earth taken from approved borrow pits including cost of excavation, placing earth in layers not exceeding 9" (229 m) depth as per approved section including dressing top and sides of the bank within a lift of 5 ft. (1.52m) and lead upto 100ft. (30.5 m) in all kinds of soil (except gravelly, murum, wet silt, clay or mud and rock).	Cum	147.23	891.31	131,223.44
5		NOTE:- Rate shall be with use of Local pur Approved quality sand and local Crushed Stone 1/2", 3/4"(PURE) in all types of concrete Steel Shuttering/Plate Including Pipe will be used for Form work.				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
5	105	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	77.69	8,300.58	644,869.52
6	105	Provide, mix, lay compact, level, finish, cure etc. prescribed mix non-structural cement concrete 1:2:4 in plinth protection, edging and for entrance steps, including form work and its removal, curing etc., complete.	Cum	12.23	10,963.00	134,088.79
7	117	Providing and laying in floor C.C. 1:2:4: tuff paver 2-1/2" thick of approved design and colour pattren (average strength 7000 psi) laid on sand cushion filling of joint with sand and warring etc. complete as per direction of Engineer Incharge. (the cost of sand cushion is included)	Sqm	120.82	1,454.47	175,725.93
8	w.s	Making connection with the existing G.I. pipe of size larger than 4 inches (110 mm) dia. including cutting the pipe and providing and fixing necessary fittings.	Rmt	219.45	5,132.65	1,126,335.87
9	116	Providing and fixing 20 B.W.G. corrugated galvanized iron sheets with galvanized iron hooks, bolts, nuts, limpets and bitumen washers etc. without valleys and ridges (excluding the cost of frame work) in ground floor.	Sqm	483.27	4,480.57	2,165,331.23
10	119	Providing and fixing M.S. tees, angles and flats including rivetting, fixing with gusset plates, bolts, nuts etc. complete with hoisting and erecting in position in steel trusses, frames, towers, etc. of any design in ground floor.	Kg	5,200.00	347.91	1,809,132.00
Total						6,483,052.53
Below / above Premium % age						
Grand Total (Car Parking & Paved Area)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
6. TUBE WELL						
CIVIL WORKS						
SCHEDULE ITEMS						
1	103/10.	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	10.96	479.84	5,257.59
3	104/1.	Filling excavated earth available at site in foundation, plinth or under floor, etc. including breaking clods, dressing, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction complete within a lead of one chain (30.5 R.m) and lift of 5 feet (1.52m).	Cum	33.70	259.63	8,749.92
4	104/9.	Supplying stacking and filling sand of approved quality from outside sources in foundation, trenches, plinth or under floor, etc. including dressing, watering and consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction	Cum	4.81	1,719.80	8,277.63
6	124/199.	Providing and carrying out Termite Proofing in foundations, under floors and wood work surface with a solution using of confront TC with water and spraying the solution on the area to be treated, complete as per direction of the Engineer Incharge	Sqm	11.99	141.28	1,693.78
		NOTE:- Rate shall be with use of Lawrence pur Approved quality sand and Margla Crushed Stone 1/2", 3/4"(PURE) in all types of concrete Steel Shuttering/Plate Including Pipe will be used for Form work.				
6	105/14.	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	1.83	8,300.58	15,162.49



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
9		Provide, mix, lay, compact, vibrate, level, finish, cure etc. cast - in site structural concrete of 3000 PSI 28 days Cylindrical strength having the nominal mix proportions not leaner than 1:2:4, including form work and its removal, complete in all respects, excluding only the steel reinforcement, in :-				-
a	114/1,36	Footing, bases	Cum	3.65	13,454.47	49,153.97
b	114/8,136.	Plinth Beam	Cum	1.22	14,254.88	17,359.38
c		Suspended beams, linels/slab etc.				-
i	114/38, 136,163	Ground Floor	Cum	3.29	22,773.59	74,961.66
10		Provide, clean, cut, bend, place in position, bind etc., steel reinforcement including cost of binding wire, spacer block, wastage, steel chairs/pins and the overlaps not shown in drawings, complete in all respects:-				-
a		1): Round deformed steel bars 60,000 PSI yield strength (intermediate grade)				-
i	114/166.	a): Ground Floor including col. bases	Kg	1,918.80	282.45	541,963.80
11	109/107, 123,148, 111, 112	R.C.C (1:2:4) coping Architrives and Cornices	Cum	2.00	19,348.65	38,697.30
12		2):Dito as item 203 but in Columns concrete of 4000 PSI 28 days cylindrical strength having the nominal mix proportions not leaner than 1:1 ½ :3).				-
a	114/4, 134, 137	a): Column up to Plinth Level	Cum	0.57	16,120.72	9,130.97
b	114/24, 134, 137, 161	b): Columns - /Ground Floor	Cum	1.05	21,757.07	22,798.40
13	112/2,76	Provide, lay, cure etc. first class burnt brickwork in foundation and plinth, 9" and over thick, set in 1:5 cement sand mortar, complete.	Cum	4.78	13,824.38	66,134.15
14		Provide, lay, cure etc. first class burnt brickwork in walls in superstructure, including form work etc. complete:-				-
a		1) - 9" and over thick, set in 1:6 cement sand mortar				-
i	112/25.	a) - Ground Floor	Cum	7.59	14,571.19	110,568.34
ii	112/25, 70	b) - First Floor	Cum	-	15,397.94	-
b		2.)- a) 4-1/2" thick, set in 1:4 cement sand mortar				-
i	112/26,79.	b) - Ground Floor	Cum	-	16,070.51	-



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
15	117/6.	Provide, lay, compact, finish, cure etc. 2"thick PCC 1:2:4 topping/flooring in panels using marble dividers in joints, including curing and form work etc. complete. (Panels size not more that 25 sft, marble divider strips paid separately)	Sqm	20.00	740.53	14,810.60
18	117/180.	Providing and laying light colour, glazed/non skid vitrified Porcelain tiles (Polished) exceeding 1600 Sqcm and upto 3600 Sqcm each, (Pak made) on walls and floors, in any floor, laid with dry bond (stile bond) over a base of 1" thick cement mortar (1:3) including jointing to tiles with joint filler of approved quality as per direction of the Engineer incharge.	Sqm	20.45	4,371.30	89,376.02
19	118/40.	Providing and fixing 1/4 inch or 6.4 mm (approx.) thick approved Pakistani make white / coloured glazed tiles from 1.5 Square feet size in dado and skirting in ground floor, over 1/2 " (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base, including filling the joints and wasing the tiles with white cement slurry curing and cleaning etc.complete	Sqm	10.22	2,983.98	30,505.37
20	117/82.	Providing and laying floor of 6mm (approx: 1/4") thick white glazed tiles 12" x12" (304mm x 304mm) of master make (Pakistani) first grade in ground floor laid over 1" (25mm) thick cement mortar 1:2 (1 cement and 2 sand) including jointing and washing the tiles with white cement slurry and curing etc, complete.	Sqm	11.15	3,252.04	36,268.10
21	118/40	Providing and fixing 1/4"(6mm approx.) thick of Pakistani make white/coloured glazed tiles upto 1.5 square feet size in dado and skirting in ground floor over 1/2" (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base including filling the joint with white cement and washing the tile, curing and cleaning etc. complete.	Sqm	27.88	2,983.86	83,193.12
	117/40.	Providing and laying floor of 3/4 inch (19 mm) thick white marble tiles more than 5 Sq.ft. upto 7 Sq.ft. (more than 0.46 Sq-m upto 0.65 Sqm) size fine dressed on the surface, without winding in ground floor over 1 inch (25 mm) lime mortar 1:2 (one lime two sand) setting the marble tiles with grey cement slurry over lime mortar, jointing and washing the tiles with white cement slurry including curing, rubbing and polishing etc. complete, including the cost of mortar..	Sqm	3.35	5,924.83	19,822.85



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		<p>Note:-</p> <p>1) For all plaster work approved Local sand complying with specified gradation limits shall be used.</p> <p>Rates for all kinds of plaster include the cost of labour as well as the materials related to providing/fixing this expanded metal and no separate/additional payment shall be made for this work/item.</p> <p>2) All non-compression joints between concrete and masonry shall be specially treated before plastering, as under:-</p> <p>A 8 inch wide heavy gauge approved quality expanded metal strip shall be tightly fixed centrally over the joint with 1 inch steel nails 12 inches centre to centre longitudinally on both side of joint.</p>				
20		Provide, apply, finish, smooth, cure, etc. 1/2" thick 1:5 cement sand internal plaster to wall upto any height etc. complete.				
a	122/5.	a): Ground Floor	Sqm	91.03	452.02	41,148.10
b	122/87.	b): First Floor	Sqm	-	-	-
23		Providing 3/4" thick ornamental plaster with 1:3 ratio on wall, column and slab finish smooth to basement, plinth, G.floor upto any height.				
a	122/24.	a):Ground Floor	Sqm	10.00	2,343.97	23,439.70
24	108/8.	Provide, lay, finish, cure, horizontal DPC in 1-1/2" thick PCC 1:2:4, one coat of bitumen (S.I. or 10/20) and one layer of 50 gauge (0.001 inch) polythene sheet, complete, (Ref. Specs. Clause 7.4)	Sqm	10.00	789.49	7,894.90
25	108/11,12, 29	Provide, lay, finish, cure, etc. vertical DPC in 3/4" thick 1:3 cement sand plaster, one coat of bitumen (S.I or 10/20) and one layer of 50 gauge (0.001 inch) polythene sheet, complete, (Ref. Specs. Clause 7.5)	Sqm	15.00	887.42	13,311.30
26	108/12.	Providing a coat of bitumen emulsion at 10 Lbs. per % sft. (0.49 Kg/sm) on walls and floor in ground floor.	Sqm	25.00	108.80	2,720.00
		Note:- All C.I. down pipes and specials shall be painted in approved enamel paint (2 coat) in colour matching with the surrounding walls/area and no separate payment shall be made for this work.				
27		Provide and install C.I. rain water down pipe lines, pipes of M/S Faisal or Tipu or approved equal, jointed in spun yarn and cement, including clamps testing and painting, complete in all respects.				
a	124/45.	1) 4" inside dia	Rft	15.00	740.94	11,114.10
b	124/44.	2) 3" inside dia	Rft	15.00	538.44	8,076.60



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
28		Provide and install 4" dia PVC rain water down pipe with mild steel clamps bolts and nuts fixed in cement concrete 1:2:4 etc complete.				
a	124/65.	1) 4" inside dia	Rft	10.00	718.67	7,186.70
b	124/64.	2) 3" inside dia	Rft	10.00	495.48	4,954.80
29		Provide and install 4" dia PVC bend of any degree for rain water down pipe with clamps bolts and nuts fixed in cement concrete 1:2:4 etc complete.				
a	124/69.	1) 4" inside dia	Each	4.00	1,748.63	6,994.52
b	124/68	2) 3" inside dia	Each	4.00	1,590.63	6,362.52
b	124/48.	2) 3" inside dia	Each	12.00	1,541.88	18,502.56
33	120/2.	Providing and fixing best quality deodar wood frames for doors, windows, ventilator, clerestorey windows, cupboard frames and trollies work including the cost of required number of iron holdfasts (1-1/2" x 1/8" x 9" long) PCC 1:2:4 and painting the back side/embeded portions of the frame in 2 coats of hot bitumen etc. complete.	Cum	0.18	449,626.18	82,172.02
35	120/22.	Providing and fixing 1-1/2" thick best quality deodar wood panelled shutter as per drawings (A-08 & Gen-01). Door fittings to be fixed as per hardware schedule i/c hinges, handles and tower bolts etc. complete but excluding cost of kick plates, door lock and sliding bolts. (Drawing 10/A)	Sqm	0.18	17,778.30	3,249.10
907	121/144.	Extra for providing and fixing Haps and Staples C.P. brass 4" long.	Each	1.00	194.96	194.96
909	121/132.	Providing and fixing approved chromium plated brass sliding (aldrop) bolts 9" x 5/8" with necessary chromium plated brass screw and galvanised iron bolts and nuts.	Each	1.00	2,759.72	2,759.72
910	121/80.	Providing and fixing mortise door lock with handle and duplicate keys, made in Hungry (imported) or equivalent.	Each	1.00	4,024.38	4,024.38
911	121/68	Providing and fixing with brass screws or specially supplied screws hydraulic Door Closer imported heavy duty Ruby Make (Japan) medium size, complete as per specification	Each	1.00	8,206.25	8,206.25



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
33	119/70, 121	Providing and fixing fully glazed Bronx anodized or Powder Coated aluminium Sliding windows as per British standard manufactured by Lucky, Prine, Chawla, Krudson and Pakistan Cables. (fixing through their approved fabricators), Executive model section double or single glazed 101mm x 37mm and 2mm thick including the cost of aluminium netting, fitting, with all accessories cutting holes etc. and making good damages to wall etc. complete as required in any floor as per direction of Engineer in-charge, but Excluding the cost of glass pans.	Sqm	1.92	22,754.99	43,617.26
35	120/230.	Providing and fixing G.I. Wire Gauze of 24 gauge and 144 mesh per Sq. inch fixing with M.S. Flat Putty 3/8" x 1/8" with screws to window including painting etc. complete as directed.	Sqm	1.92	2,827.48	5,419.77
37	124/202.	Providing and fixing of 2" dia stainless steel pipe (18SWG) railing alongwith 4 Nos 3/4" dia parallel pipe having S/S pipe vertical post 2" dia at 3ft C/C average spacing and 4" dia vertical post at start turning and at end point including cost of labour, welding charges fitting & fixing in marble floor and wall etc complete as per direction of the Engineer Incharge	Rum	15.00	7,330.63	109,959.45
37	122/162.	Provide and apply one coat of Dulux/ Robbialac Primeon/ Alkali Resisting Masonry Sealer and minimum 2 coats of Dulux Special Plastic Emulsion or Robbialac VIP including surface preparation filling and rubbing etc., as per Specs. Section-6700-5, complete in all respects, upto any height at any floor	Sqm	91.03	725.20	66,016.12
40	122/172.	Providing/applying 3 coats of ICI weather Shield paint to plastered surface in approved colour/shade and according to the approved colour scheme including applying primer of same manufacturer. The surface is to be properly prepared by rubbing, sand papering, cleaning and making smooth before applying the priming coats, complete as directed any height at any floor.	Sqm	48.33	474.55	22,933.64
37	5-17-01.	Conducting Electric Resistivity survey at different locations to configure the subsurface lithologies/possibility of ground water suitable for drilling tube well	Job	1.00	33,000.00	33,000.00



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
40	5-07-06.	Drilling of trial bore in all types of soil except shingle gravel and rock including sinking and withdrawing of casing pipe 6"-10" dia.				
	a	Ground level to 250 Rft	Rft	250.00	1,388.00	347,000.00
	b	Exceeding 250 Rft	Rft	150.00	1,542.00	231,300.00
41	5-07-08.	Providing and installing 10 dia UPVC blind pipe BSS class "E" in tube well bore hole including sockets and salvent etc complete as required as approved by engineer in charge as required.	Rft	200.00	3,118.00	623,600.00
42	5-07-10.	Providing and installing 10 dia UPVC strainer pipe BSS class "E" in tube well bore hole including sockets and salvent etc complete as required as approved by engineer in charge as required.	Rft	150.00	3,118.00	467,700.00
43	5-17-12.	Providing and installing PVC bail/end plug in tube well bore 2ft long & 10" dia class "E" complete as specified.	No	1.00	2,805.00	2,805.00
44	5-17-14.	Shrouding with graded PEA gravel into the space between bore hole and blind pipe/strainer.	Cft	500.00	150.00	75,000.00
45	5-17-15.	Electric/video logging of successful bore hole for proper placement of strainer/blind pipe etc complete as required.	Job	1.00	33,000.00	33,000.00
46	5-17-17.	Testing develop and sterize of tube well through compressor upto 105 cusecs discharge in accordance with approved procedure upto duration of 72 hours as required by the Engineer	Job	1.00	34,320.00	34,320.00
47	5-14-09.	Providing and fixing of submersible pumping set comprising of submersible pump with 15HP 2580/2900 RPM, 3Phase, 400V, 50 Hz, AC electric motor capable to discharge 3500-5000 US GPH (Gallons per Hour) of clear water at head of 300 to 400 ft, including erection clamp, cable lamp, non return valve, motor control unit complete in all respects as approved by the engineer in charge as required.	Job	1.00	397,788.00	397,788.00
Total						3,989,656.93
Below / above Premium % age						
Total (Scheduled Items)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
SCHEDULE ITEMS						
1	NSI	Providing and applying wash terrazzo of 1-3/4 inches (44 mm) thick consisting of 3/4 inch (19 mm) thick topping 1:2 (1 cement 2 approved marble chips No. 6 to 8) of approved color over palstered surface, laid in panels (aluminum strips) or pattern including form work, curing, cutting, rubbing and polishing(if required) etc, complete...	Sqm	24.16		
		Total (Non-Scheduled Items)				
		Grand Total (Tube Well)				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
7. <u>OPEN DRAINS</u>						
CIVIL WORKS						
SCHEDULE ITEMS						
1	103	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	331.26	570.50	188,982.16
3	105	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	55.21	8,300.58	458,270.98
4	105	Provide, mix, lay compact, level, finish, cure etc. prescribed mix non-structural cement concrete 1:2:4 in plinth protection, edging and for entrance steps, including form work and its removal, curing etc., complete.	Cum	24.32	10,963.61	266,624.45
5		Provide, mix, lay, compact, vibrate, level, finish, cure etc. cast - in site structural concrete of 3000 PSI 28 days Cylindrical strength having the nominal mix proportions not leaner than 1:2:4, including form work and its removal, complete in all respects, excluding only the steel reinforcement, in :-				-
	114	1): Footing, bases	Cum	73.69	13,454.47	991,514.47
6		Provide, clean, cut, bend, place in position, bind etc., steel reinforcement including cost of binding wire, spacer block, wastage, steel chairs/pins and the overlaps not shown in drawings, complete in all respects:-				-
		1): Round deformed steel bars 60,000 PSI yield strength (intermediate grade)				-
	114	a): Ground Floor including col. bases	Kg	5,784.98	282.45	1,633,968.57



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
7	112	Provide, lay, cure etc. first class burnt brickwork in foundation and plinth, 9" and over thick, set in 1:5 cement sand mortar, complete.	Sqm	220.84	13,824.40	3,052,953.57
8		Provide, apply, finish, smooth, cure etc. 3/4" thick 1:4 cement sand external plaster, complete upto any height (Ref. Specs. Clause 6.4)				
	122	a):Ground Floor	Sqm	1,933.09	574.26	1,110,096.26
Total						7,702,410.46
Below / above Premium % age						
Grand Total (Open Drains)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
8. <u>SEPTIC TANK</u>						
CIVIL WORKS						
102	103	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	76.44	479.84	36,680.86
		NOTE:- Rate shall be with use of Local pur Approved quality sand and local Crushed Stone 1/2", 3/4"(PURE) in all types of concrete Steel Shuttering/Plate Including Pipe will be used for Form work.				-
201	105	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	4.20	8,300.58	34,899.10
202	105	Provide, mix, lay compact, level, finish, cure etc. prescribed mix non-structural cement concrete 1:2:4 in plinth protection, edging and for entrance steps, including form work and its removal, curing etc., complete.	Cum	2.17	10,963.61	23,772.46
203		Provide, mix, lay, compact, vibrate, level, finish, cure etc. cast - in site structural concrete of 3000 PSI 28 days Cylindrical strength having the nominal mix proportions not leaner than 1:2:4, including form work and its removal, complete in all respects, excluding only the steel reinfomcemnt, in :-				-
	114	slab	Cum	6.37	21,480.16	136,835.67
		1): Rouind deformed steel bars 60,000 PSI yield strength (intermediate grade)				-
	114	a): Ground Floor including col. bases	Kg	800.00	282.45	225,960.00
301	112	Provide, lay, cure etc. first class burnt brickwork in foundation and plinth, 9" and over thick, set in 1:5 cement sand mortar, complete.	Cum	20.79	13,824.40	287,413.07



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		<p>Note:-</p> <p>1) For all plaster work approved Local sand complying with specified gradation limits shall be used.</p> <p>Rates for all kinds of plaster include the cost of labour as well as the materials related to providing/fixing this expanded metal and no separate/additional payment shall be made for this work/item.</p> <p>2) All non-compression joints between concrete and masonry shall be specially treated before plastering, as under:-</p> <p>A 8 inch wide heavy gauge approved quality expanded metal strip shall be tightly fixed centrally over the joint with 1 inch steel nails 12 inches centre to centre longitudinally on both side of joint.</p>				
603		Provide, apply, finish, smooth, cure etc. 1/4" thick 1:4 cement sand internal plaster, complete upto any height				
	122	a):Ground Floor	Sqm	174.56	452.02	78,903.96
		Total				824,465.12
		Below / above Premium % age				
		Grand Total (Septic Tank)				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
9. <u>MANHOLES</u>						
CIVIL WORKS						
1	103	Excavation for trunches, Drains, manholes, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	50.96	573.73	29,238.79
		NOTE:- Rate shall be with use of Local pur Approved quality sand and local Crushed Stone 1/2", 3/4"(PURE) in all types of concrete Steel Shuttering/Plate Including Pipe will be used for Form work.				
2	105	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	4.20	8,300.58	34,899.10
3		Provide, mix, lay, compact, vibrate, level, finish, cure etc. cast - in site structural concrete of 3000 PSI 28 days Cylindrical strength having the nominal mix proportions not leaner than 1:2:4, including form work and its removal, complete in all respects, excluding only the steel reinforcemnt, in :-				
	114	1): Slab	Cum	6.37	21,480.16	136,835.67
4		Provide, clean, cut, bend, place in position, bind etc., steel reinforcement including cost of binding wire, spacer block, wastage, steel chairs/pins and the overlaps not shown in drawings, complete in all respects:-				
		1): Round deformed steel bars 60,000 PSI yield strength (intermediate grade)				
	114	a): Ground Floor including col. bases	Kg	700.00	282.45	197,715.00
5	112	Provide, lay, cure etc. first class burnt brickwork in foundation and plinth, 9" and over thick, set in 1:5 cement sand mortar, complete.	Cum	32.70	13,824.40	452,071.97



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		<p>Note:-</p> <p>1) For all plaster work approved Local sand complying with specified gradation limits shall be used.</p> <p>Rates for all kinds of plaster include the cost of labour as well as the materials related to providing/fixing this expanded metal and no separate/additional payment shall be made for this work/item.</p> <p>2) All non-compression joints between concrete and masonry shall be specially treated before plastering, as under:-</p> <p>A 8 inch wide heavy gauge approved quality expanded metal strip shall be tightly fixed centrally over the joint with 1 inch steel nails 12 inches centre to centre longitudinally on both side of joint.</p>				
6		Provide, apply, finish, smooth, cure, etc. 1/2" thick 1:5 cement sand internal plaster to wall upto any height etc. complete.				
	122	a): Ground Floor	Sqm	125.46	452.02	56,712.55
		Total				907,473.08
		Below / above Premium % age				
		Grand Total (Manholes)				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
10. SEWERAGE LINE						
CIVIL WORKS						
1	103	Excavation for foundation trenches and drains in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	729.78	573.73	418,699.45
2	104	Selectred/approved earthfill under floors in layers, earth brought from out side including transportation, ramming, watering, compacting, leveling and all necessary lead and lift, complete (Ref. Clause 1.3.13)	Cum	547.34	1,149.16	628,979.65
3	105	Provide, mix, lay compact, level, finish, cure etc. lean concrete 1:4:8 using 1", 1/2" , 3/4" (pure)down crush (Ref. Specs. Clause 2.2.8) including formwork and its removal, complete in all respects.	Cum	45.61	8,300.58	378,602.33
4		Providing R.C.C. pipes and collars of class 'B' and fixing in trench including cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) and back filling the excavated material in trench including testing with water to a pressure head of 80 feet (25 m) and cartage within 10 miles (16.09 km.)				
a	W-S	Do. Do. 9 inches (230 mm) dia. pipe..	Rmt	304.79	1,520.62	463,462.36
b	W-S	Do. Do. 12 inches (305 mm) dia. pipe..	Rmt	304.79	1,798.43	548,134.72
Total						2,437,878.50
Below / above Premium % age						
Grand Total (Sewerage Line)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
11. EXTERNAL WATER SUPPLY						
CIVIL WORKS						
1	103	Excavation for raft foundations, underground tanks and septic tanks (rectangular or square) in all kinds of soil (except gravelly and murum soil wet silt, clay or mud, conglomeration of gravel and boulders, soft, sandy or disintegrated and hard rock) and back filling the excavated material all round the trenches including breaking clods, watering, consolidation by ramming in layers not exceeding 9 inches (229 mm) in depth to full compaction, dressing and disposal of surplus excavated stuff as directed, lead up to one chain (30.5 R.m) and lift upto 5 feet (1.52 m).	Cum	339.75	570.50	193,827.86
2		Providing G.I pipes and specials, etc; including fixing, cutting and fitting. Complete with and including the cost of cutting trench upto 2-1/2 feet (762mm) deep, refilling, watering, ramming and disposal of surplus earth within one chain and painting two coats of bitumen paint to pipes and specials after cleaning and hessian cloth soaked in maxphalt composition wrapped tightly round the pipes and testing to a pressure head of 200 feet (61m) and cartage within 10 miles (16.09km). (ILLM).				
a	W-S	Do. Do. 1 inche (25 mm) dia pipe (ILLM)	Rmt	609.57	1,125.15	685,857.97
b	W-S	Do. Do. 1-1/2 inches (40 mm) dia pipe (ILLM)	Rmt	609.57	1,662.46	1,013,386.16
c	W-S	Do. Do. 2 inches (50 mm) dia pipe (ILLM)	Rmt	457.18	2,243.43	1,025,646.14
d	W-S	Do. Do. 3 inches (80 mm) dia pipe (ILLM)	Rmt	457.18	3,620.82	1,655,358.12
3		providing and fixing cast iron sluice valves with flanged ends and two tail pieces to each valve complete with bolts and nuts, incl the cost of insertion rubber washers (valves to stand test pressure head of 400 feet (122m).				
a	W-S	Do. Do. 3 inches (80 mm) dia	Each	40.00	7,961.40	318,456.00
Total						4,892,532.26
Below / above Premium % age						
Grand Total (External Water Supply)						



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quanttiy	Rate (Rs.)	Amount (Rs.)
12. EXTERNAL ELECTRIFICATION						
A. LT, ELT AND MAIN PANEL BOARDS						
2.01	NSI	<p>LOW TENSION (LT.) PANEL NO:1 (MPB-01) Supply at site, fabrication, installation, testing, commissioning and connections of wires / cables of LT Panels to be installed as and where shown on drawing, made of MS sheet 14 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 95 -100 micron thickness in approved colour with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from ACB & MCCBs terminating on cable terminal blocks to be installed at the bottom of LT panel, including cost of all necessary materials complete in all respects. All MCCBs shall be installed inside the panel having a further M.S. protective sheet and accessible only by opening the front door. All MCCBs shall be rated at 50°C and with $I_{cu}=100\% I_{cs}$. and shall be of one make only and not to be mixture. Main Panel Board shall be manufactured by QS/SA or any one of the manufacturers as mentioned in Appendix "A". complete in all respects</p> <p>INCOMING FROM TRANSFORMER NO-1</p> <p>1- 5000 Amps 3 Phase 3P, ACB with sectionable Neutral link adjustable Air Circuit Breaker (ACB) Motorized chargeable operation, 440-600 Volts, manual stored energy fixed mounting type with over current tripping devices consisting of adjustable long time, short time and adjustable instantaneous devices having repturing capacity not less than 65 KA at 415 V., with 4 additional copper flats on incoming side of ACB to facilitate connection of incoming L.T. cables.</p> <p>3 -2000 Amps, 3 Phase and Neutral Cu. busbars of electrolytic copper 99.9%.</p> <p>3- Air cooled ring type Current Transformers ratio 5000/5 Amps having suitable output and accuracy.</p> <p>3-Digital iron Ammeters scaled 0-5000 A of appropriate sizes, square shaped.</p> <p>3-Digital Voltmeter scaled 0-500 Volts of appropriate sizes, square shaped.</p>				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		1-Earthing bar with necessary holes, nuts bolts and washers, etc. 2-Earthing terminals. OUTGOING 1 NO- 400 Amps 3P, MCCB, RC: 65 KA 3NO- 250 Amps 3P, MCCB, RC: 65 KA 3 Nos-200 Amps 3P, MCCB, RC: 35 KA 2 Nos- 150 Amps 3P, MCCB, RC: 25 KA 2-Nos- 100 Amps 3P, MCCB, RC: 35 KA All internal wiring from ACB, MCBs & MCCBs to cable and instruments wiring including cost of all necessary accessories.	Each	1.00		
2.02	NSI	LOW TENSION (LT.) PANEL NO:2 (MPB-02) same as above mentioned item 3.01but under mentioned panel INCOMING FROM TRANSFORMER NO-2 1- 4000 Amps 3 Phase 3P, ACB with sectionable Neutral link adjustable Air Circuit Breaker (ACB) Motorized chargeable operation, 440-600 Volts, manual stored energy fixed mounting type with over current tripping devices consisting of adjustable long time, short time and adjustable instantaneous devices having repturing capacity not less than 65 KA at 415 V., with 4 additional copper flats on incoming side of ACB to facilitate connection of incoming L.T. cables 3 -800 Amps, 3 Phase and Neutral Cu. busbars of electrolytic copper 99.9%. 3- Air cooled ring type Current Transformers ratio 4000/5 Amps having suitable output and accuracy. 3-Digital iron Ammeters scaled 0-4000 A of appropriate sizes, square shaped. 3-Digital Voltmeter scaled 0-500 Volts of appropriate sizes, square shaped. 1-Earthing bar with necessary holes, nuts, bolts and washers, etc. 2-Earthing terminals. OUTGOING 6 Nos- 250 Amps 3P, MCCB, RC: 65 KA 1 NO- 200 Amps 3P, MCCB, RC: 65 KA 1 Nos- 100 Amps 3P, MCCB, RC: 35 KA All internal wiring from ACB, MCBs & MCCBs to cable and instruments wiring including cost of all necessary accessories.	Each	1.00		



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		<p>POWER FACTOR PLANT Supply, fabrication and manufacture of 440 Volt, indoor type Automatic Power Factor Improvement Plant to be installed adjacent to Main Panel Board installed in electrical room the consisting of capacitors, Triple Pole Air Break Contactors, HRC fuse bases and links, 12 steps Digital type Automatic reactive relay with all necessary protective devices, "ON" indication lamps, Digital Power Factor Meter,</p> <p>push buttons, auxiliary contactors, hand/off/ Auto switch, discharging chokes, Exhaust fan control fuses, fuse puller, main Protection Bracker all other necessary materials, complete in all respects. Comprising as under:</p>				
		LV feeder pillars for LV distribution system. The LV feeder pillar consists of connectors, insulators, busbars, thimbles, etc. The LV Feeder Pillars shall be completely designed, fabricated, manufactured and installed as per WAPDA's technical specifications and standards.	Job	1.00		
		11KV Industrial Metering Panel	Job.	1.00		
		LT Panel	Job.	1.00		
		MV termination kit for HT cable	No.	10.00		
		MV joint kit for HT cable	No.	10.00		
		Outdoor type 400KVA, three phase, 11/0.415 kV Pad mounted transformer with LT & HT Compartments. The sheet steel enclosure shall be 3 mm thick and painted in dark grey color. The complete unit shall be designed, fabricated commissioned as per WAPDA's technical specification No. P-41:81.	Job	1.00		
2.03	NSI	Installed with MPB-01-BF				
		500 KVAR	Each	1.00		
		240 Sqmm 4 core PVC PVC	MTR	90.00		
		300 Sqmm 4 core PVC PVC	MTR	90.00		
		70 Sqmm 4 core PVC PVC	MTR	90.00		
		10 mmsq 4 core/cu/pvc/pvc	MTR	90.00		
		50Sqmm 4 core PVC PVC	MTR	90.00		
		16 mmsq 4 core/cu/pvc/pvc	Mtr	90.00		
		25Sqmm 4 core PVC PVC	MTR	150.00		
		1 Core 95mm ² (37/.072")	MTR	90.00		
		500 mcm	MTR	90.00		



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		35 mmsq 4 core/cu/pvc/pvc.	MTR	90.00		
B. EARTHING SYSTEM						
1	NSI	<u>Earthing Bore</u>				
		Drilling of earth bore 4" dia 90 to 100ft. deep or up back filling, ramming, complete in all respect. Earthing bores shall be made at minimum 6'-0" away from foundation and distance between earth bore shall not be less than 10'Ft.				
		For HT Metering Panel	Each	2.00		
		For HT Consumer panel	Each	2.00		
		For Transformers body Point	Each	1.00		
		For Transformers Neutral Point	Each	1.00		
		For LT Panels	Each	2.00		
2	NSI	<u>Copper Rod</u>				
		Supply, installation and connections of earthing electrode 10ft long 1"dia including cost of brass coupling sockets nuts, bolts, washers, all necessary accessories, complete in all respects.	Each	4.00		
3	NSI	<u>2"dia GI pipe</u>				
		Supply, installation and lowering in prebore. 2"dia GI pipe including cost of all fixing accessories, all necessary accessories, complete in all respects. Actual Length shall be measured as per site & paid accordingly	Rft	800.00		
2.01	NSI	<u>Copper Conductor for transformer Neutral point</u>				
		Supply, installation and connections of earthing leads consisting of stranded electrolytic copper conductor 1x 120 mm ² to be pulled in pre-laid pipe connected with Copper Rod /test link to desired point. including cost of all fixing accessories, all necessary accessories, complete in all respects. Actual Length shall be measured as per site & paid accordingly	Rft	100.00		
4	NSI	<u>Copper Conductor</u>				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		same as above but 70 mm ²	Rft	100.00		
5	NSI	Earth Test Points (ETP) Supply of earth Test Points consisting of copper plate to be installed inside Earth Manhole. complete with fixing arrangement, brass nuts bolts, washers, lugs, 1/2" dia. holes to facilitate connections of Incoming copper strips/ copper conductors & outgoing CPC.	No.	4.00		
5.01	NSI	Earthing Manhole Construction of brick 12"x12"x18" manhole with 6" thick wall with cement mortar internal plaster 1:4, RCC 4" thick manhole removable cover with lifting hooks, including cost of sealing compound to be used to seal the PVC pipe ends for incoming cables, 2 coats of hot bitumen on the external surface, complete in all respects with all necessary materials.	No.	4.00		
5.02	NSI	Testing Testing of the earthing system with "Earth Tester" along with other testing accessories. Testing shall be performed in the presence of the Engineer and written test result duly verified by the Engineer shall be submitted to the Client for his record.	Job	1.00		
C. EXTERNAL ILLUMINATION						
1	NSI	DISTRIBUTION BOARD "LIGHT & POWER" PROTECTION CLASS IP-65 Supply, installation, testing, commissioning of Distribution Boards-indoor recessed mounted to be installed as and where shown on drawing, made of MS Sheet 16 SWG with hinged door, handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, 2 coats of antirust and powder coated paint of approved colour, including cost of all necessary materials complete in all respects. DB's mentioned below shall have 3 Phase indication lamps of colour Red, Yellow, Blue, shall be manufactured by any one of the manufacturers as mentioned in Appendix "A" and conforming to single line diagram. DB's for installation of cable terminals blocks				
		DISTRIBUTION BOARD "DB-EXT INCOMING				
		1: 30 Amps 3 Pole MCB RC:6KA.				
		1: 40 Amps Power Contactor				
		1: Photo cell				
		1: Timer				
		1: ON -Off-Manual off selector switch				



