

ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

Addendum No. 1.

Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO.

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| VOLUME -1 | | | |
| 1 | Bid Security IB15.2 | <p>It is mentioned that the bid security shall be in the form of Call deposit or Bank Guarantee from the Scheduled Bank of Pakistan or from a Bank located outside Pakistan duly counter Guaranteed by a scheduled Bank of Pakistan.</p> <p><u>Bidder Plea:</u> It is proposed that the above clause of Bidding data sheet may be amended by provision of Bid security from the insurance company of AA rating due to the severe financial crisis in the country which are directly affecting the contractors to meet the criteria set in the bidding documents. The premium payable to the Banks with high rates is extra burden on the contractors. It is to intimate that the Bid security by AA rating insurance company is being allowed at many other Projects such as 88MW Gabral Kalam HPP which is also belongs to PEDO and under World Bank (Copy of approval is attached). It is therefore earnestly requested to incorporate the provision of Bid security from insurance companies of AA rating OR reduce the bid security amount if provided by Scheduled Bank of Pakistan.</p> | Not Agreed |



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| 2 | Performance Security IB.34 & PCC -10.1 | <p>In accordance with this clause the bidder shall have to provide Performance Guarantee from the scheduled Bank of Pakistan or from a Bank located outside Pakistan duly counter Guaranteed by a scheduled Bank of Pakistan.</p> <p><u>Bidder Plea:</u> A Notification under S.R.O. (15)/Vol:1-25/2022-23 dated 22nd August 2022 from MD KPRRA has been issued wherein one of the various options for provision of Performance Guarantee is from insurance companies having at least AA rating under Pakistan Credit Rating Agency (PACRA) / Japan Credit Rating (JCR-VIS) with provision of indemnity bond on stamp paper of worth Rs. 500/- or above duly attested by the concerned Authority (Copy of Notification is attached)</p> <p>It is therefore requested to add the option of insurance companies of AA rating in the sub- clause 10.1 of PCC for Performance security.</p> | <p>The requirement for Performance Guarantee under PCC is amended to the following extent:</p> <p>Total amount of Performance Security shall be 10% of the Contract Price. Such guarantee shall be acceptable in following composition.</p> <ul style="list-style-type: none"> i) 50% of Performance Security (5% of Contract Price) shall be in currencies of the Contract in the form of Bank Guarantee from any scheduled Bank of Pakistan or from a bank located outside Pakistan duly counter guarantee by a scheduled Bank in Pakistan. ii) 50% of Performance Security (5% of Contract Price) shall be in currencies of the Contract in the form of insurance bond from a company having at least AA rating under Pakistan Credit Rating Agency (PACRA) / Japan Credit Rating (JCR-VIS) with provision |

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| | | | of indemnity bond on stamp paper of worth Rs. 500/- or above duly attested by the concerned Authority. However, the insurance bond provided by those insurance companies which are defaulted or in litigation with PEDO in other projects shall not be accepted by the Employer. |
| 3 | Employer's Field Facilities Architectural Drawings: Schedule-4 &5 of Volume-1 & Section-5.7 of Volume-2 | The list of drawings does not show any Architectural Drawings for the Employers Field Facilities but at the same time the drawings are included in the provided set of drawings to bidders while in Schedule 4, item 4.1.13 it is mentioned that "Planning and Design of Operation and maintenance Staff Colony in all Respect" and also in Schedule 5 item 5.16 it is again mentioned that "Employer's Field Facilities (Operation and maintenance Staff Colony) with all respects. " <u>Bidder Plea:</u> Kindly Clarify if it is Operation and Maintenance or Design, Construction and Maintenance? While on the other hand Section 5.7 (Employers Field Facilities) at Section 5.7.1 it is clearly mentioned the requirement for "Designing, Furnishing, | Please refer to the List of Drawings, section "Architectural drawings": The bidder understanding of EPC contractor responsibilities under Section 5.7.1 of the Employer Field Facilities is correct and will apply to both Schedule-4, & Schedule 5 i.e The EPC Contractor shall be responsible for Designing, Furnishing, Construction and Maintenance of the Employer's Field Facility |

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| | | Constructing and Maintaining." Kindly Clarify and amend if required" | |
| 4 | Mandatory spare parts Price Schedule No.1 of Volume-1 & Part - VI. of Volume-2 | Mandatory spare parts are mentioned both in Part - VI. "Electro-Mechanical Works" and in Price Schedule No.1 but they are in contradictory with each other (item and quantity wise). | Correction applied to Price Schedule No.1, harmonized with Vol-II. Please refer to Annex-I of Addendum No.01 for the revised Schedule-No.1 |
| 5 | Recommended spare parts Price Schedule No. 3 of Volume-1 & Part - III. of Volume-2 | Recommended spare parts are mentioned both in PART - III. "Scope of Works & Services of EPC Contractor" and in Price Schedule No.3, but they are in contradictory with each other (item and quantity wise). | Correction applied to Price Schedule No.3, harmonized with Vol-II. Please refer to Annex-II of Addendum No.01 for the revised Schedule-No.3 |
| 6 | Site visit IB.42 | The date for site visit has not been mentioned anywhere. | The site visit was conducted on 9, March 2023. |
| 7 | Registration With FBR & KPRA of Foreign Firms Bidding Data Sheet IB 2.1 (d) | As per IB 2.1 (d) of Bidding Data sheet, the mandatory requirement is Registration of Foreign Firms with FBR & KPRA at the time of execution. In fact, the execution starts soon after fulfilling the requirement of letter to commence, signing of agreement etc., therefore to our opinion at least 4 to 5 months should be specified to complete the formalities. | The request for time limit of 4 to 5 months is Not Agreed. It is further clarified that the client at its discretion may issue Conditional Letter of Acceptance (LOA) requiring the successful bidder to complete the process for registration of foreign firm member of a |

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| | | | <p>JV (where applicable) with relevant government regulatory bodies such as PEC, FBR & KPRA etc. Prior to signing of the contract agreement.</p> <p>In the event where the successful bidder has applied for registration, proof of which shall be provided to the employer, and it could not get registration of the foreign JV partner for the reasons beyond his control, then the employer may, subject to approval of the competent authority, signed the contract agreement with the successful bidder. In such event, the employer shall release to the Contractor any payment due under the contract agreement only after the successful bidder foreign JV Partner has received registration from the aforesaid bodies.</p> |
| 8 | <p>Safety Precautions (External Security)</p> <p>PCC Sub-Clause 14.2.</p> | <p>It is to be clarified that the like similar model of other project in KPK if the employer has made any plan to arrange external security system for the foreigners in this connection it is required to provide us the details of security persons and the facilities required to be provided by the successful bidder.</p> | <p>It is clarified that Employer will provide extern security to the Expatriate staff of Contractor on same model of other PEDO's ongoing Projects which include deployment of KPK Police, Special Security Unit (SSU), Frontier Constabulary (FC), Army Personals or any other security agency with recommendations of law enforcement agencies.</p> |



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| | | | <p>Additionally, the provision for two cross country 4x4, Vehicles of minimum 2700cc having B6 Protection level have been added as new item under Sr. 5.25 of Schedule No.5 “Civil Works, Infrastructures and all other services” and revised Schedule No.5 attached as Annex-III to the Addendum No.1. The bidder shall quote price in his bid.</p> <p>The vehicles must meet B6 protection level including the following features:</p> <ul style="list-style-type: none"> ✓ Vehicles shall be 4x4 of minimum 2700cc engine capacity, must meet B6 protection level including but not limited to the Wind screen / door glasses must be curved ballistic glasses and all other glasses must also be ballistic. Ballistic glass used should be rated as providing B6 ballistic protection level at an ambient temperature of 50°C and should have standard warranty against de-lamination, discoloration from UV-rays, anti- |



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| | | | <p>spalling against shattering and should have multiple impact protection and finest optical quality.</p> <ul style="list-style-type: none"> ✓ All tyres including spare should comprise of built-in-run flats to be driven up to 50 Km at a minimum speed of 50 Km/hr. ✓ Suspension and brakes should be upgraded/reinforced to compensate additional armor weight to maintain safety standards. ✓ Vehicle's engine, battery, radiator, ECM including fuses etc must be protected by armored sheets. ✓ All door pillars should be armored and specially reinforced to prevent distortion caused by the additional weight of the doors. ✓ All areas of passenger compartment (roof and verticals) including front, back, sides, roof etc should be protected with ballistic steel plating. |

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| | | | <ul style="list-style-type: none"> ✓ Floor and fuel tank of vehicles should be protected with anti-blast sheet in compliance to B6 protection level. ✓ Door hinges should be heavy duty capable to sustain functioning of heavier armored doors. |
| 9 | Extension of Time for the Bid Submission: Invitation to Bid | Due to multiple factors/reasons such as extensive working for various items including basic design & BOQ for EPC contract, forth coming Ramadan-ul-Mubarak, Eid holidays, expected election in Punjab in KPK it is Requested to extend the bid submission period for eight 8 weeks i.e. 29 th May 2023 as it will help to prepare competitive bid by taking all JV partners onboard. | Agreed The Bid submission date is extended up to 15 th June ,2023 with other terms and conditions remaining unchanged. |
| 10 | Temporary Offices and Residential Accommodation for the Employer and Management Consultants: i. No of staff or covered area. | In Schedule No. 5, Serial No 5.20, it is mentioned that EPC contractor will provide the temporary offices and residential accommodation for Employer/ Management Consultants. We have gone through the scope of work and Employer's requirement- Vol 2, Wherein, neither the covered area for the offices and residential accommodation is mentioned nor the No | It is clarified that the Contractor shall provide furnished office and residence acceptable to the Employer. The requirement of employer and engineer are as under: Client and Engineer's staff = Approx. 30 No Employer Office/ Residential Accommodation = 625 m ² |

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| | ii. furnishing | <p>of staff which shall be deputed by Employer/Management Consultants is mentioned.</p> <p>To meet the requirement of offices and residential accommodation, please clarify the No of staff or covered area for the office buildings and residential accommodation for Employer/Management consultants.</p> <p>In section 13.1 of Employer's requirement of Vol-2, only the furnishing detail for office of The Engineer is mentioned.</p> <p>Please also clarify the furnishing detail for offices and residential accommodation for whole staff of Employer/Management Consultants.</p> | <p>Consultant office/ Residential Accommodation = 625 m²</p> <p>Provision and Maintenance of Offices:</p> <ul style="list-style-type: none"> ✓ 02 No. Furnished Offices One Each for Employer and Consultant, acceptable to Employer. Minimum requirements are as following. ✓ Desktop Computers (04 No. Dell) Two Each for Employer and Consultant. ✓ Laptops (04 No. Dell Laptops core i7) Two Each for Employer and Consultant. ✓ Printers (4 No.) Two Each for Employer and Consultant. ✓ Photocopier (2 No.) One Each for Employer and Consultant. ✓ 1 No. Multimedia Projector with complete accessories. ✓ Basic Office Stationery ✓ Furniture ✓ Air conditions one ton (10 Nos) ✓ Curtains for each room. |

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| | | | <ul style="list-style-type: none"> ✓ Fridge (02 No.) One Each for Employer and Consultant. ✓ Water Dispenser (02 No.) One Each for Employer and Consultant). ✓ All office utilities (including uninterrupted electricity, internet, telephone, gas, water supply) <p>Provision and Maintenance of Residence:</p> <ul style="list-style-type: none"> ✓ 02 No. Furnish Residence One Each for Employer and Consultant, acceptable to the Employer. <p>Minimum requirement is as following.</p> <ul style="list-style-type: none"> ✓ Furnished rooms with attached Bath including all accessories. ✓ Furniture complete in all respect ✓ 10 No. Heating and Cooling System (Air Conditioners) Ten Each for Employer and Consultant. ✓ All utilities (including uninterrupted electricity including stand by 5KVA Generators and its fuel maintenance, |

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| | | | internet, telephone, gas, hot and cold-water supply). ✓ Kitchen with all accessories (02 No.) One Each for Employer and Consultant). ✓ Television/ LEDs (02 No.) One Each for Employer and Consultant). ✓ Automatic Washing Machine with Dryers (02 No.) One Each for Employer and Consultant). ✓ Water Dispenser (02 No.) One Each for Employer and Consultant). ✓ Fridge (10 cft) (02 No.) One Each for Employer and Consultant). ✓ Indoor Table Tennis etc. (02 No.) One Each for Employer and Consultant). |

VOLUMNE-2

| | | | |
|----|--|---|---|
| 11 | Step-up Transformer Protection Part - VI. (E&M) Works | <u>PROTECTION SYSTEM:</u> The 6.3/11 kV step up transformer equipment protection includes: The step-up transformer shall 11/132kv, please confirm. | Agreed. Step-up transformer shall be 11/132kv. Please, follow schedule No.11, item No.1.3.5. |
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| | Sub - Clause -39 (c) | | |
| 12 | Busbar Protection Part - VI. (E&M) Works Sub - Clause -39 (e) | The 11 kV Busbar protection includes: • Busbar earth fault relay • Busbar differential relay There is no protection for the 132Kv busbar, but applied for the 11kv busbar, please confirm the protection will be applied for 11kv Busbar or 132kv busbar or both? | The Busbar protection shall apply for both 11KV and 132KV Bus Bar and shall meet NTDC specifications. |
| 13 | Station Service Transformer Part - VI. (E&M) Works Sub - Clause -39 (f) | Protection for Station service transformer protection includes: • Over current relay • Earth fault relay etc., Please confirm the protection will be applied for Station service transformer. Normally we do not apply such protection. | Yes, the protection will be applied for Station Service Transformers. |
| 14 | Generator Capacity Part - VI. (E&M) Works Sub-Clause 1.3.1 - General | Three (3) sets horizontal shaft Francis's turbines, each 4.5 MW, with a rated head of 60.15 m, rated flow of 8.33 m ³ /s complete with all auxiliary equipment including runner/labyrinth ring, Turbine shaft. Three (3) sets of horizontal shaft Synchronous Generators each of 6.1 MVA capacities at generation voltage of 11 KV, Power | The requirement of 6.1 MVA is correct. It is further clarified that overloading of 10% - 15% has been added. |

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| | | <p>factor 0.8, Frequency 50 Hz. Generator Assembly includes guide bearing, coolers, etc. Rotor with poles and Generator shaft, Stator core with stator windings, brushes assembly, Air housing covers along with the cooling water.</p> <p>There are two different generator capacity requirements in the tender document. As per our calculation the capacity of the generator is 4.5 MW /0.8= 5.625 MVA, but it requests 6.1MVA. Please confirm.</p> | |
| 15 | <p>Step-up Transformer Capacity & accessories</p> <p>Part - III. Scope Of Works & Services</p> <p>Sub-Clause 1.3.1 – General</p> <p>Step Up transformer Capacity & Tap Range &</p> | <p>Three (3) unit step up transformers out door type each of 10/13 MVA capacities with voltage ratio of 11/132 kV with complete accessories including on line DGA, on load Tape changers, relays, cooling system, 11kV cable boxes, 132kV cableboxes, 132kV cable sealing ends, etc.</p> <p>Step-up transformers shall by type tested according to type test policy of NTDC/PESCO.</p> | <p>i. The capacity of step-up transformer shall be 10/13 MVA Type tested according to NTDC Specification -2008 / NEPRA codes.</p> <p>ii. The tap range for main (step-up transformer) is revised to 10% in steps of 1.25% and revised the table of main data (Transformer) as attached as Annexure No. IV to addendum No.1. It is further clarified that the number of tape changers for both on the load and transformer shall be as per NTDC requirement and approval during the Design Stage of the Project. The Employer shall provide assistance the</p> |