ABSTRACT OF COST

PROJECT: CONSTRUCTION OF PSB COACHING CENTER AT SKARDU

Item No	CSR Code	Description of Item	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		OUTGOING				
		6: 20 Amps SP, MCB, RC: 6KA	Each	3.00		
6.02	NSI	Single Arm Pole				
		Supply, installation, testing and commissioning of Single Arm Step Sectional tubular pole with step 8', 7' & 6 and pipe dia 4", 3" & 2" as shown on drawing, pole shall installed per made RCC foundation with of all necessary fixing accessories, complete in all respects	Each	13.00		
6.03	NSI	Double Arm Pole				
		Supply, installation, testing and commissioning of Double Arm Step Sectional tubular pole with step 8', 7' & 6 and pipe dia 4", 3" & 2" as shown on drawing, pole shall installed per made RCC foundation with of all necessary fixing accessories, complete in all respects	Each	13.00		
6.04	NSI	Pole foundation				
		Supply, installation, testing and commissioning of Lighting Pole RCC Foundation, J bolt as shown on drawing, pole shall installed per made RCC foundation with of all necessary fixing accessories, complete in all respects	Each	13.00		
7	NSI	HRC-511 with 150W SON Lamp				
		Supply, installation, testing and commissioning of light Fixture with 150 Watts Son Lamp, starter, ignator, capacitor with all necessary fixing accessories, complete in all respects	Each	40.00		
8	NSI	Electrical Man Hole				
		Made of electrical manhole with Bricks, sand Cement & RCC removeable cover , as shown on drawing, with of all necessary fixing accessories, complete in all respects	Each	25.00		
		16 mmsq 4 core/cu/pvc/pvc	Meter	200.00		
Grand Total (External Electrification)						

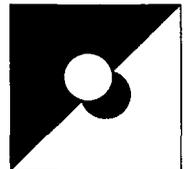


TENDER DRAWING (Vol –IV)

GYMNASIUM BLOCK PLAN

SHAZ CONSULTANTS
ARCHITECTURE AND
DESIGN SERVICES

154, P/I, STREET NO. 07
PHASE-IV, HAYATABAD PESHAWAR
PH. 091-5825480. FAX: 091-5824123



ARCHITECTURAL DRAWINGS

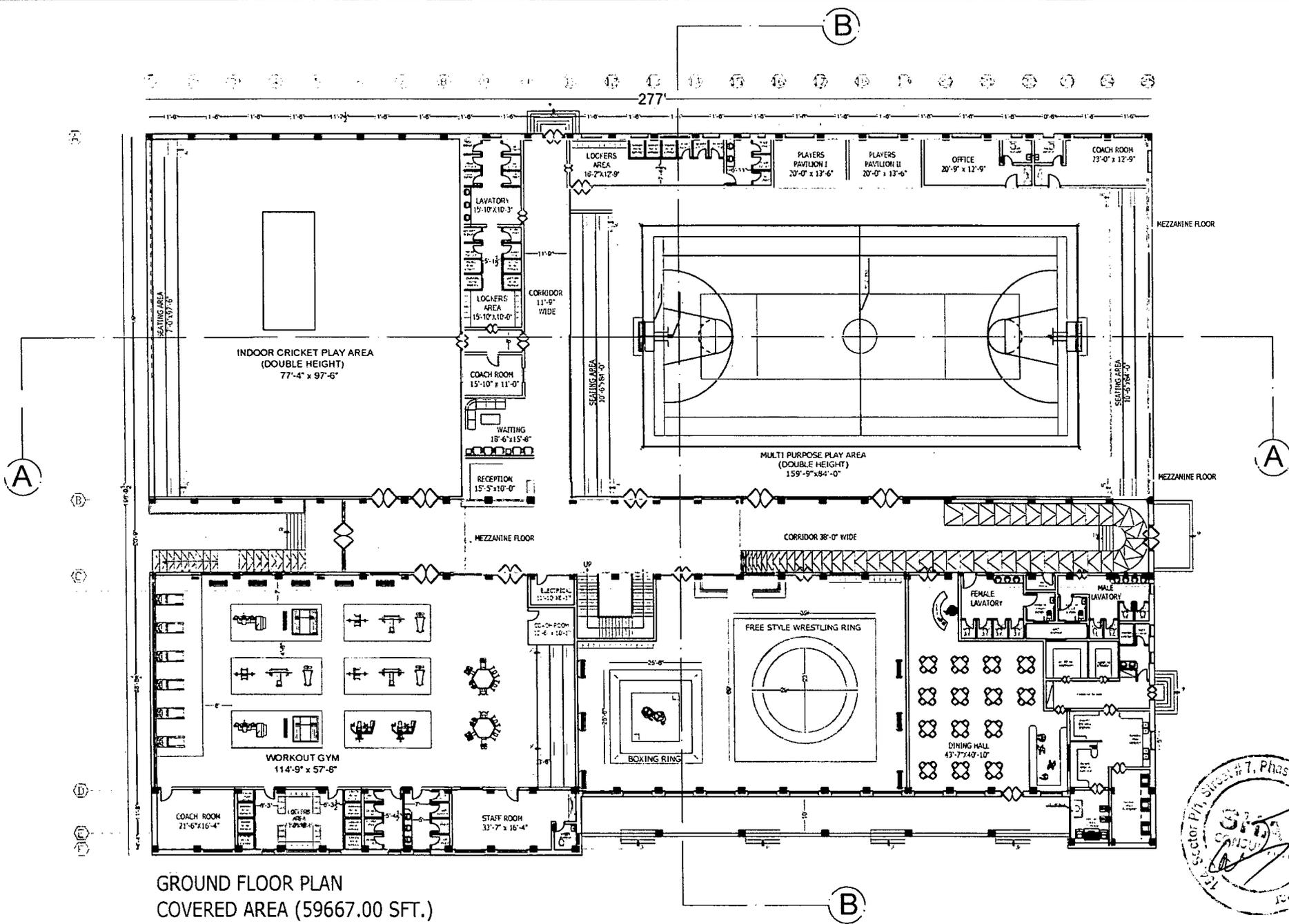


LIST OF DRAWINGS
PAKISTAN SPORTS BOARD SKARDU

DRAWING NO.	TITLE OF DRAWING	DRAWING CODE	DRAWING NO.	TITLE OF DRAWING	DRAWING CODE
ARCHITECTURAL			PUBLIC HEALTH		
LIST OF DRAWINGS			PUBLIC HEALTH		
01	GROUND FLOOR PLAN (LAYOUT)	A-01	01	GROUND FLOOR WATER SUPPLY PLAN	Ph-01
02	TOP FLOOR PLAN	A-02	02	ZOOM-1	Ph-02
03	FRONT ELEVATION & RIGHT SIDE ELEVATION	A-03	03	ZOOM-2	Ph-03
04	SECTION AT A-A & B-B	A-04	04	ZOOM-3	Ph-04
05	GROUND FLOOR WORKING PLAN	A-05	05	ZOOM-4	Ph-05
06	ZOOM-1	A-06	06	GROUND FLOOR SEWERAGE PLAN	Ph-06
07	ZOOM-2	A-07	07	ZOOM-1	Ph-07
08	ZOOM-3	A-08	08	ZOOM-2	Ph-08
09	ZOOM-4	A-09	09	ZOOM-3	Ph-09
10	TOP FLOOR WORKING PLAN	A-10	10	ZOOM-4	Ph-10
11	STAIR DETAIL	A-11	11	DETAILS OF FIXTURE UNITS	Ph-11
12	DOOR / WINDOW SCHEDULE	A-12	12	DETAILS OF FIXTURE UNITS	Ph-12
13	DOORS DETAIL	A-13	ELECTRICAL		
14	WINDOWS DETAIL	A-14	01	GENERAL NOTES	EL-01
15	JOINERY DETAIL	A-15	02	TYPICAL DETAILS	EL-02
STRUCTURAL			03	LEGENDS	EL-03
01	GENERAL NOTES	Str-01	04	GROUND FLOOR LIGHTING	EL-04
02	GENERAL LAYOUT PLAN	Str-02	05	ZOOM-1	EL-05
03	COLUMN LAYOUT DETAIL	Str-03	06	ZOOM-2	EL-06
04	COLUMN DETAIL	Str-04	07	ZOOM-3	EL-07
05	MAIN COLUMN RAFTER SCHEDULE	Str-05	08	ZOOM-4	EL-08
06	MAIN COLUMN RAFTER SCHEDULE	Str-06	09	GENERAL NOTES	EL-09
07	MAIN COLUMN RAFTER SCHEDULE	Str-07	10	LEGENDS	EL-10
08	ROOF DETAIL	Str-08	11	GROUND FLOOR POWER PLAN	EL-11
09	ROOF DETAIL	Str-09	12	TYPICAL DETAILS	EL-12
			13	LEGENDS	EL-13
			14	GROUND FLOOR FIRE ALARM PLAN	EL-14
			15	FIRE ALARM SYSTEM RISER DIAGRAM	EL-15

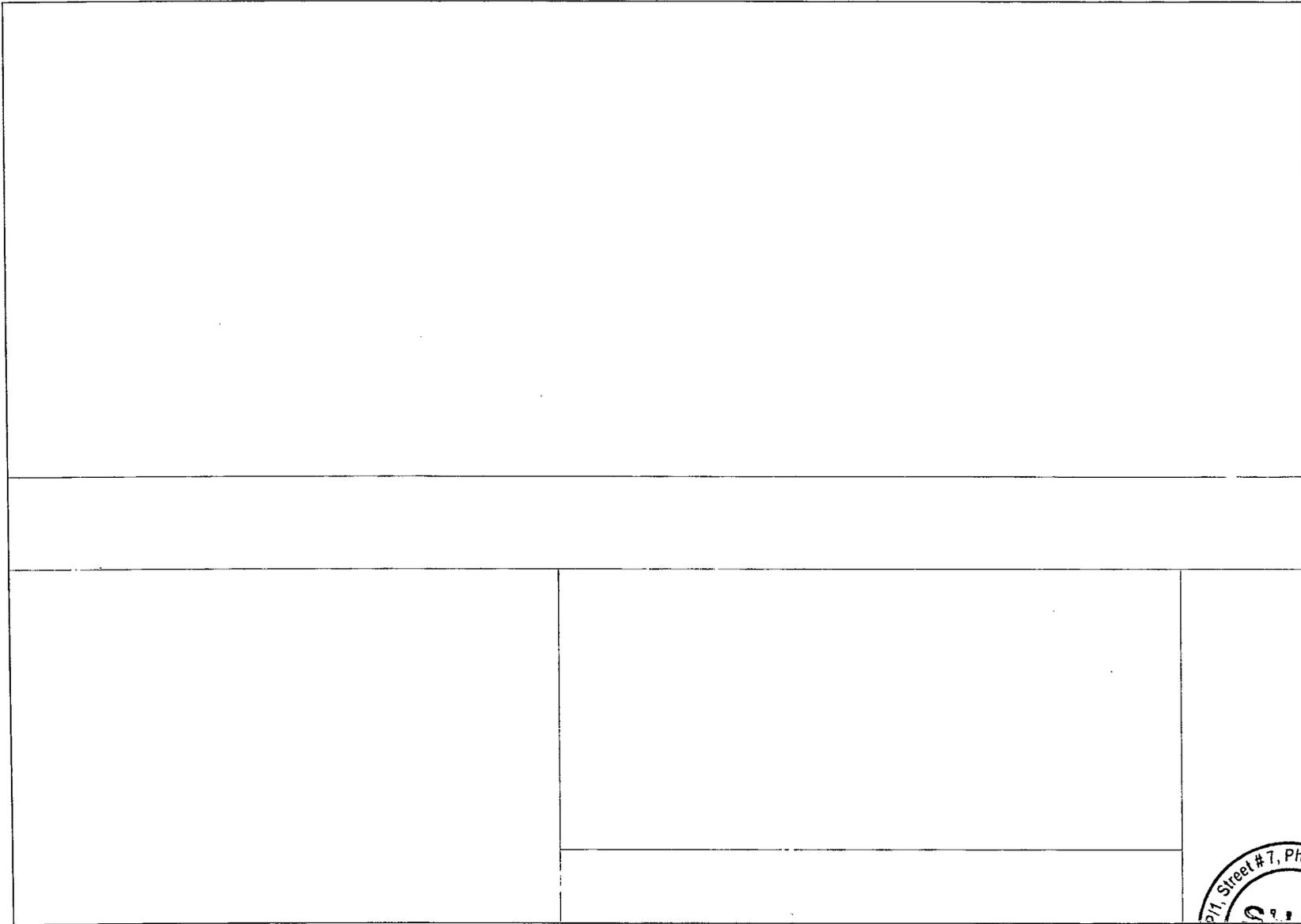
CLIENT:	PROJECT:	COVERED AREA	Architect :	DRG.NO : A-00	DRAWN BY:	APPROVED BY:	SHAZ CONSULTANTS
EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU		SYED AKBAR ILYAS	00	S.M. HASEEB	SIGN/ SEAL:	ARCHITECTURE AND DESIGN SERVICES
	TITLE:	LIST OF DRAWINGS	Associate Architect :	SCALE :	CHECKED BY :	DATE:	154, P1, STREET NO. 07 PHASE IV, HAYATABAD PESHAWAR PH 091-5825480 FAX 091-5824123
			Project Engineer :	DATE :	SYED AKBAR ILYAS		





GROUND FLOOR PLAN
COVERED AREA (59667.00 SFT.)

CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT:	CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	COVERED AREA (59667.00SFT.)	Architect : SYED AKBAR ILYAS	DRG.NO : A-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154/PI STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480, FAX. 091-5824123
	TITLE:	GYMNASIUM BLOCK PLAN	GROUND FLOOR PLAN	Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		01		SIGN/ SEAL:
				Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	CHECKED BY : SYED AKBAR ILYAS	DATE:	

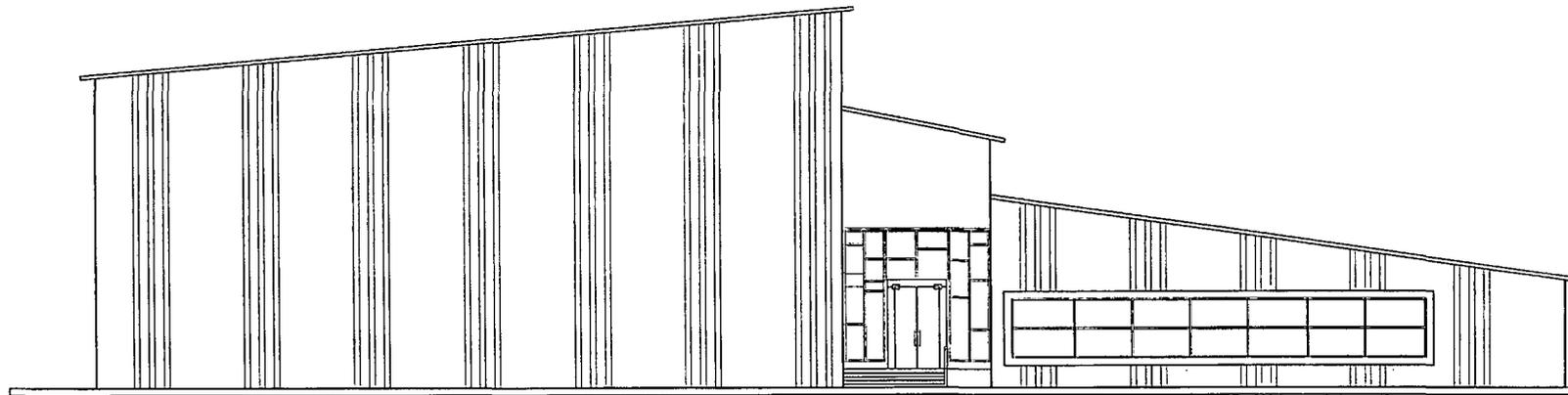


TOP ROOF PLAN

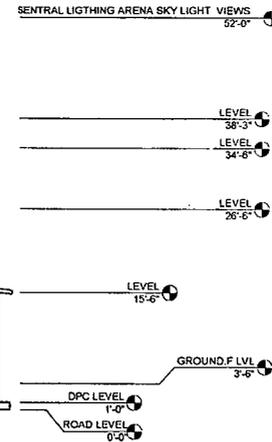


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: TOP ROOF PLAN	Architect : SYED AKBAR ILYAS	DRG.NO : A-03	02	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P/I, STREET NO. 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480 FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023			DATE:	

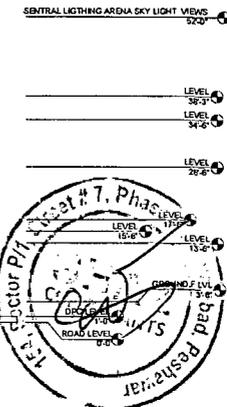




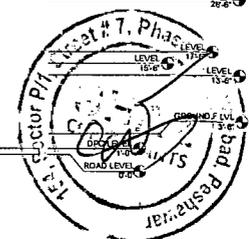
FRONT ELEVATION

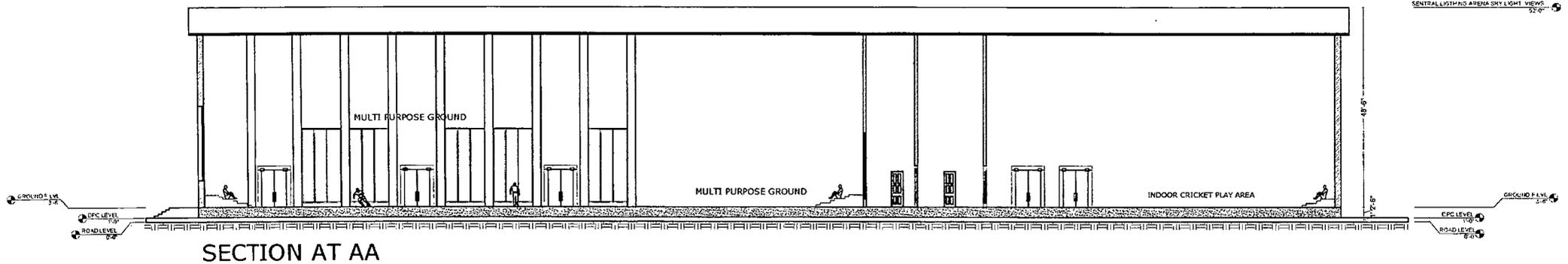


RIGHT SIDE ELEVATION

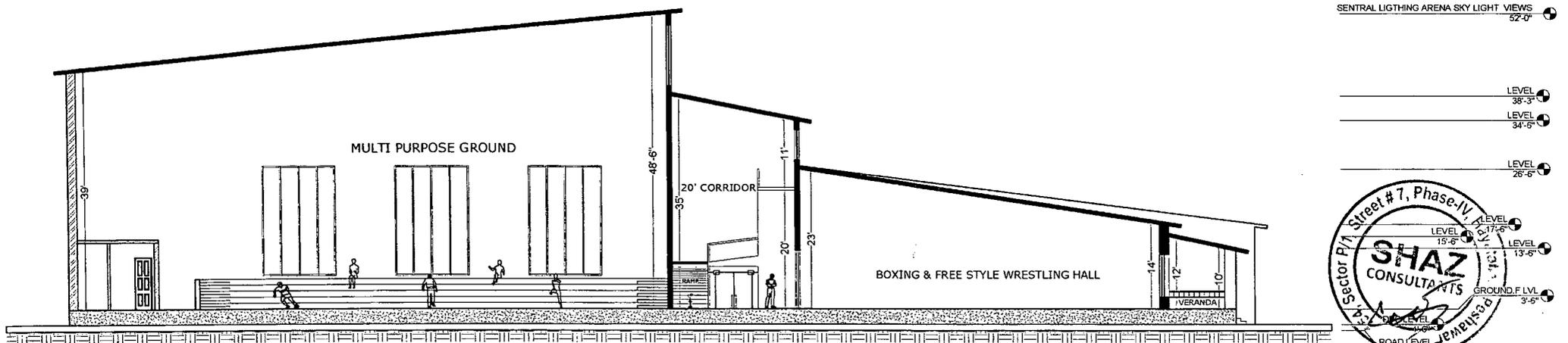


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: ELEVATION	Architect : SYED AKBAR ILYAS	DRG. NO : A-04	DRAWN BY: S.M. HASEEB	APPROVED BY: SIGN/ SEAL:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P4, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480, FAX: 091-5824123
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			Project Engineer : SABZALI KHAN			DATE:	

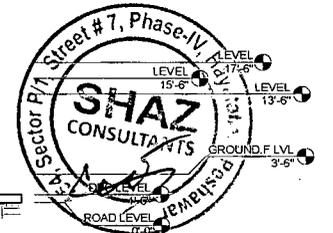




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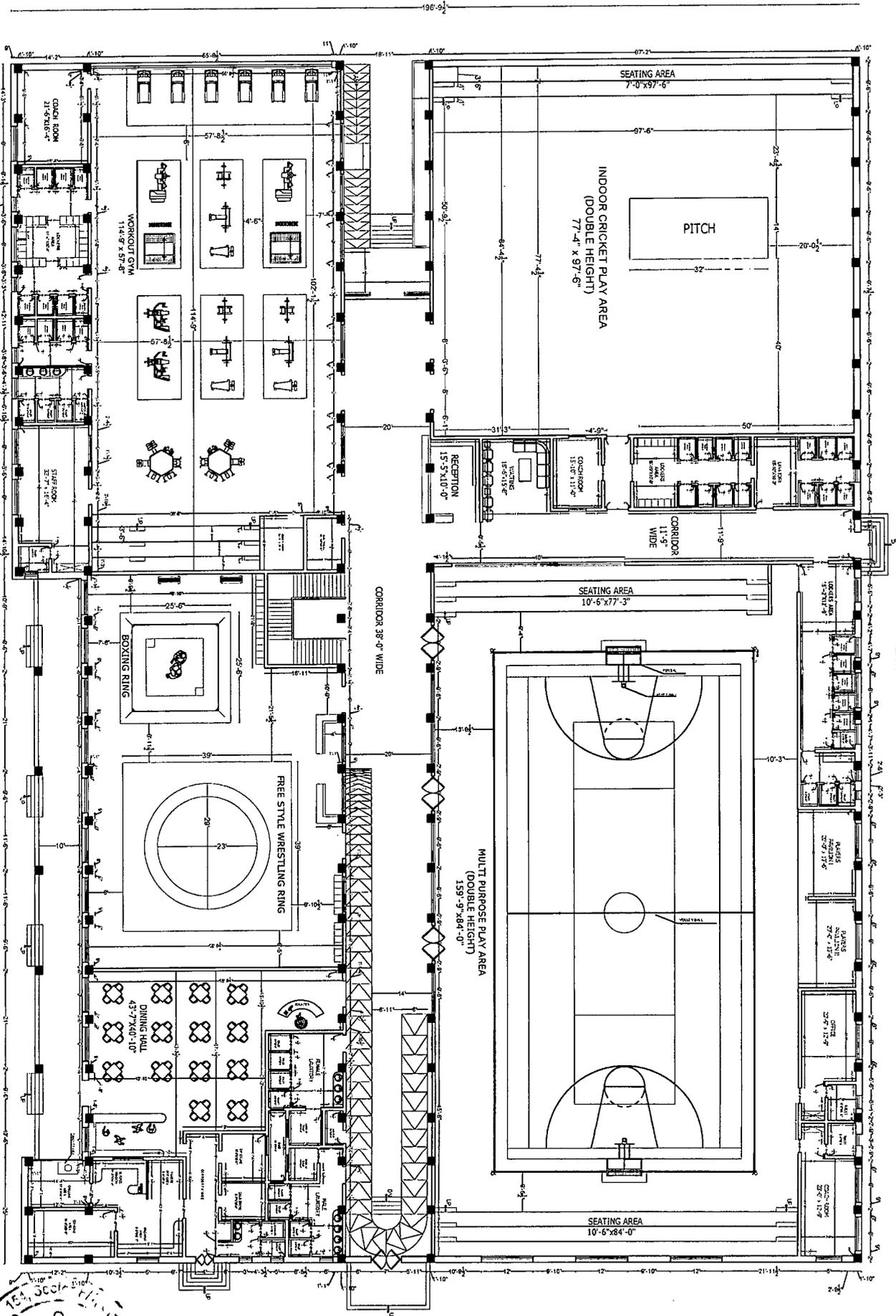


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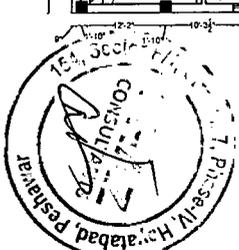


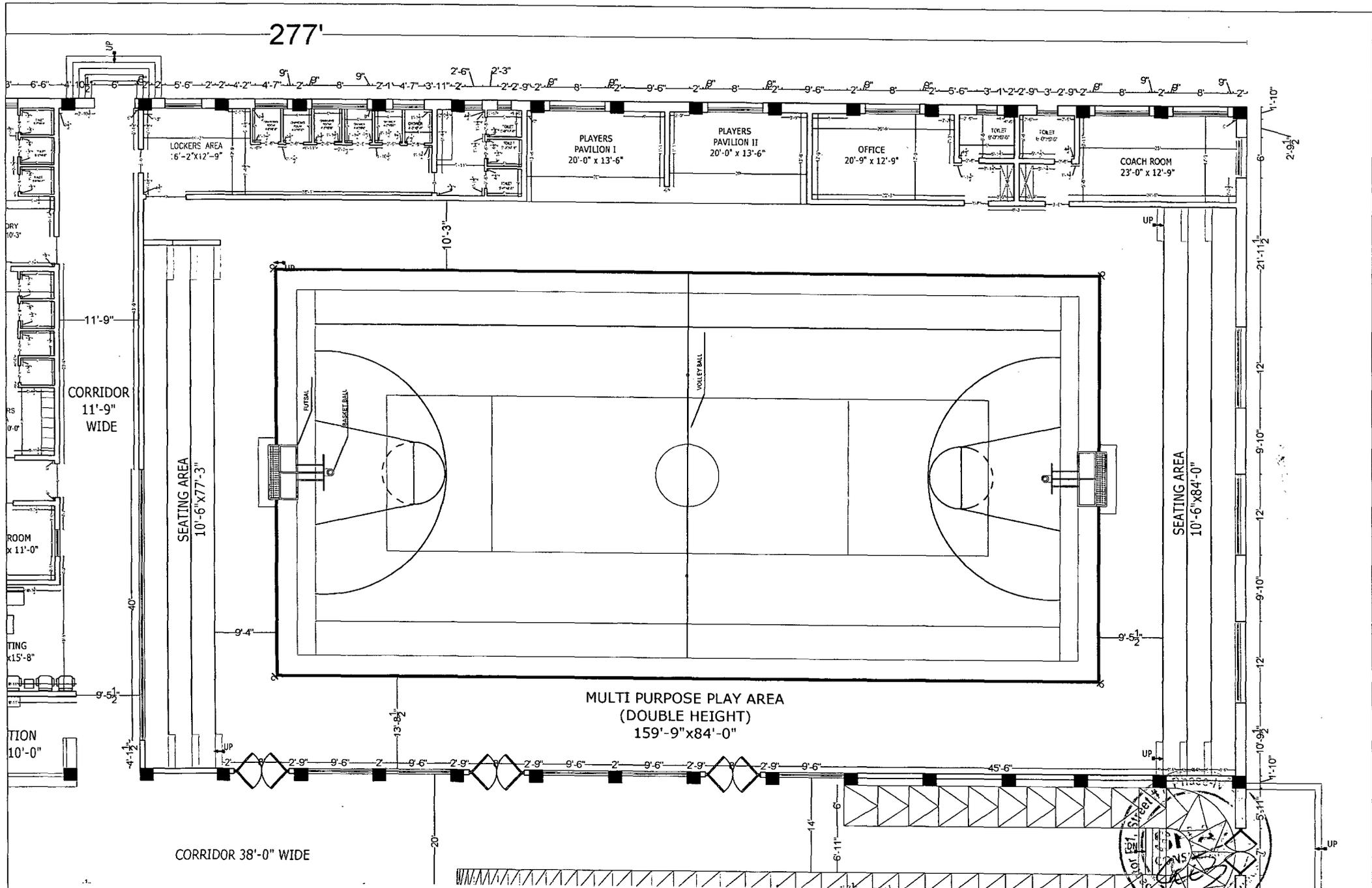
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	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023			DATE:	

GROUND FLOOR WORKING PLAN

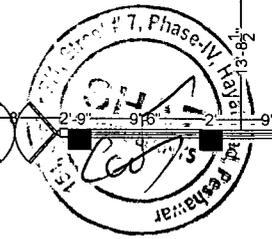
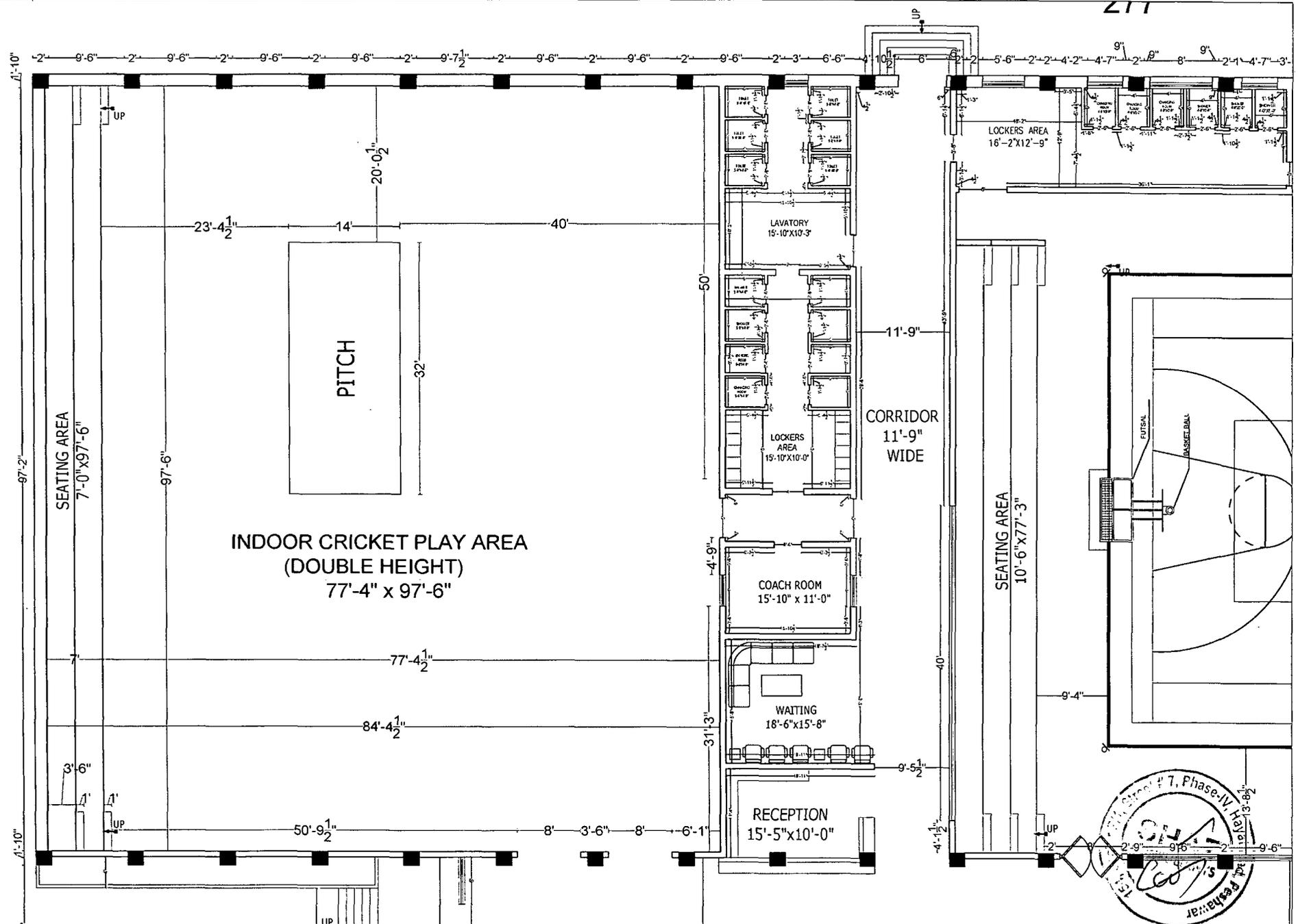


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			SYED AKBAR ILYAS AZGHAR MUMTAZ SABZALI KHAN	05	S.M. HASEEB SYED AKBAR ILYAS	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 45, STREET NO. 07 PHASE IV, HAYAT E WAZIRI P.O. BOX 4525480, FAKHRA PHASE IV, HAYAT E WAZIRI P.O. BOX 4525480, FAKHRA



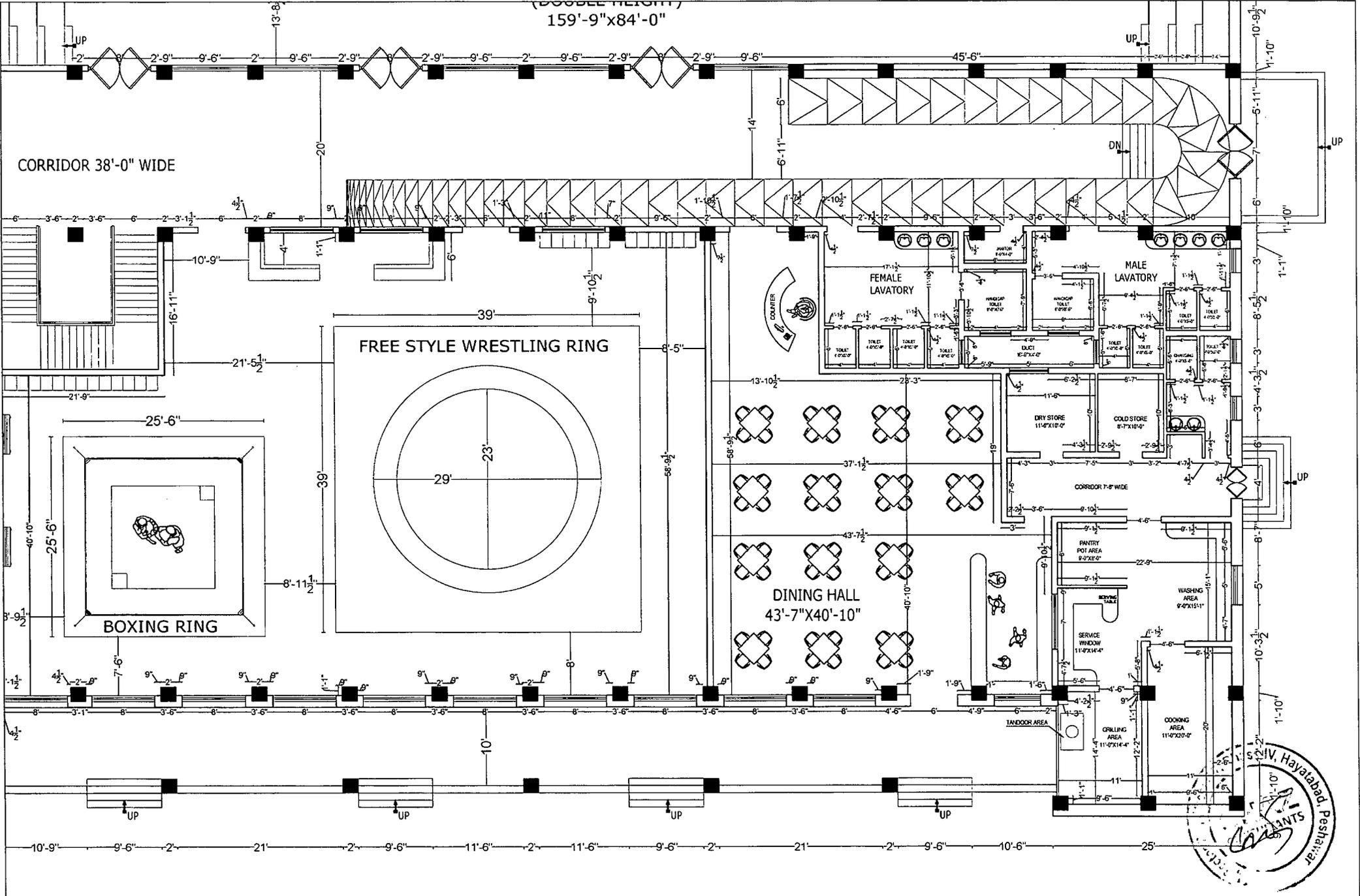


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: GROUND FLOOR WORKING PLAN	Architect : SYED AKBAR ILYAS	DRG. NO : A-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 15-C, P.A. STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480, FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	06 SYED AKBAR ILYAS	DATE:	