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|-----------------|--|--|--|------------------------|----------------------|--|------------------------|--------------------|----------|--|---------|-----------|-------------|---------------|--------------|-----|-------|-----|-----|-----|---------------|----|--------|----------|----------|----------|-----------|----|----|----|----|----|-----------------|----|----|----|----|----|--------------|--|-----|-----|-----|-----|-------------|--|---------|----------|----------|----------|--------------|--|--------|--------|--------|--------|-----------|--|------------------------------|----------------------|--|----------------------|----------------|--|-----------|------|------|------|-----------|---|------------|-----------|-----------|-----------|--|
| | Part - VI. (E&M) Works Sub-Clause – 27 | <p>27. Main Data</p> <p>According to our calculation, the capacity of the step-up transformer is 6.3MVA which is lower than the tender document request, please confirm the capacity of the step-up transformer.</p> <p>Also, the tap range shall be $\pm 10\%$ in steps of 1.25%, please confirm.</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Unit</th> <th>Main Transformer</th> <th>Auxiliary/Station Service Transformers</th> <th>Excitation Transformer</th> <th>Colony Transformer</th> </tr> </thead> <tbody> <tr> <td>Function</td> <td></td> <td>Step-up</td> <td>Step-down</td> <td>Power house</td> <td>Colony Supply</td> </tr> <tr> <td>Rated output</td> <td>MVA</td> <td>10/13</td> <td>400</td> <td>0.2</td> <td>0.4</td> </tr> <tr> <td>Rated voltage</td> <td>kV</td> <td>11-132</td> <td>11-0.415</td> <td>11-0.415</td> <td>11-0.415</td> </tr> <tr> <td>Frequency</td> <td>Hz</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> </tr> <tr> <td>Temperature Tap</td> <td>°C</td> <td>55</td> <td>55</td> <td>55</td> <td>55</td> </tr> <tr> <td>Power Factor</td> <td></td> <td>0.8</td> <td>0.8</td> <td>0.8</td> <td>0.8</td> </tr> <tr> <td>Tap changer</td> <td></td> <td>On load</td> <td>Off load</td> <td>Off load</td> <td>Off load</td> </tr> <tr> <td>Vector group</td> <td></td> <td>YN d11</td> <td>Dyn 11</td> <td>Dyn 11</td> <td>Dyn 11</td> </tr> <tr> <td>Tap range</td> <td></td> <td>$\pm 10\%$ in steps of 1.25%</td> <td>5% in steps of 1.25%</td> <td></td> <td>5% in steps of 1.25%</td> </tr> <tr> <td>Cooling system</td> <td></td> <td>ONAN/ONAF</td> <td>ONAN</td> <td>ONAN</td> <td>ONAN</td> </tr> <tr> <td>Impedance</td> <td>%</td> <td>Minimum 10</td> <td>Minimum 4</td> <td>Minimum 4</td> <td>Minimum 4</td> </tr> </tbody> </table> | Item | Unit | Main Transformer | Auxiliary/Station Service Transformers | Excitation Transformer | Colony Transformer | Function | | Step-up | Step-down | Power house | Colony Supply | Rated output | MVA | 10/13 | 400 | 0.2 | 0.4 | Rated voltage | kV | 11-132 | 11-0.415 | 11-0.415 | 11-0.415 | Frequency | Hz | 50 | 50 | 50 | 50 | Temperature Tap | °C | 55 | 55 | 55 | 55 | Power Factor | | 0.8 | 0.8 | 0.8 | 0.8 | Tap changer | | On load | Off load | Off load | Off load | Vector group | | YN d11 | Dyn 11 | Dyn 11 | Dyn 11 | Tap range | | $\pm 10\%$ in steps of 1.25% | 5% in steps of 1.25% | | 5% in steps of 1.25% | Cooling system | | ONAN/ONAF | ONAN | ONAN | ONAN | Impedance | % | Minimum 10 | Minimum 4 | Minimum 4 | Minimum 4 | Contractor during the NTDC approval. Any associated cost / fee shall be borne by the Contractor. |
| Item | Unit | Main Transformer | Auxiliary/Station Service Transformers | Excitation Transformer | Colony Transformer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Function | | Step-up | Step-down | Power house | Colony Supply | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated output | MVA | 10/13 | 400 | 0.2 | 0.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage | kV | 11-132 | 11-0.415 | 11-0.415 | 11-0.415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency | Hz | 50 | 50 | 50 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Tap | °C | 55 | 55 | 55 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Factor | | 0.8 | 0.8 | 0.8 | 0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tap changer | | On load | Off load | Off load | Off load | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vector group | | YN d11 | Dyn 11 | Dyn 11 | Dyn 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tap range | | $\pm 10\%$ in steps of 1.25% | 5% in steps of 1.25% | | 5% in steps of 1.25% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cooling system | | ONAN/ONAF | ONAN | ONAN | ONAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impedance | % | Minimum 10 | Minimum 4 | Minimum 4 | Minimum 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | (Station Service Transformer Capacity & Tap range) | Two (2) Unit station service pad mounted transformers each of minimum 400 KVA capacities with voltage ratio of 11/ 0.415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



**ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT
KURRAM.**

Addendum No. 1.

Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO.

The contractors must submit the proposal in light of decision made in this addendum.

| S.NO | Bidding Documents Reference | QUERIES | PEDO Replies/Clarifications | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|--|---|--|------------------------|----------------------|--|------------------------|--------------------|----------|--|---------|-----------|-------------|---------------|--------------|-----|-------|-----|-----|-----|---------------|----|--------|----------|----------|----------|-----------|----|----|----|----|----|------------------|----|----|----|----|----|--------------|--|-----|-----|-----|-----|-------------|--|---------|----------|----------|----------|--------------|--|--------|--------|--------|--------|-----------|--|-----------------------|----------------------|--|----------------------|----------------|--|-----------|------|------|------|-----------|---|------------|-----------|-----------|-----------|---|
| | <p>Part - III. Scope Of Works & Services</p> <p>Sub-Clause 1.3.1 – General</p> <p>&</p> <p>(Station Transformer Capacity & Tap Range)</p> <p>Part - VI. (E&M) Works</p> <p>Sub-Clause – 27</p> | <p>kV with RMU, 11kV fuse and Distribution Box. Contractor shall increase KVA rating according to Load Calculations.</p> <p>27. Main Data</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Unit</th> <th>Main Transformer</th> <th>Auxiliary/Station Service Transformers</th> <th>Excitation Transformer</th> <th>Colony Transformer</th> </tr> <tr> <th>Function</th> <th></th> <th>Step-up</th> <th>Step-down</th> <th>Power house</th> <th>Colony Supply</th> </tr> </thead> <tbody> <tr> <td>Rated output</td> <td>MVA</td> <td>10/13</td> <td>400</td> <td>0.2</td> <td>0.4</td> </tr> <tr> <td>Rated voltage</td> <td>kV</td> <td>11/132</td> <td>11/0.415</td> <td>11/0.415</td> <td>11/0.415</td> </tr> <tr> <td>Frequency</td> <td>Hz</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> </tr> <tr> <td>Temperature rise</td> <td>°C</td> <td>55</td> <td>55</td> <td>55</td> <td>55</td> </tr> <tr> <td>Power Factor</td> <td></td> <td>0.8</td> <td>0.8</td> <td>0.8</td> <td>0.8</td> </tr> <tr> <td>Tap changer</td> <td></td> <td>On load</td> <td>Off load</td> <td>Off load</td> <td>Off load</td> </tr> <tr> <td>Vector group</td> <td></td> <td>YN d11</td> <td>Dyn 11</td> <td>Dyn 11</td> <td>Dyn 11</td> </tr> <tr> <td>Tap range</td> <td></td> <td>±10% in steps of 2.5%</td> <td>5% in steps of 1.25%</td> <td></td> <td>5% in steps of 1.25%</td> </tr> <tr> <td>Cooling system</td> <td></td> <td>ONAN/ONAF</td> <td>ONAN</td> <td>ONAN</td> <td>ONAN</td> </tr> <tr> <td>Impedance</td> <td>%</td> <td>Minimum 10</td> <td>Minimum 4</td> <td>Minimum 4</td> <td>Minimum 4</td> </tr> </tbody> </table> <p>The 11 kV metal clad switchgear shall be fed by the generating units through 11 kV. Two 11/0.415 kV, 1000 kVA transformer shall feed the 0.415 kV station auxiliaries. The Contractor shall perform short circuit calculations and Arc Flash study for the 132kV, 11kV & 0.415 kV systems to confirm the final</p> | Item | Unit | Main Transformer | Auxiliary/Station Service Transformers | Excitation Transformer | Colony Transformer | Function | | Step-up | Step-down | Power house | Colony Supply | Rated output | MVA | 10/13 | 400 | 0.2 | 0.4 | Rated voltage | kV | 11/132 | 11/0.415 | 11/0.415 | 11/0.415 | Frequency | Hz | 50 | 50 | 50 | 50 | Temperature rise | °C | 55 | 55 | 55 | 55 | Power Factor | | 0.8 | 0.8 | 0.8 | 0.8 | Tap changer | | On load | Off load | Off load | Off load | Vector group | | YN d11 | Dyn 11 | Dyn 11 | Dyn 11 | Tap range | | ±10% in steps of 2.5% | 5% in steps of 1.25% | | 5% in steps of 1.25% | Cooling system | | ONAN/ONAF | ONAN | ONAN | ONAN | Impedance | % | Minimum 10 | Minimum 4 | Minimum 4 | Minimum 4 | <p>The tap range for colony Transformer is revised to 5% in steps of 2.5% and revised the table of main data (Transformer) as attached as Annexure No. IV to addendum No.1. It is further clarified that the number of tape changers for transformer shall be as per NTDC requirement and approval during the Design Stage of the Project. The Employer shall assist the Contractor during the NTDC approval. Any associated cost / fee shall be borne by the Contractor.</p> |
| Item | Unit | Main Transformer | Auxiliary/Station Service Transformers | Excitation Transformer | Colony Transformer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Function | | Step-up | Step-down | Power house | Colony Supply | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated output | MVA | 10/13 | 400 | 0.2 | 0.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage | kV | 11/132 | 11/0.415 | 11/0.415 | 11/0.415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency | Hz | 50 | 50 | 50 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature rise | °C | 55 | 55 | 55 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Factor | | 0.8 | 0.8 | 0.8 | 0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tap changer | | On load | Off load | Off load | Off load | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vector group | | YN d11 | Dyn 11 | Dyn 11 | Dyn 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tap range | | ±10% in steps of 2.5% | 5% in steps of 1.25% | | 5% in steps of 1.25% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cooling system | | ONAN/ONAF | ONAN | ONAN | ONAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impedance | % | Minimum 10 | Minimum 4 | Minimum 4 | Minimum 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

| Addendum No. 1. | | | |
|---|---|--|--|
| Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO. | | | |
| The contractors must submit the proposal in light of decision made in this addendum. | | | |
| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
| | | <p>determination of equipment ratings and proper selection of the protection devices.</p> <p>Please confirm the tap range of the Colony transformer, as it shall be ±5% in steps of 2.5%.</p> | |
| 17 | <p>(Power Plant Mechanical Auxiliaries) & Protection System</p> <p>Part - III. Scope Of Works & Services Sub-Clause 1.3.1 – General Sub-clause 39 (j)</p> | <p>Power plant mechanical auxiliaries including, station drainage system, turbine dewatering system, station water services, independent air condition unit & ventilation system, oil handling facilities, circulating oil system including oil sump, oil pumps, filters and 5m³ gravity oil tank with auto oil controllers and pressure system, firefighting protection and detection system. Sprinkler water system, fire extinguishers blanket with CO₂ for stator.</p> <p>“T4 – Rapid shutdown with release of CO₂” This shall consist of following two shutdown relays: T4.1 Relay • Same as T2.2 but with release of CO₂ for Generator Differential Protection Operation T4.2 Relay • Same as T2.1 but with release of CO₂ for Generator Inter-turn and other faults</p> | <p>Agreed.</p> <p>It is clarified that the fire extinguishers shall be any of following type</p> <ol style="list-style-type: none"> i. trolley mounted ii. portable (wheel mounted) |



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| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
|------|--|--|--|
| | | The CO2 fire extinguishing system is required for generator. However, the generator is horizontal type, and not like vertical type generator which is enclosed in the concrete barrel, it is the open type. The CO2 fire extinguishing system is not applicable for the horizontal type generator in this project. It is requested kindly suggest the trolley mounted or portable fire extinguishers to be applied for generator. | |
| 18 | Power Plant Mechanical Auxiliaries & Protection System Part - III. Scope Of Works & Services Sub-Clause 1.3.1 – General Sub-clause 39 (j) | Power plant mechanical auxiliaries including, station drainage system, turbine dewatering system, station water services, independent air condition unit & ventilation system, oil handling facilities, circulating oil system including oil sump, oil pumps, filters and 5m3 gravity oil tank with auto oil controllers and pressure system, firefighting protection and detection system. Sprinkler water system, fire extinguishers blanket with CO2 for stator. The circulating oil system is not technically required. Our engineers think Convenient and simple external circulation oil system is good enough. Mainly for the convenience of later operation and maintenance. | Not Agree. |
| 19 | (Mechanical Studies) | The following mechanical studies need to be carried out; 1. Physical Model test of Turbine shall verify characteristics of turbine in term of output, design efficiency, best efficiency, and | The requirement for model test of the runner is confirmed. |

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|------|--|--|---|
| | Part - III. Scope Of Works & Services Sub-Clause 1.3.1 – General | guaranteed average weighted efficiency, limits of cavitation, draft tube pressure pulsations, Hydraulic thrust and stability of vortex in draft tube. <i>If the selected Runner model test reports is available. Please clarify the new model test shall carry out or not?</i> | It is further clarified that where the selected Runner model test reports are available, the acceptance of such report shall be subject to the verification of the Engineer and shall be the sole discretion of the Employer. |
| 20 | (Turbine Performance Guarantee Tests) Field & Part - VI. (E&M works) Sr. No- 15 | The equipment shall be subject to the tests specified in the standards and as approved by the Employer's representative. <u>Field Performance Tests</u> As a part of the Tests-on Completion the Employer will conduct an Index Test for each turbine under the supervision of the Contractor when the Contractor performs the thermodynamic efficiency measuring. Unless otherwise mutually agreed upon by the Contractor and the Employer's Representative, the tests shall be conducted in accordance with IEC Publication 60041 "International Code for the Field Acceptance Test of Hydraulic Turbines" Winter-Kennedy Method. The thermodynamic efficiency measuring for all turbines is a great cost. It is shall clearly indicate necessity and how many turbines. | Agreed. In Volume – II (Employer's requirement), Part-VI (E&M works), the requirement for field performance test is modified to the following. Only Winter-Kennedy Method shall be applied for all turbine in accordance with IEC Publication 60041 "International Code for the Field Acceptance Test of Hydraulic Turbines. |

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|------|---|--|---|
| 21 | Access Road to Weir and Powerhouse. Part - III. Scope Of Works & Services Sub-Clause 1.4.4 (n) | A contradiction has been noticed between the following documents/clauses (i) item "n" of clause 1.4.4 (ii) Drawing No CCKHPP-136. It is to be noted that in item "n" (page no 29 & 30 of 278) it is mentioned that Access Road will have end product of double lane with AA loading whereas in the Drawing No CCKHPP-136 the width of carriage way is only 3.65 meter. To our opinion this width does not meet the requirement of double lane with AA loading. | • Agreed and acknowledged. The width of carriage way revised from 3.65 m (single lane) to 7.3m (double lane) with AA loading. Any type of road bridge, culverts, causeways, aqueducts shall be modified accordingly. Drawing NO CCKHPP-136 (Access Road-Typical X-Section) (Annex-V) added to the list of drawing as & addendum No.1 Further any Bridges across the Nallas shall be on double lane with AA loading. |
| 22 | Turbines Part - VI. (E&M) Works Sr. No – 12 | Please confirm whether CFD is required. | It is confirmed that, CFD Analysis is essentially required. |
| 23 | Turbines Part - VI. (E&M) Works Sr. No – 12 | HVOF coating is expensive. Please whether it is required. More this coating will be reducing the efficiency. | HVOF coating as per Employer's requirement is confirmed. Please follow bidding documents. |

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ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

| Addendum No. 1. | | | |
|---|--|---|--|
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| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
| 24 | Part - VI. (E&M) Works Sr. No – 12 | 94% rated of efficiency Turbine for these small units unable to achieve. Rated efficiency shall be 92% | In Volume – II (Employer’s requirement), Part-VI (E&M works), the efficiency of turbines is modified to the following. The average weighted generating efficiency of turbine shall be minimum 93%. |
| 25 | Generators Part - VI. (E&M) Works Sr. No – 22 | Please confirm mechanical over speed device is not required. Speed protection shall be through electronic speed monitor module. | Agreed. In Volume – II (Employer’s requirement), Part-VI (E&M works), the Mechanical over speed device is modified to the following. Speed protection shall be through electronic speed monitor module. |
| 26 | Generators Part - VI. (E&M) Works Sr. No – 22 | Please confirm vibration of which parts shall be measured. Only generator frame or bearings also. | It is confirmed that the Both Bearing, and generator frame vibration shall be measured. Further details are also given in specifications of bidding documents. |

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|------|--|---|---|
| 27 | Rating of Units Part - VI. (E&M) Works Sr. No – 24 | 98.5% rated efficiency of Generator for these units unable to achieve. Rated efficiency shall be 96%. | In Volume – II (Employer’s requirement), Part-VI (E&M works), the rated efficiency of Generator is modified to the following. Rated generator efficiency shall be equal or greater than 97%. |
| 28 | Generators Characteristics Main Part - VI. (E&M) Works Sr. No – 25 | Maximum continuous rating of generator is 6.1MVA @0.8PF. It means 4.88MW. Please confirm what shall be rated capacity. | Confirmed. Rating of generator is 6.1MVA @0.8PF equal to 4.88 MW. |
| 29 | Generators Characteristics Main Part - VI. (E&M) Works Sr. No – 25 | Please provide variation in voltage and frequency. | As per prevailing NEPRA / NTDC Grid codes. |
| 30 | Transformers Part - VI. (E&M) Works Sr. No – 26 | Please confirm transformer bushings and tapings can be ok Chinese Make. As per NTDC requirements only European bushings are acceptable. | Follow NTDC requirements. |



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|------|--|---|---|
| 31 | Medium voltage, 11 KV Part - VI. (E&M) Works Sr. No – 32 | Maximum voltage Um=17.5kV is applicable for breakers with rated voltage 15kV. Maximum voltage Um shall be 12kV. Short circuit current at generator side shall be calculated during detail design. We believe 50kA is on higher side, selection shall be based on actual calculation result. Please confirm. | In Volume – II (Employer’s requirement), Part-VI (E&M works), the Medium Voltage is modified to the following. Maximum rated voltage shall be 17.5 kV and operating voltage 11 kV ± as per NEPRA grid code. Short circuit current at generator side shall be minimum 40 kA for bidding purpose. It is further clarified that the exact value shall be assessed in consultation with NTDC during design stage of project. |
| 32 | Low Voltage, 415KV Part - VI. (E&M) Works Sr. No – 33 | Please confirm whether 415V or 400V rating is required. Accordingly, all motors, pumps rating shall be selected. | Follow the bidding Documents. |
| 33 | Low Voltage DC Supply Part - VI. (E&M) Works Sr. No – 34 | It is mentioned DC battery system capacity shall be minimum 1000Ah. Please confirm whether it means 2x500Ah or 2x1000Ah. | In Volume – II (Employer’s requirement), Part-VI (E&M works), the Low Voltage DC Supply is modified to the following. Please consider 2x1000Ah. Subject to the Design Calculations. |
| 34 | Control & Instrumentation System | 132kV GIS Switchgear shall be changed to 132kV AIS. Since outdoor equipment are required under contract | Please consider Switchyard 132 kV AIS instead of 132 kV GIS. |

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|------|--|---|--|
| | Part - VI. (E&M) Works Sr. No – 35 | | |
| 35 | Protection System Part - VI. (E&M) Works Sr. No – 39 | Please confirm protection relays can be from reputed Chinese make. | Follow NTDC requirements. |
| 36 | 11kV Circuit breakers for station service transformer. Colony, intake Part - VI. (E&M) Works Sr. No – 45 | Highest voltage Um=17.5kV. It is applicable for 15kV. For 11kV rating transformers 12kV rating breaker meets the requirement. | Agreed. In Volume – II (Employer’s requirement), Part-VI (E&M works), the 11kv circuit breakers for station services transformer (Colony & Intake) is modified to the following. For 11kV rating transformers 12kV rating breaker shall be applicable. It is further clarified that the exact value shall be assessed in consultation with NTDC during design stage of project. |
| 37 | 11kV Cabling Part - VI. (E&M) Works Sr. No – 47 | Since the system rating is 11kV cable specification shall be 6.35/12kV | Agreed. In Volume – II (Employer’s requirement), Part-VI (E&M works), the 11kv cabling is modified to the following. 11 kV Cu/XLPE/PVC cables shall be rated 6.35/12kV |

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|------|--|---|--|
| 38 | 415V Distribution Line for Colony Part - VI. (E&M) Works Sr. No – 53 | Please confirm voltage shall be 11kV or 415V | Voltage for distribution Line of Colony shall be 415 V. |
| 39 | TRCM Part - VI. (E&M) Works Sr. No – 95 | Telescopic TRCM is very expensive. Please confirm this requirement | Follow Bidding Documents. |
| 40 | Auxiliary Systems Part - VI. (E&M) Works Sr. No – 120 | Please provide detailed specifications for HVAC system, fire detection, alarm and fighting system, transformer and bearing oil handling system etc. | Follow NFPA-850.,NFPA-851, ASHRAE standards. To the list of drawings, the following drawing is added: (1) Drawing No CCKHPP-202 (HVAC System) (Annex-VI) |
| 41 | Auxiliary Systems Part - VI. (E&M) Works Sr. No – 120 | Closed loop cooling water system is required. Please provide detailed specifications. | To the list of drawings, the following drawing is added: (1) Drawing No CCKHPP-212 (Cooling water system schematic diagram) (Annex-VII) |
| 42 | Mandatory Spare Parts | List provided here does not match with list provided in Volume 2 - 1.3.5 Page 24 | Correction applied. Please follow revised list referred in the Annexure-I to Addendum No.1 |

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ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

| Addendum No. 1. | | | |
|---|--|---|---|
| Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO. | | | |
| The contractors must submit the proposal in light of decision made in this addendum. | | | |
| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
| | Part - VI. (E&M) Works Sr. No -137 | | |
| 43 | Mechanical studies Part - VI. (E&M) Works Sub-Clause 1.3.1 | Please confirm whether FEA studies are required for Turbine and Generator. This capacity units are standard design units it is not required. | Follow Bidding Documents. |
| 44 | Part - III. SCOPE OF WORKS & SERVICES Sub-Clause 1.3.1 (General) (Gravity oil tank) | Gravity oil tank is not required. High oil pressure rotor jacking system will be provided. | Follow Bidding Documents. |
| 45 | Part - III. SCOPE OF WORKS & SERVICES Sub-Clause 1.3.1 (General) (Acoustic flow) | Acoustic flow meters require long upstream and downstream Straight penstock section. Since there is trifurcation, this system cannot be utilized. Winter Kennedy system shall be provided | Agreed. In Volume – II (Employer’s requirement), Part-III (Scope of Works & Services), Acoustic flow meters is modified with the Winter Kennedy system. |
| 46 | Part - III. SCOPE OF WORKS & SERVICES Sub-Clause 1.3.1 (General) (Security System) | Please provide specifications for Security system | In Volume – II (Employer’s requirement), Part-III (Scope of Works & Services), Security system is elaborated as following; |

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ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

Addendum No. 1.

Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO.

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| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
|------|---|--|---|
| | | | CCTV security cameras with night vision and HD resolution should be installed for the Security system |
| 47 | 132KV Switchyard Part - III. Scope Of Works & Services Sub-Clause 1.3.1 (General) | Please provide detailed BOQ and specifications for supply of 132kV Switchyard and Grid station equipment | Please refer to the details are given in E&M Price Schedule No.1, item No.1.3.13. |
| 48 | Control & Instrumentation System Part - VI. (E&M) Works Sr. No – 35 | Please confirm there shall be no separate switchyard building | No separate building is required |



ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

| <u>Addendum No. 1.</u> | | | |
|---|--|--|--|
| Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO. | | | |
| The contractors must submit the proposal in light of decision made in this addendum. | | | |
| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
| 49 | Access Road to Powerhouse Part - III. Scope Of Works & Services Sub-Clause 1.4.4 (n) | Access Track to powerhouse is available but is very long and needs a good improvement for construction Machinery and transport of E&M Equipment. | Refer to item No. 5.15 of Schedule No.5. |
| 50 | Relocation of Irrigation Channel & Other Utilities Part - V. Civil Works Sub-Clause 5.9.6 | Two Irrigation Channels on right bank and one irrigation channel will be disturbed. Proper Intake needs to be incorporated in design and construction. | Please refer to Volume-II, Part-V Civil Works , Sub-Clause 5.9.6 . |
| 51 | Transmission Lines Part - III. Scope Of Works & Services Sub-Clause 1.3.1 (General) | Two transmission line option are proposed in tender documents | Please consider one transmission line of 132 KV (Double Circuit) Loop In/Loop Out from existing 132 KV Alizai-Thal transmission line with approximate length of 4.5 KM |



**ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT
KURRAM.**

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| S.NO | Bidding Documents Reference | QUERIES | PEDO Replies/Clarifications |
| 52 | Land for Access Road Part - V. Civil Works Sub-Clause 6.2 | Access to Tunnel portal and aqueducts needs to be constructed, who will provide Land for Access tracks. | Employer will provide land for permeant access roads . |
| 53 | Headrace Canal & Tunnel Part - III. Scope Of Works & Services Sub-Clause 1.4.4 (g) | Headrace Canal-1 passing near populated Area, 30 m working space will be required | Working space requirement (if any) shall be taken care during the land acquisition stage of the Project. |
| 54 | Headrace Canal & Tunnel Part - III. Scope Of Works & Services Sub-Clause 1.4.4 (g) | Bidders requested to convert open channel to box (covered) channel after Sand trap in order to avoid falling of trash or silt. | Agreed. Open Channel is converted to Rectangular Box Channel. |
| VOLUME 3 | | | |
| 55 | Land Acquisition Drawing: (Tender Drawings) | Please provide Land Acquisition drawing. | Agreed To the list of tender drawings, the following drawing for land acquisition are added as (Annex-VIII) to Addendum No.1: |

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ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

| Addendum No. 1. | | | |
|---|--|--|--|
| Replies to queries of Pre-Qualified Contractors JV in the light of Pre-bid meeting held on 3rd April, 2023 in the committee Room of PEDO under the Chairmanship of Chief Executive Officer, PEDO. | | | |
| The contractors must submit the proposal in light of decision made in this addendum. | | | |
| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
| | | | (1) Drawing No CCKHPP- 000 (Project Land Acquisition Index Plan) (2) Drawing No CCKHPP- A (Project Land Acquisition Plan- Diversion Weir, U/S & D/S Flood Bund & Connection Canal & Coordinates) (3) Drawing No CCKHPP- B (Project Land Acquisition Plan- Sediment Basin & Headrace Canal -I) (4) Drawing No CCKHPP- C (Project Land Acquisition Plan- Headrace Canal-II,III,IV. Plan and Coordinates) (5) Drawing No CCKHPP- D (Project Land Acquisition Plan Forbay, Spill Channel, Penstock, Power House, Tailrace & Colony Plan, Plan & Coordinates) |
| 56 | Aqueducts: (Tender Drawings) | We have neither found the drawings of Aqueducts in the list of Drawings nor any detail about sizes / dimensions or other detail in the attached drawings, although the Aqueducts I, II, III & IV are shown on the Project Layout Plan (drawings No. CCKHPP - 031 & 032). | To the list of drawings, the following drawings are added as (Annex-IX) to Addendum No.1. (1) Drawing NO CCKHPP-156 (Aqueduct Typical Plan & Section). (2) Drawing NO CCKHPP-157 (Aqueduct Typical Plan & Section). |



ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

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| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
|------------------------|------------------------------------|--|--|
| 57 | Foot Bridges: (Tender Drawings) | Similarly, the Foot Bridges I & II are mentioned on the drawings (CCKHPP - 071) but sizes / dimensions are not found in the issued drawings. | To the list of drawings, the following drawings is added: (1) Drawing NO CCKHPP-151 (Foot Bridge) (Annex-X) to Addendum No.1. |
| 58 | Gabion Wall (Tender Drawings) | Gabion Walls shall be changed to RCC Wall | Not Agreed |
| GENERAL QUERIES | | | |
| 59 | Soft Copy of Bidding Documents: | It is urgently required to provide soft of bidding documents because we have to send these documents to our JV Partners so as to start early action on it. | PIN protected PDF version soft copy Available at PEDO's Website (www.pedo.pk). The Pin code / Password has already been provided to those pre-qualified bidders who purchased the bidding documents. However, bidders are required to submit their bid on the purchase documents issued by the Project Director. |
| 60 | Others | Whether Construction Period is 48 months or 36 months. | Construction Period is 36 months. |
| 61 | Others | AGE-SARWAR-NLC-HANGFA-DOLSAR JV asked for Change of JV Partner (Designer)" M/s Dolsar", New Partner | The Employer shall examine the replacement M/s Dolsar (design Partner) as per PQD provisions clause 2.3.1. |

ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

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| S.NO | Bidding Documents Reference | QUERIES | PEDO Replies/Clarifications |
|------|---|--|---|
| | | will be proposed in 10 days subject to approval by the Employer. | |
| 62 | Performance Security (PCC) Sub-Clause 10.3 | | After sub-clause 10.1 (PCC) following is added. <u>Sub-Clause 10.3 Claimed Under Performance Security:</u> Sub-Clause 10.3 is deleted in its entirety. |
| 63 | Site Data (PCC) Sub-Clause 11.1 | | <u>Sub-Clause 11.1 Site Data:</u> The following is added at the end of sub-clause 11.1 of PCC (Site Data) " Any risk associated with variation of Geology is the responsibility of the Contractor" |
| 64 | Extension of Time (PCC) Sub-Clause 26.1 | | After sub-clause 25.1 (PCC) following is added. <u>Sub-Clause 26.1 Extension of Time for Completion:</u> Sub-Clause 26.1 (h) is deleted. |
| 65 | Local-Taxation Custom and Import Duties (PCC) Sub-Clause 48.1 | | After sub-clause 47.1 (PCC) following is added. <u>Sub-Clause 48.1 Local-Taxation Custom and Import Duties:</u> The text of Sub-Clause 48.1 is deleted and substituted by the following: The rates and prices quoted by the Contractor in the Schedule of Prices shall be deemed to have included: |

ENGINEERING, PROCUREMENT AND CONSTRUCTION OF 13.5 MW CHAPARE CHARKHIL HYDROPOWER PROJECT DISTRICT KURRAM.