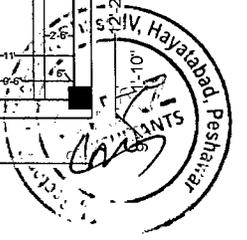


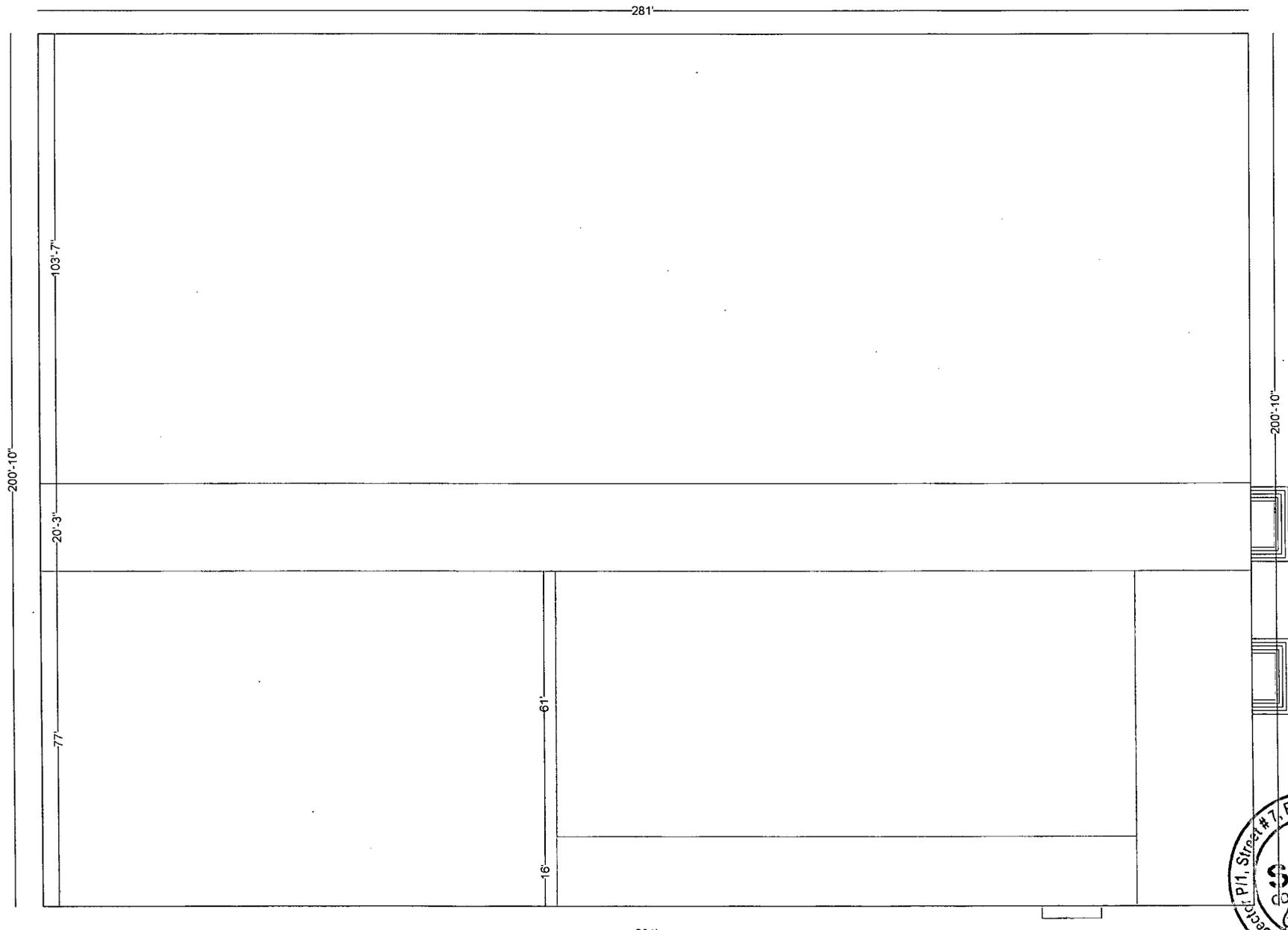
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	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.			
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	SYED AKBAR ILYAS		

(DOUBLE HEIGHT)
159'-9"x84'-0"



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: GROUND FLOOR WORKING PLAN	Architect : SYED AKBAR ILYAS	DRG.NO : A-01	DRAWN BY: S.M. HASEEB	APPROVED BY: SIGN/ SEAL:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P.R. STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH 091-5825480 FAX 091-5824123
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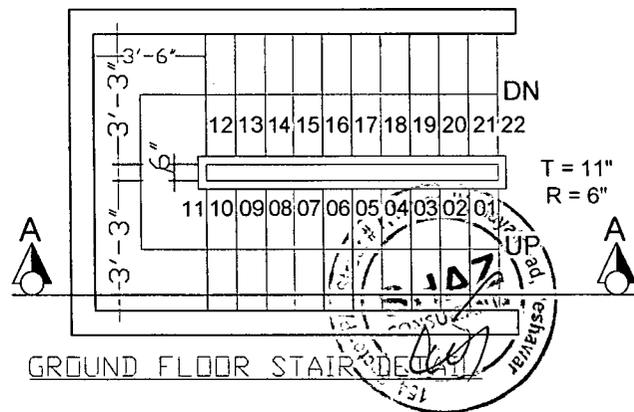
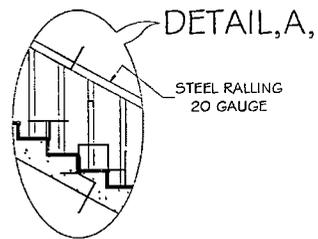
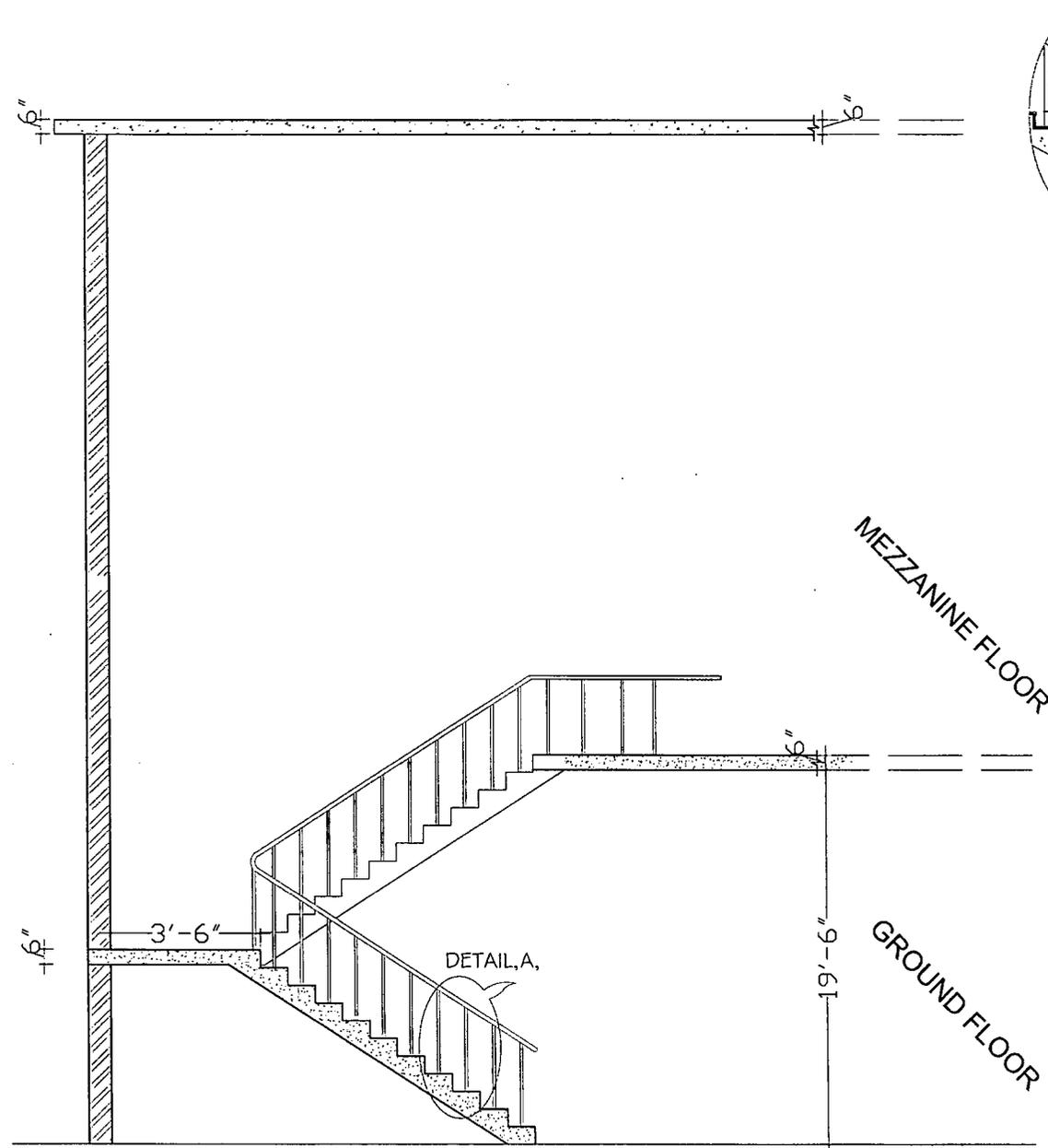




TOP ROOF PLAN

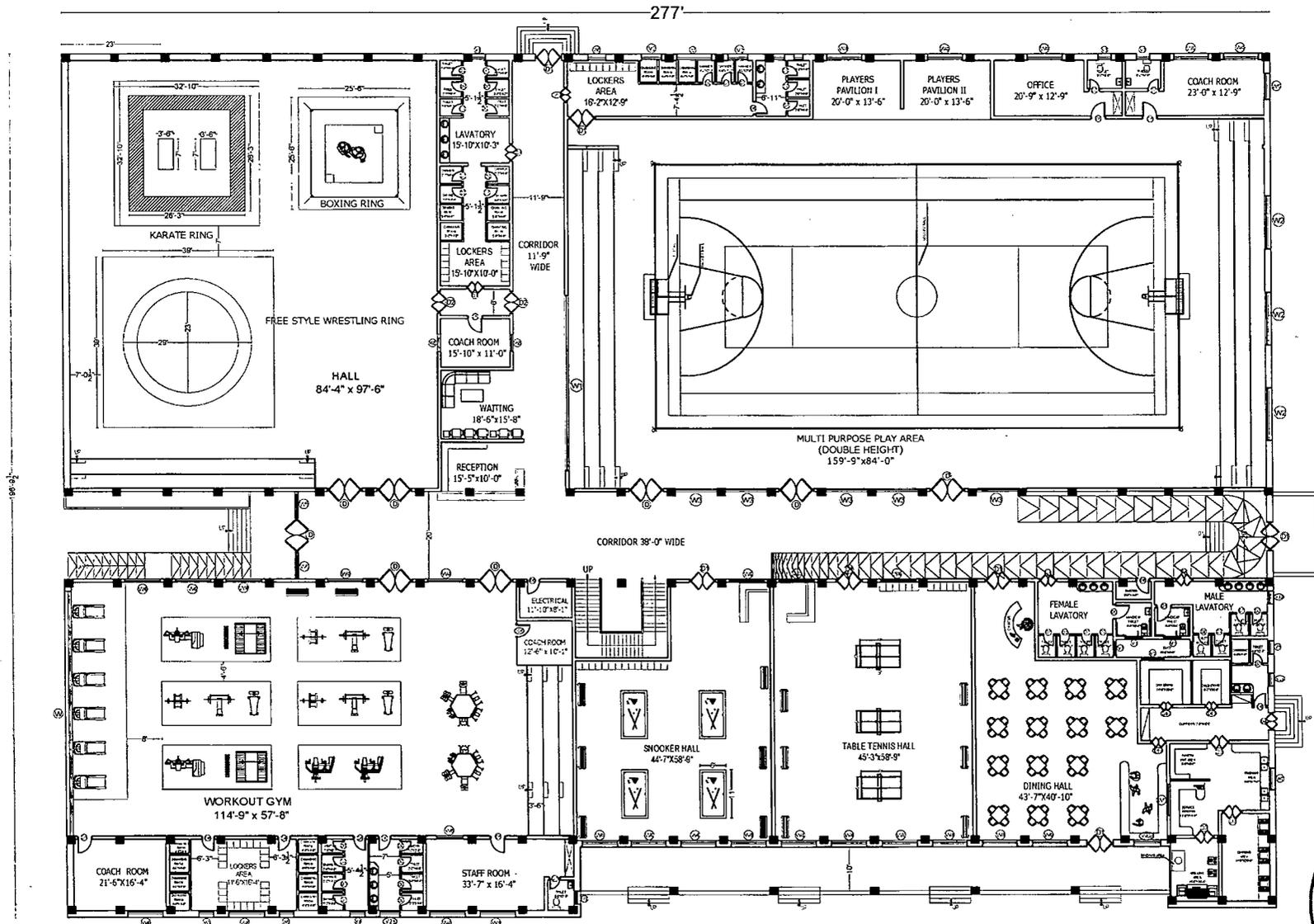


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: TOP ROOF WORKING PLAN	Architect : SYED AKBAR ILYAS	DRG NO : A-03	10	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P/1 STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH 091-5825480 FAX 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY :	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		SYED AKBAR ILYAS	DATE:	



SECTION AT A-A

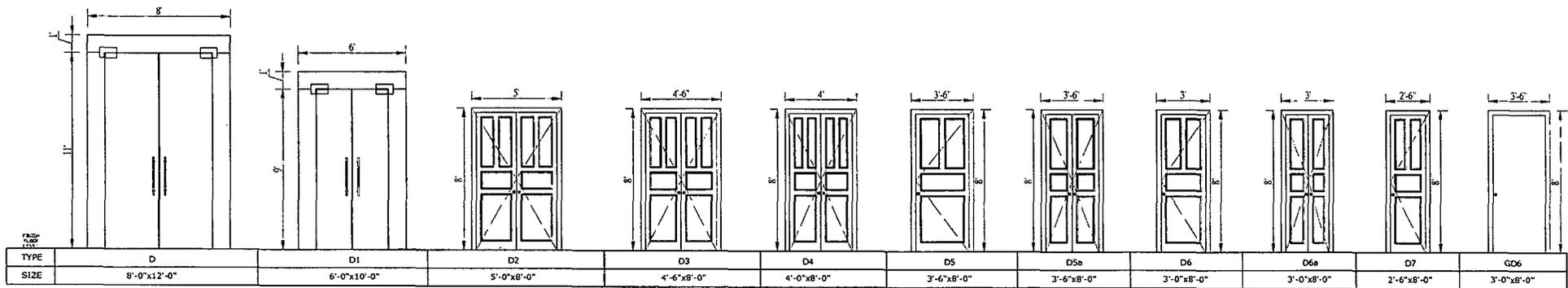
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: STAIR DETAIL	Architect : SYED AKBAR ILYAS	DRG.NO : A-03	11	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P.II, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH 091-5825480, FAX 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY:	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		SYED AKBAR ILYAS	DATE:	



GROUND FLOOR DOOR WINDOW PLAN



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR DOOR WINDOW PLAN	Architect : SYED AKBAR ILYAS	DRG. NO : A-01	DRAWN BY: S.M. HASEEB	APPROVED BY: SIGN/ SEAL:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 164 PA STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480. FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S				12	CHECKED BY: SYED AKBAR ILYAS
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		DATE:	

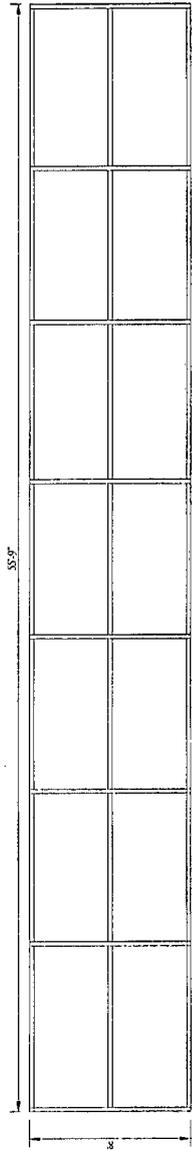


DOOR DETAIL

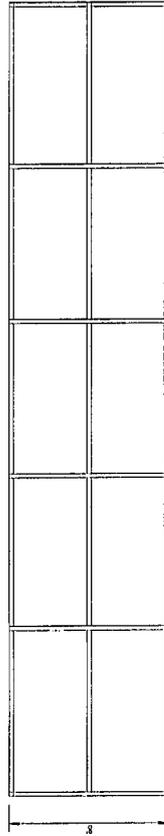


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: DOOR DETAIL	Architect : SYED AKBAR ILYAS	DRG.NO : A-03	13	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-P11, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480 FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer : SABZALIKHAN	DATE : 29, MAR, 2023			DATE:	

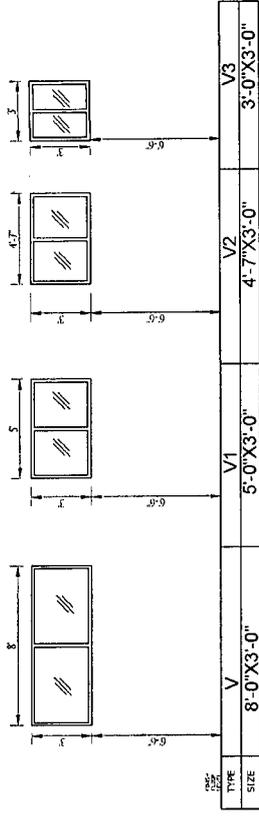




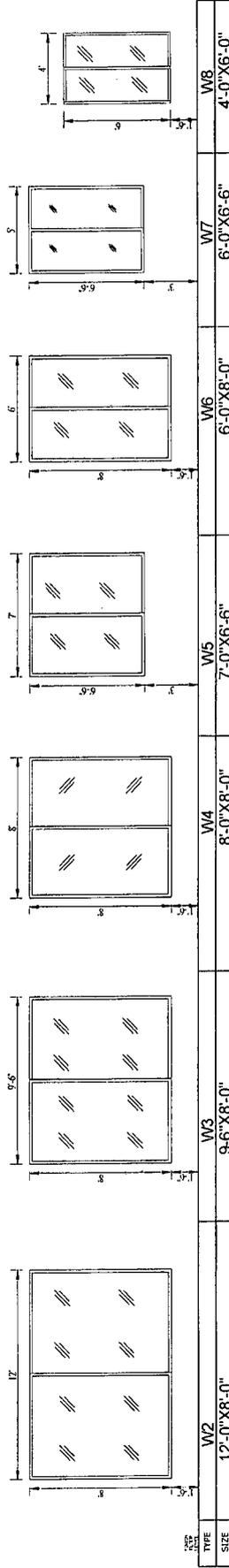
TYPE	SIZE
W	55'-9"X8'-0"



TYPE	SIZE
W1	40'-0"X8'-0"



TYPE	SIZE
V	8'-0"X3'-0"
V1	5'-0"X3'-0"
V2	4'-7"X3'-0"
V3	3'-0"X3'-0"



TYPE	SIZE
W2	12'-0"X8'-0"
W3	9'-6"X8'-0"
W4	8'-0"X8'-0"
W5	7'-0"X6'-6"
W6	6'-0"X8'-0"
W7	6'-0"X6'-6"
W8	4'-0"X6'-0"

WINDOWS DETAIL



SHAZ CONSULTANTS
ARCHITECTURE AND
DESIGN SERVICES
PHASE-IV, HAYATABAD, PESHAWAR
PH: 091-5623-480, FAX: 091-5624123

APPROVED BY:
SIGN/ SEAL:
DATE:

DRAWN BY: S. M. HASEEB
CHECKED BY: SYED AKBAR ILYAS

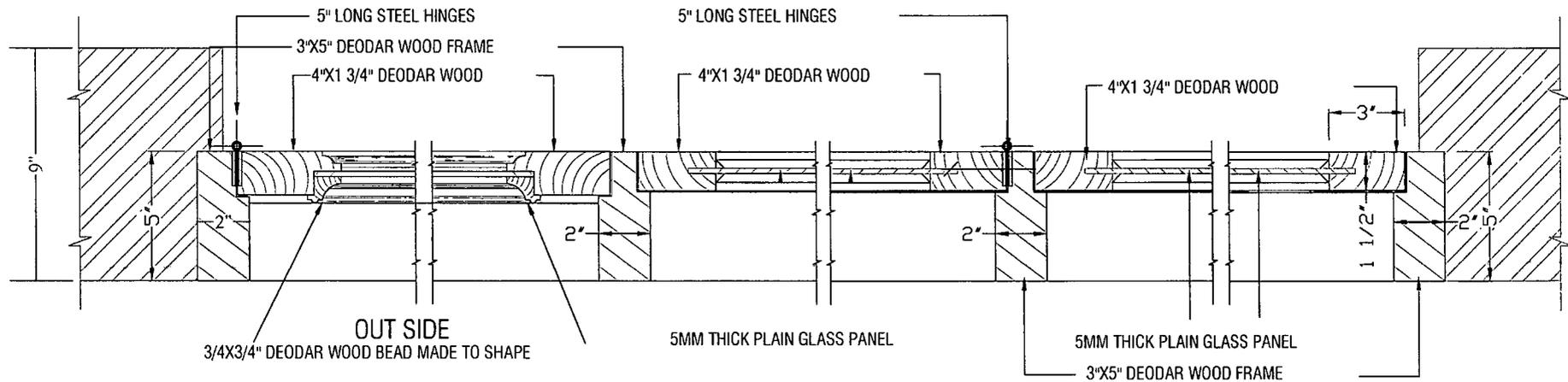
DRG. NO.: A-04
SCALE: N.T.S.
DATE: 29 MAR, 2023

Architect: SYED AKBAR ILYAS
Associate Architect: AZGHAR MUMTAZ
Project Engineer: SABZALI KHAN

DRAWING TITLE:
WINDOW DETAIL

PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKAROU
TITLE: GYMNASIUM BLOCK PLAN

CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD



OUT SIDE
 3/4X3/4\" DEODAR WOOD BEAD MADE TO SHAPE
TYPICAL DETAIL OF JOINERY



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: JOINERY DETAIL	Architect : SYED AKBAR ILYAS	DRG.NO : A-05	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-PA, STREET NO. 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480, FAX: 091-5824123
	TITLE: GYMNASIUM BLECK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY : SYED AKBAR ILYAS		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		DATE:	

STRUCTURAL DRAWINGS

GYMNESIUM



GENERAL NOTES:

DESIGN PARAMETERS

- ROOF DEAD LOAD = 2.5 PSF
- ROOF LIVE LOAD = 5 PSF
- SNOW LOAD = 20 PSF
- WIND SPEED= 140 Kph
- EXPOSURE CAT. = B
- SEISMIC ZONE = III

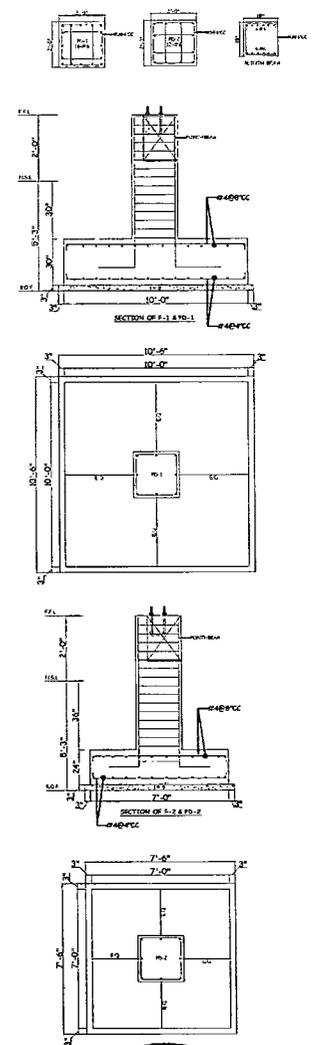
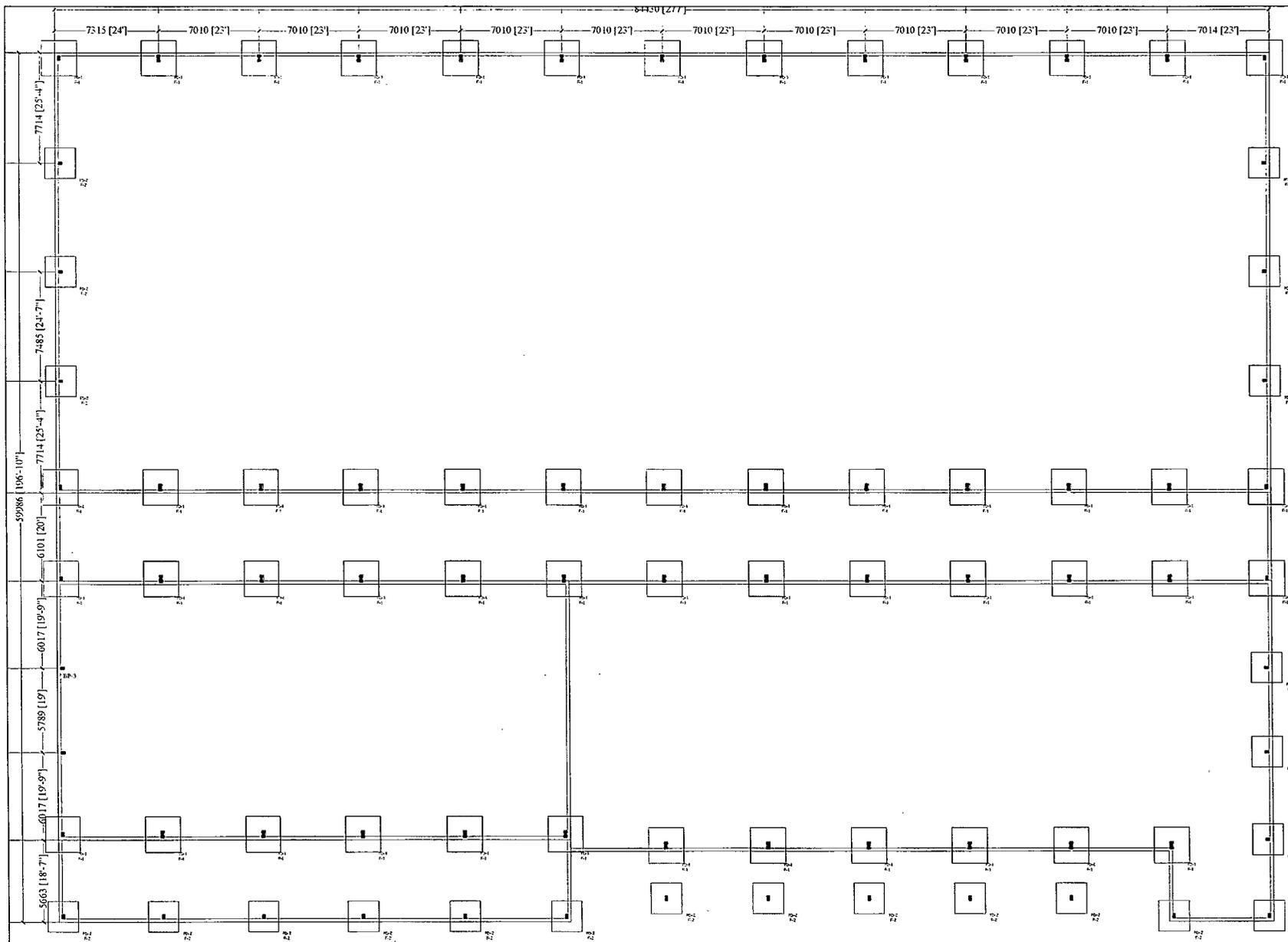
FOUNDATION & CONCRETE

- EXCAVATE TO FIRM GROUND & COMPACT BEFORE PCC.
- ALL CONCRETE SHALL BE MACHINE MIXED.
- USE DEFORMED STEEL GRADE-60.
- ALL CONC. IS 3000 EXCEPT COLUMNS. USE 4000PSI FOR COLUMNS.
- CONCRETE COVERS SHALL BE AS FOLLOWS:
FOUNDATION: 2"
COLUMNS & BEAMS: 1.5"

STRUCTURAL STEEL SPECIFICATION

- ALL STRUCTURAL STEEL SECTIONS, SHALL CONFORM TO ASTM A50 SPECIFICATION WITH FY=60 KSI
- ROOF PURLIN SHALL CONFORM TO ASTM A-653 SPECIFICATION WITH FY =60 KSI & FU =75 KSI
- ALL CONNECTIONS SHALL CONFORM TO RELEVANT REQUIREMENTS OF AISC AND AWS.
- ANCHOR BOLTS SHALL CONFORM TO ASTM A-307 SPECIFICATIONS.
- ALL WELDS SHALL BE FILLET WELDS, MADE WITH BE E 70XX ELECTRODESS.
- ALL OTHERS BOLTS SHALL CONFORM TO ASTM A 325 SPECIFICATION
- ALL FLANGE TO WEB FILLET WELDS SHALL BE CONTINUOUS ON ONE SIDE OF WEB. WELDS SHALL BE AS PER DESIGN.
- FABRICATION AND WELDING MUST ADHERE TO GOOD ENGINEERING PRACTICES AND THE RELEVANT CODES , WITH PROPER QUALITY CONTROL.

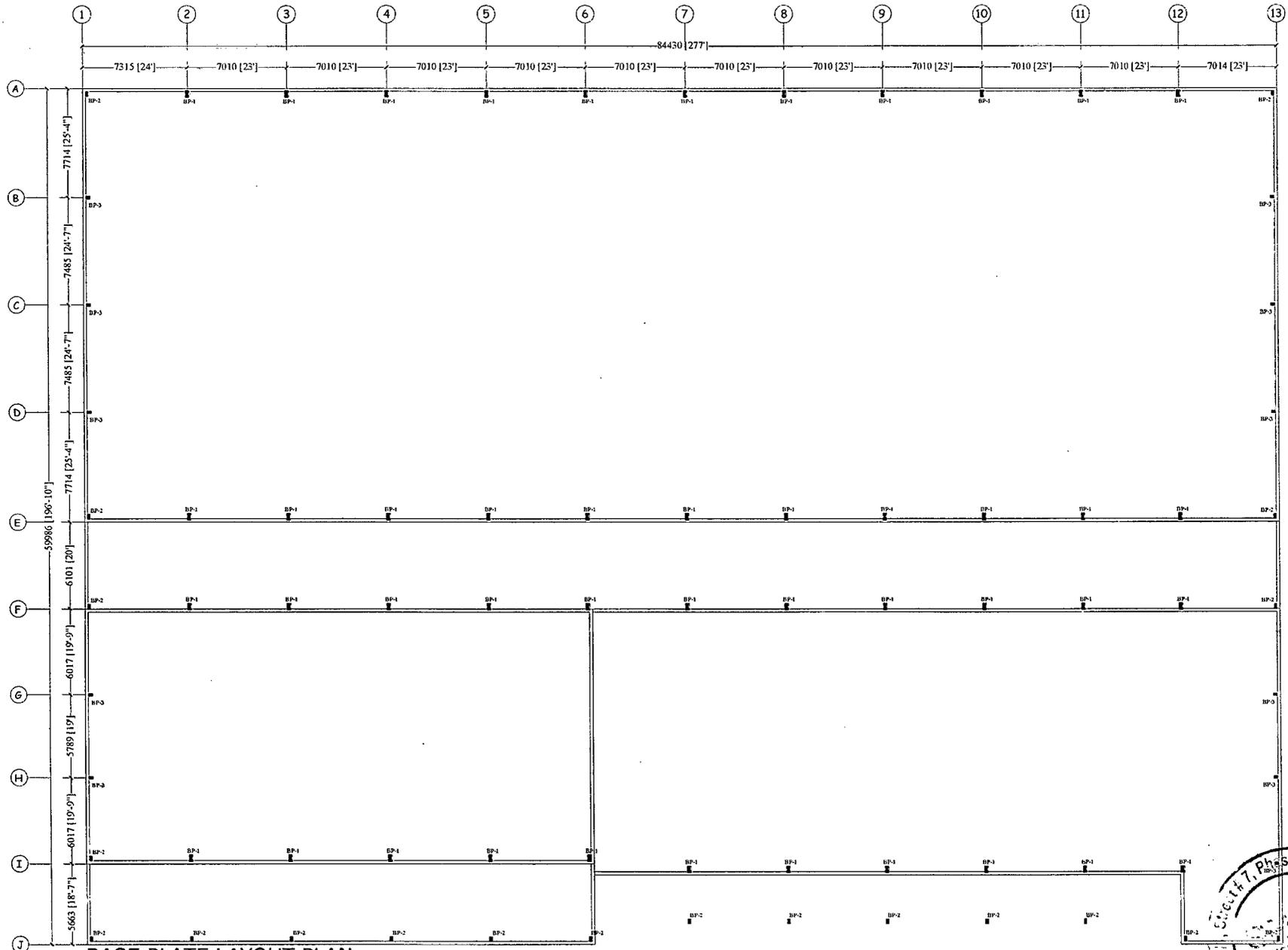
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE: GYMNASIUM BLOCK	TITLE: GENERAL NOTES	Architect : SYED AKBAR ILYAS	DRG.NO : PR-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-PH STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH: 091-5825480, FAX: 091-5824123	
	TITLE: GYMNASIUM BLOCK		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S	CHECKED BY : SYED AKBAR ILYAS		SIGN/ SEAL:		
				Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		DATE:		



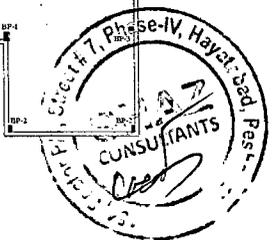
FOUNDATION LAYOUT PLAN



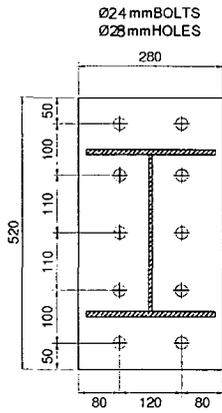
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE: GENERAL LAYOUT PLAN	Architect : SYED AKBAR ILYAS	DRG NO : PR-02 02	DRAWN BY: S. M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P/1 STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480. FAX 091-5824123
	TITLE: GYMNASIUM BLOCK		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S	CHECKED BY :	SIGN/ SEAL:	
			Project Engineer : SABZAL KHAN	DATE : 29, MAR, 2023	SYED AKBAR ILYAS	DATE:	



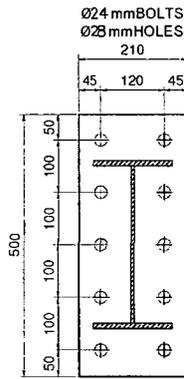
BASE PLATE LAYOUT PLAN



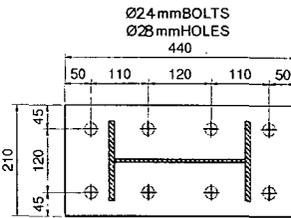
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE: COLUMN LAYOUT PLAN	Architect : SYED AKBAR ILYAS	DRG.NO : PR-03	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-PA STREET NO. 07 PHASE-IV, HAYATABAD PESHAWAR PH: 091-5825480. FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S				CHECKED BY : SYED AKBAR ILYAS	SIGN/ SEAL:
			Project Engineer : SABZAL KHAN	DATE : 29, MAR, 2023		DATE:	



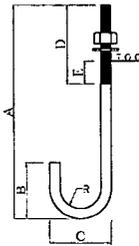
BP-1
30mm TH.



BP-2
24mm TH.

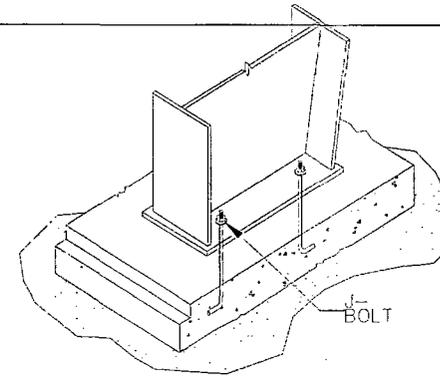


BP-3
24mm TH.

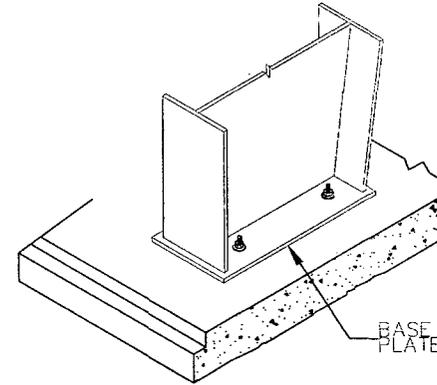


ANCHOR BOLT DIMENSIONAL PROPERTIES (ASTM A-307)

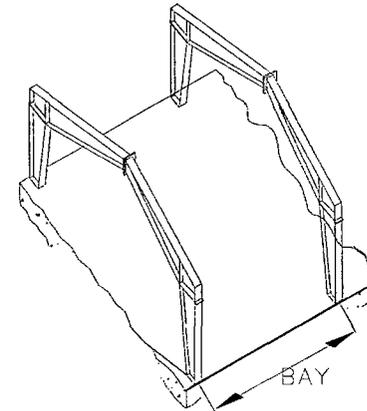
BOLT			WEIGHT (Kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	RADIUS "R" (mm)	TOTAL STRAIGHT LENGTH (mm)	EMBEDMENT STRAIGHT LENGTH (mm)
QTY.	NOMINAL DIAMETER	THREAD PITCH									
580	M24	3.00	3.01	600	140	128	125	30	40	775	700



BOLT



BASE
PLATE



BAY



CLIENT:
EXECUTIVE ENGINEER PAKISTAN
SPORTS BOARD ISLAMABAD

PROJECT:
CONSTRUCTION OF (PSB) COACHING
CENTER AT SKARDU.
TITLE:
GYMNASIUM BLOCK

TITLE

Architect :
Associate Architect :
Project Engineer :

SYED AKBAR ILYAS
AZGHAR MUMTAZ
SABZALI KHAN

DRG.NO : PR-04
SCALE :
DATE :

04
N.T.S.
29, MAR, 2023

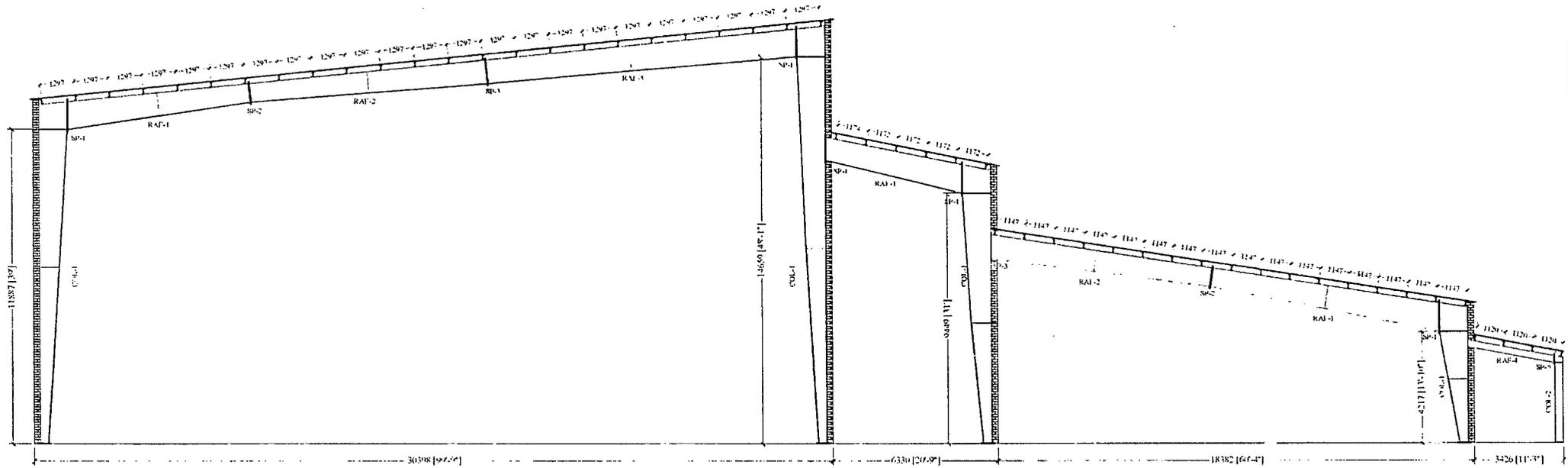
DRAWN BY:
CHECKED BY :

S.M. HASEEB
SYED AKBAR ILYAS

APPROVED BY:
SIGN/ SEAL:
DATE:

SHAZ CONSULTANTS
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DESIGN SERVICES
154 PA STREET NO. 07
PHASE-IV, HAYATABAD PESHAWAR
PH. 091-5825480. FAX. 091-5824123

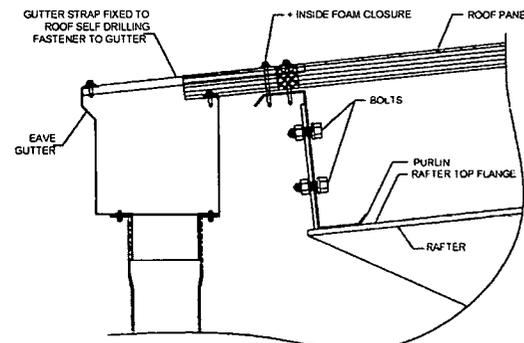




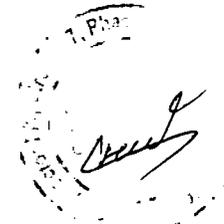
CROSS SECTION ALONG GL- 7 TO 12

MAIN COLUMN RAFTER SCHEDULE

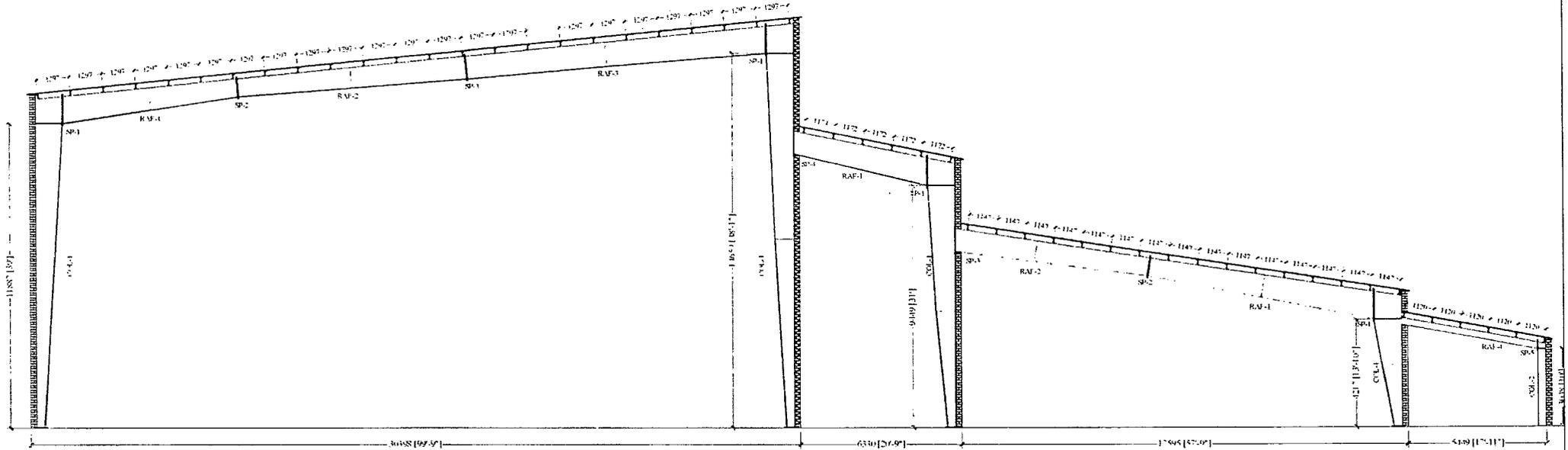
MARK	Web Depth	Web Plate	Outside Flange	Inside Flange
	START / END	Thick	W x Thk	W x Thk
COL-1	300 / 740 (0.5)	12	250 x 12	250 x 12
	740 / 1050 (0.5)	12	250 x 12	250 x 12
RAF-1	1050 / 870 (0.5)	12	200 x 12	200 x 12
	870 / 700 (0.5)	12	200 x 12	200 x 12
RAF-2	700 / 800 (0.5)	12	200 x 12	200 x 12
	800 / 900 (0.5)	12	200 x 12	200 x 12
RAF-3	900 / 950 (0.5)	12	200 x 12	200 x 12
	950 / 1050 (0.5)	12	200 x 12	200 x 12
COL-2	300 / 300	10	150 x 10	150 x 10
RAF-4	250 / 250	8	150 x 8	150 x 8



EAVE DETAIL



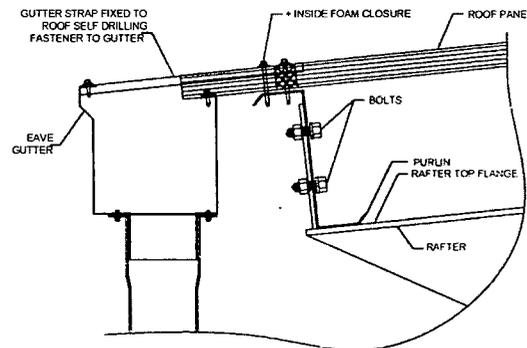
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE: GYMNASIUM BLOCK	Architect : SYED AKBAR ILYAS	DRG.NO : PR-05	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PUL STREET NO 07 PHASE-IV HAYATABAD PESHAWAR PH. 091-5625480. FAX. 091-5624123
	Associate Architect : AZGHAR MUMTAZ		SCALE : N.T.S	CHECKED BY: SYED AKBAR ILYAS		SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29. MAR. 2023		DATE:	



CROSS SECTION ALONG GL-2 TO 6

MAIN COLUMN RAFTER SCHEDULE

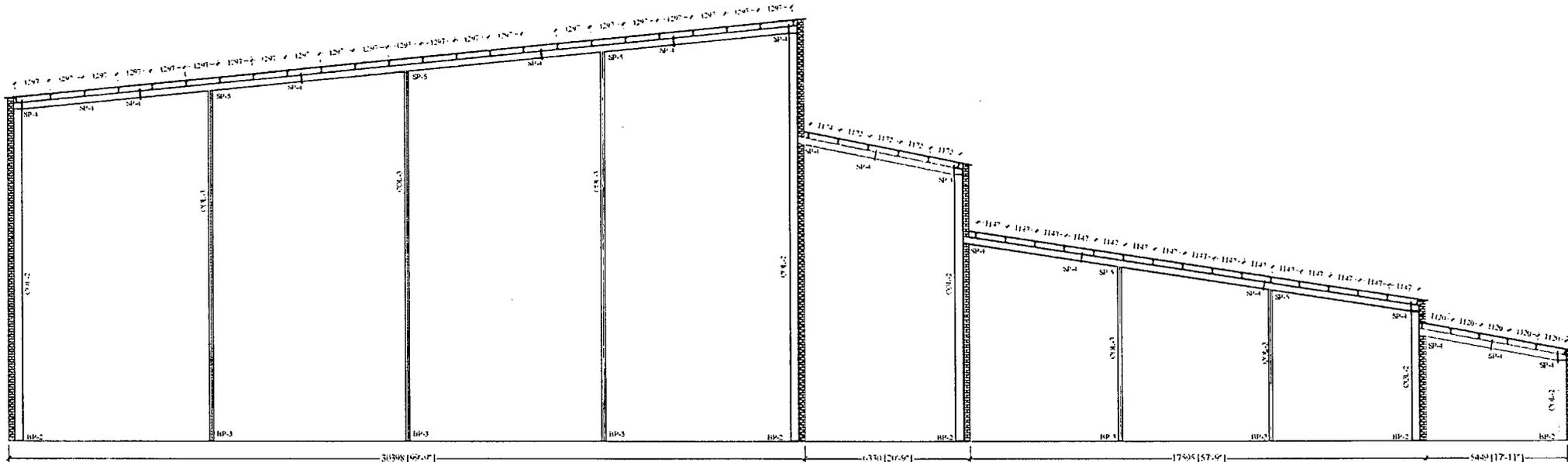
MARK	Web Depth	Web Plate	Outside Flange	Inside Flange
	START / END	Thick	W x Thk	W x Thk
COL-1	300 / 740 (0.5)	12	250 x 12	250 x 12
	740 / 1050 (0.5)	12	250 x 12	250 x 12
RAF-1	1050 / 870 (0.5)	12	200 x 12	200 x 12
	870 / 700 (0.5)	12	200 x 12	200 x 12
RAF-2	700 / 800 (0.5)	12	200 x 12	200 x 12
	800 / 900 (0.5)	12	200 x 12	200 x 12
RAF-3	900 / 950 (0.5)	12	200 x 12	200 x 12
	950 / 1050 (0.5)	12	200 x 12	200 x 12
COL-2	300 / 300	10	150 x 10	150 x 10
RAF-4	250 / 250	8	150 x 8	150 x 8



EAVE DETAIL



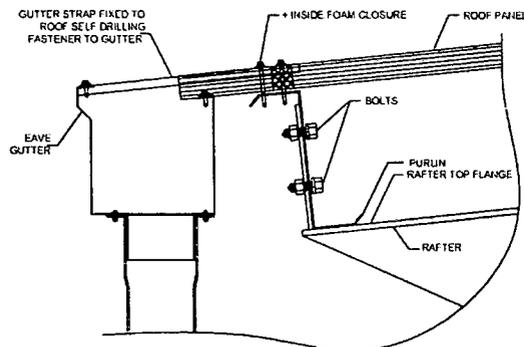
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE: GYMNASIUM BLOCK	Architect : SYED AKBAR ILYAS	DRG.NO : PR-06	DRAWN BY: S.M. HASEEB	APPROVED BY: SIGN/ SEAL:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P.A. STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480, FAX. 091-5524123
			Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S				06	CHECKED BY: SYED AKBAR ILYAS
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		DATE:	



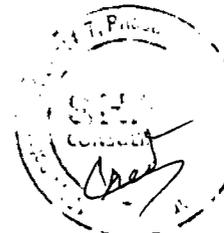
CROSS SECTION ALONG GL- 1 & 13

COLUMN AND RAFTER SCHEDULE GL-1 & 9

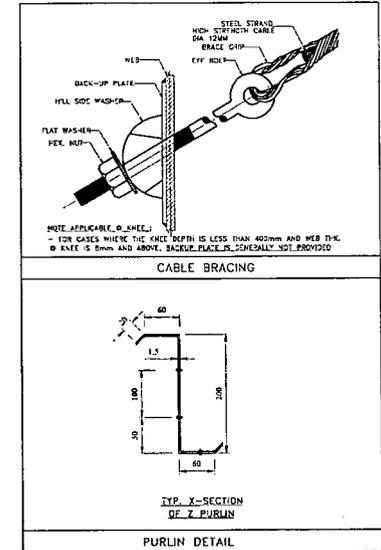
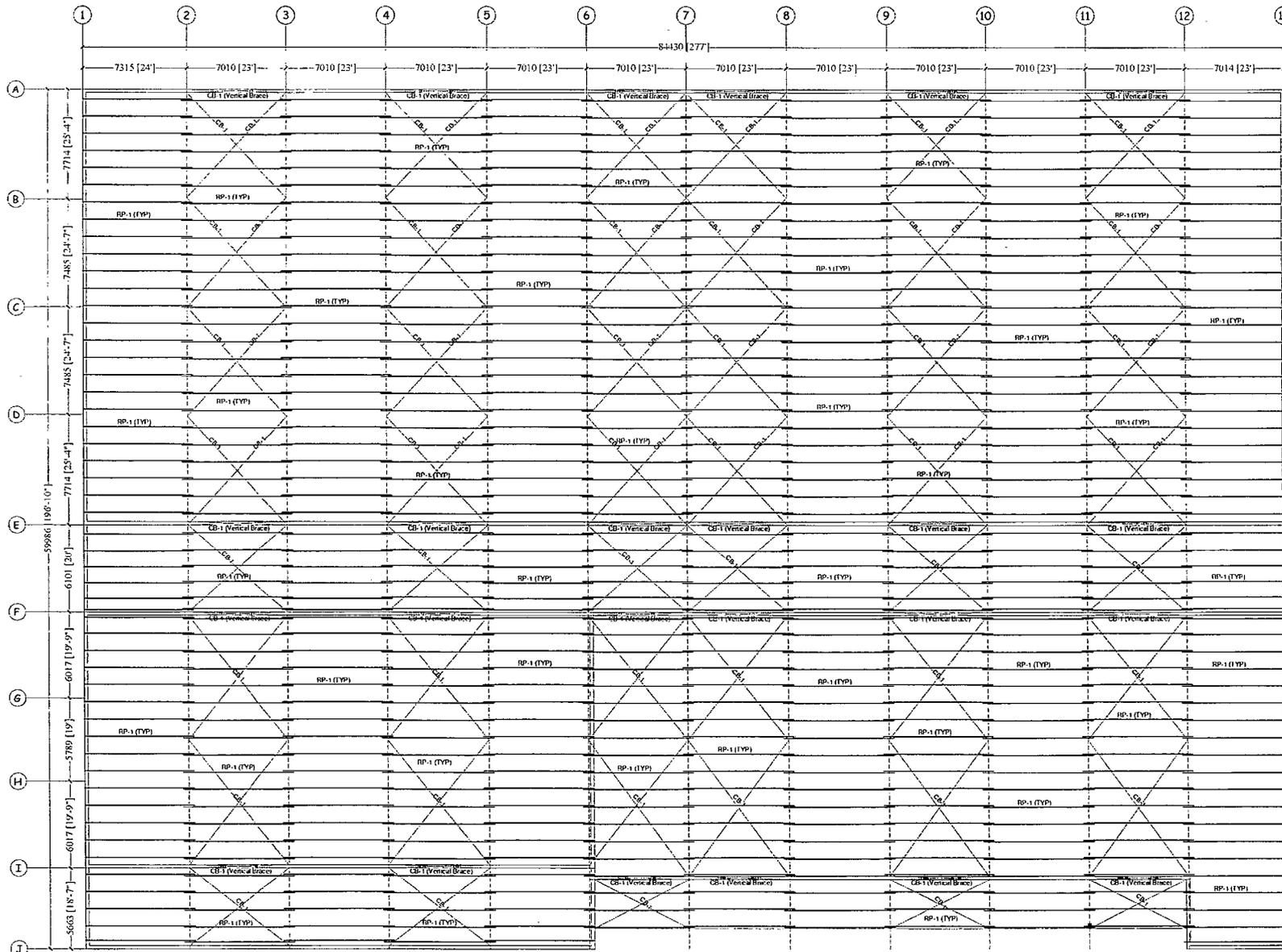
MARK	Web Depth	Web Plate	Outside Flange	Inside Flange
	START / END	Thick	W x Thk	W x Thk
COL-2	300 / 300	10	150 x 10	150 x 10
COL-3	250 / 250	10	150 x 10	150 x 10
RAF-3	250 / 250	10	150 x 10	150 x 10
RAF-4	250 / 250	10	150 x 10	150 x 10



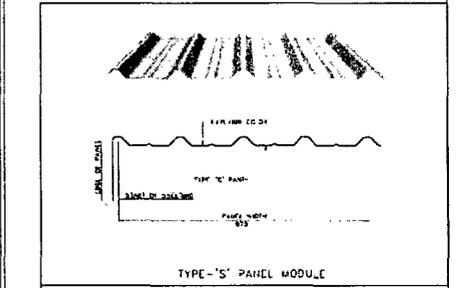
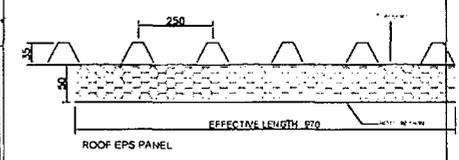
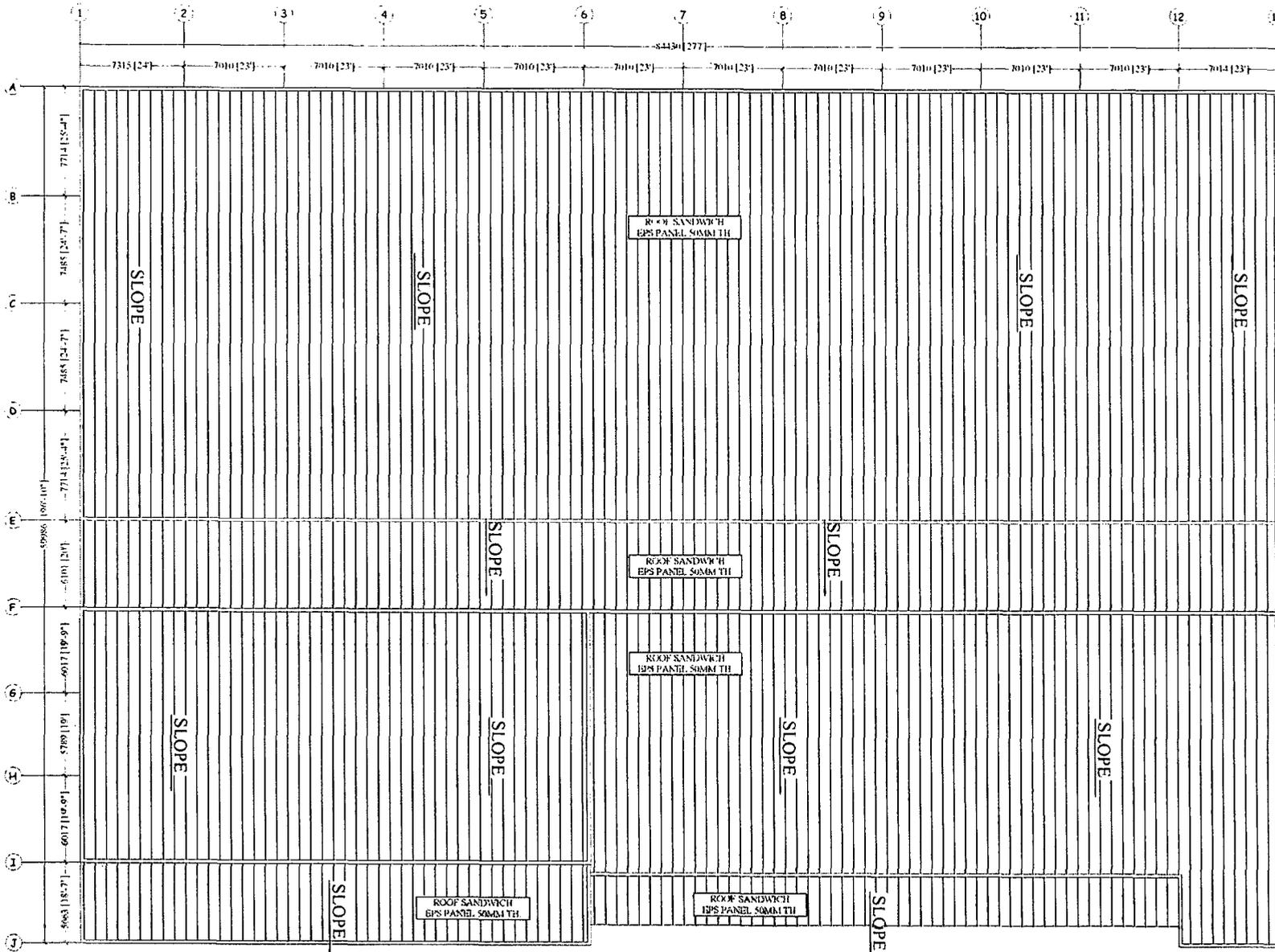
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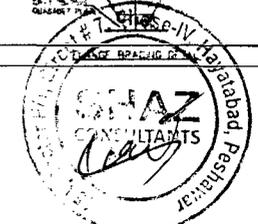
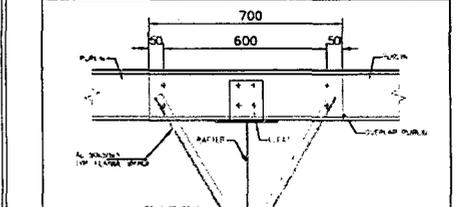
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE: GYMNASIUM BLOCK	Architect : SYED AKBAR ILYAS	DRG.NO : PR-07	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154/PA STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH: 091-5825480. FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY:		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	07 SYED AKBAR ILYAS	DATE:	



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TITLE GYMNASIUM BLOCK	Architect : SYED AKBAR ILYAS	DRG.NO : PR-08	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P11 STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH: 091-5825480, FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY:		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	08	DATE:	



SELF DRILLING FASTENERS SCHEDULE		
FASTEHER TYPE	USAGE	FASTEHER PART NUMBER
		CARBON STEEL "CS"
FIXING SCREWS	ROOF SCREW (WS)	5.5x75 
STITCH SCREWS	ROOF SCREW (WS)	4.8x19 



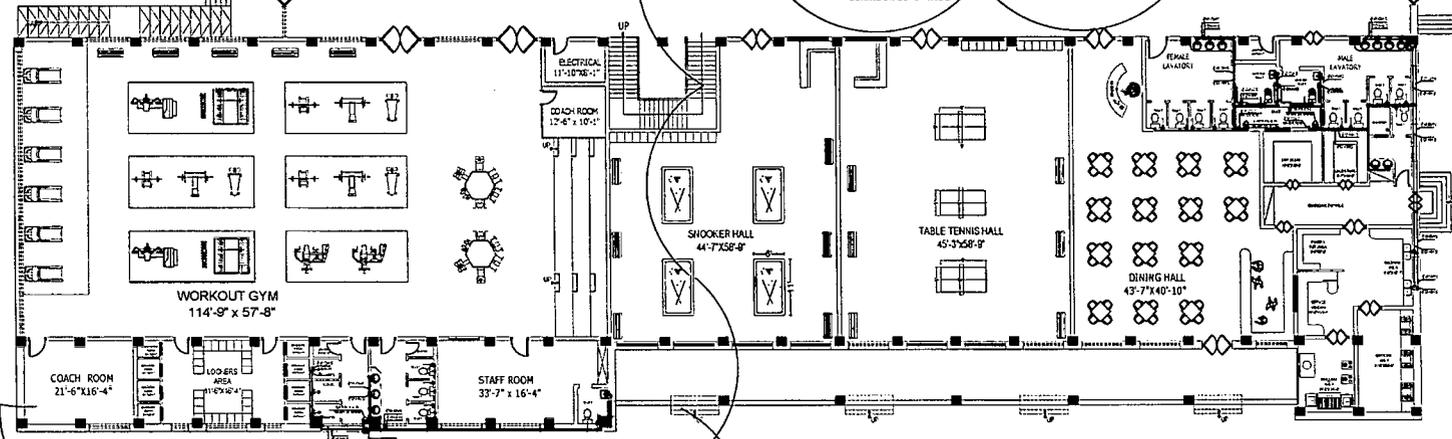
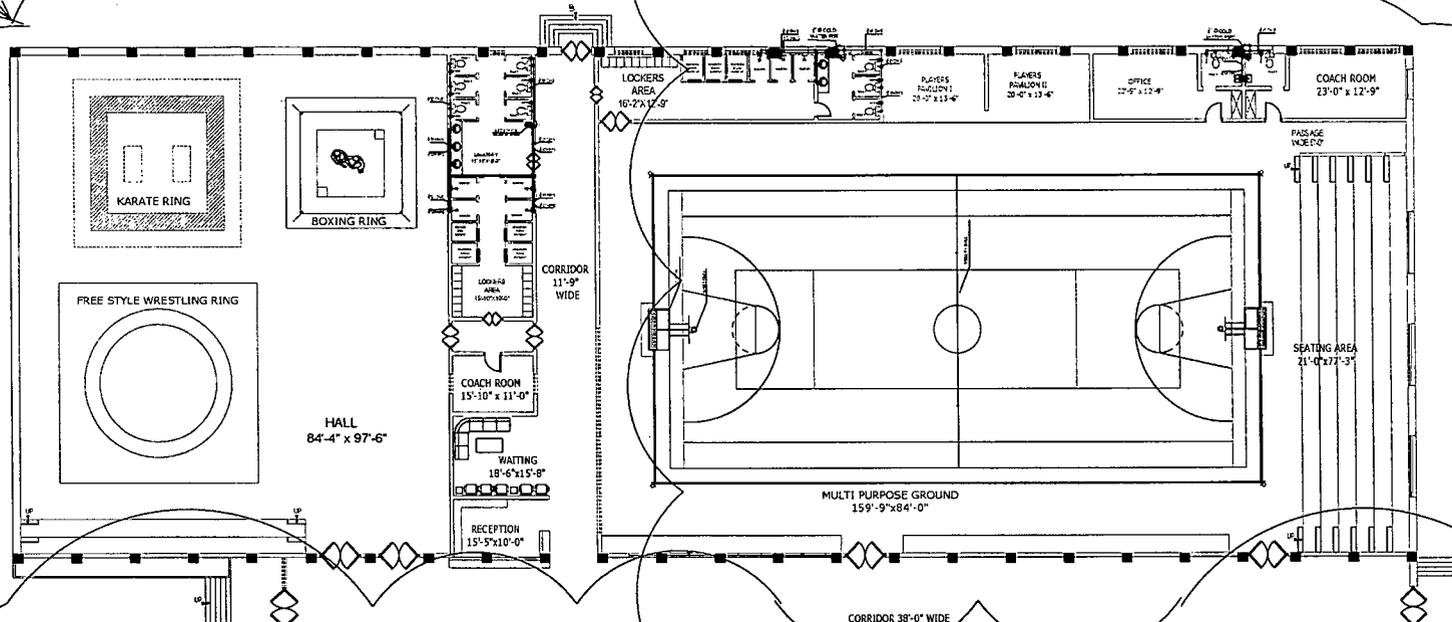
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (P58) COACHING CENTER AT SKARDU	TITLE: GYMNASIUM BLOCK	Architect : SYED AKBAR ILYAS	DRG.NO : PR-09	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PIR STREET NO. 07 PHASE-IV HAYATABAD PESHAWAR PH 091-5825490 FAX 091-5824123
	Associate Architect : AZGHAR MUMTAZ		SCALE : N.T.S	CHECKED BY:		SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29. MAR. 2023	09	DATE:	

PUBLIC HEALTH DRAWINGS



ZOOM 1

ZOOM 2

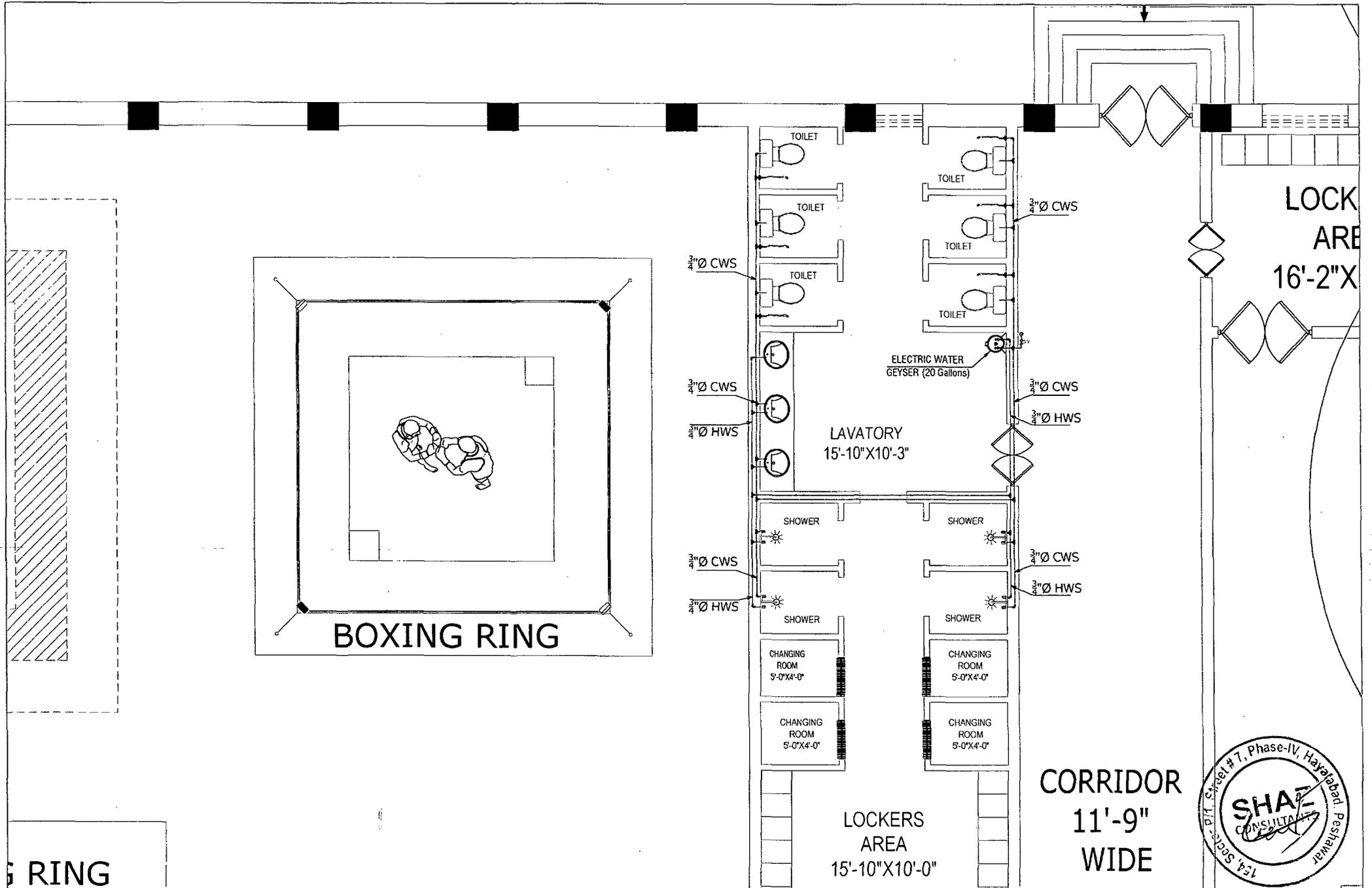


GROUND FLOOR WATER SUPPLY PLAN

ZOOM 3



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (P58) COACHING CENTER AT SKARDU	GROUND FLOOR WATER SUPPLY	Architect : SYED AKBAR ILYAS	DRG.NO : PH-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-P/1, STREET NO. 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480, FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	DATE:		



CLIENT:
EXECUTIVE ENGINEER PAKISTAN
SPORTS BOARD ISLAMABAD

PROJECT: CONSTRUCTION OF (PSB) COACHING
CENTER AT SKARDU
TITLE: GYMNASIUM BLOCK PLAN

**GROUND FLOOR
WATER SUPPLY**

Architect : **SYED AKBAR ILYAS**
Associate Architect : **AZGHAR MUMTAZ**
Project Engineer : **SABZALI KHAN**