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| S.NO | Biding Documents Reference | QUERIES | PEDO Replies/Clarifications |
|------|----------------------------|---------|---|
| | | | (i) business taxes, income tax, super tax, customs, import duties and other taxes on income. (ii) and fees charged for services provided under this Contract. The taxation is leviable as per income tax ordinance 2001 amended August 2022 issued by FBR Government of Pakistan including adjustment in price as per Clause-47 of PCC. |



Addendum No.1

(Annexure - I)

Schedule No. 1 E&M Plant including Mandatory Spare Parts Supplied from Abroad

| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|------------|--|-------------------|----------|------------------|-------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.1 | Mechanical Equipment | | | | | |
| 1.1.1 | Three (3) No. Horizontal Shaft Francis Turbines each 4.5 MW, with minimum efficiency of 94%, complete with auxiliary equipment including turbine flow measuring equipment. Complete in all respect. | | 03 Nos. | | | |
| 1.1.2. | Draft tubes, including draft tube elbows, discharge rings, Cones with manholes provision. Complete in all respect. | | 03 Nos. | | | |
| 1.1.3 | Spiral case with Stay rings, Bottom ring, head cover, turbine guide bearings. Complete in all respect. | | 03 sets | | | |
| 1.1.4 | Wicket gates with complete operating equipment such as servomotor regulating ring etc. Complete in all respect. | | 03 Sets | | | |
| 1.1.5 | Power plant mechanical auxiliaries including cooling water system, station drainage system, turbine dewatering system, station water services, cooling and ventilation system, oil handling facilities, firefighting protection and detection system of Generator Transformer and Cables etc. Complete in all respect. | | One Job | | | |
| 1.1.6 | Digital electro hydraulic governors with P.I.D. control complete with all accessories including Governor, oil pumps, and pressure sump tanks. | | 03 Nos. | | | |
| 1.1.7 | Turbine inlet butterfly valve complete in all respects | | 03 Nos. | | | |
| 1.1.8 | Powerhouse electric overhead bridge crane with a capacity of 25 Ton. Specs as per FEM standards. Complete in all respect. | | One Job | | | |

| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|--------|--|-------------------|---------|------------------|-------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.1.9 | Crane/Trailer: i) 20-ton mobile crane ii) 15-ton gantry crane Complete in all respect. | | One Job | | | |
| 1.1.10 | Workshop with all necessary machine tools and equipment for the maintenance of the power Plant Complete in all respect. | | One Job | | | |
| 1.2 | Hydro-Mechanical Steel Works | | | | | |
| 1.2.1 | Intake Gates, Trash rack, Cleaning Machine, Stoplogs including embedded parts Complete in all respect. | | One Job | | | |
| 1.2.2 | Under-sluices Gates including embedded parts Complete in all respect. | | One Job | | | |
| 1.2.3 | Gravel Trap Flushing gates including embedded parts Complete in all respect. | | One Job | | | |
| 1.2.4 | Gates and stop logs of Upstream and Downstream of Silt Excluder, Sediment Flushing Gates including embedded parts Complete in all respect. | | One Job | | | |
| 1.2.5 | Sediment Flushing Duct Gate including embedded parts Complete in all respect. | | One Job | | | |
| 1.2.6 | Pressure conduit Trash Rack Complete in all respect. | | One job | | | |
| 1.2.7 | Mechanical instrument including Flow Measuring equipment for turbine, level sensing equipment at intake, Tail race & forebay and vibration sensor at generator etc. Complete in all respect. | | One Job | | | |
| 1.2.8 | Draft tube gates including embedded parts Complete in all respect. | | One Job | | | |
| 1.2.9 | Pressure Shaft Steel Liner Complete in all respect. | | One Job | | | |
| 1.2.10 | Penstock/ Manifold Complete in all respect. | | One Job | | | |

| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|---------|--|-------------------|---------|------------------|-------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.2.11 | Fish Ladder Gate Including Embedded Parts Complete in all respect. | | One Job | | | |
| 1.3 | Electrical Equipment | | | | | |
| 1.3.1 | Horizontal shaft Synchronous Generators each of 6.1MVA capacities at generating a voltage of 11KVA, power factor 0.8, frequency 50Hz, Efficiency 98.5% with excitation transformer, Static excitation and AVR equipment, current potential transformer, lightning arrester, and all standard auxiliary equipment. Complete in all respect. | | 3 Nos. | | | |
| 1.3.2 | Static Excitation system with AVR Complete in all respect. | | 3 Nos. | | | |
| 1.3.2a | Generator Control & Instrumentation panel Complete in all respect. | | 3 Nos. | | | |
| 1.3.2b | 11KV Circuit Breakers with all accessories Complete in all respect. | | 3 Nos. | | | |
| 1.3.2c | Generator neutral earthing and enclosure including neutral earthing transformers, current transformers and accessories Complete in all respect. | | 3 Nos. | | | |
| 1.3.2d | Governor automatic element Complete in all respect. | | 3 Nos. | | | |
| 1.3.2e | Temperature Measuring Brake Panel | | 3 Nos. | | | |
| 1.3.3 | 11 KV Switch gears system Complete in all respect. | | One Job | | | |
| 1.3.3.1 | Eight Numbers 11 KV Switch Gear panels Includes: 11 KV circuit breakers, current and voltage transformer, lighting arrestors, earthing switches, | | One Job | | | |

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| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|-------|---|-------------------|---------|------------------|-------------------|----------------------|
| 1 | 2 busbar, metering and all other relevant equipment. One number 11kV Metering Panel. Complete in all respect. | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.3.4 | 0.415 KV Switch gears systems for power plant & switchyard, intake/weir, sand trap. Complete in all respect. | | One Job | | | |
| 1.3.5 | Transformers 3 Nos. Unit Step up Power transformers each of 10/13 MVA capacities with voltage ratio of 11/132 kV with on line DGA, on load tap changer, copper winding, 132kV Cable Boxes, and MV cable Boxes with complete accessories. i) 2 Nos. Station Service Supply pad mounted transformers each of 1000 KVA capacities with voltage ratio of 11/0.415 kV, Copper winding. ii) 3 Nos. 200 KVA, 11 KV transformers with copper winding for Excitation iii) 2 No. pad mounted 630 KVA, (11/0.415 KV) Colony Supply Transformer with copper winding 11kV fuse, RMU, Distribution box, etc. iv) 1 No. 400 KVA, 11 KV pad mounted transformers with copper winding, 11kV fuse and, MCCB's for intake supply v) 1 No. 100 KVA, 11 KV pad mounted transformer with copper winding, 11kV fuse and MCCB's for sand trap. Complete in all respect. | | One Job | | | |

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| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|--------|---|-------------------|---------|------------------|-------------------|----------------------|
| I | 2 | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.3.6 | AC/DC auxiliary distribution system for powerhouse, switchyard, Intake/Weir & sand trap. | | One Job | | | |
| 1.3.7 | Diesel Generator Set: Minimum 300 KW Diesel Generator for Powerhouse Minimum 150 KW Diesel Generator for Intake Site | | One Job | | | |
| 1.3.8 | UPS, DC system with two banks of 220V batteries (minimum 1600AH) for Powerhouse. Complete in all respect. | | One Job | | | |
| 1.3.9 | UPS, DC system with two banks of 220V batteries (minimum 800AH) for Intake Site Complete in all respect. | | One Job | | | |
| 1.3.10 | Instrumentation (All Relevant meters & sensors) Complete in all respect. | | One Job | | | |
| 1.3.11 | Control, Fiber Optic, LV, MV, and HV Cables, terminals, cable sealing ends, clamps, cable Complete in all respect. | | One Job | | | |
| 1.3.12 | Control (SCADA), protection, measuring and metering devices for the Powerhouse Intake Sediment Excluder and 132 KV Switchyard. Remote monitoring from PEDO office. Complete in all respect. | | One Job | | | |
| 1.3.13 | 132 KV Switchyard: Five bays including disconnectors with earthing switches, voltage transformers, current transformers, 132 KV vacuum circuit breakers, Lightning Arresters, disconnector links, single busbar, Galvanized steel gantries, 132kV Single core cable outdoor sealing ends, feeder disconnectors, line traps, ASCR | | One Job | | | |



| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|--------|---|-------------------|---------|------------------|-------------------|----------------------|
| 1 | 2 conductor, clamps, disc insulators, hardware, etc., and all other relevant metering and allied equipment's. Steel structures and foundations for above equipment's and gantries. Complete in all respect. | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.3.14 | Panel for Sequential events and data recording systems. Complete in all respect. | | One Job | | | |
| 1.3.15 | Distribution boards, 11kV and 415V cables for colony/residential accommodation Complete in all respect. | | One Job | | | |
| 1.3.16 | Telecom system including internal intercom facilities within the project, PABX with 2 trunk lines for public network connection and 18 extensions. Fiber optic cable between the power plant, intake site, sand trap for control, tripping data transfer, alarm and communications all complete with telephone sets, modems, intercommunication equipment. Complete in all respect. | | One Job | | | |
| 1.3.17 | Instruments for Mimic diagrams in the central control room depicting electrical quantities, flows, levels measurements, spillway gates positions and auxiliary power supply system etc. Touch LED screen 75-inch x 75-inch in central control room. Complete in all respect. | | One Job | | | |
| 1.3.18 | Nine Numbers of 132 KV Single Core Power Cable from Step-up Transformers to Switchyard. Complete in all respect. | | One Job | | | |
| 1.3.19 | Nine Numbers 132 KV single Cables sealing ends with Steel Structures Complete in all respect. | | One Job | | | |

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| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|--------|--|-------------------|---------|------------------|-------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.3.20 | Power line carrier equipment's, etc. at Power Plant, Remote ends 132kV Grid stations Alizai and Thall. Complete in all respect. | | One Job | | | |
| 1.3.21 | 11 KV Overhead Electrical lines and towers etc. from Powerhouse to Silt Excluder, Intake weir with redundant Fiber optic cable. 11kV cable feeder for residential colony Complete in all respect. | | One Job | | | |
| 1.3.22 | All E&M equipment and materials which are necessary for smooth and proper working of the plant whether specifically mentioned in the tender documents or not, but which are essential for the reliable and safe operation of the power plant. Complete in all respect. | | One Job | | | |
| 1.3.23 | Complete 132 kV Double Circuit transmission lines with towers and interconnection to 132 kV Thal to Parachinar Transmission Line. Arrangements of River crossing, Road crossing and 66 kV Transmission Line crossing. Arrangement of Line in - Line out with 132kV Transmission line Alizai and Thall. ASCR conductor as per existing 132 kV transmission line Alizai-Thall. OPGW 48 Pair for Transmission Line Complete in all respect. | | One Job | | | |
| 1.3.24 | Powerhouse Building, switchyard, residential colony, Lightning Protection (Powerhouse, 132kV Switchyard & Intake/Weir), Emergency lights, road lights, switchyard lights, security lights, Area lights, car parking lights, exit lighting, gate lighting, earthing etc. Complete in all respect. | | One Job | | | |

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| Item | Description | Country of Origin | Qty | Unit Price (USD) | Total Price (USD) | Taxes & Duties (PKR) |
|---|--|-------------------|---------|------------------|-------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6=4x5 | 7 |
| 1.3.25 | Cu Grounding mesh for Powerhouse, 132kV Switchyard, Intake/Weir, Sand Trap, etc. Cu Ground mesh for Powerhouse and 132kV Switchyard based on short circuit current 40kA for 3 sec. Grounding mesh of Minimum Cu Conductor size 240 mm ² for Powerhouse, 132 kV Switchyard, Intake/Weir, sand trap, etc. Grounding of all electrical and mechanical equipment's and also metallic material, Fence & Gate. Complete in all respect. | | One Job | | | |
| 1.4 | Mandatory Spare Parts Complete in all respect. | | One Job | | | |
| Total Column 6&7 to be carried forward to Schedule No. 7 Grand Summary | | | | | | |

Name of Bidder

Signature of Bidder

Specify exchange rate of USD in accordance with Bidding Data Sheet IB 25.1.

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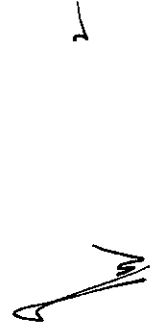
Addendum No.1

(Annexure-II)