DRG.NO : PH-01
SCALE : N.T.S
DATE : 29, MAR, 2023

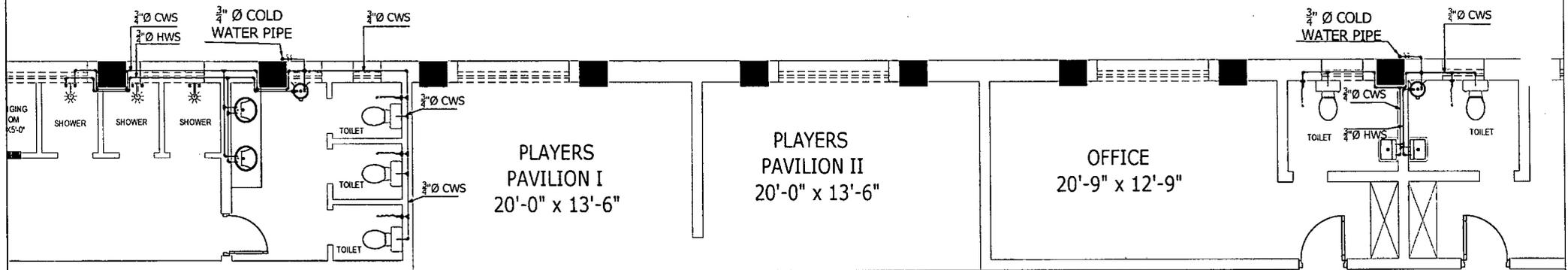
DRAWN BY : **S.M. HASEEB**
CHECKED BY :
SYED AKBAR ILYAS

APPROVED BY :
SIGN/ SEAL :
DATE :

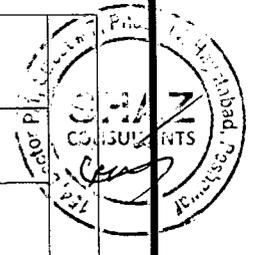
SHAZ CONSULTANTS
ARCHITECTURE AND
DESIGN SERVICES
154, P.I. STREET NO. 07
PHASE-IV, HAYATABAD, PESHAWAR
PH. 091-5825480, FAX. 091-5824123



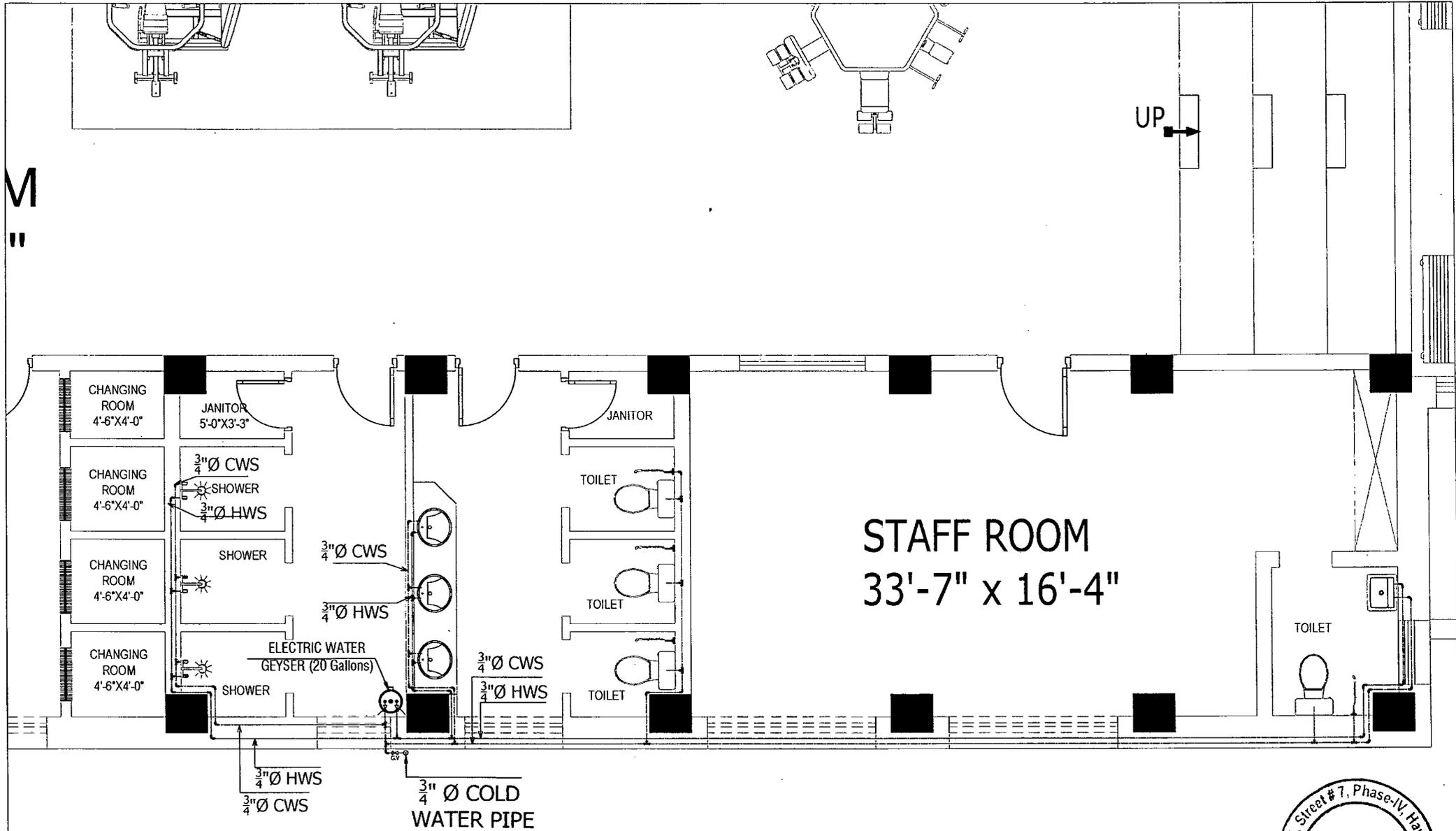
ZOOM 2



PAS
WID
UP



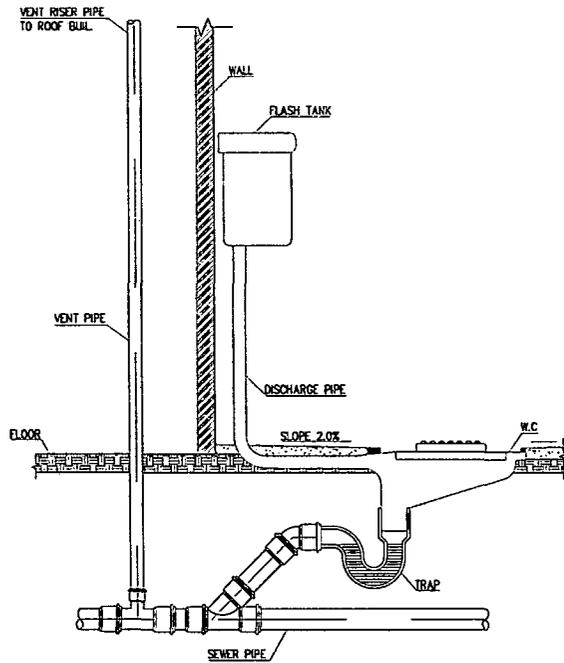
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR WATER SUPPLY	Architect: SYED AKBAR ILYAS	DRG.NO: PH-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154/PI STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH: 091-5825480, FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect: AZGHAR MUMTAZ	SCALE: N.T.S		CHECKED BY:		SIGN/ SEAL:
			Project Engineer: SABZALI KHAN	DATE: 29, MAR, 2023	03	DATE:	



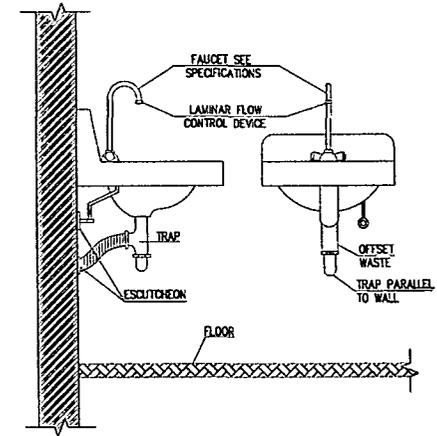
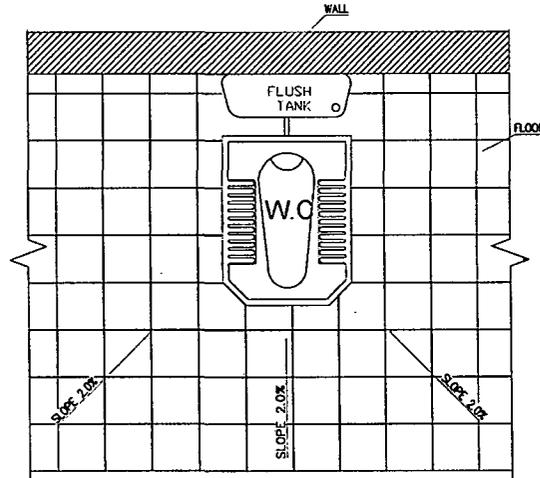
WATER SUPPLY PLAN



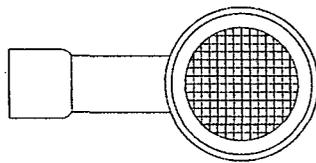
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR WATER SUPPLY	Architect :	SYED AKBAR ILYAS	DRG NO : PH-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PA STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH: 091-5825460 FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect :	AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY:		SIGN/ SEAL:
			Project Engineer :	SABZALI KHAN	DATE : 29, MAR, 2023	SYED AKBAR ILYAS	DATE:	



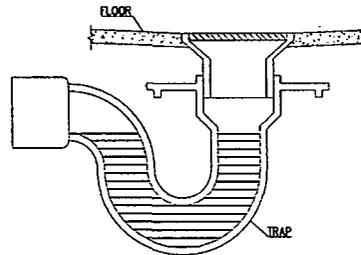
TYPICAL SEWER FIXTURE CONNECTION DETAIL



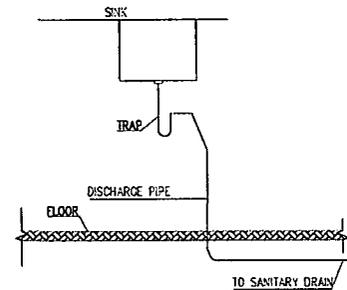
TYPICAL LAVATORY DETAIL



FLOOR DRAIN DETAIL



FLOOR DRAIN DETAIL

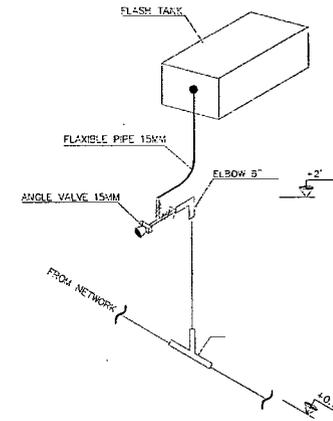
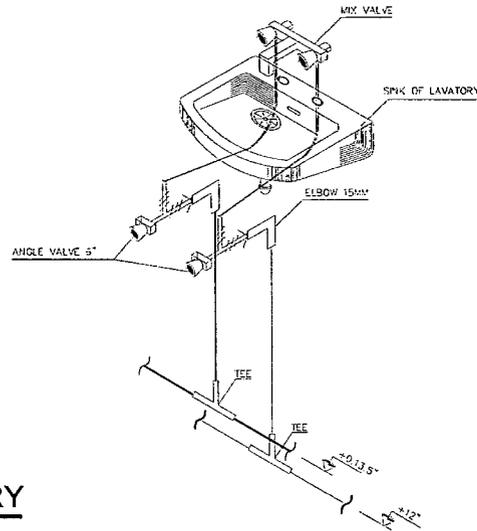
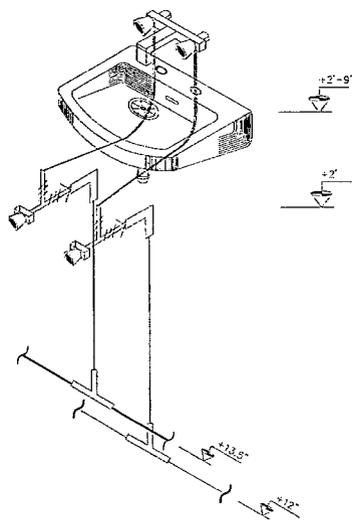


SINK PLUMBING

DETAILS OF FIXTURE UNITS

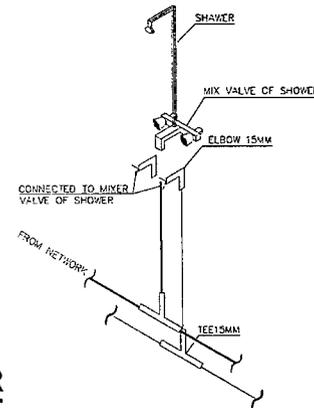
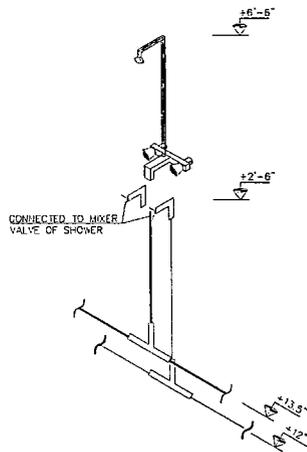


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	FIXTURE DETAIL	Architect: SYED AKBAR ILYAS	DRG.NO: PH-01	11	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, PH STREET #40-07 PHASE-IV, HAYATABAD, PESHAWAR PH: 091-5825480 FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect: AZGHAR MUMTAZ	SCALE: N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer: SABZALI KHAN	DATE: 29, MAR, 2023			DATE:	



LAVATORY

FLASH TANK



SHOWER

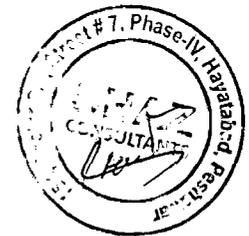
DETAILS OF FIXTURE UNITS



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	FIXTURE DETAIL	Architect : SYED AKBAR ILYAS	DRG.NO : PH-01	DRAWN BY: S.M. HASEEB	APPROVED BY: SIGN/ SEAL:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P/1 STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480, FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S				12	CHECKED BY: SYED AKBAR ILYAS
			Project Engineer : SARZALI KHAN	DATE : 29, MAR, 2023		DATE:	



ELECTRICAL DRAWINGS



1-THE CONTRACTOR SHALL COORDINATE FINAL LIGHTING FIXTURE LOGATIONS WITH SUSPENDED CEILING LAYOUT AND LOCATIONS OF ARCHITECTURAL AND MECHANICAL EQUIPMENTS

2-THE CONTRACTOR SHALL COORDINATE FINAL SELECTION AND INSTALLATION OF PANEL BOARDS, MOTORS CONTROL DEVICES, POWER TAKEOFF POINTS, ELECTRICAL EQUIPMENT AND CABLING WITH SPECIFIC REQUIREMENTS, AND LOCATION OF EQUIPMENT INSTALLED BY OTHER TRADES, WHICH SHALL INCLUDE CONDUITS & WIRING OF HVAC CONTROL DEVICES BEFORE STARTING INSTALLATION WORK. THE CONTRACTOR SHALL PREPARE AND SUBMIT WORKING (SHOP) DRAWINGS OF PROPOSED ELECTRICAL INSTALLATIONS BEFORE STARTING INSTALLATION WCRK.

3-BRANCH CIRCUIT WIRING SHALL CONSIST OF SINGLE CONDUCTORS IN CONDUIT. CONDUCTORS SHALL BE ANNEALED COPPER WITH PVC INSULATION RATED 450/750 VOLTS 85 DEG.C. MIN. CONDUCTOR SIZE 2.5 mm². CONDUITS CONCEALED IN WALLS, SLABS AND SUSPENDED CEILING SHALL BE RIGID PVC. EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL IN ACCORDANCE WITH NEC ARTICLE 346. MIN. CONDOIT SIZE SHALL BE 3/4 INCH (20mm).MAX. NUMBERS OF CONDUCTORS IN CONDUIT SHALL BE IN ACCORDANCE WITH THE TABLE SHOWN. CABLES RUN UNDERGROUND OR ON CABLE TRAY SHALL BE MULTI CORE TYPE ANNEALED COPPER, XLPE INSULATED, PVC SHEATHED, RATED 600/100VOLT 90 DEG. C.

4- CONDUIT FOR FINAL CONNECTIONS TO MOTORISED EQUIPMENT, WATER HEATERS AND OTHER EQUIPMENT SUBJECT TO VIBRATION SHALL BE FLEXIBLE METALIC TYPE.

5-CONDUIT AND EQUIPMENT INSTALLATION IN ELECTRICAL AND MECHANICAL ROOMS SHALL BE EXPOSED UNLESS OTHERWISE NOTED.

6-ALL SERVICE ENTERANCE CONDUITS SHALL BE GALVANIZED RIGID STEEL FITTED WITH INSULATING BUSHING.

7- UNLESS OTHERWISE SHOWN ON DRAWING , MOUNTING HIEGHTS FROM FINISHED FLOOR TO CENTER OF DEVICES SHALL BE AS FOLLOWS :

LIGHTING SWITCHES.....1200mm
 INTERIOR RECEPTACLES.....450mm
 RECEPTACLES ABOVE COUNTERS.....1100mm
 TV OUTLETS.....450mm
 TELEPHONE OUTLETS.....450mm
 COMPUTER OUTLETS.....450mm

8-UNLESS OTHERWISE SHOWN , LIGHTINC AND POWER PANELBOARDS SHALL BE MOUNTED WITH TOP OF PANEL AT 19DD mm AFF.

9- ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT, SUCH AS TRANSFORMER, SWITCHBOARDS, CONTROL PANELS AND CONTROL CENTERS MOUNTED AT OR BELOW GRADE LEVEL SHALL BE MOUNTED ON 100mm HIGH CONCRETE PAD

10-DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT SHALL BE DUSTTIGHT, NEMA 12 (IP53) FOR INTERIOR INSTALLATIONS, RAIN/TIGHT/DUST TIGHT NEMA 4X (IP65) FOR EXTERIOR INSTALLATIONS.

11-MAXIMAM NUMBER OF TELEPHONE TWISTED PAIRS IN CONDUIT SHALL BE AS FOLLOWS:

0.75 INCH (20mm)	.....	3
1.00 INCH (25mm)	.....	5
1.25 INCH (32mm)	.....	8

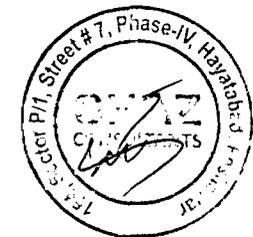
12-WIRING FOR FIRE ALARM SYSTEM AND DETECTION SYSTEM SHALL CONSIST OF FIRE RESISTANT 105 DEG.C. PVC INSULATED CONDUCTORS IN RIGID STEEL CONDUIT. MIN. CONDUCTOR SIZE 1.5mm² OR MINIRAL INSULATED COPPER SHEATHED CABLE (MICC).

13-UNLESS OTHERWISE INDICATED ALL ELECTRICAL CIRCUITS WIRING SHALL HAVE EARTH WIRE AS PER NEC TABLE 250-95.

14- ELECTRICAL CABLE TRAYS SHOWN ARE INDICATIVE SUBJECT TO CONTRACTOR VERIFICATION FOR THE SIZE BASED ON THE APPORVED USED CABLES. COVERED CABLE TRAY WILL BE USED FOR BUILDING WIRES AND THE CONTROL WIRES OF LIGHTING CONTROL SYSTEM.

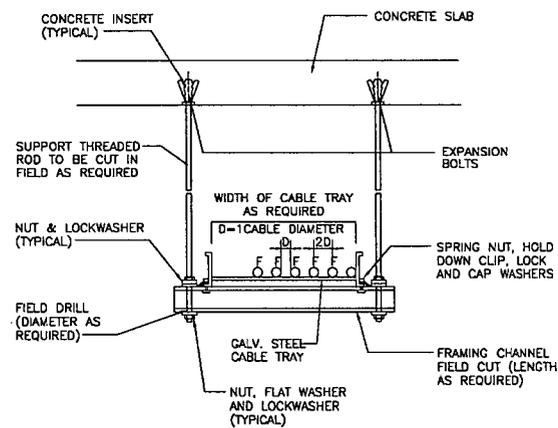
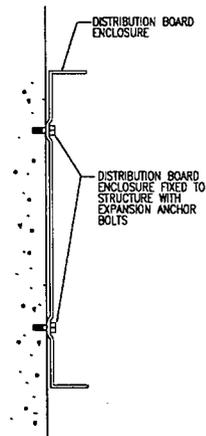
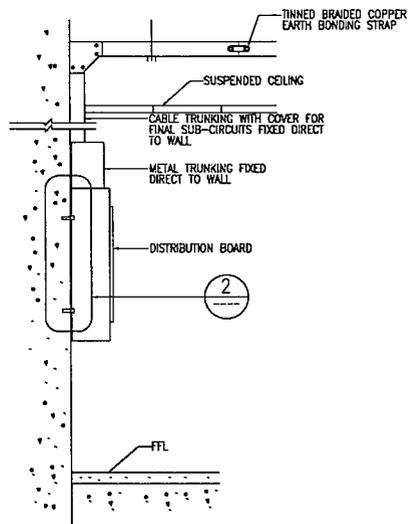
MAXIMUM NUMBER OF PVC INSULATED COND. IN CONDUIT :

WIRE SIZE	CONDUIT SIZE					
	3/4" 20mm	1" 25mm	1-1/4" 32mm	1-1/2" 38mm	2" 50mm	2-1/2" 63mm
2.5mm ²	6	11				
4mm ²	4	8				
6mm ²	3	6	11			
10mm ²		4	6	8		
16mm ²		2	5	7	12	
25mm ²			3	4	8	
35mm ²			2	3	6	10
50mm ²				2	4	7
50mm ²					3	5

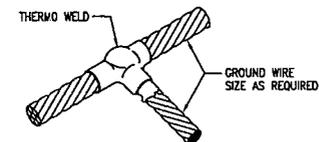
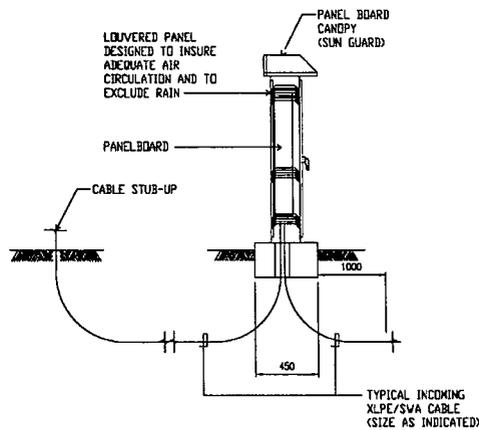
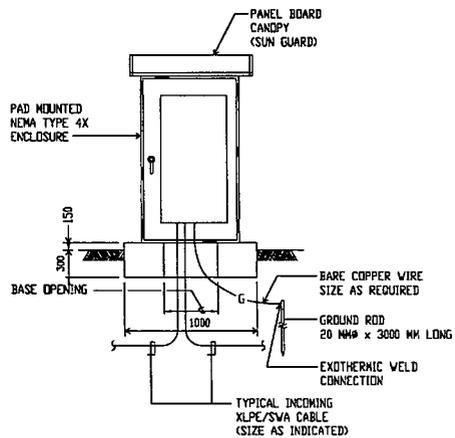


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GENERAL NOTES	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-P/5, STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480 FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY:		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	SYED AKBAR ILYAS	DATE:	

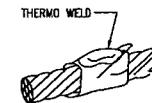




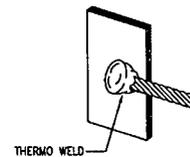
Distribution Board SURFACE MOUNTED Details



GROUND TEE CABLE



CABLE TO CABLE



CABLE TO SURFACE



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TYPICAL DETAIL	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154/P1, STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825430, FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY:		SIGN/ SEAL:
			Project Engineer : SABZALIKHAN	DATE : 29, MAR, 2023	02	DATE:	



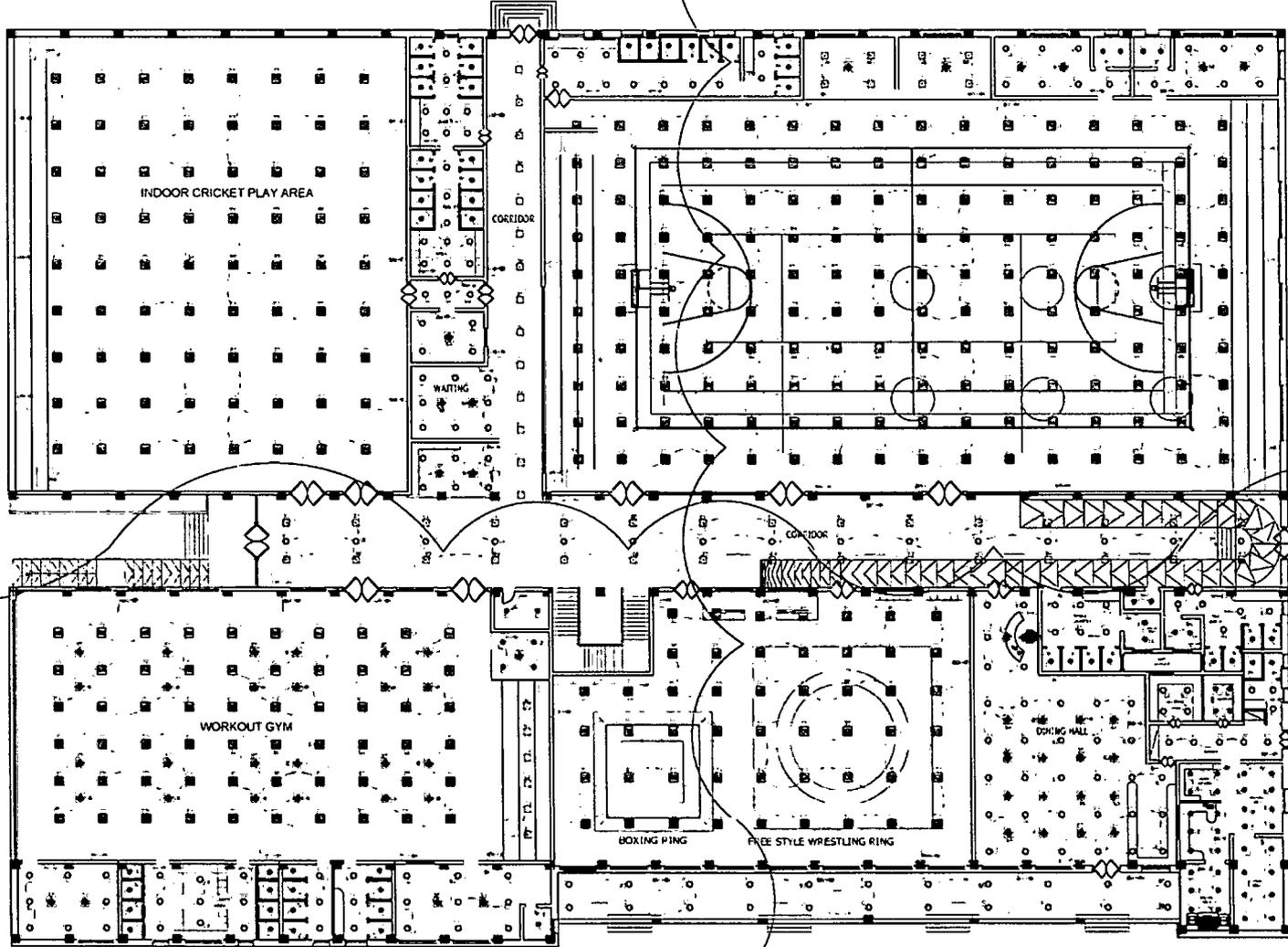
		CEILING FAN 2' X 2'
		12 WATT FLOOR MOUNT LIGHT
		18 WATT FLOOR MOUNT LIGHT
		24 WATT FLOOR MOUNT LIGHT
		36 WATT FLOOR MOUNT LIGHT
		ONE GANG SWITCH
		TWO GANG SWITCH
		FOUR GANG SWITCH
		SIX GANG SWITCH
		EIGHT GANG SWITCH
		TEN GANG SWITCH



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	LEGENDS	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	03	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P.I.L STREET NO. 07 PHASE-IV, MAYATABAD PESHAWAR PH. 091-5825480 FAX. 091-5824122	
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:		
			Project Engineer : SABZALI KHAN	DATE : 29. MAR. 2023			DATE:		

ZOOM 1

ZOOM 2



ZOOM 3

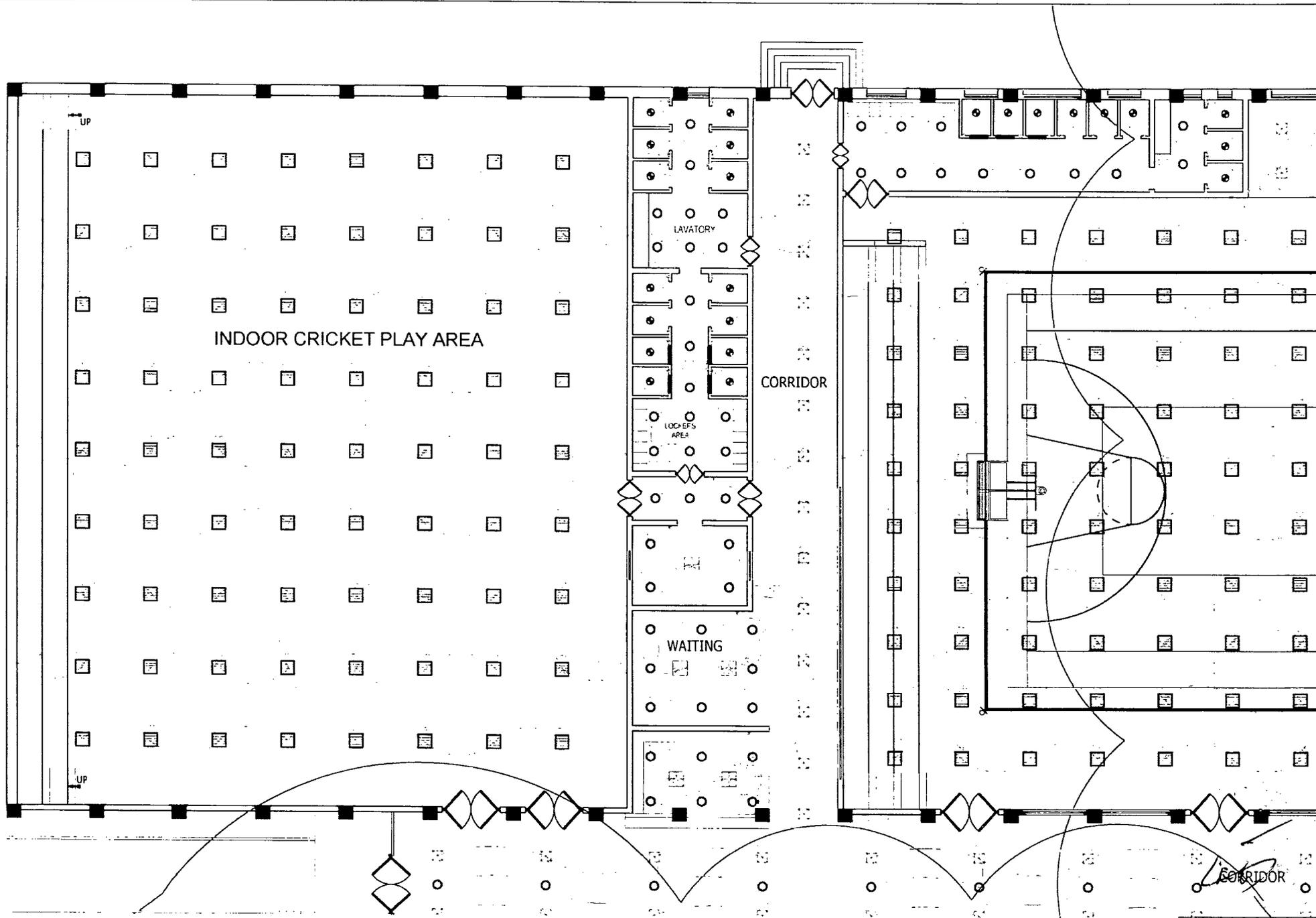
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ZOOM 4

GROUND FLOOR LIGHTING

CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR LIGHTING	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	DRAWN BY S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PA. STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480 FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		04		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	CHECKED BY : SYED AKBAR ILYAS	DATE:	





CLIENT:
EXECUTIVE ENGINEER PAKISTAN
SPORTS BOARD ISLAMABAD

PROJECT: CONSTRUCTION OF (PSB) COACHING
CENTER AT SKARDU
TITLE: GYMNASIUM BLOCK PLAN

GROUND FLOOR LIGHTING
ZOOM-1

Architect: **SYED AKBAR ILYAS**
Associate Architect: **AZGHAR MUMTAZ**
Project Engineer: **SABZALI KHAN**

DRG NO: EL-01
SCALE: N.T.S.
DATE: 29, MAR, 2023

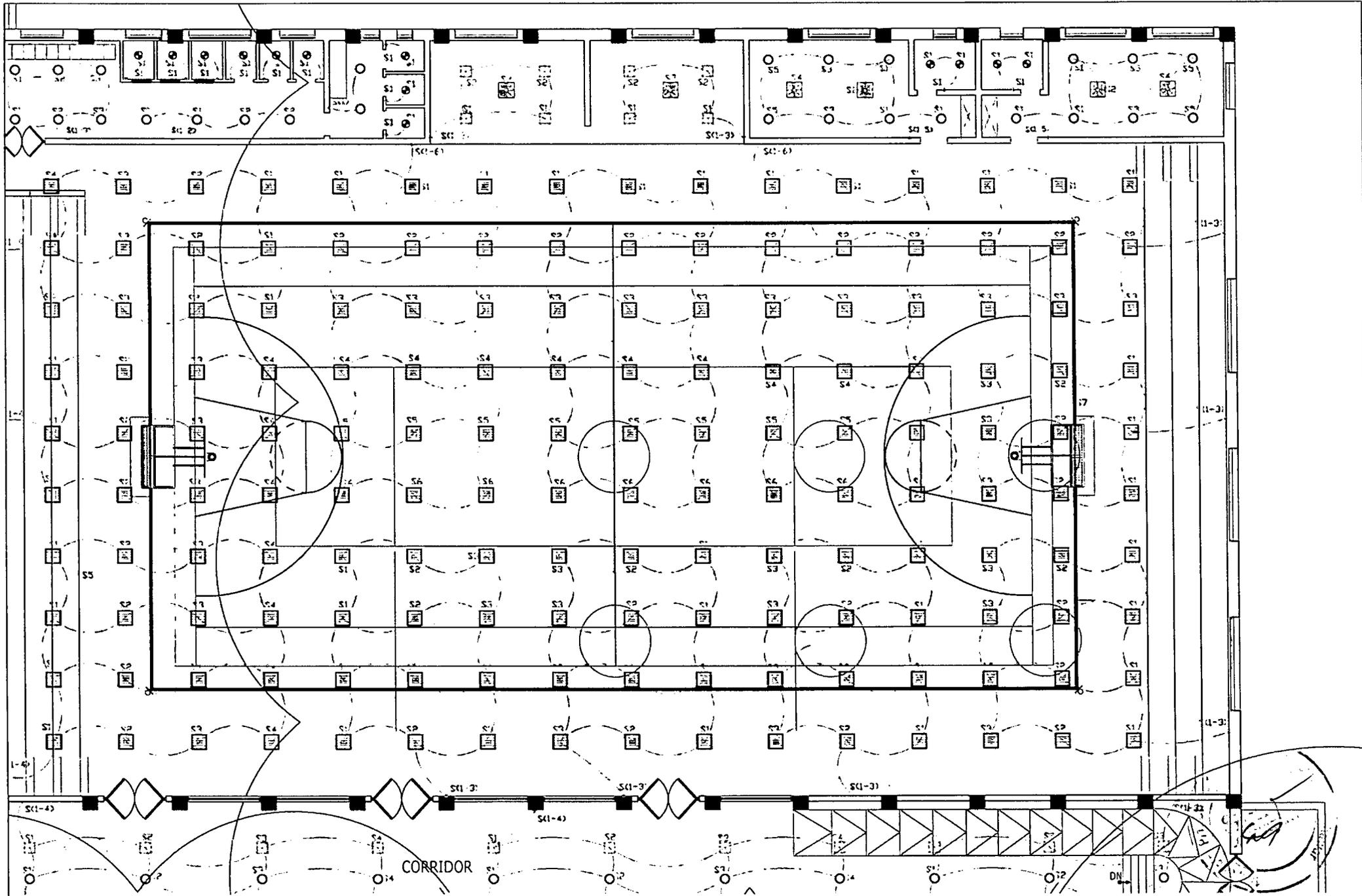
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DRAWN BY: **S.M. HASEEB**
CHECKED BY: **SYED AKBAR ILYAS**

APPROVED BY:
SIGN/ SEAL:
DATE:

SHAZ CONSULTANTS
ARCHITECTURE AND
DESIGN SERVICES
14/75 STREET NO. 07
PHASE IV, HAFIATABAD, F-7/3 HAUWAT
PH: 0314254620 FAX: 0314254133





CLIENT.
EXECUTIVE ENGINEER PAKISTAN
SPORTS BOARD ISLAMABAD

PROJECT. CONSTRUCTION OF (PSB) COACHING
CENTER AT SKARDU
TITLE: GYMNASIUM BLOCK PLAN

GROUND FLOOR LIGHTING
ZOOM-2

Architect: **SYED AKBAR ILYAS**
Associate Architect: **AZGHAR MUMTAZ**
Project Engineer: **SABZALI KHAN**

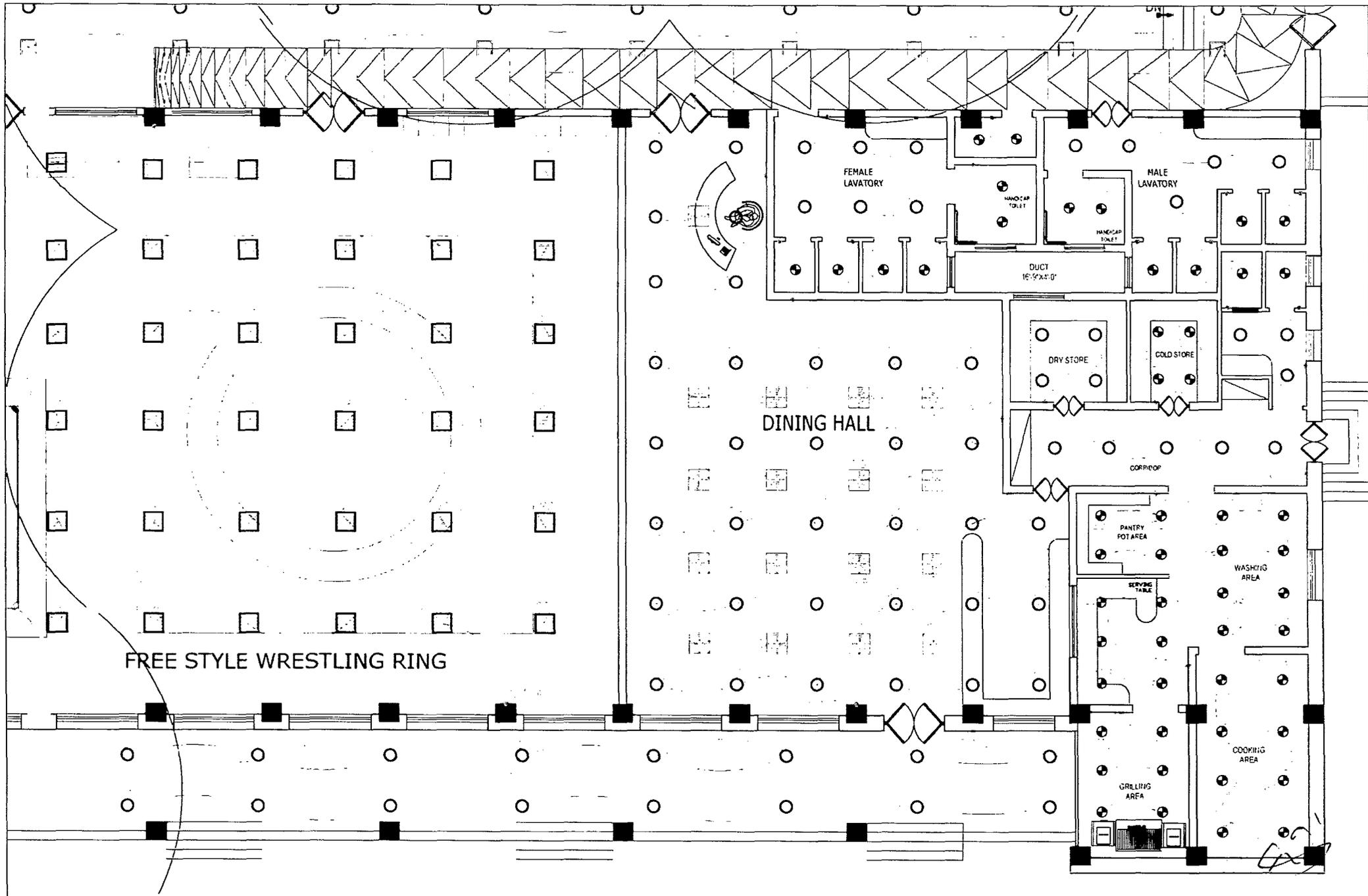
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SCALE: N.T.S
DATE: 29, MAR, 2023

DRAWN BY: **S.M. HASEEB**
CHECKED BY:
SYED AKBAR ILYAS

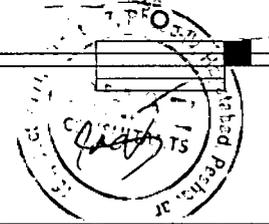
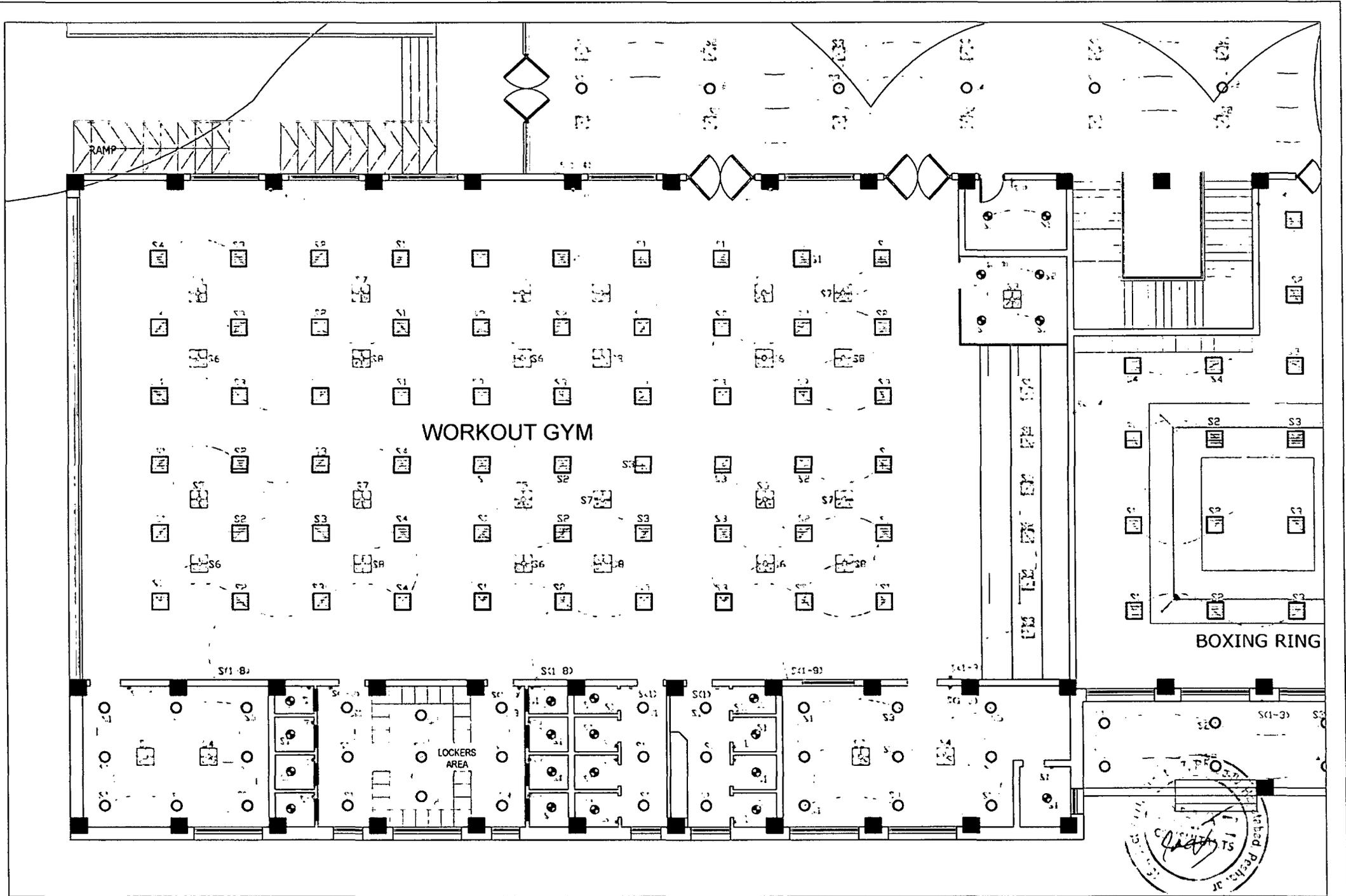
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SIGN/ SEAL:
DATE:

SHAZ CONSULTANTS
ARCHITECTURE AND
DESIGN SERVICES
154 PASTRIET NO 07
PHASE IV HAYATABAD PESHAWAR
PH 021-5825480 FAX 021-5824123





CLIENT EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR LIGHTING ZOOM-3	Architect SYED AKBAR ILYAS	DRG NO : EL-01	DRAWN BY S.M. HASEEB	APPROVED BY SIGN/ SEAL DATE	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 148/F/5 STREET NO 07 PHASE IV, HAJIATABAD FESHAWAR PH 0314-822479, FAX 0314-824123
	TITLE GYMNASIUM BLOCK PLAN		Associate Architect AZGHAR MUMTAZ	SCALE N.T.S				07	CHECKED BY SYED AKBAR ILYAS
			Project Engineer SABZALI KHAN	DATE 29. MAR. 2023			



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR LIGHTING ZOOM-4	Architect: SYED AKBAR ILYAS	ORG.NO: EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PH. STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH 021-5625480 FAX 091-5624123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect: AZGHAR MUMTAZ	SCALE: N.T.S.		CHECKED BY:		SIGN/ SEAL:
			Project Engineer: SABZALI KHAN	DATE: 29, MAR, 2023	SYED AKBAR ILYAS	DATE:	

MECHANICAL EQUIPMENTS

2-THE CONTRACTOR SHALL COORDINATE FINAL SELECTION AND INSTALLATION OF PANEL BOARDS, MOTORS CONTROL DEVICES, POWER TAKEOFF POINTS, ELECTRICAL EQUIPMENT AND CABLING WITH SPECIFIC REQUIREMENTS, AND LOCATION OF EQUIPMENT INSTALLED BY OTHER TRADES, WHICH SHALL INCLUDE CONDUITS & WIRING OF HVAC CONTROL DEVICES BEFORE STARTING INSTALLATION WORK. THE CONTRACTOR SHALL PREPARE AND SUBMIT WORKING (SHOP) DRAWINGS OF PROPOSED ELECTRICAL INSTALLATIONS BEFORE STARTING INSTALLATION WORK.

3-BRANCH CIRCUIT WIRING SHALL CONSIST OF SINGLE CONDUCTORS IN CONDUIT. CONDUCTORS SHALL BE ANNEALED COPPER WITH PVC INSULATION RATED 450/750 VOLTS 85 DEG.C. MIN. CONDUCTOR SIZE 2.5 mm². CONDUITS CONCEALED IN WALLS, SLABS AND SUSPENDED CEILING SHALL BE RIGID PVC. EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL IN ACCORDANCE WITH NEC ARTICLE 346. MIN. CONDUIT SIZE SHALL BE 3/4 INCH (20mm).MAX. NUMBERS OF CONDUCTORS IN CONDUIT SHALL BE IN ACCORDANCE WITH THE TABLE SHOWN. CABLES RUN UNDERGROUND OR ON CABLE TRAY SHALL BE MULTI CORE TYPE ANNEALED COPPER, XLPE INSULATED, PVC SHEATHED, RATED 600/100VOLT 90 DEG. C.

4- CONDUIT FOR FINAL CONNECTIONS TO MOTORISED EQUIPMENT, WATER HEATERS AND OTHER EQUIPMENT SUBJECT TO VIBRATION SHALL BE FLEXIBLE METALIC TYPE.

5-CONDUIT AND EQUIPMENT INSTALLATION IN ELECTRICAL AND MECHANICAL ROOMS SHALL BE EXPOSED UNLESS OTHERWISE NOTED.

6-ALL SERVICE ENTRANCE CONDUITS SHALL BE GALVANIZED RIGID STEEL FITTED WITH INSULATING BUSHING.

7- UNLESS OTHERWISE SHOWN ON DRAWING , MOUNTING HIEGHTS FROM FINISHED FLOOR TO CENTER OF DEVICES SHALL BE AS FOLLOWS :

- LIGHTING SWITCHES.....1200mm
- INTERIOR RECEPTACLES.....450mm
- RECEPTACLES ABOVE COUNTERS.....1100mm
- TV OUTLETS.....450mm
- TELEPHONE OUTLETS.....450mm
- COMPUTER OUTLETS.....450mm

9- ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT, SUCH AS TRANSFORMER, SWITCHBOARDS, CONTROL PANELS AND CONTROL CENTERS MOUNTED AT OR BELOW GRADE LEVEL SHALL BE MOUNTED ON 100mm HIGH CONCRETE PAD

10-DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT SHALL BE DUSTTIGHT, NEMA 12 (IP53) FOR INTERIOR INSTALLATIONS, RAIN/TIGHT/DUST TIGHT NEMA 4X (IP65) FOR EXTERIOR INSTALLATIONS.

11-MAXIMUM NUMBER OF TELEPHONE TWISTED PAIRS IN CONDUIT SHALL BE AS FOLLOWS:

0.75 INCH (20mm)	.....	3
1.00 INCH (25mm)	.....	5
1.25 INCH (32mm)	.....	8

12-WIRING FOR FIRE ALARM SYSTEM AND DETECTION SYSTEM SHALL CONSIST OF FIRE RESISTANT 105 DEG.C. PVC INSULATED CONDUCTORS IN RIGID STEEL CONDUIT. MIN. CONDUCTOR SIZE 1.5mm² OR MINERAL INSULATED COPPER SHEATHED CABLE (MICC).

13-UNLESS OTHERWISE INDICATED ALL ELECTRICAL CIRCUITS WIRING SHALL HAVE EARTH WIRE AS PER NEC TABLE 250-95.

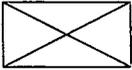
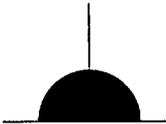
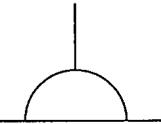
MAXIMUM NUMBER OF PVC INSULATED COND. IN CONDUIT :

WIRE SIZE	CONDUIT SIZE					
	3/4" 20mm	1" 25mm	1-1/4" 32mm	1-1/2" 38mm	2" 50mm	2-1/2" 63mm
2.5mm ²	6	11				
4mm ²	4	8				
6mm ²	3	6	11			
10mm ²		4	6	8		
16mm ²		2	5	7	12	
25mm ²			3	4	8	
35mm ²			2	3	6	10
50mm ²				2	4	7
50mm ²					3	5

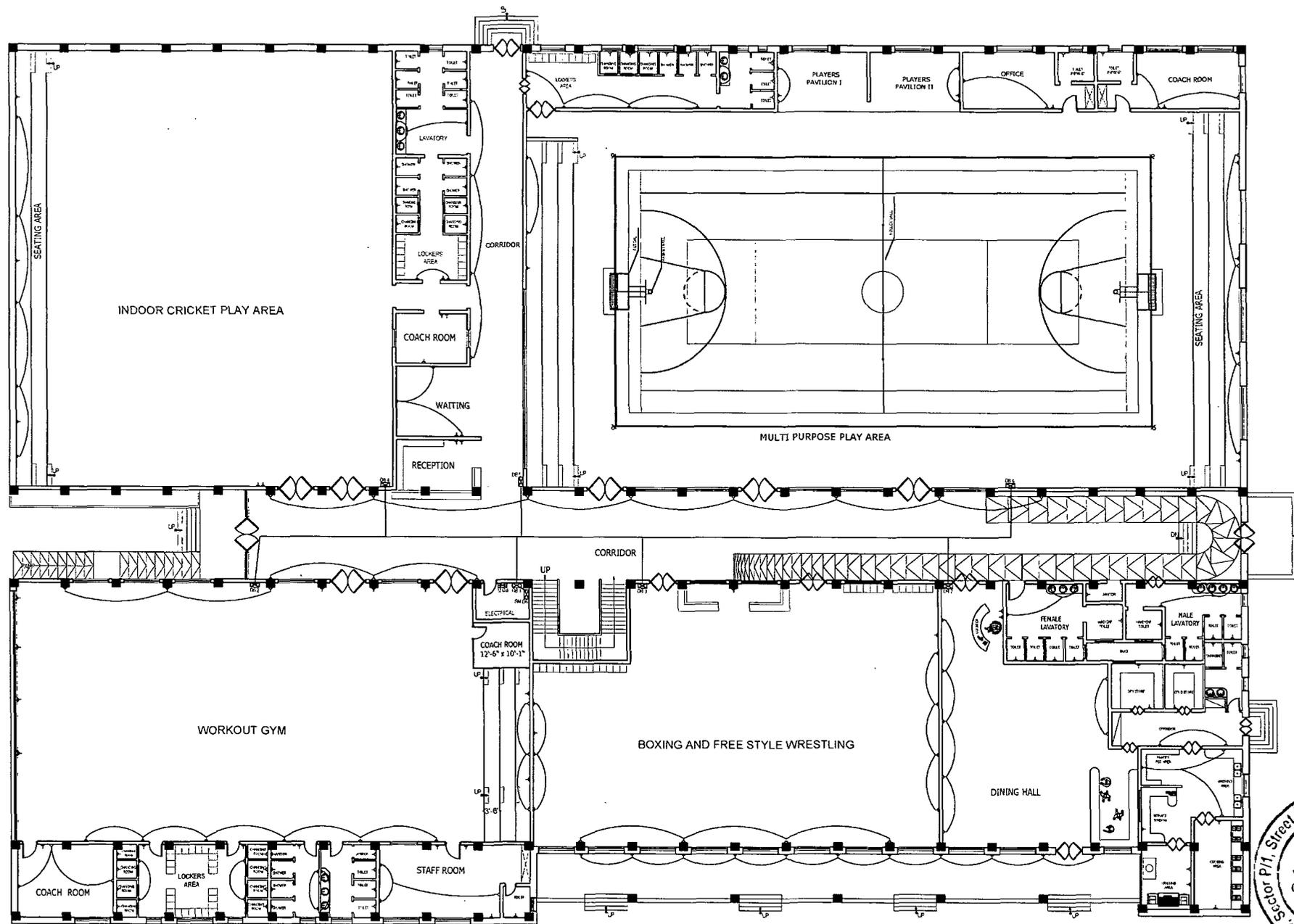


CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GENERAL NOTES	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	09	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PA STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH 091-5825480 FAX 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY :	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		SYED AKBAR ILYAS	DATE:	

POWER

SR	Details	Symbols
1	Main Distribution Box	
2	Power Socket	
3	Light Socket	
4	Conduit	

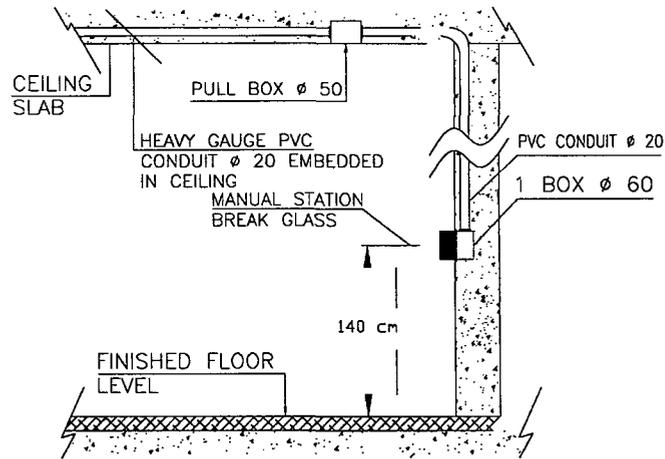




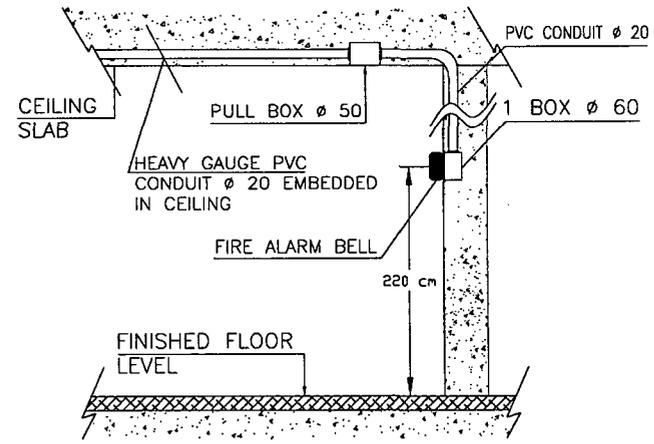
GROUND FLOOR POWER PLAN



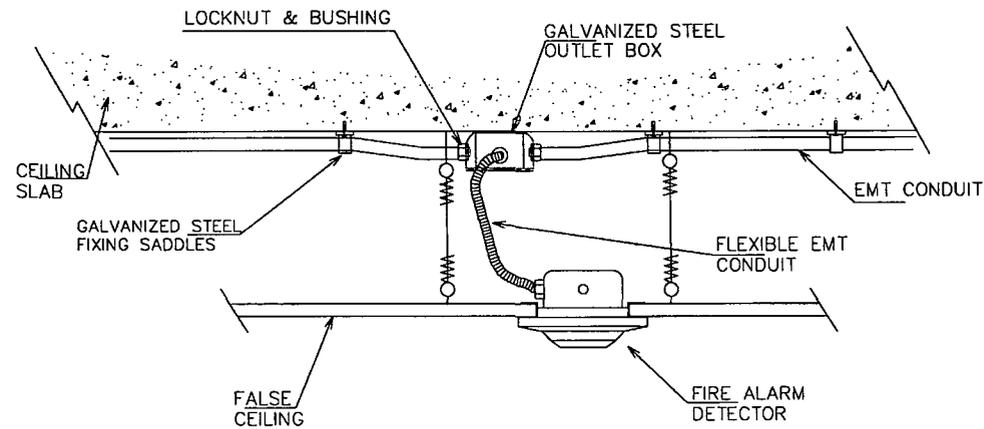
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR POWER LAYOUT	Architect: SYED AKBAR ILYAS	DRG NO: EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P11, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480, FAX 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect: AZGHAR MUMTAZ	SCALE: N.T.S		CHECKED BY:		SIGN/ SEAL:
			Project Engineer: SABZALI KHAN	DATE: 29, MAR, 2023	11	DATE:	



MANUAL STATION BREAK GLASS



FIRE ALARM BELL



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DETAILS	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154/P1, STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480. FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY:		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	12	DATE:	



NOTES REMARKS

FIRE ALARMS SYSTEM:

- DETECTOR CIRCUITS
& CONTROL CIRCUITS

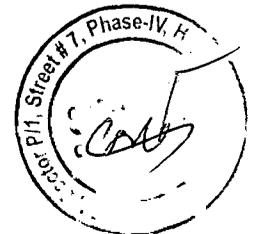
-2x1.5 mm² FIRE
RESISTANT COPPER 105°C

- SOUNDER CIRCUITS

-2x2.5 mm² FIRE
RESISTANT COPPER 105°C

- CONDUIT

- 20 mm DIA RIGID GALVANIZED STEEL



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	NOTES	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P.I. STREET NO. 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-8825480. FAX 091-8824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		13		CHECKED BY:	SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023	SYED AKBAR ILYAS	DATE:	



LEGENDS

FACP

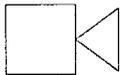
ADDRESSABLE FIRE ALARM CONTROL PANEL

SD

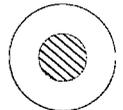
SMOKE DETECTOR

HD

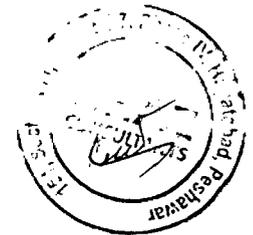
HEAT DETECTOR



SOFT ADDRESSABLE ELECTRONIC SOUNDER

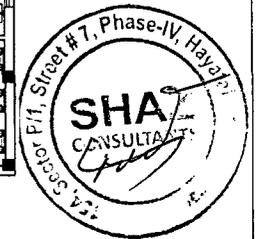
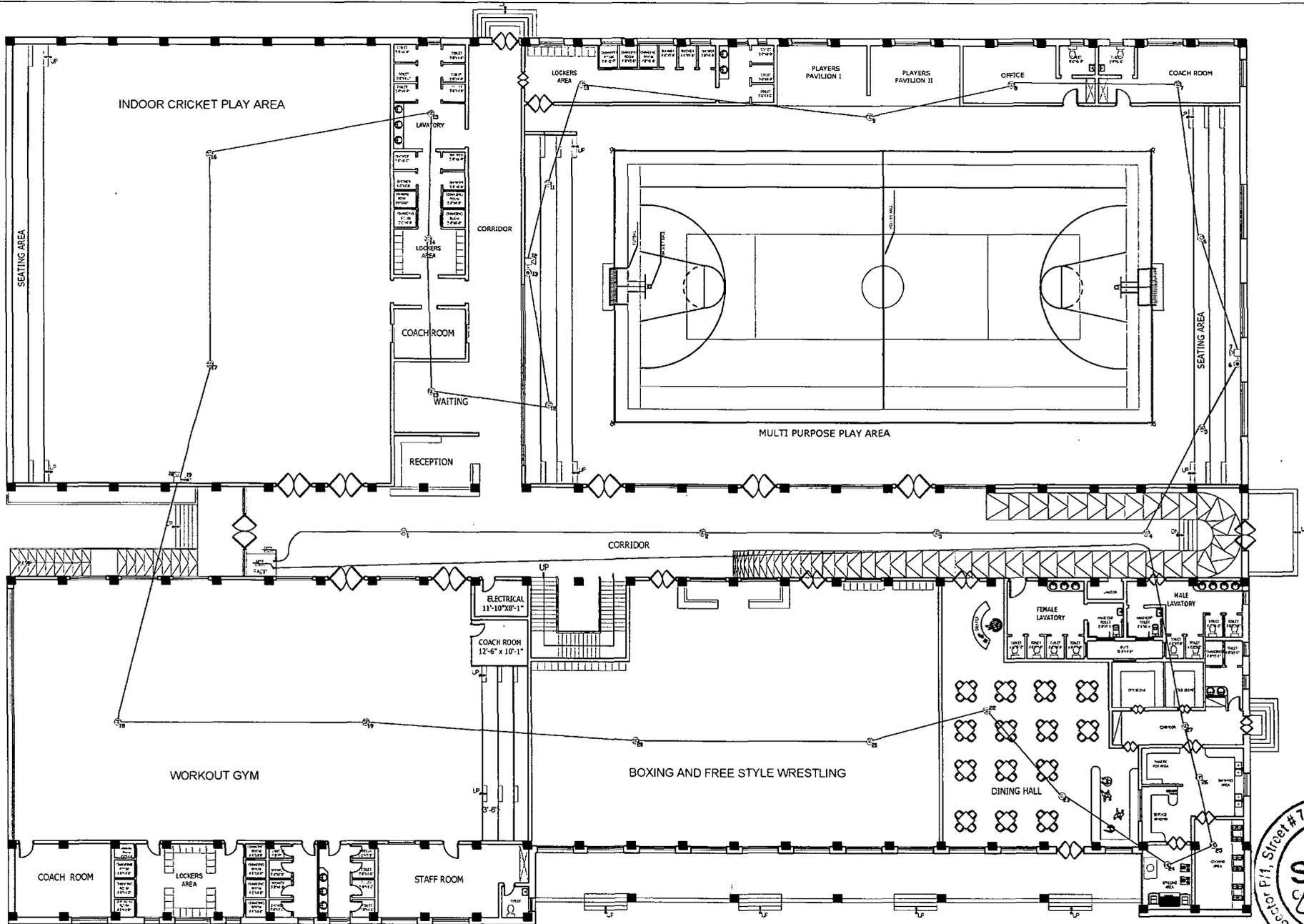


MANUAL CALL STATION



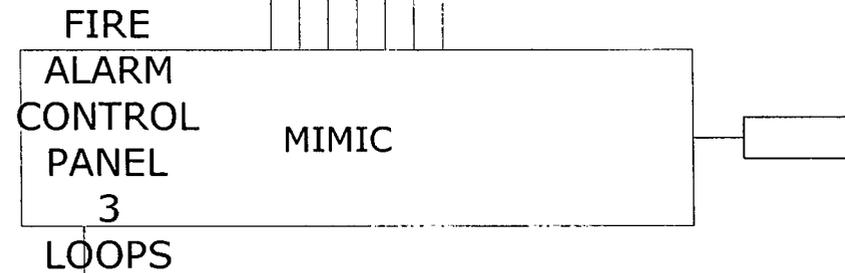
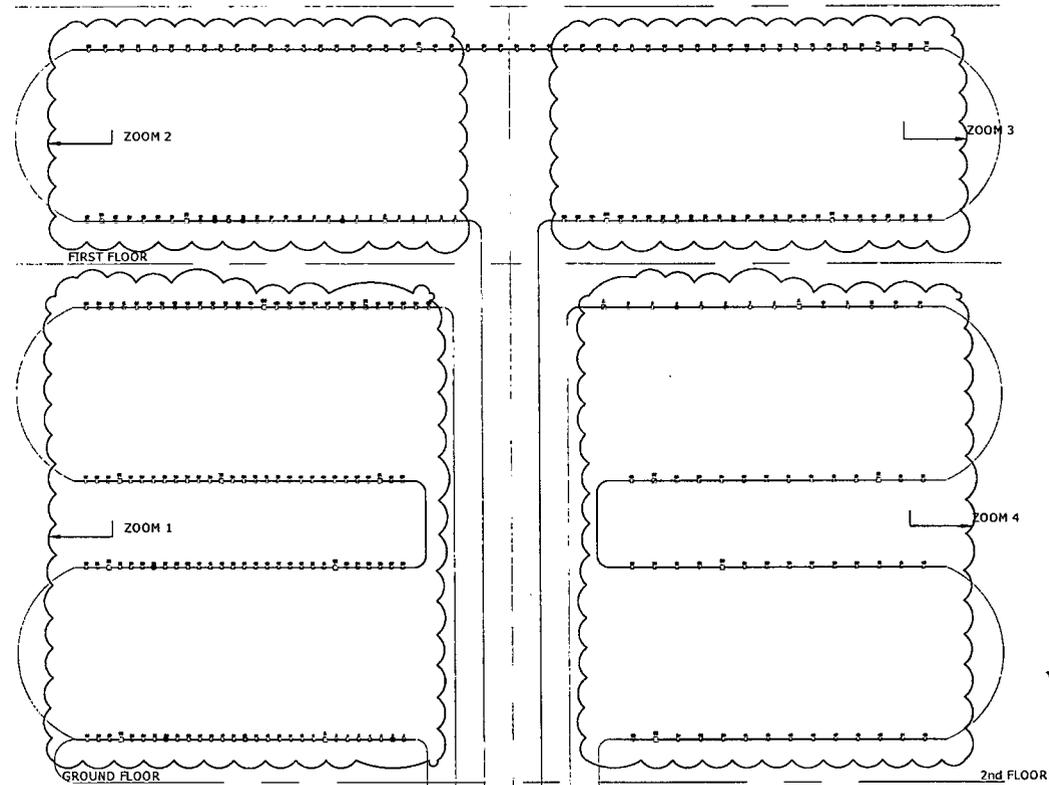
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	LEGENDS	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	14	DRAWN BY: S.M. HASEEB	APPROVED BY: SIGN/ SEAL:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P.A. STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH: 091-5825460, FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S	CHECKED BY : SYED AKBAR ILYAS	DATE : 29, MAR, 2023	DATE:	





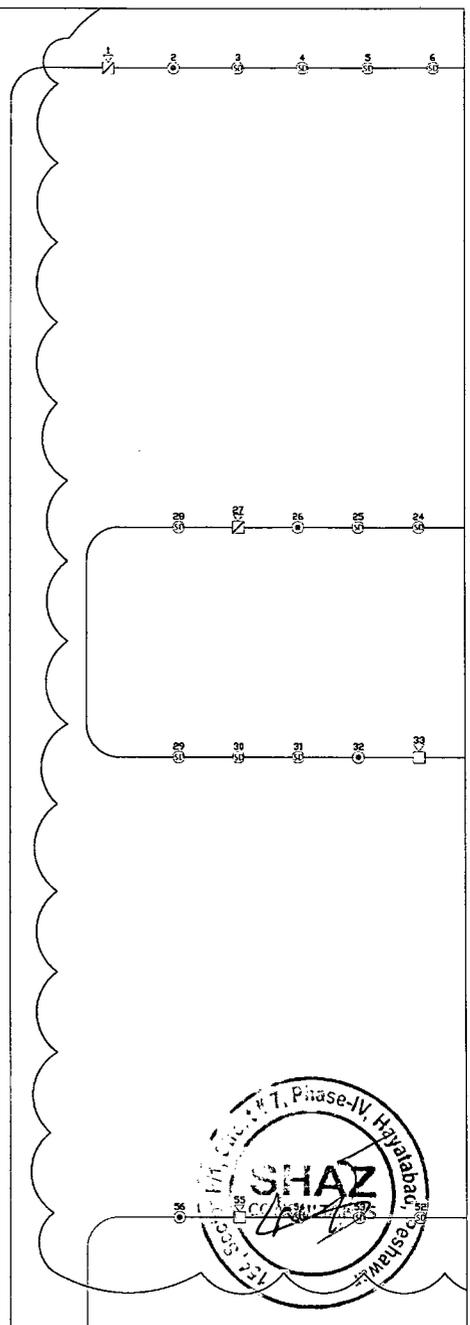
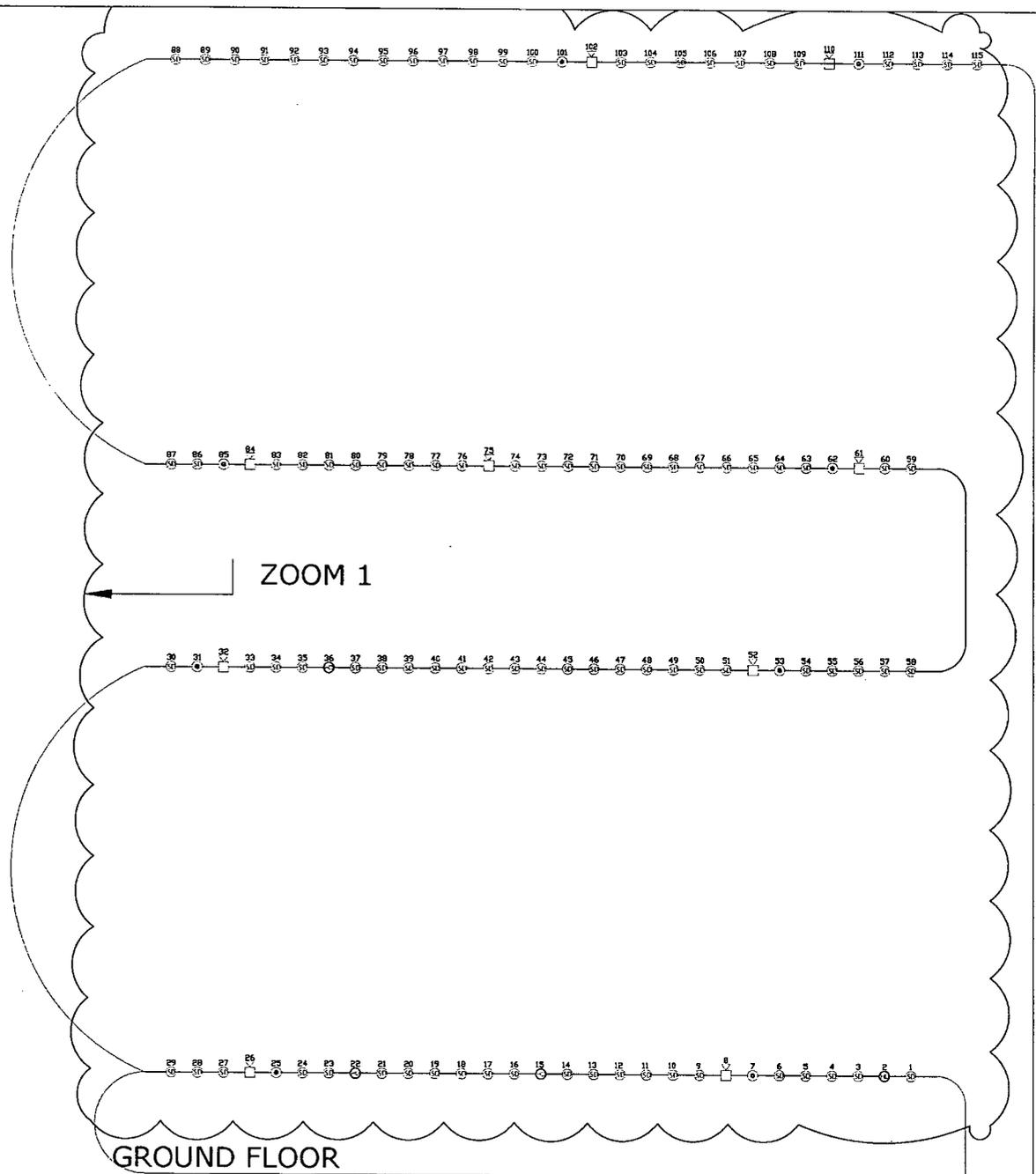
GROUND FLOOR FIRE ALARM PLAN

CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	GROUND FLOOR FIRE ALARM	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	15	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P11, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480, FAX. 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY:	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023		SYED AKBAR ILYAS	DATE:	



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	FIRE ALARM RISER DIAGRAM	Architect : SYED AKBAR ILYAS	DRG.NO : EL-01	DRAWN BY: S.M. HASEEB	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154/PA, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH 091-5825480, FAX: 091-5824123
	TITLE: GYMNASIUM BLOCK PLAN		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY: SYED AKBAR ILYAS		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : 29, MAR, 2023			





CLIENT:
EXECUTIVE ENGINEER PAKISTAN
SPORTS BOARD ISLAMABAD

PROJECT: CONSTRUCTION OF (PSB) COACHING
CENTER AT SKARDU
TITLE: GYMNASIUM BLOCK PLAN

**FIRE ALARM
RISER DIAGRAM**

Architect : **SYED AKBAR ILYAS**
Associate Architect : **AZGHAR MUMTAZ**
Project Engineer : **SABZALI KHAN**

DRG.NO : EL-01
SCALE : N.T.S
DATE : 29, MAR, 2023

17

DRAWN BY: **S.M. HASEEB**
CHECKED BY :
SYED AKBAR ILYAS

APPROVED BY:
SIGN/ SEAL:
DATE:

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PHASE-IV, HAYATABAD, PESHAWAR
PH. 091-5823480, FAX. 091-5824123

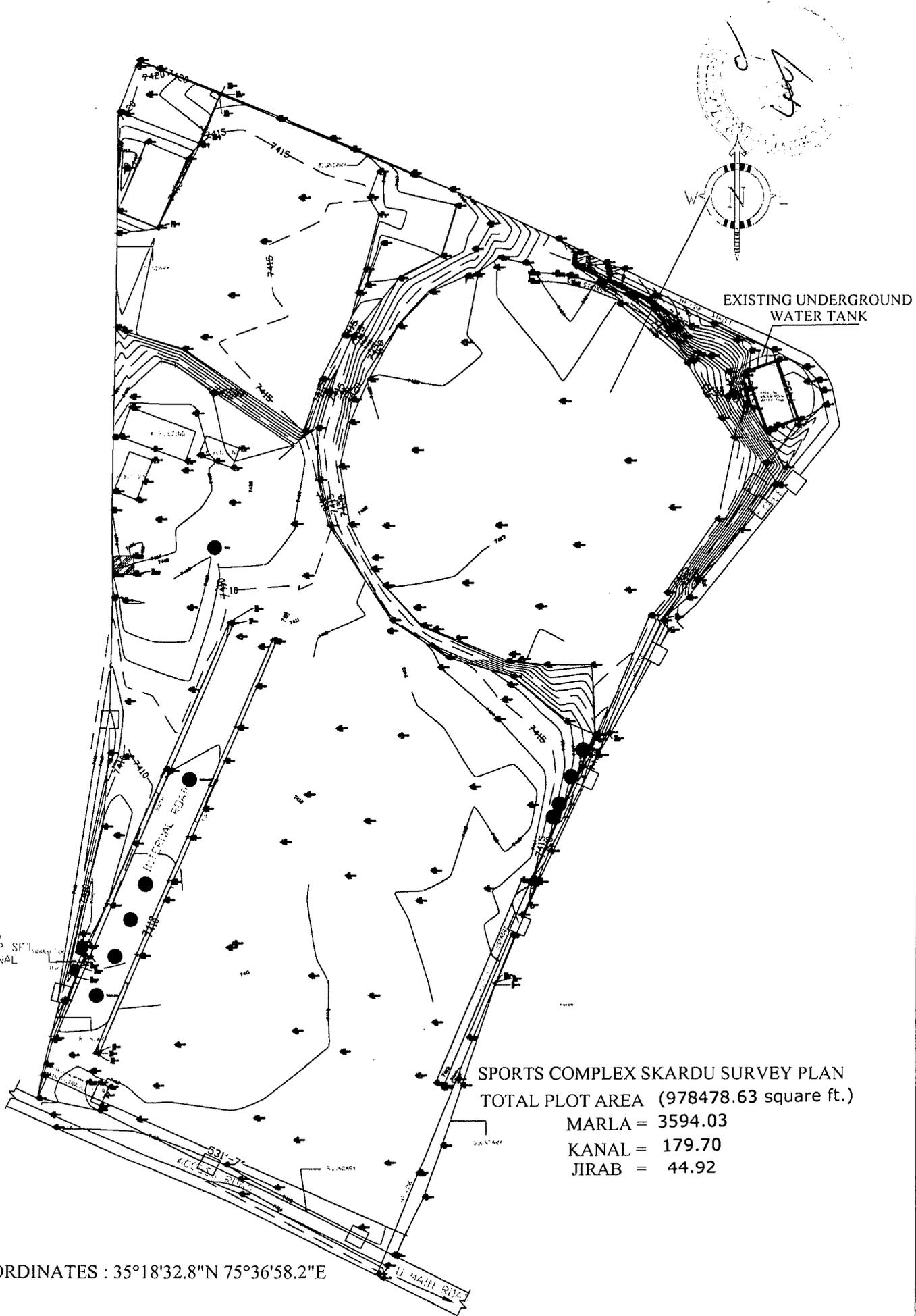


SURVEY PLAN

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PHASE-IV, HAYATABAD PESHAWAR
PH. 091-5825480. FAX: 091-5824123





SITE AREA
977687.192 SF.
179.55 KANAL

SPORTS COMPLEX SKARDU SURVEY PLAN
TOTAL PLOT AREA (978478.63 square ft.)
MARLA = 3594.03
KANAL = 179.70
JIRAB = 44.92

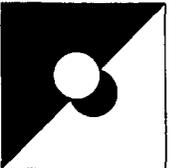
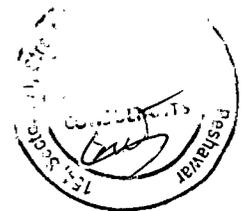
COORDINATES : 35°18'32.8"N 75°36'58.2"E

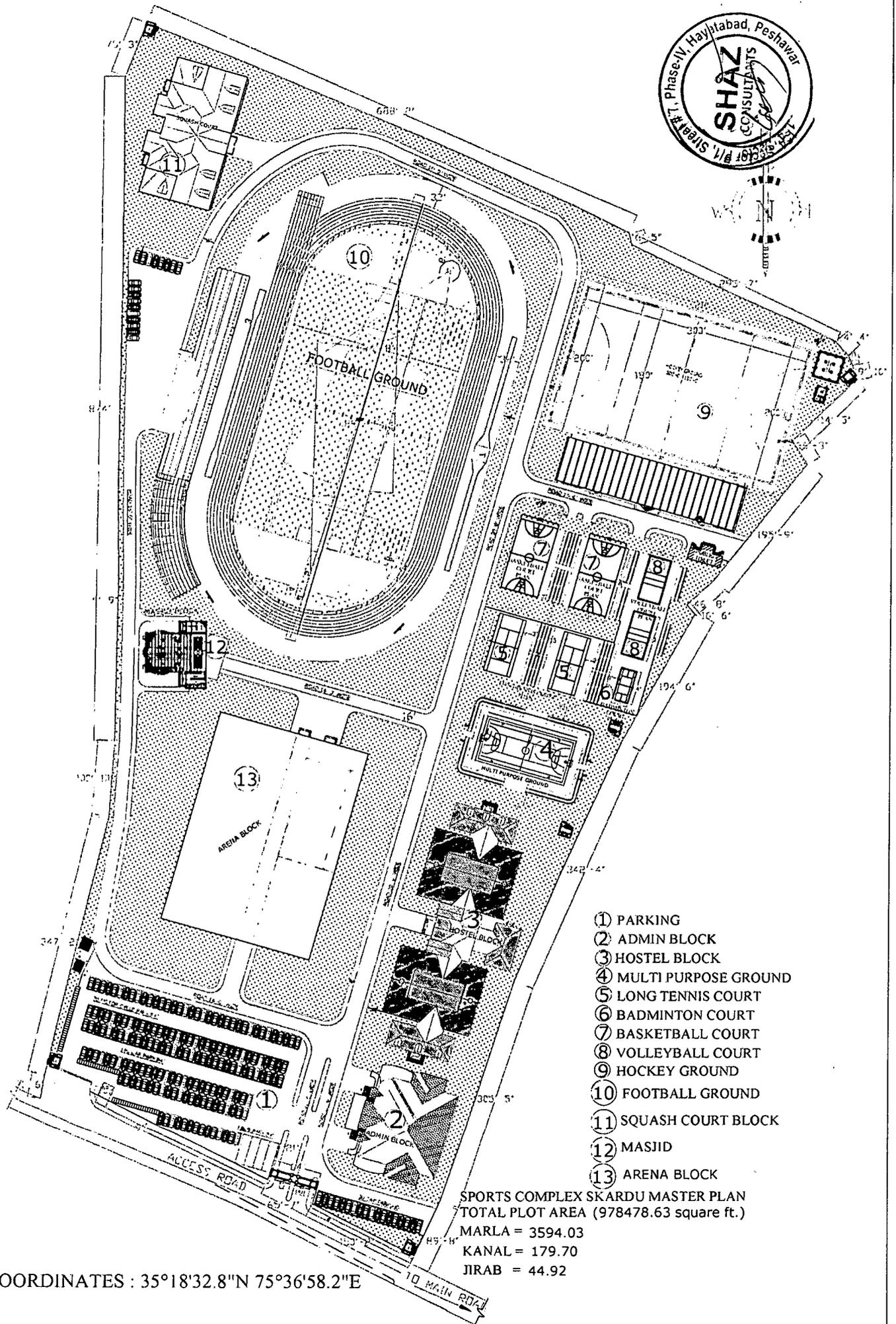
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT	CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TOTAL COVERED AREA:	Architect	SYED AKBAR ILYAS	DRG NO	A-01	DRAWN BY:	ASGHAR	APPROVED BY:		SHAZ CONSULTANTS MOHAMMAD SHAZ 11-B, 1ST FLOOR, SECT-11, GATE NO. 66, F-7/3, ISLAMABAD PUNJAB, PAKISTAN. TEL: 35832121
	TITLE	(PSB)	SURVEY PLAN	Associate Architect:	MUBASHER KHAN	SCALE	N.T.S	CHECKED BY:	SYED AKBAR ILYAS	SIGN/ SEAL		
				Project Engineer:	SABZALI KHAN	DATE	20, JUN, 2023			DATE		

MASTER PLAN

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PHASE-IV, HAYATABAD PESHAWAR
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- ① PARKING
- ② ADMIN BLOCK
- ③ HOSTEL BLOCK
- ④ MULTI PURPOSE GROUND
- ⑤ LONG TENNIS COURT
- ⑥ BADMINTON COURT
- ⑦ BASKETBALL COURT
- ⑧ VOLLEYBALL COURT
- ⑨ HOCKEY GROUND
- ⑩ FOOTBALL GROUND
- ⑪ SQUASH COURT BLOCK
- ⑫ MASJID
- ⑬ ARENA BLOCK

SPORTS COMPLEX SKARDU MASTER PLAN
 TOTAL PLOT AREA (978478.63 square ft.)
 MARLA = 3594.03
 KANAL = 179.70
 JIRAB = 44.92

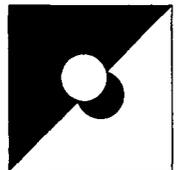
COORDINATES : 35°18'32.8"N 75°36'58.2"E

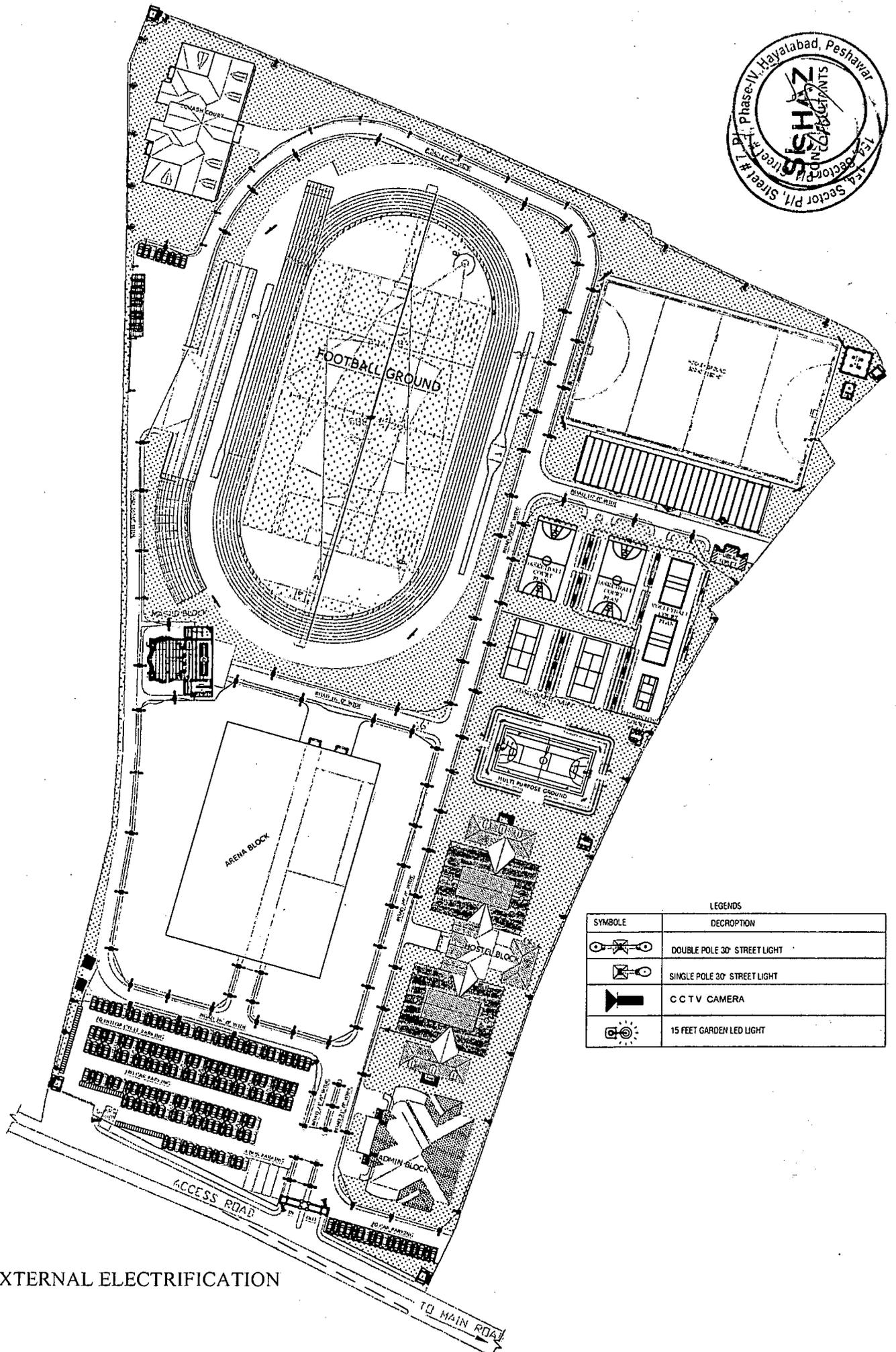
CLIENT EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU TITLE (PSB)	TOTAL COVERED AREA MASTER PLAN	Architect SYED AKBAR ILYAS Associate Architect MUBASHER KHAN Project Engineer SABZALI KHAN	DRG NO A - 02 SCALE : N.T.S DATE 20, JUN, 2023	DRAWN BY ASGHAR CHECKED BY SYED AKBAR ILYAS	APPROVED BY [Signature] DATE	SHAZ CONSULTANTS PHASE-IV HAYATABAD, PESHAWAR TEL: 011-3588888 FAX: 011-3588888 WWW.SHAZCONSULTANTS.COM
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EXTERNAL ELECTRIFICATION

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PHASE-IV, HAYATABAD PESHAWAR
PH. 091-5825480. FAX: 091-5824123





LEGENDS

SYMBOL	DESCRIPTION
	DOUBLE POLE 30' STREET LIGHT
	SINGLE POLE 30' STREET LIGHT
	CCTV CAMERA
	15 FEET GARDEN LED LIGHT

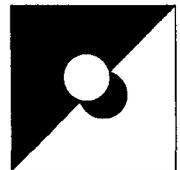
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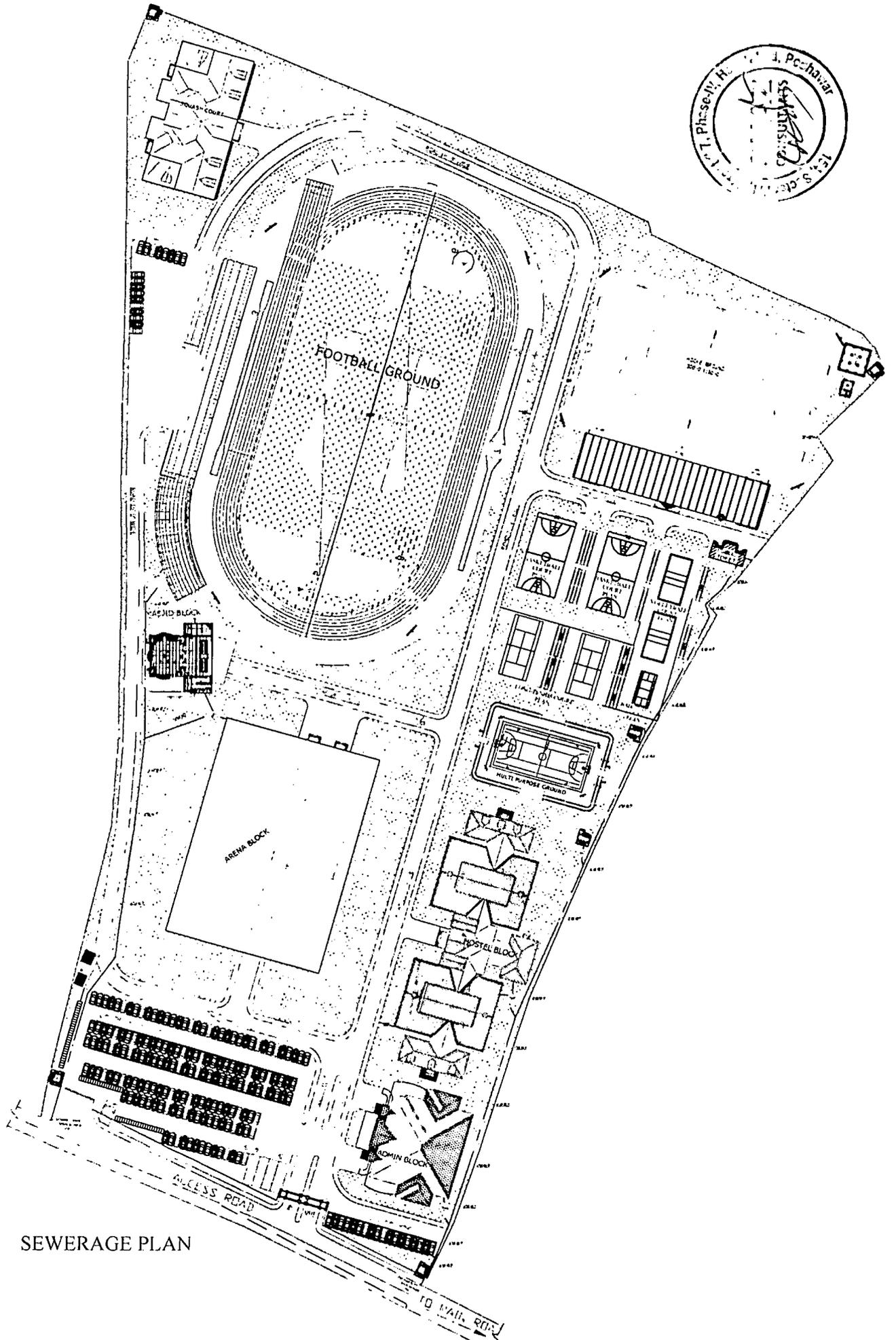
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TOTAL COVERED AREA	Architect: SYED AKBAR ILYAS	DRG NO 'A' - 03	DRAWN BY: ASGHAR	APPROVED BY:	SHAZ CONSULTANTS REGISTRATION NO: 447 DEPT. OF CIVIL ENGRG. ISLAMABAD, PAKISTAN TEL: 011-3574600 FAX: 011-3574622
	TITLE: (PSB)	EXTERNAL ELECTRIFICATION	Associate Architect: MUBASHER KHAN	SCALE: N.T.S	CHECKED BY:	SIGNATURE SEAL:	
			Project Engineer: SARZALI KHAN	DATE: 20, JUN, 2023	SYED AKBAR ILYAS	DATE:	

EXTERNAL SEWERAGE PLAN

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PH. 091-5825480. FAX: 091-5824123





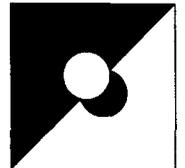
SEWERAGE PLAN

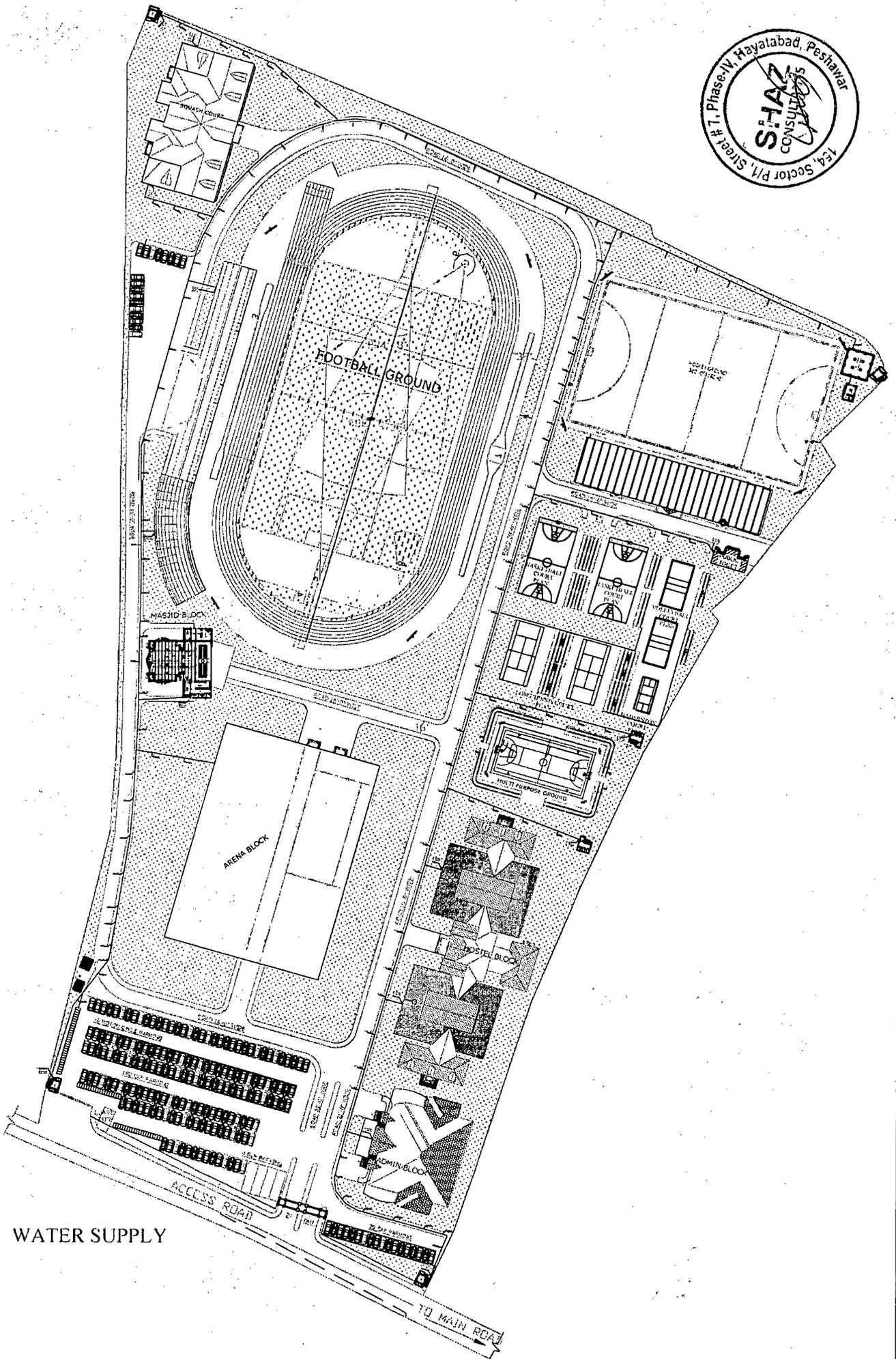
CLIENT EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT	CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	TOTAL COVERED AREA	Architect	SYED AKBAR ILYAS	DRG NO	A-03	DRAWN BY	ASQHAR	APPROVED BY	SHAZ CONSULTANTS
	TITLE	(PSB)	SEWERAGE PLAN	Associate Architect	MUBASHER KHAN	SCALE	N.T.S	CHECKED BY	SYED AKBAR ILYAS	SIGN SEAL	SHAZ CONSULTANTS
				Project Engineer	SARZAM KHAN	DATE	20, JUN, 2023			DATE	SHAZ CONSULTANTS

EXTERNAL WATER SUPPLY

SHAZ CONSULTANTS
ARCHITECTURE AND
DESIGN SERVICES

154, P/I, STREET NO. 07
PHASE-IV, HAYATABAD PESHAWAR
PH. 091-5825480. FAX: 091-5824123

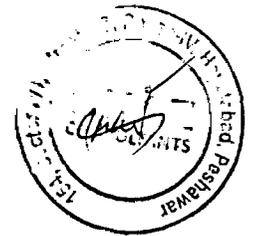




WATER SUPPLY

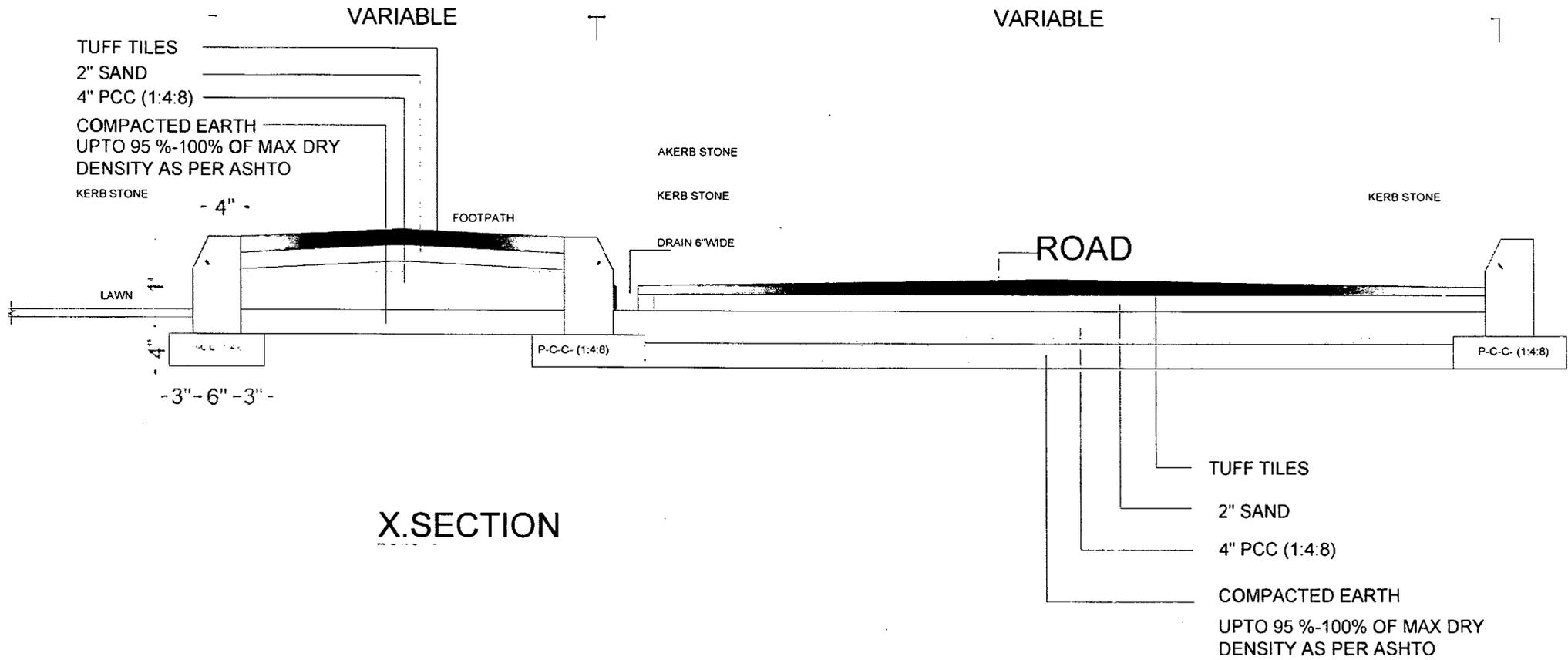
CLIENT EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT CONSTRUCTION OF (PSB) COACHING CENTER AT SARGODHA	TOTAL COVERED AREA WATER SUPPLY PLAN	Architect SYED AKBAR ILYAS	DRG NO: A- 03	DRAWN BY ASGHAR	APPROVED BY	SHAZ CONSULTANTS 154, Sector P/1, Street H/1, Phase-IV, Hayatabad, Peshawar PUNJAB, PAKISTAN TEL: 0111-3622121, 3622122 FAX: 0111-3622123
	TITLE (PSB)		Associate Architect MUBASHER KHAN	SCALE N.T.S.	CHECKED BY SYED AKBAR ILYAS	SIGN/SEAL	
			Project Engineer SARZAM KHAN	DATE 20, JUN, 2023		DATE	

ROAD DETAIL



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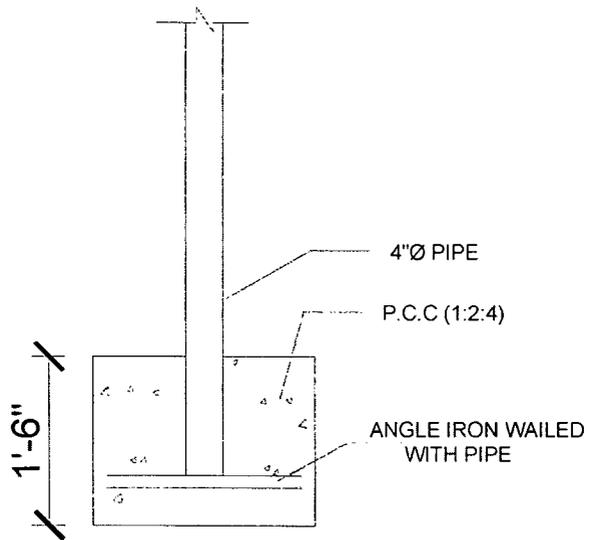
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: ROAD X SECTION	Architect : SYED AKBAR ILYAS	DRG.NO : MS-01	01	DRAWN BY: QAZI HAIDER ALI	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P11, STREET NO. 07 PHASE-IV, HAYATABAD PESHAWAR PH. 091-5825480 FAX. 091-5824123
	TITLE: MISCELLANEOUS		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : SEP, 2023			DATE:	

CAR PARKING & PAVED AREA

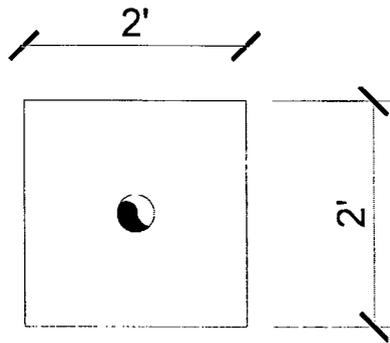


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PH. 091-5825480. FAX: 091-5824123