Schedule No. 3 Recommended Spare Parts (Revised)

| Item | Description | Qty | Unit Price1 | | Total Price1 | |
|----------|--|--------|--------------------------------|-------------------------------------|------------------------|--------------------------|
| | | | EXW Local Parts Local Currency | CIF Imported Parts Foreign Currency | Local Currency Portion | Foreign Currency Portion |
| 1 | 2 | 3 | 4 | 5 | 6 = 3 x 4 | 7 = 3 x 5 |
| 3.1 | Spare Parts | | | | | |
| 3.1.1 | Francis Turbine | | | | | |
| 3.1.1.1 | Complete runner with connection bolts | 2 Sets | | | | |
| 3.1.1.2 | Complete set of fully machined wicket Gates for one Unit | 2 Sets | | | | |
| 3.1.1.3 | Complete set of levers, links and bushings for one Unit | 2 Sets | | | | |
| 3.1.1.4 | Complete sets of wearing rings for one Unit. | 2 Sets | | | | |
| 3.1.1.5 | Complete set of fully machined head cover and bottom ring for one Unit | 1 Set | | | | |
| 3.1.1.6 | Complete sets of all wearing parts for shaft seals | 5 Sets | | | | |
| 3.1.1.7 | Complete sets of all wearing parts for maintenance seals | 3 Sets | | | | |
| 3.1.1.8 | Complete set of servomotors assembly with all accessories | 1 Set | | | | |
| 3.1.1.9 | Complete sets of all wearing parts for the turbine guide bearing | 2 Set | | | | |
| 3.1.1.10 | Complete set turbine guide bearing | 1 Set | | | | |
| 3.1.1.11 | Complete bearing oil cooler with circulating pump, if applicable | 1 Set | | | | |


| Item | Description | Qty | Unit Price | | Total Price | |
|--------------|---|---------------------|--------------------------------|-------------------------------------|------------------------|--------------------------|
| | | | EXW Local Parts Local Currency | CIF Imported Parts Foreign Currency | Local Currency Portion | Foreign Currency Portion |
| 1 | 2 | 3 | 4 | 5 | 6 = 3 x 4 | 7 = 3 x 5 |
| 3.1.1.1.12 | Installed servomotor piston rings, valve disc seals, limit switches, solenoid valves, motors, pumps for air inlet valve | 2 Sets of each type | | | | |
| 3.1.1.1.13 | Gauges of each type installed | 2 Sets | | | | |
| 3.1.1.1.14 | Two sets of acoustic flow meters, pressure transducers and flow transducers. | 2 Sets | | | | |
| 3.1.1.1.15 | Configured PLCs and HMIs, controllers, electronic cards, instruments, sensors, transducers, etc. of each type installed | 2 Sets | | | | |
| 3.1.1.1.16 | Relays, solenoid valves, etc. of each type installed | 2 Sets | | | | |
| 3.1.1.1.17 | Lamps, fuses, etc., each consisting of 50 nos. | 1 Set of each type | | | | |
| 3.1.1.1.18 | O-rings and seals of each type installed | 2 Sets | | | | |
| 3.1.1.1.19 | Additional spare parts as recommended by the manufacturer for five years of operation, assuming yearly dismantling and sand abrasion according to the provided sedimentation data | Lot | | | | |
| 3.2.1 | Governor | | | | | |
| 3.2.1.1 | Speed sensing devices | 4 Sets | | | | |
| 3.2.1.2 | Hydraulic / pneumatic control and pilot valves of each type installed. | 2 Sets | | | | |



| Item | Description | Qty | Unit Price | | Total Price | |
|----------|--|--------|--------------------------------|-------------------------------------|------------------------|--------------------------|
| | | | EXW Local Parts Local Currency | CIF Imported Parts Foreign Currency | Local Currency Portion | Foreign Currency Portion |
| 1 | 2 | 3 | 4 | 5 | 6 = 3 x 4 | 7 = 3 x 5 |
| 3.2.1.3 | Solenoid valves of each type installed | 2 Sets | | | | |
| 3.2.1.4 | Sensing elements (MLDT/displacement sensor) for servomotor position. | 4 Sets | | | | |
| 3.2.1.5 | Limit switches of each type installed. | 2 Sets | | | | |
| 3.2.1.6 | Pressure switches of each type installed. | 2 Sets | | | | |
| 3.2.1.7 | Governor oil pumps with three-phase motors. | 2 Sets | | | | |
| 3.2.1.8 | Governor oil pump with DC motor. | 1 Sets | | | | |
| 3.2.1.9 | Gaskets and scaling material for the pumps and Compressors | 2 Sets | | | | |
| 3.2.1.10 | Strainer cartridges for the oil pressure unit. | 4 Sets | | | | |
| 3.2.1.11 | Strainer cartridges for the air compressor units (if any). | 4 Sets | | | | |
| 3.2.1.12 | Configured PLCs and HMIs, controllers, electronic circuit plug-in module trays, electronic relays and other electrical parts of each type installed. | 2 Sets | | | | |
| 3.2.1.13 | Indicator lamps, fuses etc., each 50 Nos. | 1 Set | | | | |
| 3.2.1.14 | Additional spare parts as recommended by the manufacturer other than above for at least five years of operation. | Lot | | | | |

A ✓

| Item | Description | Qty | Unit Price | | | Total Price | |
|---------|--|---------|--------------------------------|-------------------------------------|------------------------|--------------------------|--|
| | | | EXW Local Parts Local Currency | CIF Imported Parts Foreign Currency | Local Currency Portion | Foreign Currency Portion | |
| 1 | 2 | 3 | 4 | 5 | 6 = 3 x 4 | 7 = 3 x 5 | |
| 3.3.1 | Cooling Water System | | | | | | |
| 3.3.1.1 | Complete set of water pump with motor of each type installed. | 1 Set | | | | | |
| 3.3.1.2 | Pump runner for each type of pumps. | 1 Set | | | | | |
| 3.3.1.3 | Complete sets of basket-type mesh elements for each type of coarse strainers. | 2 Sets | | | | | |
| 3.3.1.4 | Complete set of baskets for the backup water duplex strainer (if any). | 1 Set | | | | | |
| 3.3.1.5 | All Gaskets | 2 Sets | | | | | |
| 3.3.1.6 | Gate /Globe valves and pressure reducing valves of each type installed. | 2 Sets | | | | | |
| 3.3.1.7 | All wearing parts for automatic filters. | 02 Sets | | | | | |
| 3.3.1.8 | Controllers, meters, gauges, instruments, relays, switches, switches, relays, rectifier power fuses, etc of each type installed for the excitation system. | 03 Sets | | | | | |
| 3.3.1.9 | Additional spare parts as required by the manufacturer for five years of operation, assuming yearly dismantling | Lot | | | | | |
| 3.4 | Electrical Equipment | | | | | | |
| 3.4.1 | Stator winding and insulation with stator wedges for one Generator. | 1 Set | | | | | |



| Item | Description | Qty | Unit Price1 | | Total Price1 | |
|--------|---|-------|--------------------------------|-------------------------------------|------------------------|--------------------------|
| | | | EXW Local Parts Local Currency | CIF Imported Parts Foreign Currency | Local Currency Portion | Foreign Currency Portion |
| 1 | 2 | 3 | 4 | 5 | 6 = 3 x 4 | 7 = 3 x 5 |
| 3.4.2 | Rotor field coils for one Generator. | 1 Set | | | | |
| 3.4.3 | Slips rings, brush holder assembly for collector rings and carbon brushes (if brush type generator is proposed) for one Generator | 2 Set | | | | |
| 3.4.4 | Thrust and guide bearings. | 2 Set | | | | |
| 3.4.5 | Wearing parts for each type of generator bearing. | 2 Set | | | | |
| 3.4.6 | Generator bearing with coolers and other accessories. | 1 Set | | | | |
| 3.4.7 | Air surface cooler assembly with all accessories for one Generator. | 1 Set | | | | |
| 3.4.8 | Brake assembly comprising valves, lining, mounting hardware and mounting plates for one Generator. | 1 Set | | | | |
| 3.4.9 | Configured PLCs and HMIs, controllers, electronic cards, thyristors, diodes, capacitors, fuses, field circuit breakers, changeover switches, relays, rectifier power fuses, etc of each type installed for the excitation system. | 2 Set | | | | |
| 3.4.10 | Configured protection relay of each type installed. | 1 Set | | | | |



 5

| Item | Description | Qty | Unit Price | | Total Price | |
|---|---|----------------|--------------------------------|-------------------------------------|------------------------|--------------------------|
| | | | EXW Local Parts Local Currency | CIF Imported Parts Foreign Currency | Local Currency Portion | Foreign Currency Portion |
| 1 | 2 | 3 | 4 | 5 | 6 = 3 x 4 | 7 = 3 x 5 |
| 3.4.11 | Meters, gauges, instruments, relays, switches, lamps, fuses etc. used. For indicator lamps and fuses, a set consists of 50 Nos. | 01 Set of Each | | | | |
| 3.4.12 | Additional spare parts as recommended by the manufacturer other than above for at least five years of operation. | Lot | | | | |
| | Tools and Appliances | | | | | |
| 3.4.13 | Lifting equipment for generator rotor. | 1 Set | | | | |
| 3.4.14 | Lifting and alignment equipment for shafts. | 1 Set | | | | |
| 3.4.15 | Lifting equipment for the runner | 1 Set | | | | |
| 3.4.16 | Necessary slings and tools for lifting the heavy parts of turbine/generator. | Lot | | | | |
| 3.4.17 | Necessary slings and tools for lifting the turbine cover, as well as other minor parts | Lot | | | | |
| Total Column 6 & 7 to be carried forward to Schedule No. 7 Grand Summary | | | | | | |

Addendum No.1

(Annexure - III)

Schedule No.5 Civil Works including Infrastructure and other Services

| S. NO | Description | Qty | Unit Rate (PKR) | Total Price (PKR) |
|-----------|---|---------|-----------------|-------------------|
| 1 | 2 | 3 | 4 | 5 = 3 x 4 |
| 5. | Civil Structure Complete in all respects | | | |
| 5.1 | River Diversion Works for Construction of Diversion Weir and Appurtenance Structures Complete in all respect. | One Job | | |
| 5.2 | Construction of Diversion Weir and Appurtenance Structures including Under sluices, Fish Pass, Divide Wall, Retaining walls and Power Intake Complete in all respect. | One Job | | |
| 5.3 | Construction of Upstream Protection Bund along Left Bank Complete in all respect. | One Job | | |
| 5.4 | Construction of Downstream Protection Bund along left Bank Complete in all respect. | One Job | | |
| 5.5 | Construction of Upstream Connecting Canal, Gravel Spill Section and Side Spillway & Spill Channel back to river. Complete in all respect. | One Job | | |
| 5.6 | Sediment Basin and appurtenant structures including spill channel Complete in all respect. | One Job | | |
| 5.7 | Headrace Canal (Open and or Box Channel) Including Cross Drainage Structures Complete in all respect. | One Job | | |
| 5.8 | Headrace Tunnel with required primary support, concrete Lining and grouting Complete in all respect. | One Job | | |
| 5.9 | Forebay and Appurtenant Structures Complete in all respect. | One Job | | |
| 5.10 | Side Spillway and Spill Channel and appurtenance Structures Complete in all respect. | One Job | | |
| 5.11 | Anchor Blocks and Support Blocks for Penstock and manifolds and appurtenance Structures. Complete in all respect. | One Job | | |
| 5.12 | Powerhouse Building with Auxiliary & workshop buildings Complete in all respect. | One Job | | |
| 5.13 | Tailrace and leading Cut for Joining Tailrace with Kurram River active bed. Complete in all respect. | One Job | | |
| 5.14 | Black toping (Asphaltic) Access Roads including Culverts, Bridges and Siphon from existing Bridge up to Powerhouse and Operation & Maintenance Staff Colony. Complete in all respect. | One Job | | |

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1

| S. NO | Description | Qty | Unit Rate (PKR) | Total Price (PKR) |
|-------|--|-----------|-----------------|-------------------|
| 1 | 2 | 3 | 4 | 5 = 3 x 4 |
| 5.15 | Upgradation and blacktopping of existing defense road from existing Bridge up to 1 km upstream of weir including Culverts, Bridges and Siphon from existing Bridge up to Powerhouse and Operation and Maintenance Staff Colony. Complete in all respect. | One Job | | |
| 5.16 | Employer's Field Facilities (Operation and Maintenance Staff Colony) with all facilities and infrastructure as detailed in Employer Requirement. Complete in all respect. | One Job | | |
| 5.17 | Civil Works of 132 kV Switchyard. Complete in all respect. | One Job | | |
| 5.18 | Civil Works of 132 kV transmission line foundations from powerhouse to 132 kV Grid Station Kurram. Complete in all respect. | One Job | | |
| 5.19 | Civil Works of 11 kV Overhead transmission lines, foundations etc. from Powerhouse to sediment excluder, diversion weir, residential colony Complete in all respect. | One Job | | |
| 5.20 | Contractor's Camp with all facilities of material testing laboratories, canteen, bathrooms, sewerage system, water supply and electrification, including all temporary storage facilities and warehouse for placement of equipment shipped from abroad. Temporary offices and residential accommodation shall be provided for the Employer /Management Consultant/ EPC Contractor with consumable items, security, health & day to day maintenance & utility bills facilities with janitorial services till the completion of construction period including defect liability. Complete in all respect. | One Job | | |
| 5.21 | Equipped Security Guards, Fencing comprising brick / block masonry and foundation with razor wire around colony, powerhouse building, Switchyard, check posts and security monitoring system such as search lights, CCTV system, etc. Complete in all respect | One Job | | |
| 5.22 | Purchase of 04 No. Cross country Vehicles (4X4 of 2400 CC) and 02 No. Jimmy/or Equivalent (1500 CC) for Employer and Project Management Consultants (PMC) including cost of insurance, registration, salaries of drivers, POL, maintenances expenses up to completion of project, including defect liability period. Complete in all respect. | One Job | | |
| 5.23 | Construction, furnishing and Equipping a Dispensary Complete in all respect. | One Job | | |
| 5.24 | First Aid Facilities including qualified Technician with provision of medicine Safety PPEs, for Client, PMC and Contractor's employees | 48 months | | |




| S. NO | Description | Qty | Unit Rate (PKR) | Total Price (PKR) |
|--|---|---------|-----------------|-------------------|
| 1 | 2 etc, Complete in all respect. | 3 | 4 | 5 = 3 x 4 |
| 5.25 | 02 No. Bullet proof vehicles. The vehicles shall be 4x4 of at least 2700cc engine capacity, must meet B6 protection level as per details given in the minutes of pre-bid meeting. | One Job | | |
| Total Column 4 to be carried forward to Schedule No. 7. Grand Summary | | | | |

Name of Bidder _____

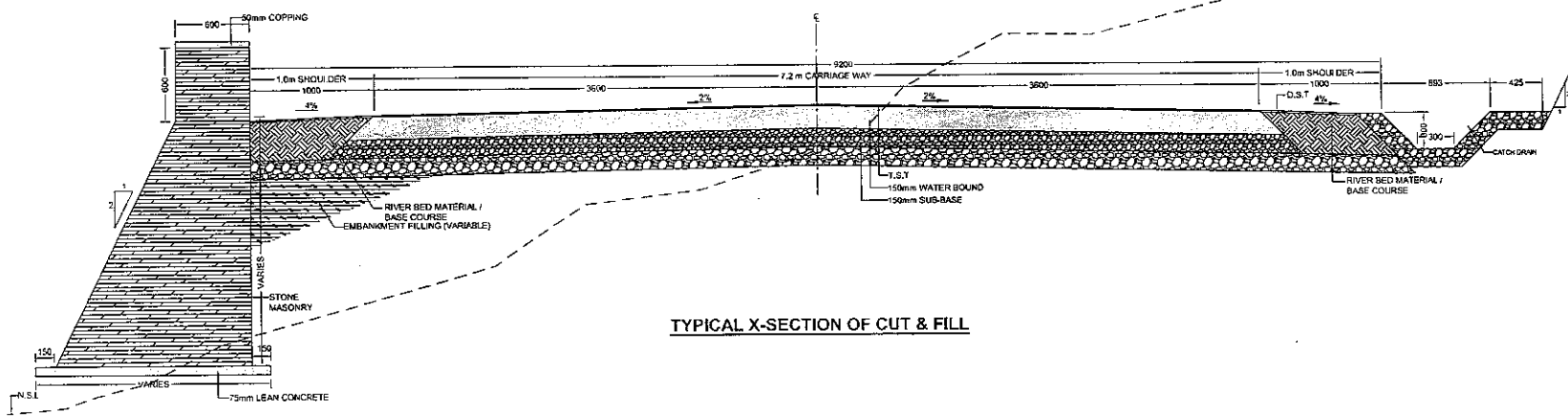
Signature of Bidder _____



Annexure – IV to Addendum No.1

| Item | Unit | Main Transformer | Auxiliary/Station Service Transformers | Excitation Transformer | Colony Transformer |
|------------------|------|------------------------|--|------------------------|---------------------|
| Function | | Step-up | Step-down | Power house | Colony Supply |
| Rated output | MVA | 10/13 | .400 | 0.2 | 0.4 |
| Rated voltage | kV | 11 | 11 | 11 | 11 |
| | kV | 132 | 0.415 | 0.415 | 0.415 |
| Frequency | Hz | 50 | 50 | 50 | 50 |
| Temperature rise | °C | 55 | 55 | 55 | 55 |
| Power Factor | | 0.8 | 0.8 | 0.8 | 0.8 |
| Tap changer | | On load | Off load | Off load | Off load |
| Vector group | | YN d11 | Dyn 11 | Dyn 11 | Dyn 11 |
| Tap range | | ±10% in steps of 1.25% | ± 5% in steps of 2.5% | | 5% in steps of 2.5% |
| Cooling system | | ONAN/ONAF | ONAN | ONAN | ONAN |
| Impedance | % | Minimum 10 | Minimum 4 | Minimum 4 | Minimum 4 |

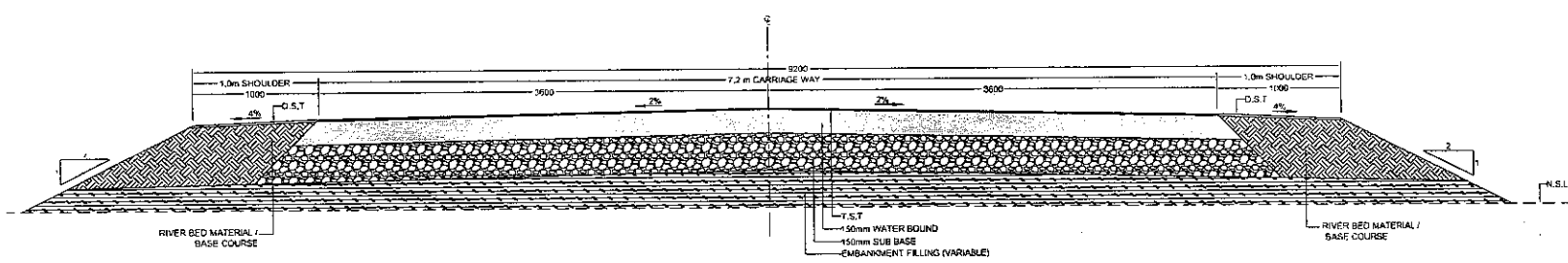
Annex-V to Addendum No.1



TYPICAL X-SECTION OF CUT & FILL

NOTE:

1. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE.
2. ALL DIMENSIONS ARE IN MILLIMETERS INDICATED OTHERWISE.

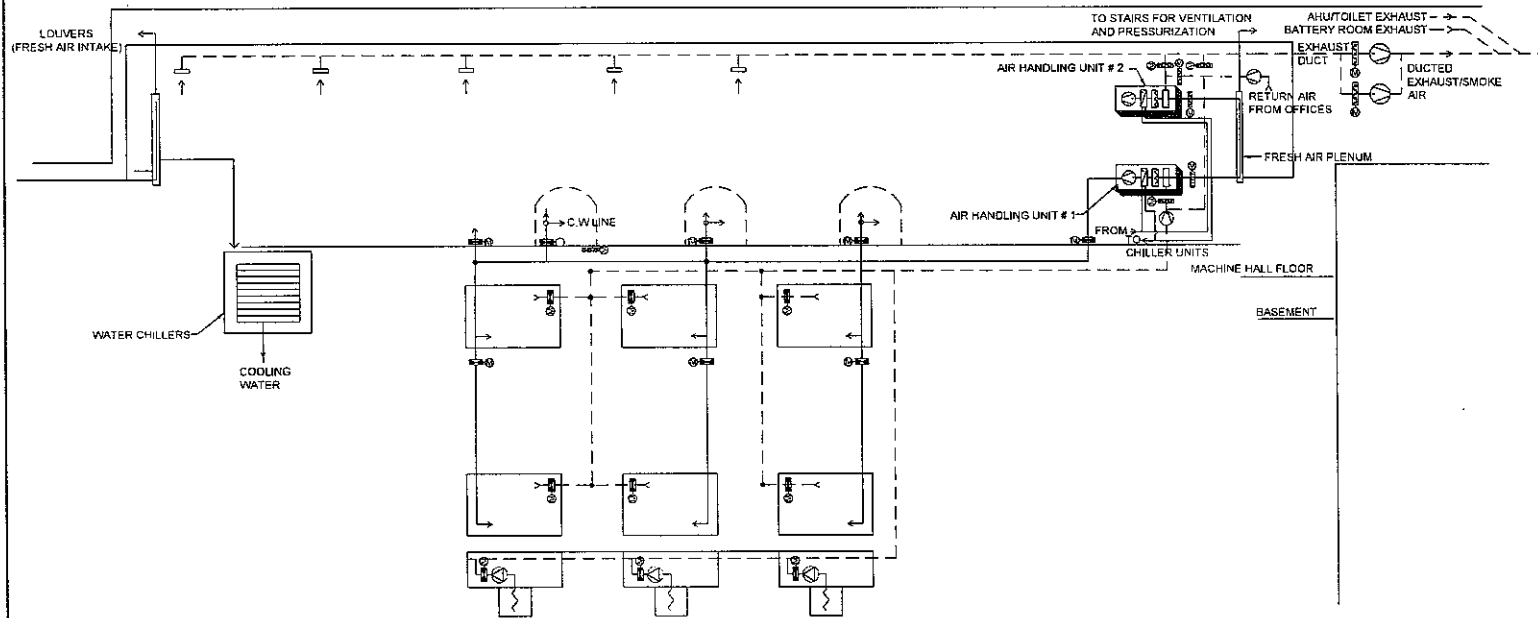


TYPICAL X-SECTION OF FILL

CONCEPTUAL BID DRAWINGS
FOR GUIDANCE ONLY

| | | |
|---|---|------------------|
| NO. | REV. | REVISIONS |
| CLIENT | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION | |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | ELECTRA CONSULTANTS PESHAWAR, PAKISTAN CIV-TECH CONSULTANTS PESHAWAR, PAKISTAN TECHNICAL, ENGINEERING AND MANAGEMENT, (TEAM-PRIVATE LIMITED) PAKISTAN | |
| ACCESS ROAD TYPICAL X-SECTION | | |
| DRAWN: | IMRAN | DATE: JULY, 2022 |
| DESIGNED: | UMER MAJEED | DRAWING NO. |
| CHECKED: | UMER MAJEED | SCALE |
| APPROVED: | H. FARDOO AHMAD | CCKHPP-136 |
| | | REV. NO. |
| | | 1:40 |

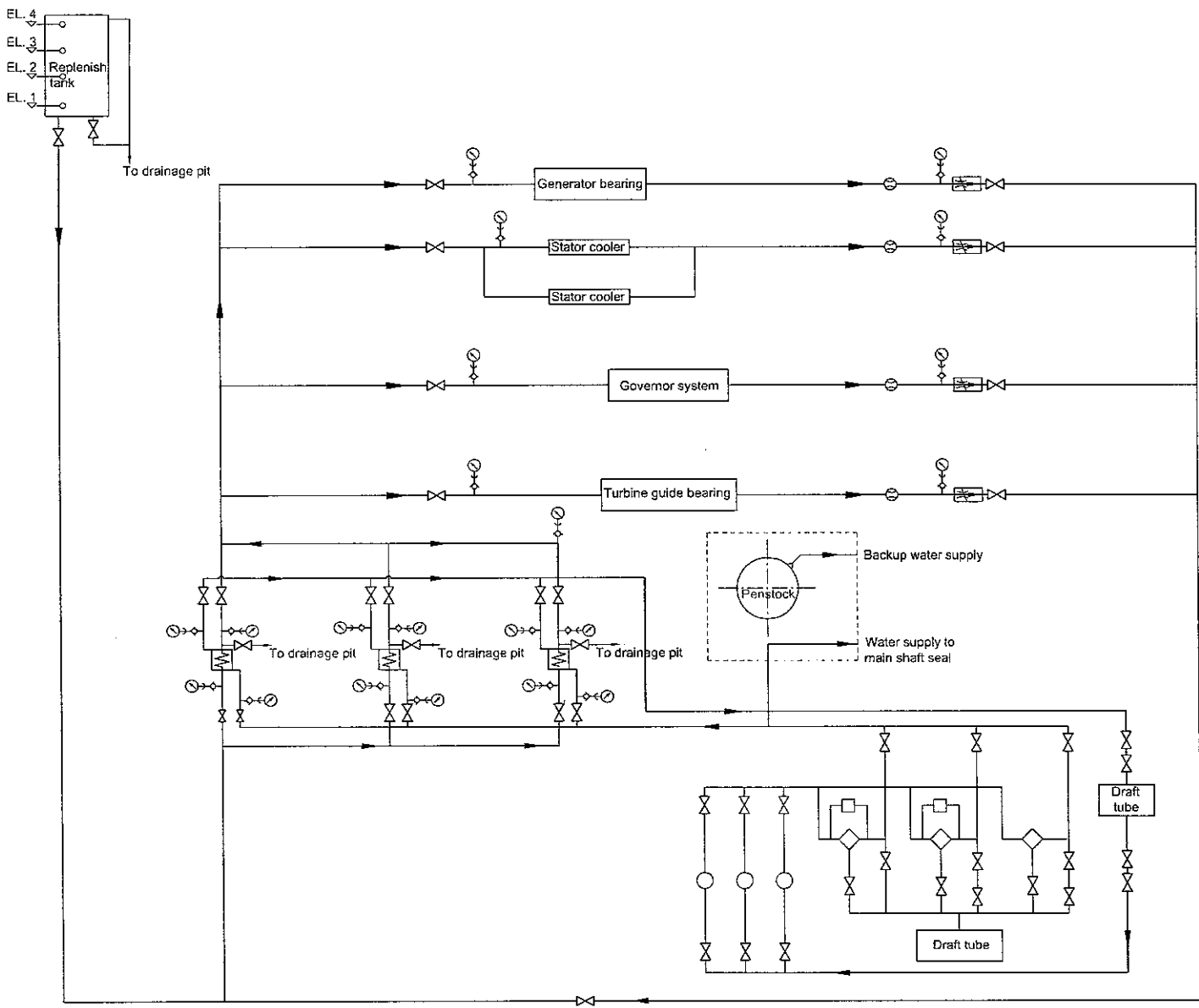
Annex - VI
to Addendum No. 1











CONCEPTUAL BID DRAWINGS
FOR GUIDANCE ONLY

| REV. NO. | DATE | DESCRIPTION OF REVISION |
|------------------------|--------------------------------------|---|
| | | |
| CLIENT | | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | | |
| HVAC SYSTEM | | |
| DRAWN: | IMRAN | DATE: JUNE, 2022 |
| DESIGNED: | HAKZA | DRAWING NO. |
| CHECKED: | UMER MAJEED | SCALE: |
| APPROVED: | H. FAROOQ AHMAD | CCKHPP-202 |
| | | |
| | | |





Annex-VII
to Addendum No.1



Legend:

-  Gate valve
-  Flow Control valve
-  Non-return valve
-  Pressure gauge
-  Flow gauge
-  Heat exchanger
-  Automatic statiner
-  Pump

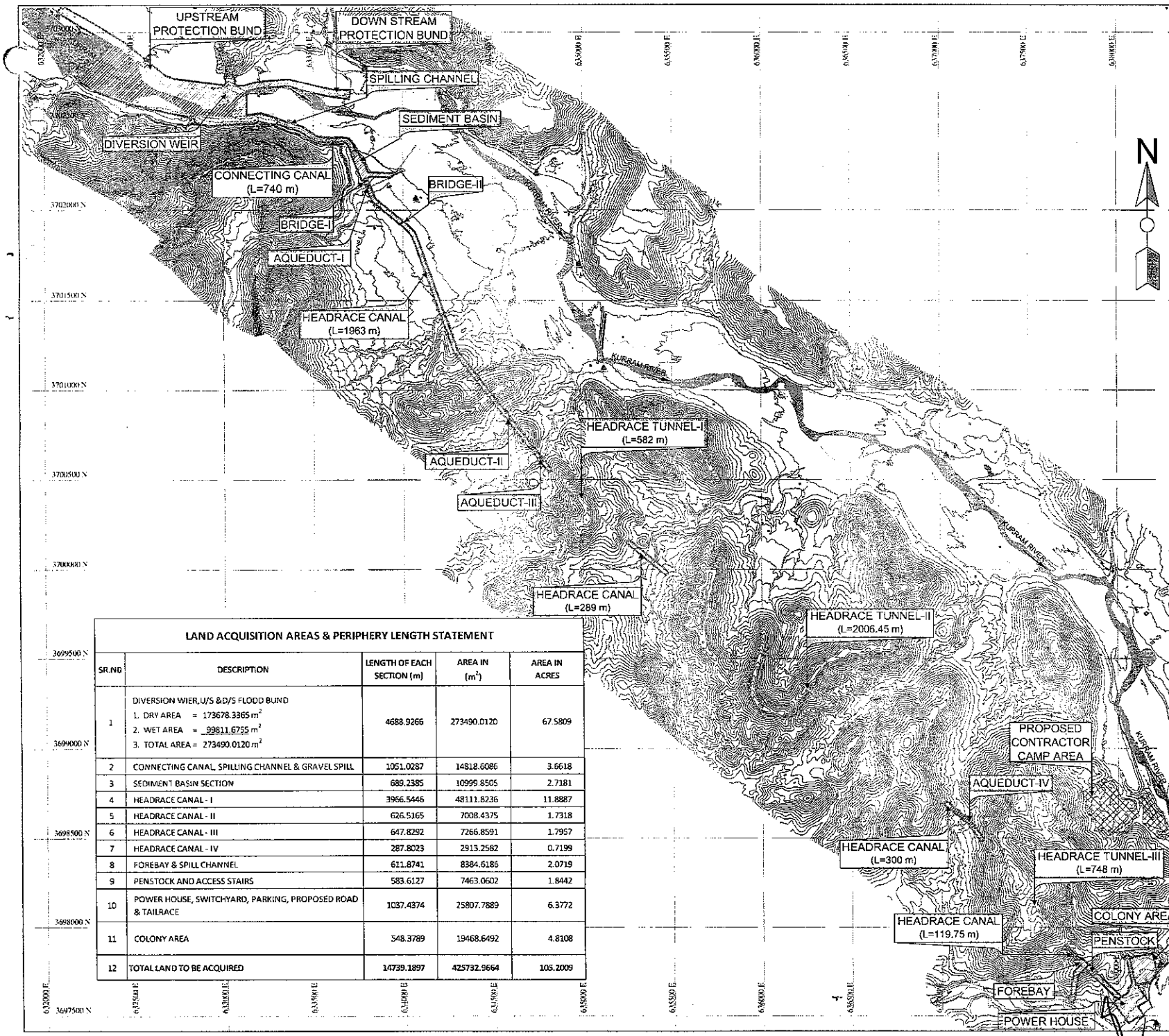
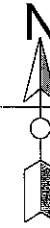
CONCEPTUAL BID DRAWINGS
FOR GUIDANCE ONLY

| REV. NO. | DATE | DESCRIPTION OF REVISION |
|---|---|---|
| | | |
| CLIENT |  | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS |  ELECTRA CONSULTANTS PESHAWAR PAKISTAN  CIV-TECH CONSULTANTS PESHAWAR PAKISTAN  TECHNICAL ENGINEERING AND MANAGEMENT (TEAM) PRIVATE LIMITED PAKISTAN | |
| COOLING WATER SYSTEM SCHEMATIC DIAGRAM | | |
| DRAWN: | IMRAN | DATE: MAR, 2023 |
| DESIGNED: | AMEER HAMZA | DRAWING NO. |
| CHECKED: | AMEER HAMZA | CCKHPP-212 |
| APPROVED: | H. FAROOQ AHMAD | |
| REV. No. | | SCALE: |
| | | NTS |

NOTE:

1. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE.
2. ALL DIMENSIONS ARE IN METERS INDICATED OTHERWISE.