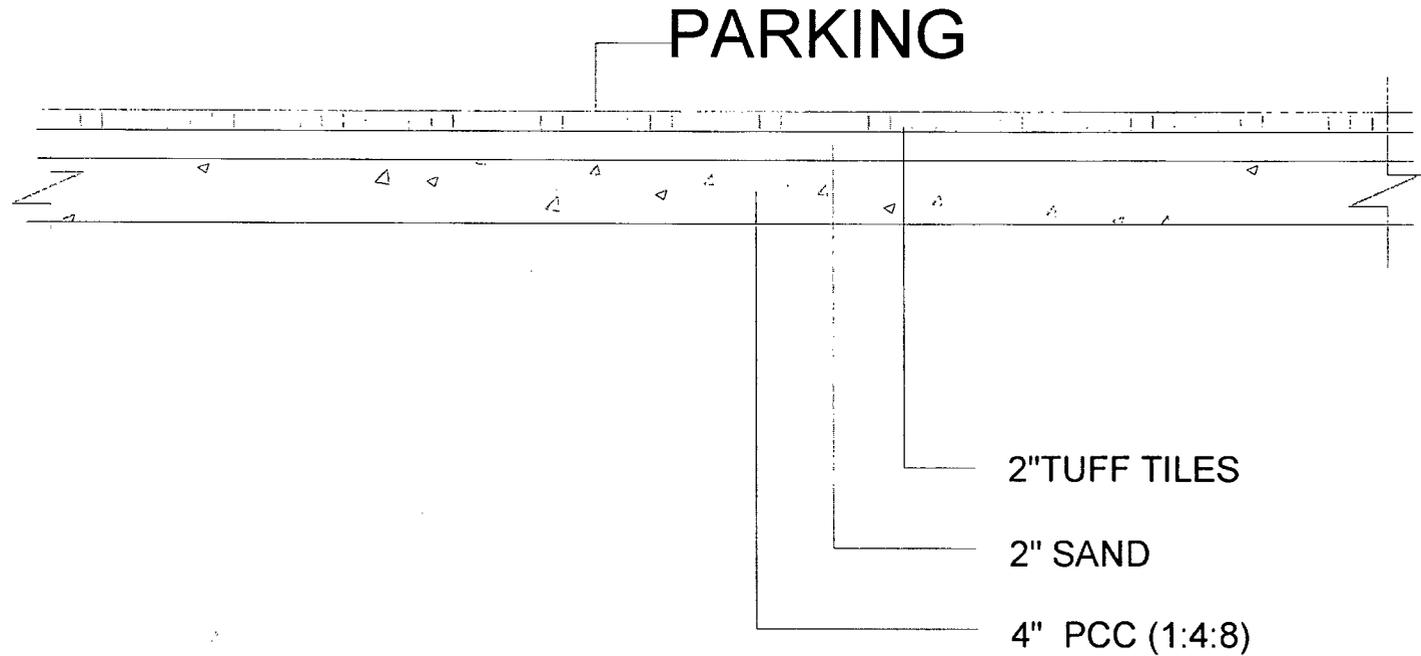




STEEL PIPE SECTION



STEEL PIPE PLAN



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: PARKING DETAILS	Architect : SYED AKBAR ILYAS	DRG.NO : MS-02	02	DRAWN BY: QAZI HAIDER ALI	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PH STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH 091-5825480, FAX, 091-5824123
	TITLE: MISCELLANEOUS		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer : SABZALI KHAN	DATE : SEP, 2023			DATE:	



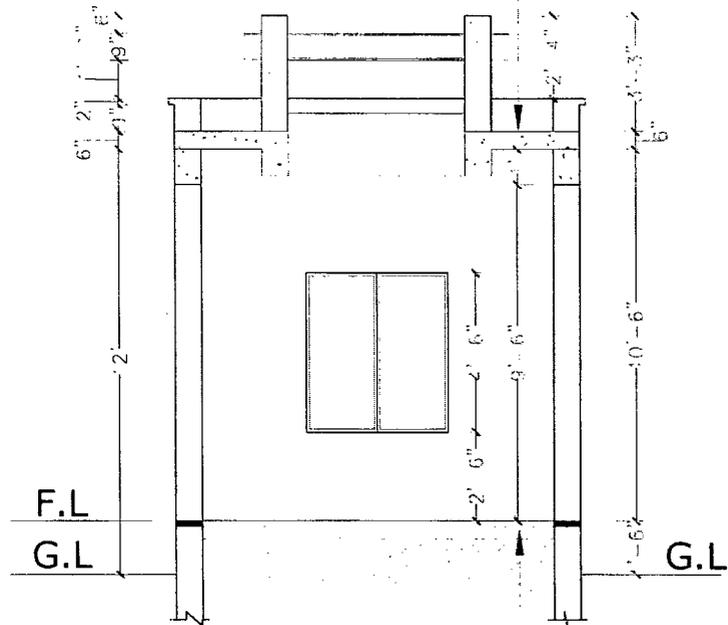
TUBE WELL



SHAZ CONSULTANTS
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154, P/I, STREET NO 07
PHASE-IV, HAYATABAD PESHAWAR
PH. 091-5825480. FAX: 091-5824123

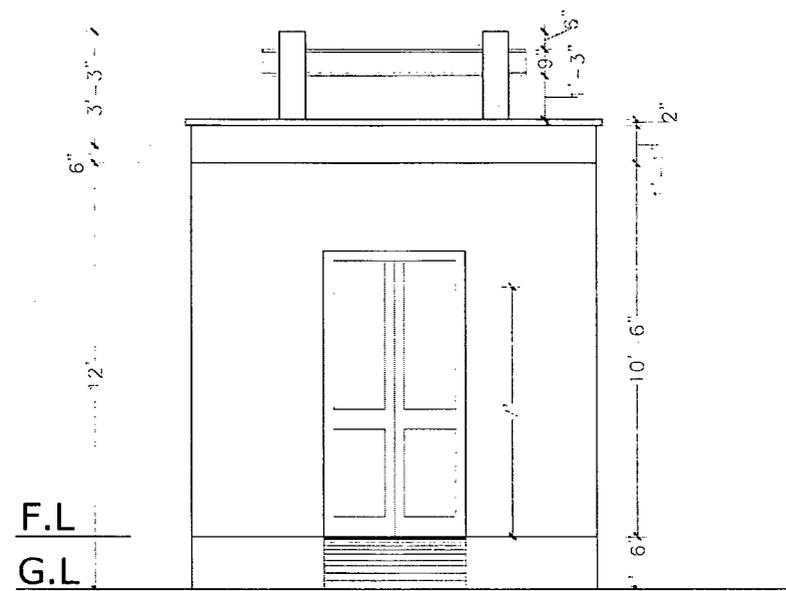


- 1-1/2" THICK BRCK TILE
- MUD PLASTER WITH BOOSA
- 3"/4" EARTH WITH PROPER SLOPE
- POLYTHENE SHEET ONE LAYER
- BITUMEN
- CEMENT PLASTER
- MAKING SURFACE

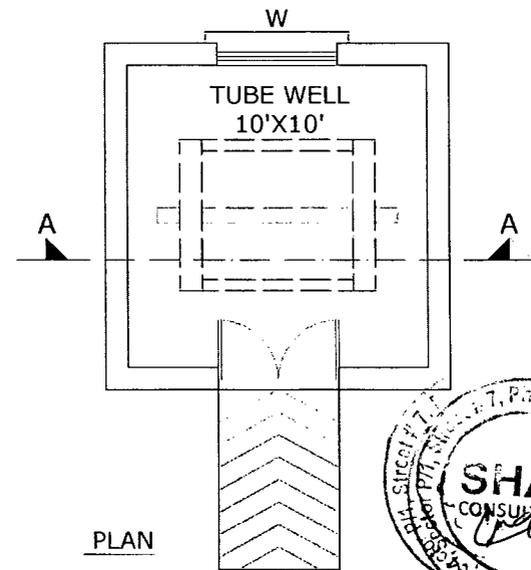


SECTION AT A-A

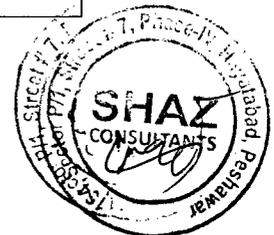
- TERRAZZO FLOORING
- 3" P.C.C (1:3:6)
- 4" P.C.C (1:4:8)
- SEND FILLING
- EARTH FILLING COMPLETED



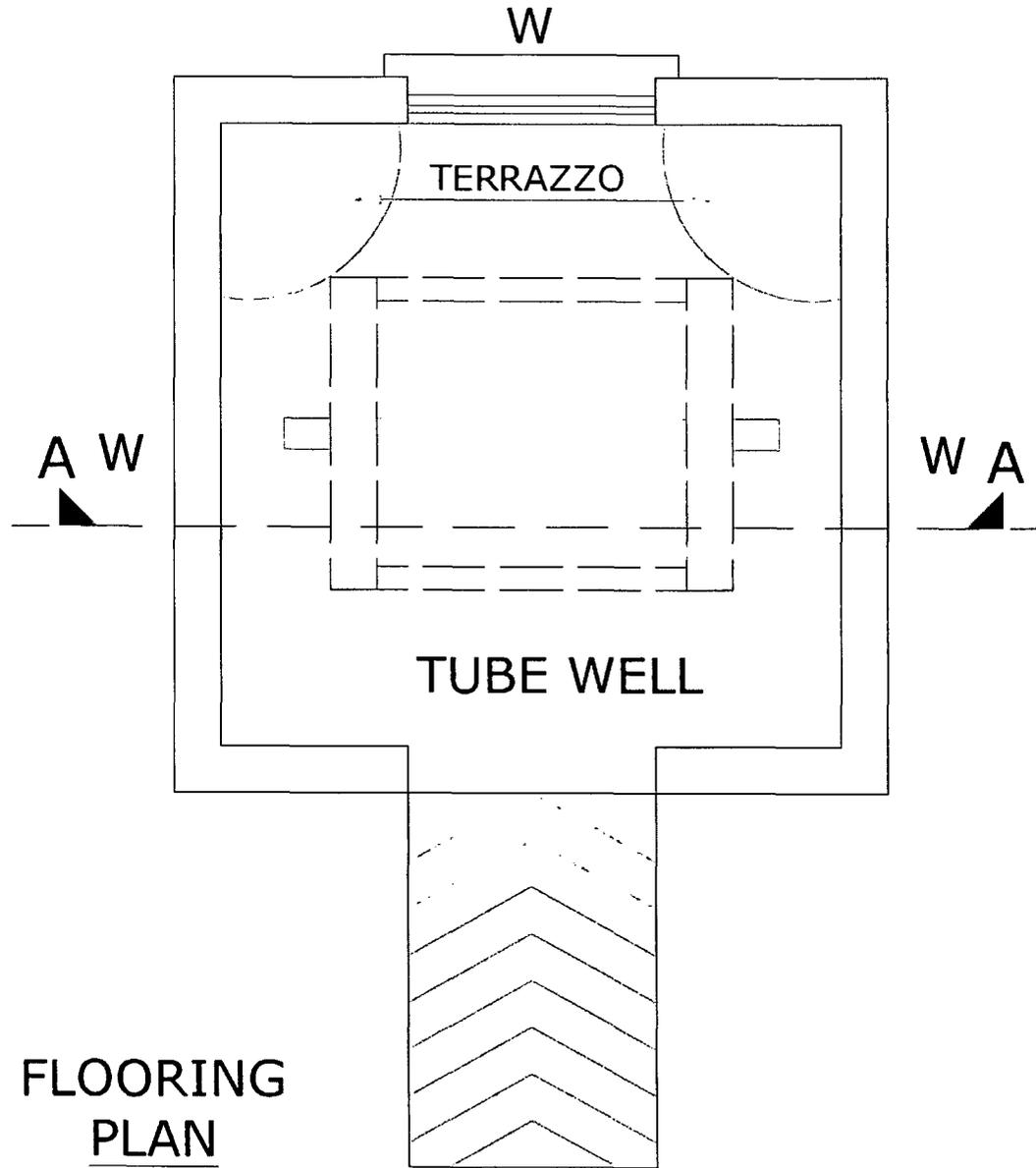
FRONT ELEVATION



PLAN



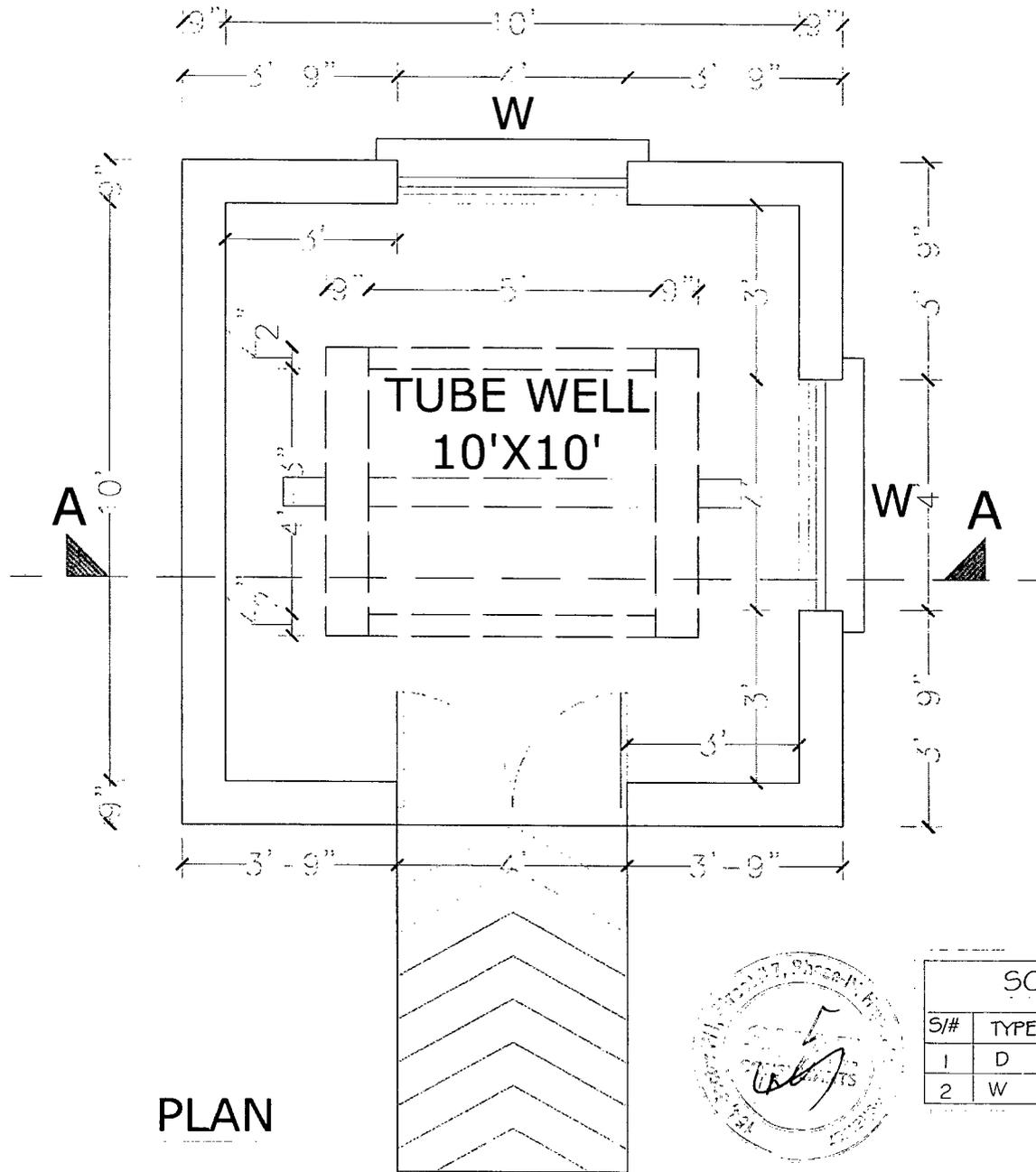
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: PLAN FRONT ELEVATION & SECTION	Architect : SYED AKBAR ILYAS	DRG.NO : A- 01	01	DRAWN BY:	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 P.II, STREET NO. 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 031-5825480, FAX. 031-5824123
	TITLE: TUBE WELL		Associate Architect : AZGHAR MUMTAZ	SCALE: N.T.S		CHECKED BY:			SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : SEP, 2023		SYED AKBAR ILYAS	DATE:	



**FLOORING
PLAN**



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: 107.25 SFT	Architect: SYED AKBAR ILYAS	DRG.NO : A- 03	03	DRAWN BY: QAZI HAIDER ALI	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PII STREET NO 01 PHASE-IV, MAYATABAD, PESHAWAR PH 091-5825480 FAX 091-5824133
	TITLE: TUBE WELL	FLOORING PLAN	Associate Architect: AZGHAR MUMTAZ	SCALE: N.T.S		CHECKED BY: SYED AKBAR ILYAS	SIGN/ SEAL:	
			Project Engineer: SABZALI KHAN	DATE: SEP, 2023			DATE:	



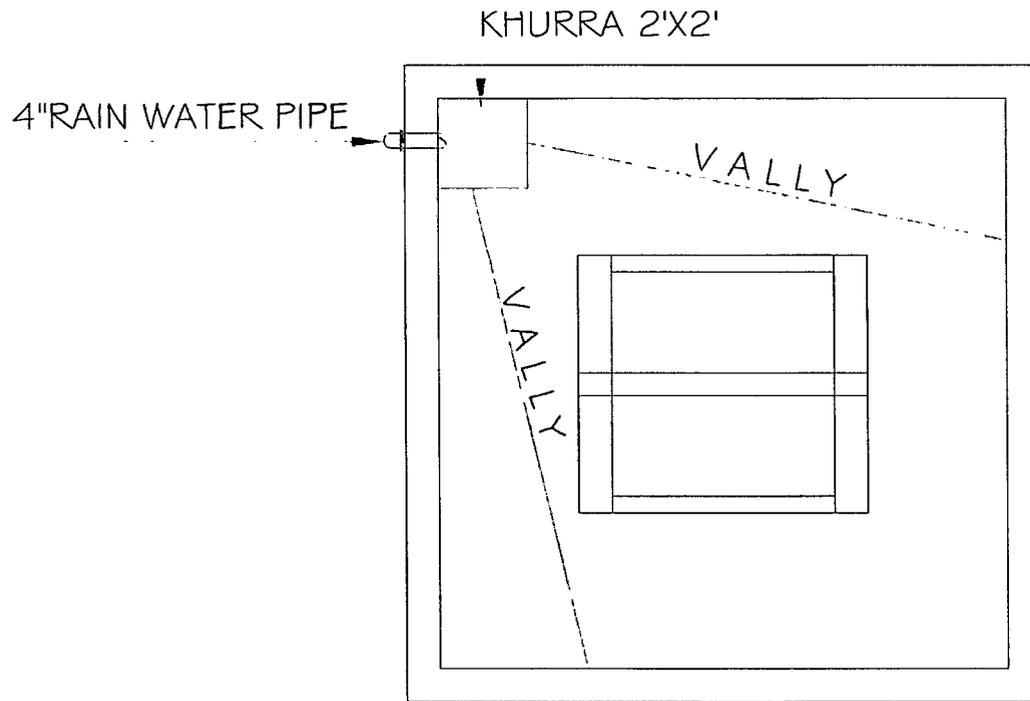
PLAN



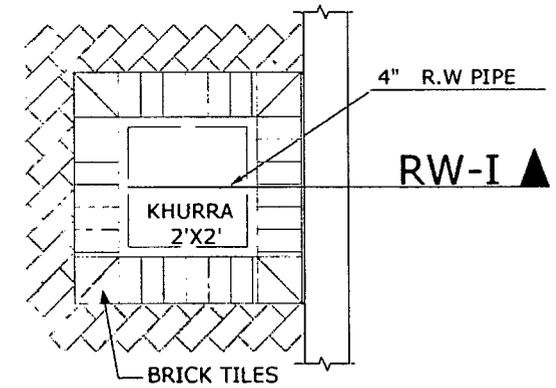
SCHEDULE OF OPENING				
S/#	TYPE	SIZE	S.L	QTY
1	D	4'-0" x 7'-0"	0'-0"	01
2	W	4'-0" x 4'-6"	2'-6"	04

CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: 107.25 SFT WORKING PLAN	Architect : SYED AKBAR ILYAS	DRG.NO : A- 02	DRAWN BY: GAZI HAIDER ALI CHECKED BY: SYED AKBAR ILYAS	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154-PH, STREET NO D7 PHASE-IV, HAYATABAD PESHAWAR PH 091-5825480, FAX 091-5824123
	TITLE: TUBE WELL	Associate Architect : AZGHAR MUMTAZ	Project Engineer : SABZALI KHAN	SCALE : N.T.S		SIGN/ SEAL:	
			DATE : SEP. 2023	02			

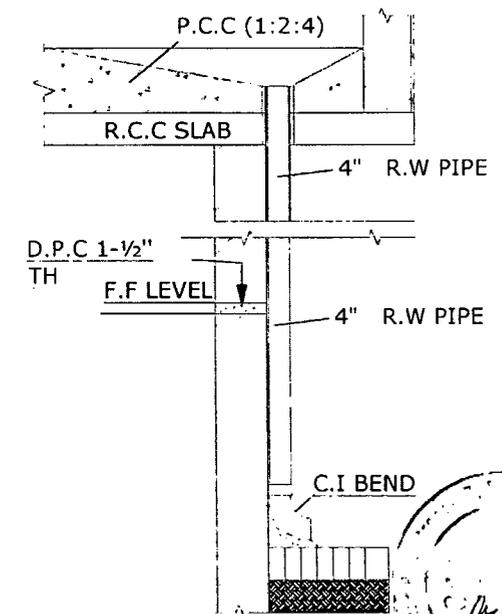




ROOF PLAN



KHURRA
PLAN



SECTION RW-1

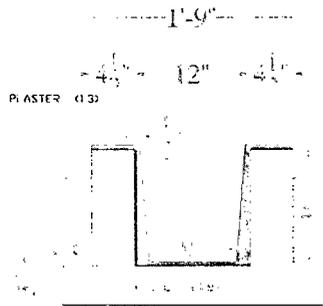
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: TOP ROOF PLAN	Architect : SYED AKBAR ILYAS	DRG.NO : A-04	DRAWN BY: QAZI HAIDER ALI	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P.A. STREET NO 07 PHASE-IV, HAYATABAD PESHAWAR PH. 021-5225480 FAX. 021-5224123
	TITLE: TUBE WELL		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S		CHECKED BY:		DATE:
			Project Engineer : SABZALI KHAN	DATE : SEP, 2023	SYED AKBAR ILYAS		

DRAIN DETAIL

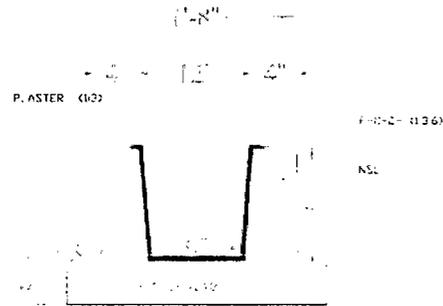


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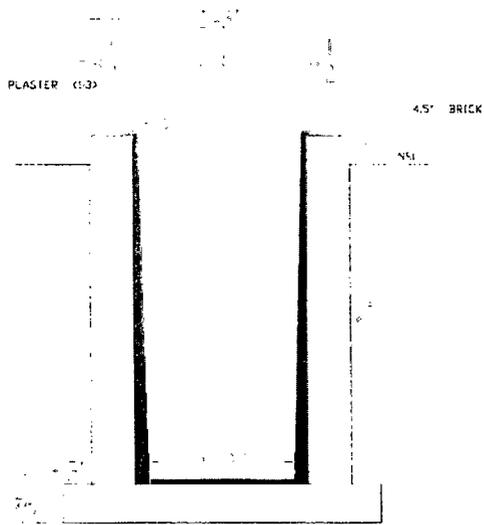




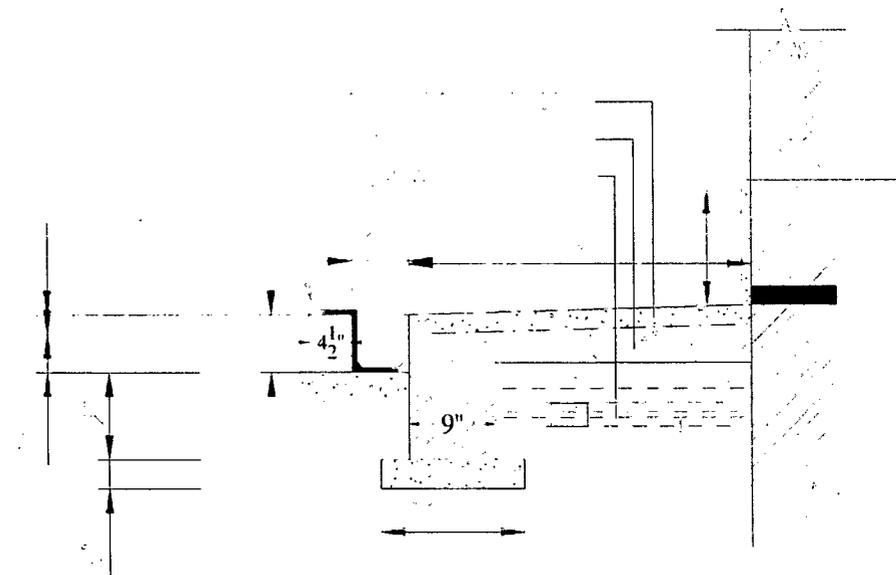
DRAIN -02 (OPTION -01)



DRAIN -02 (OPTION -02)



DRAIN -01 (OPTION -01)

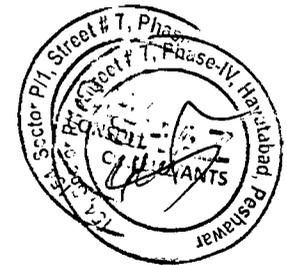


PLINTH PROTECTION
DETAIL (A)

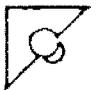


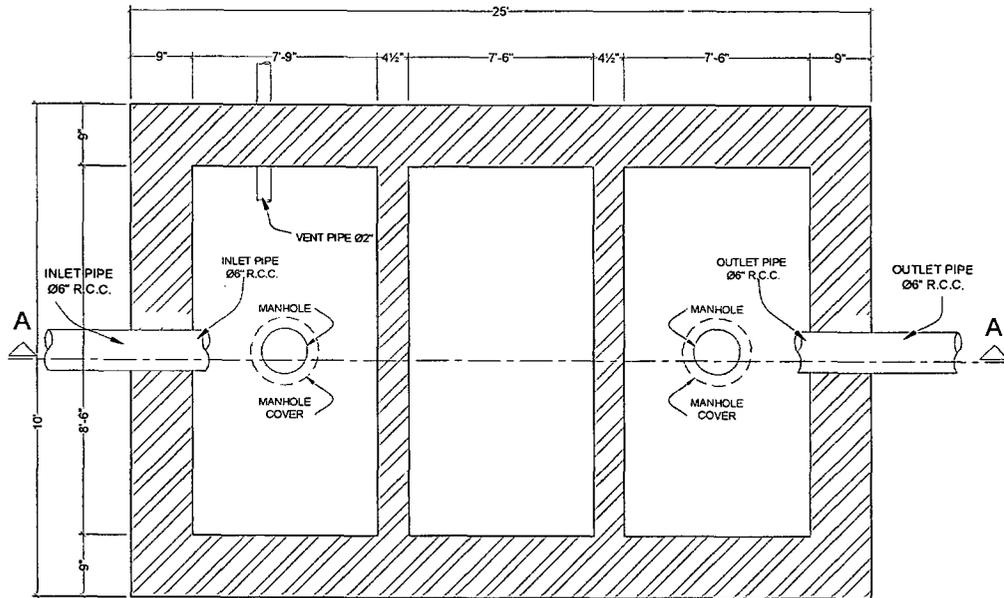
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE:	Architect SYED AKBAR ILYAS	DRG NO : MS-03	DRAWN BY: QAZI HAIDER ALI	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154 PUL STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR PH. 091-5825480 FAX. 091-5824123
	TITLE: MISCELLANEOUS	DRAIN & PLINTH PROTECTION DETAILS	Associate Architect AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY: SYED AKBAR ILYAS	
			Project Engineer SABZALI KHAN	DATE : SEP, 2023		DATE:	

SEPTIC TANK

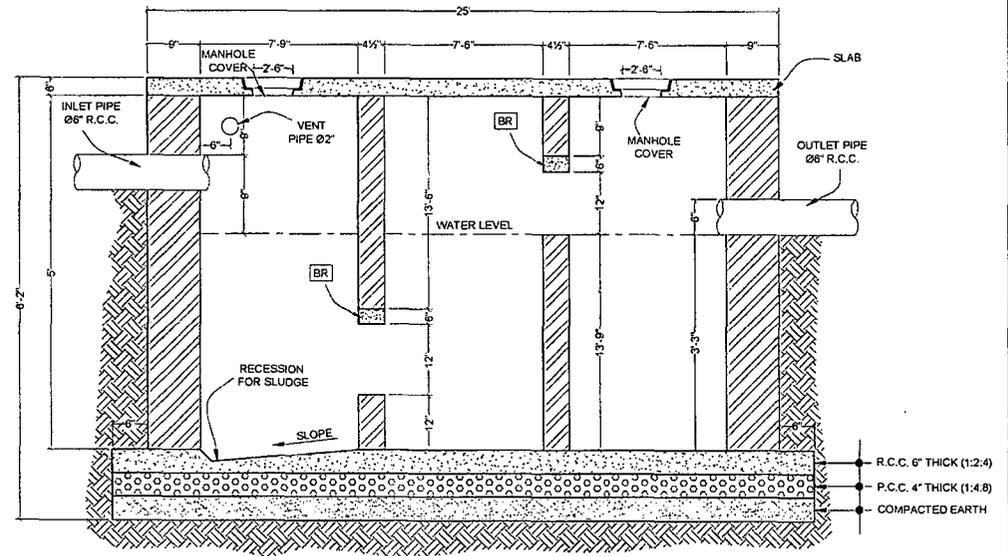


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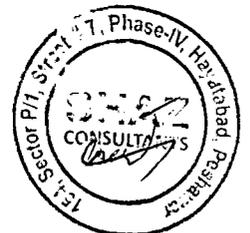




SEPTIC TANK DETAIL



SEPTIC TANK SECTION AT A-A



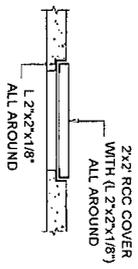
CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (PSB) COACHING CENTER AT SKARDU	DRAWING TITLE: SEPTIC TANK & SECTION AT A-A	Architect : SYED AKBAR ILYAS	DRG.NO : MS- 08	DRAWN BY: QAZI HAIDER ALI	APPROVED BY:	SHAZ CONSULTANTS ARCHITECTURE AND DESIGN SERVICES 154, P/I STREET NO 07 PHASE-IV, HAYATABAD, PESHAWAR P.H. 091-5825480 FAX: 091-5824123
	TITLE: MISCELLANEOUS		Associate Architect : AZGHAR MUMTAZ	SCALE : N.T.S.		CHECKED BY:		SIGN/ SEAL:
			Project Engineer : SABZALI KHAN	DATE : SEP, 2023	SYED AKBAR ILYAS	DATE:	

MAIN HOLE

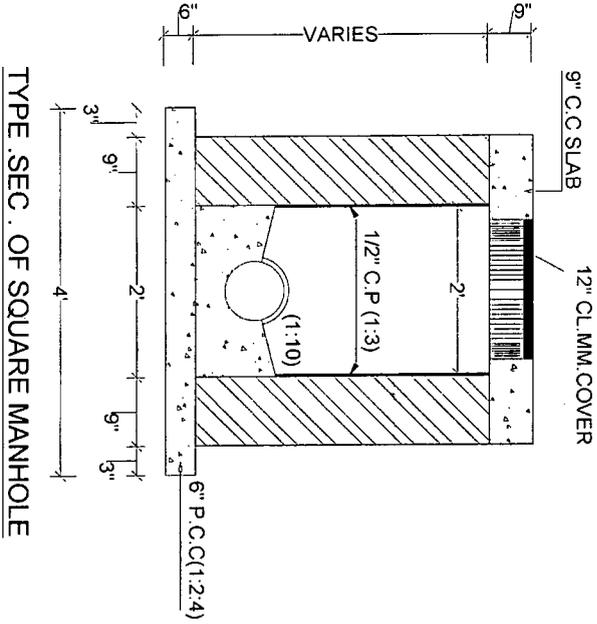
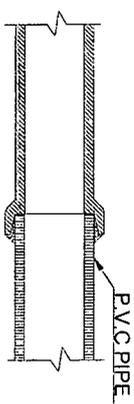
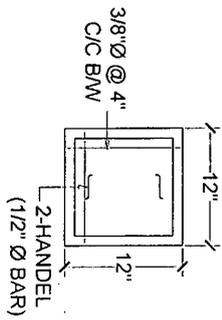


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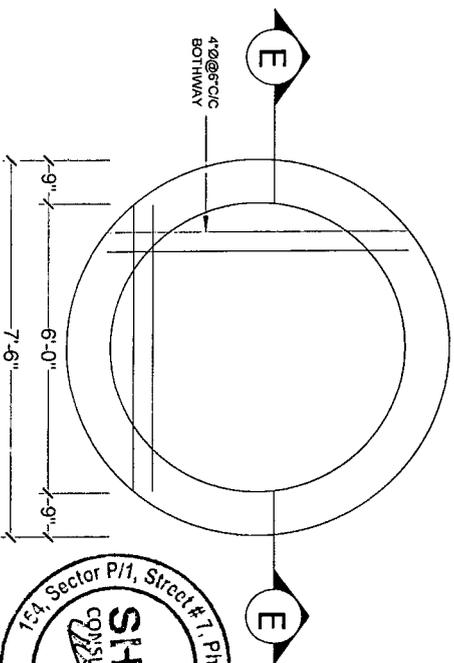
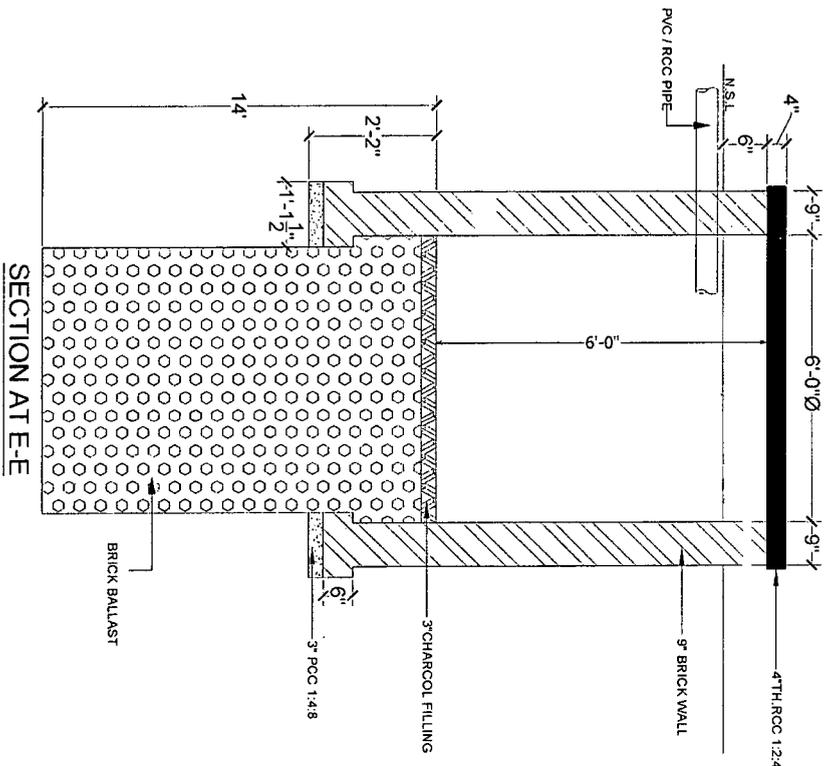




RCC COVER



TYPE .SEC. OF SQUARE MANHOLE



SOAKAGE PIT PLAN



CLIENT: EXECUTIVE ENGINEER PAKISTAN SPORTS BOARD ISLAMABAD	PROJECT: CONSTRUCTION OF (P58) COACHING CENTER AT SKARU	DRAWING TITLE: SEPTIC TANK SOAKAGE PIT+MAN HOLE & PIPE JOINTING DETAIL	Architect : Associate Architect : Project Engineer :	SYED AKBAR IL YAS AZGHAR MUMTAZ SABZALI KHAN	DRG. NO. : MS- 08 SCALE : N.T.S	DATE : SEP, 2023	DRAWN BY: CHECKED BY:	QAZI HAIDER ALI SYED AKBAR IL YAS	APPROVED BY: SIGN/ SEAL: DATE:	SHAZ CONSULTANTS ARCHITECTURE AND ENGINEERING 154/P1, STREET NO. 07 PHASE-IV, LAVATAHABD PESHAWAR P.O. BOX-3825980 FAX-091-35261723
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