*Annexure-VIII
to Addendum
NO.1*



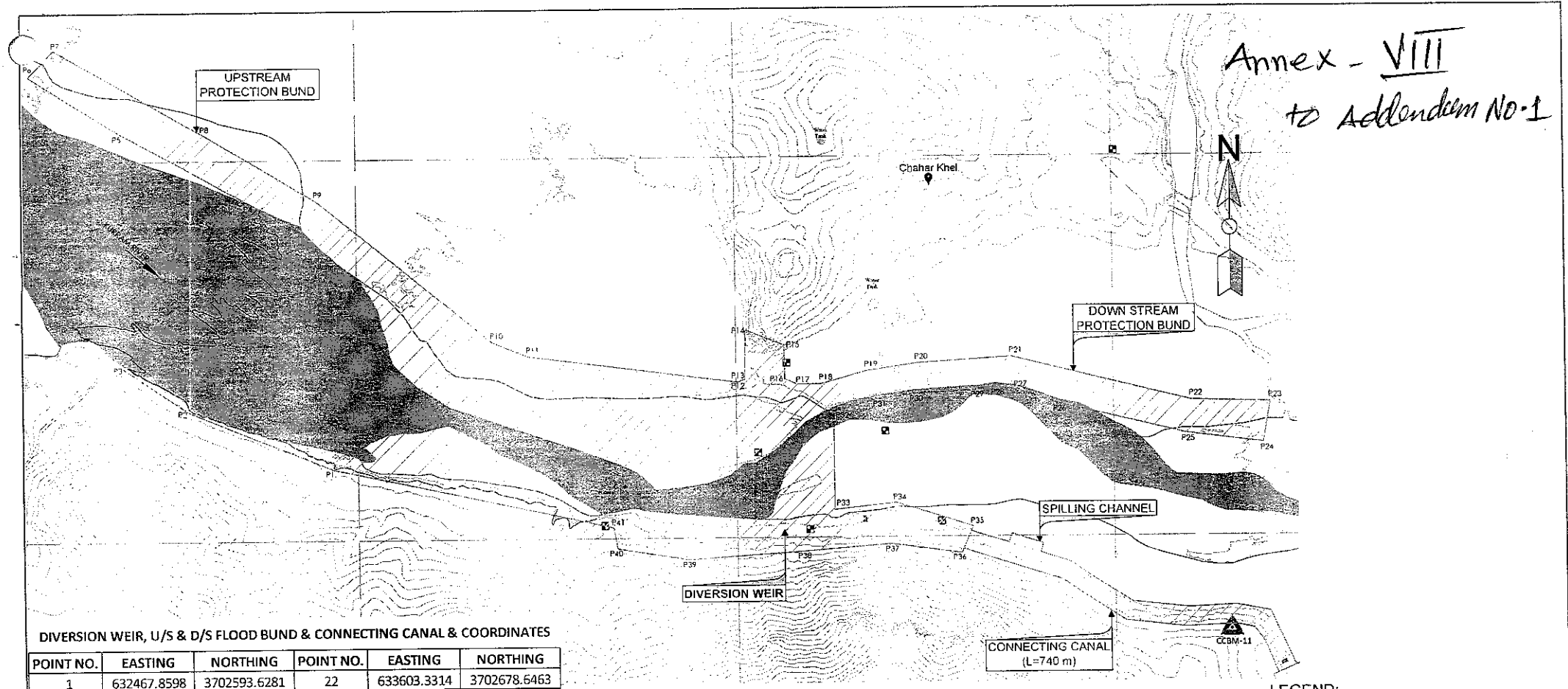
LAND ACQUISITION AREAS & PERIPHERY LENGTH STATEMENT

| SR. NO | DESCRIPTION | LENGTH OF EACH SECTION (m) | AREA IN (m ²) | AREA IN ACRES |
|--------|---|----------------------------|---------------------------|---------------|
| 1 | DIVERSION WEIR, U/S & D/S FLOOD BUND 1. DRY AREA = 173678.3365 m ² 2. WET AREA = 99811.6755 m ² 3. TOTAL AREA = 273490.0120 m ² | 4688.9266 | 273490.0120 | 67.5809 |
| 2 | CONNECTING CANAL, SPILLING CHANNEL & GRAVEL SPILL | 1051.0287 | 14818.6086 | 3.6618 |
| 3 | SEDIMENT BASIN SECTION | 689.2385 | 10999.8505 | 2.7181 |
| 4 | HEADRACE CANAL - I | 3966.5446 | 48111.8236 | 11.8887 |
| 5 | HEADRACE CANAL - II | 626.5165 | 7008.4375 | 1.7318 |
| 6 | HEADRACE CANAL - III | 647.8292 | 7266.8591 | 1.7957 |
| 7 | HEADRACE CANAL - IV | 287.8023 | 2913.2582 | 0.7199 |
| 8 | FOREBAY & SPILL CHANNEL | 611.8741 | 8384.6186 | 2.0719 |
| 9 | PENSTOCK AND ACCESS STAIRS | 583.6127 | 7463.0602 | 1.8442 |
| 10 | POWER HOUSE, SWITCHYARD, PARKING, PROPOSED ROAD & TAILRACE | 1037.4374 | 25807.7889 | 6.3772 |
| 11 | COLONY AREA | 548.3789 | 19468.6492 | 4.8108 |
| 12 | TOTAL LAND TO BE ACQUIRED | 14739.1897 | 425732.9664 | 105.2009 |

| NO. | DATE | DESCRIPTION OF REVISION |
|-----|------|-------------------------|
| | | |
| | | |

| | | |
|--|---|---------|
| CLIENT |  PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION | |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS |  ELECTRA CONSULTANTS PESHAWAR, PAKISTAN GVT-TECH CONSULTANTS PESHAWAR, PAKISTAN TECHNICAL, ENGINEERING AND MANAGEMENT (TEAM) PRIVATE LIMITED, PAKISTAN | |
| PROJECT LAND ACQUISITION INDEX PLAN | | |
| DRAWN: IMRAN | DATE: JULY, 2022 | REV. No |
| DESIGNED: UMER MAJEED | DRAWING NO. | SCALE: |
| CHECKED: UMER MAJEED | CCKHPP-000 | 1:20000 |
| APPROVED: H. FAROOQ AHMAD | | |

Annex - VIII
to Addendum No-1



DIVERSION WEIR, U/S & D/S FLOOD BUND & CONNECTING CANAL & COORDINATES


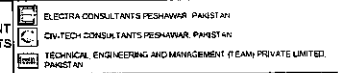
| POINT NO. | EASTING | NORTHING | POINT NO. | EASTING | NORTHING |
|-----------|-------------|--------------|-----------|-------------|--------------|
| 1 | 632467.8598 | 3702593.6281 | 22 | 633603.3314 | 3702678.6463 |
| 2 | 632278.4719 | 3702670.9708 | 23 | 633708.3913 | 3702675.7894 |
| 3 | 632192.3765 | 3702728.7917 | 24 | 633698.5977 | 3702622.5552 |
| 4 | 632370.7182 | 3702936.9814 | 25 | 633594.4678 | 3702635.5439 |
| 5 | 632189.1590 | 3703038.5301 | 26 | 633427.6062 | 3702674.7947 |
| 6 | 632070.6777 | 3703113.2840 | 27 | 633373.5313 | 3702693.6543 |
| 7 | 632104.1164 | 3703148.7434 | 28 | 633343.0024 | 3702697.0576 |
| 8 | 632300.3841 | 3703035.5473 | 29 | 633319.8457 | 3702693.4077 |
| 9 | 632446.8278 | 3702945.9279 | 30 | 633232.7705 | 3702688.4009 |
| 10 | 632677.0235 | 3702759.5718 | 31 | 633185.9935 | 3702681.8299 |
| 11 | 632724.7080 | 3702740.2904 | 32 | 633128.5485 | 3702665.6307 |
| 12 | 633002.2246 | 3702705.2091 | 33 | 633128.5485 | 3702535.6099 |
| 13 | 633011.7005 | 3702709.0998 | 34 | 633210.4131 | 3702544.8631 |
| 14 | 633012.8088 | 3702773.2181 | 35 | 633311.7374 | 3702512.5740 |
| 15 | 633063.4549 | 3702753.4110 | 36 | 633296.3241 | 3702478.2294 |
| 16 | 633064.5688 | 3702709.0911 | 37 | 633202.2641 | 3702490.6262 |
| 17 | 633080.0836 | 3702702.1950 | 38 | 633089.3620 | 3702481.3268 |
| 18 | 633112.4762 | 3702702.1950 | 39 | 632933.9201 | 3702471.1659 |
| 19 | 633172.2519 | 3702718.7253 | 40 | 632840.6754 | 3702486.4325 |
| 20 | 633238.5340 | 3702728.6424 | 41 | 632835.6852 | 3702514.4145 |
| 21 | 633364.4666 | 3702736.3806 | | | |

LEGEND:

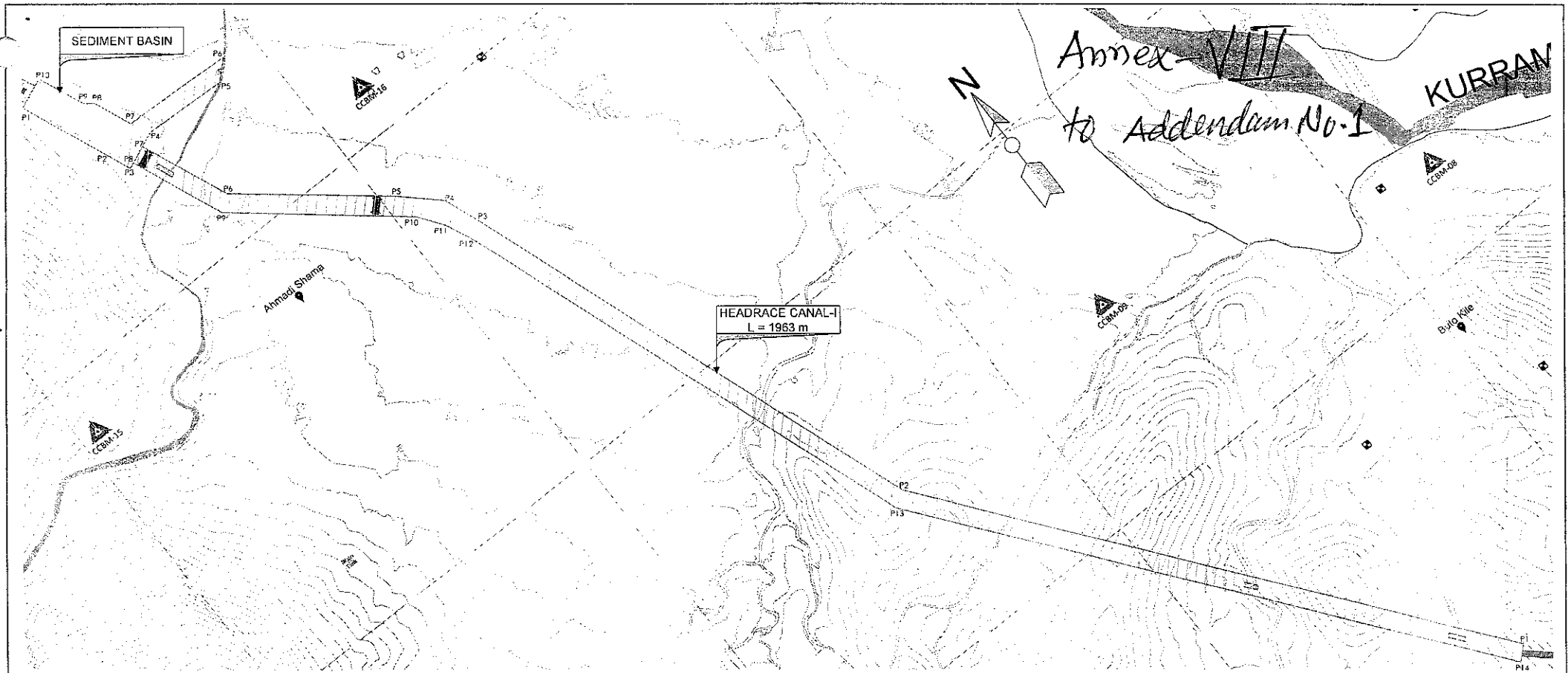


NOTE:

1. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE.
2. ALL DIMENSIONS ARE IN METERS INDICATED OTHERWISE.
3. COORDINATES AREA IN METERS

| | | |
|--|---|-------------------------|
| NO. | REV. | DESCRIPTION OF REVISION |
| | | |
| CLIENT |  PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION | |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS |  | |
| PROJECT LAND ACQUISITION PLAN DIVERSION WEIR, U/S & D/S FLOOD BUND & CONNECTING CANAL & COORDINATES | | |
| DRAWN: | IMRAN | DATE: SEPTEMBER, 2022 |
| DESIGNED: | UMER MAJEED | DRAWING NO |
| CHECKED: | UMER MAJEED | SCALE: |
| APPROVED: | H. FAROOQ AHMAD | CCKHPP-A |
| | | 1:5000 |





| SEDIMENT BASIN | | |
|----------------|-------------|-------------|
| POINT NO. | EASTING | NORTHING |
| P1 | 633707.7675 | 3702314.349 |
| P2 | 633755.3533 | 3702199.66 |
| P3 | 633769.4678 | 3702165.643 |
| P4 | 633819.2508 | 3702186.299 |
| P5 | 633930.7673 | 3702181.988 |
| P6 | 633955.4585 | 3702205.752 |
| P7 | 633806.0237 | 3702211.529 |
| P8 | 633785.0502 | 3702262.076 |
| P9 | 633773.5203 | 3702270.425 |
| P10 | 633748.2001 | 3702331.447 |


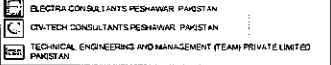
| HEADRACE CANAL - I | | |
|--------------------|-------------|--------------|
| POINT NO. | EASTING | NORTHING |
| P1 | 634806.1277 | 370059.1657 |
| P2 | 634823.9607 | 370055.8587 |
| P3 | 634304.6288 | 3701216.1326 |
| P4 | 634084.8912 | 3701830.6600 |
| P5 | 634065.5310 | 3701880.4029 |
| P6 | 634018.1658 | 3701924.4785 |
| P7 | 633848.6628 | 3702062.0359 |
| P8 | 633799.5560 | 3702178.1271 |
| P9 | 633777.1576 | 3702168.8333 |
| P10 | 633828.2079 | 3702046.5113 |
| P11 | 634023.2977 | 3701886.5674 |
| P12 | 634046.7409 | 3701855.0814 |
| P13 | 634062.0571 | 3701822.4952 |
| P14 | 634283.2742 | 3701203.8649 |

LEGEND:

LAND ACQUISITION BOUNDARY

NOTE:

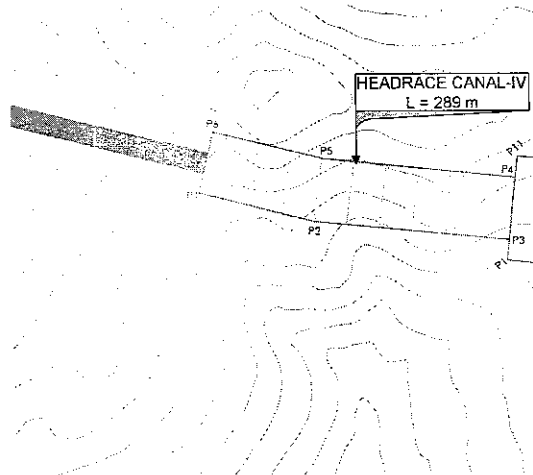
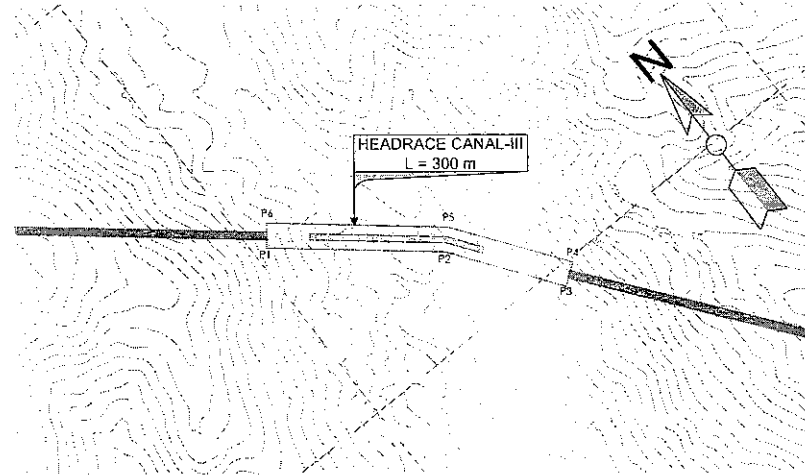
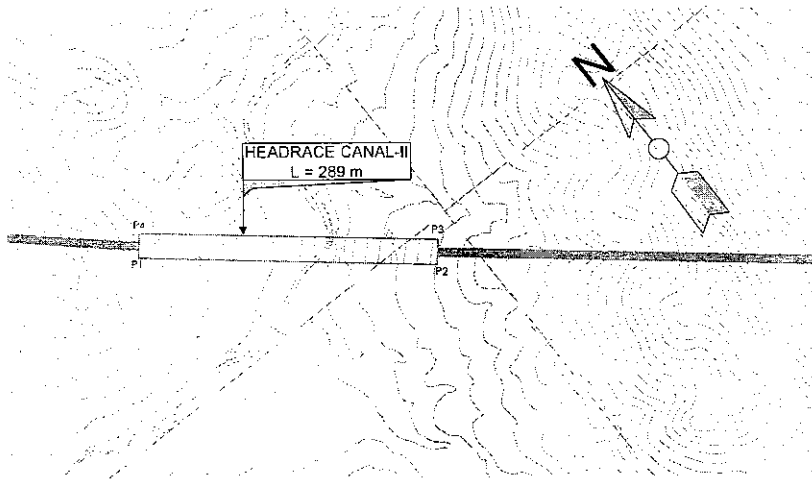
1. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE.
2. ALL DIMENSIONS ARE IN METERS INDICATED OTHERWISE.
3. COORDINATES AREA IN METERS

| | | |
|--|--|-------------------------|
| DATE | REV | DESCRIPTION OF REVISION |
| | | |
| CLIENT |  PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION | |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS |  | |
| PROJECT LAND ACQUISITION PLAN SEDIMENT BASIN & HEADRACE CANAL-I | | |
| DRAWN: IMRAN | DATE: SEPTEMBER, 2022 | REV. NO. |
| DESIGNED: UMER MAJEED | DRAWING NO. | |
| CHECKED: UMER MAJEED | | SCALE: 1:5000 |
| APPROVED: M. FARDOO AHMAD | CCKHPP-B | |

NOTE:

1. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE.
2. ALL DIMENSIONS ARE IN METERS INDICATED OTHERWISE.
3. COORDINATES AREA IN METERS

*Annex - VIII
to Addendum No. I*



| HEADRACE CANAL - II | | |
|----------------------|-------------|--------------|
| POINT NO. | EASTING | NORTHING |
| P1 | 635239.2200 | 3700148.1454 |
| P2 | 635462.4795 | 3699964.6215 |
| P3 | 635477.8785 | 3699983.3547 |
| P4 | 635254.6190 | 3700166.8785 |
| HEADRACE CANAL - III | | |
| POINT NO. | EASTING | NORTHING |
| P1 | 637012.8455 | 3698690.1892 |
| P2 | 637147.1434 | 3698579.7937 |
| P3 | 637219.9397 | 3698480.9071 |
| P4 | 637239.4686 | 3698495.2836 |
| P5 | 637164.8791 | 3698596.6060 |
| P6 | 637028.2446 | 3698708.9224 |
| HEADRACE CANAL - IV | | |
| POINT NO. | EASTING | NORTHING |
| P1 | 637701.2362 | 3697907.6079 |
| P2 | 637682.1682 | 3697892.6254 |
| P3 | 637710.3761 | 3697856.4401 |
| P4 | 637765.0559 | 3697804.3649 |
| P5 | 637781.8104 | 3697821.8963 |
| P6 | 637728.3598 | 3697873.0880 |

LEGEND:

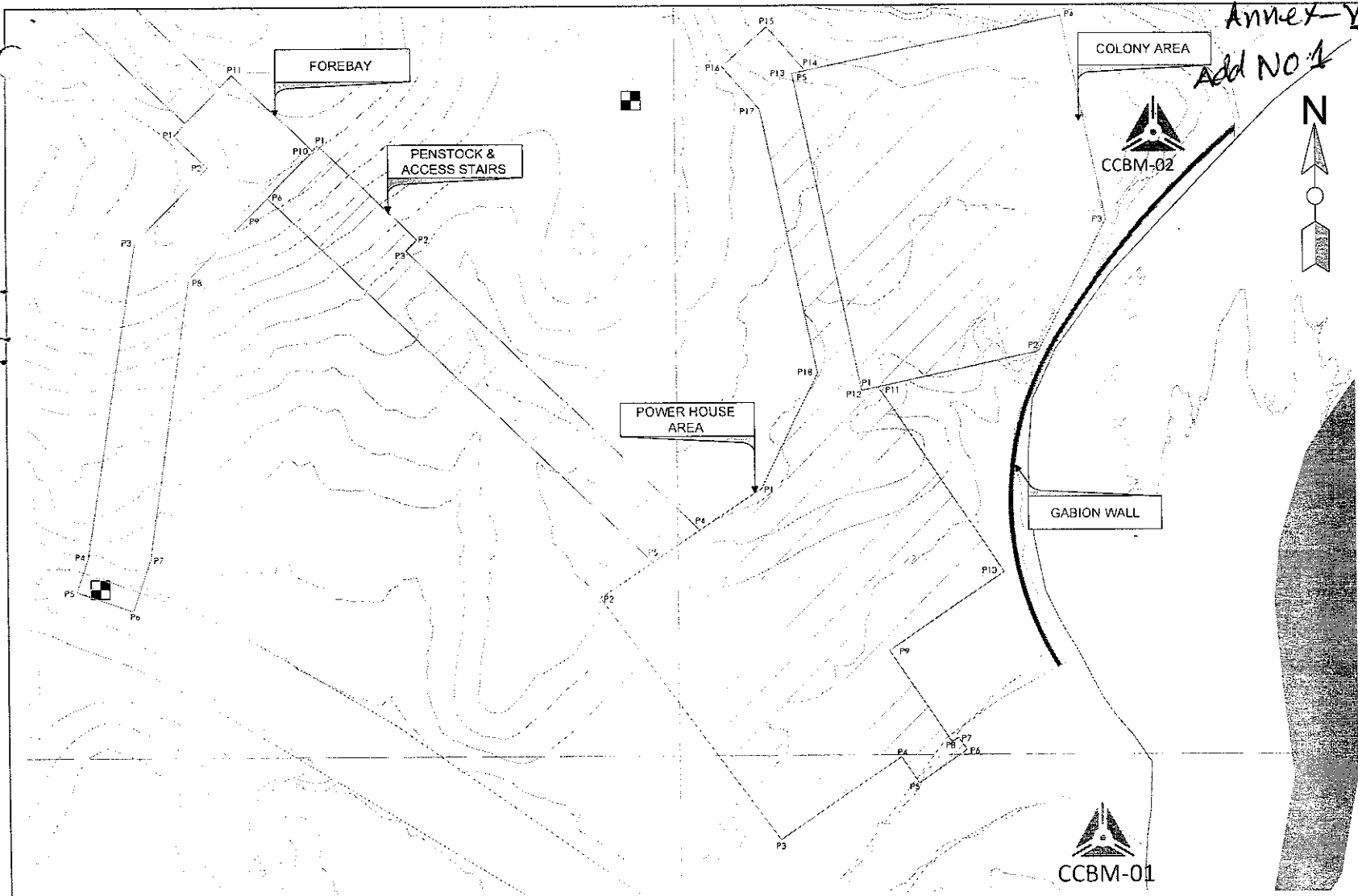
LAND ACQUISITION BOUNDARY

| NO. | REV. | DESCRIPTION OF REVISION |
|---|--------------------------------------|---|
| | | |
| CLIENT | | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | | ELECTRA CONSULTANTS PESHAWAR PAKISTAN CIV-TECH CONSULTANTS PESHAWAR PAKISTAN TECHNICAL ENGINEERING AND MANAGEMENT (TEAM) PRIVATE LIMITED PAKISTAN |
| PROJECT LAND ACQUISITION PLAN HEADRACE CANAL-II, III & IV PLAN & COORDINATES | | |
| DRAWN: | MIRAN | DATE: SEPTEMBER, 2022 |
| DESIGNED: | UMER MAJEED | DRAWING NO. |
| CHECKED: | UMER MAJEED | SCALE |
| APPROVED: | H. FAROOQ AHMAD | CCKHPP-C |
| REV. No. | | 1:5000 & 2000 |

Handwritten signature

Annex-VIII
Add No. 1

- NOTE:
1. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE.
 2. ALL DIMENSIONS ARE IN METERS INDICATED OTHERWISE.
 3. COORDINATES AREA IN METERS

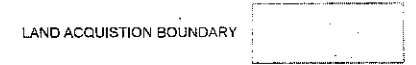


| FOREBAY | | |
|-----------|-------------|--------------|
| POINT NO. | EASTING | NORTHING |
| P1 | 637759.4423 | 3697798.4910 |
| P2 | 637775.6947 | 3697782.9587 |
| P3 | 637740.2968 | 3697746.5188 |
| P4 | 637717.0908 | 3697596.5080 |
| P5 | 637711.3893 | 3697580.1163 |
| P6 | 637738.3436 | 3697570.7409 |
| P7 | 637746.8852 | 3697595.2978 |
| P8 | 637766.2267 | 3697729.6109 |
| P9 | 637795.7671 | 3697759.6647 |
| P10 | 637825.8058 | 3697791.0893 |
| P11 | 637787.4240 | 3697827.7702 |

| PENSTOCK & ACCESS STAIRS | | |
|--------------------------|-------------|--------------|
| POINT NO. | EASTING | NORTHING |
| P1 | 637828.0464 | 3697793.4405 |
| P2 | 637875.3885 | 3697748.1993 |
| P3 | 637870.2067 | 3697742.7772 |
| P4 | 638010.6868 | 3697608.5224 |
| P5 | 637987.8119 | 3697593.1668 |
| P6 | 637803.9411 | 3697768.2175 |

| COLONY AREA | | |
|-------------|-------------|--------------|
| POINT NO. | EASTING | NORTHING |
| P1 | 638089.0726 | 3697675.3036 |
| P2 | 638174.7466 | 3697693.6302 |
| P3 | 638207.7789 | 3697756.3469 |
| P4 | 638186.6069 | 3697855.3230 |
| P5 | 638056.5171 | 3697827.4954 |

LEGEND:



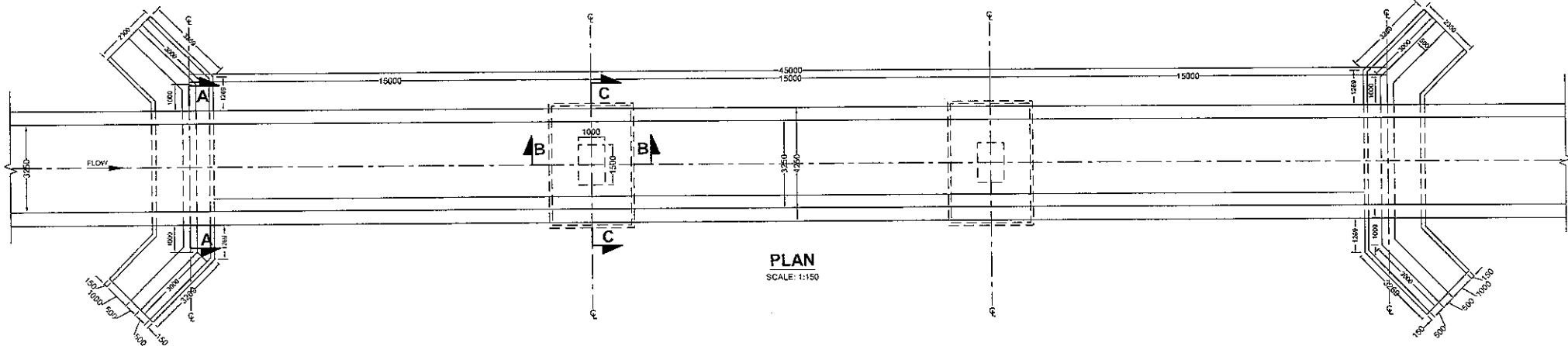
POWER HOUSE, TAILRACE, SWITCH YARD, PARKING & PROPOSED ROAD

| POINT NO. | EASTING | NORTHING | POINT NO. | EASTING | NORTHING |
|-----------|-------------|--------------|-----------|-------------|--------------|
| P1 | 638040.3050 | 3697628.4047 | P10 | 638157.2058 | 3697588.0856 |
| P2 | 637962.4426 | 3697576.1367 | P11 | 638096.8382 | 3697676.9647 |
| P3 | 638048.2474 | 3697459.5027 | P12 | 638089.0726 | 3697675.3036 |
| P4 | 638106.6798 | 3697499.1605 | P13 | 638056.5171 | 3697827.4954 |
| P5 | 638115.2640 | 3697486.5170 | P14 | 638062.8916 | 3697828.8590 |
| P6 | 638138.4556 | 3697502.2692 | P15 | 638044.4995 | 3697850.4004 |
| P7 | 638134.3974 | 3697508.2440 | P16 | 638022.9349 | 3697831.0106 |
| P8 | 638131.2749 | 3697506.2399 | P17 | 638040.8256 | 3697810.0193 |
| P9 | 638101.4197 | 3697550.1951 | P18 | 638067.8708 | 3697683.5872 |

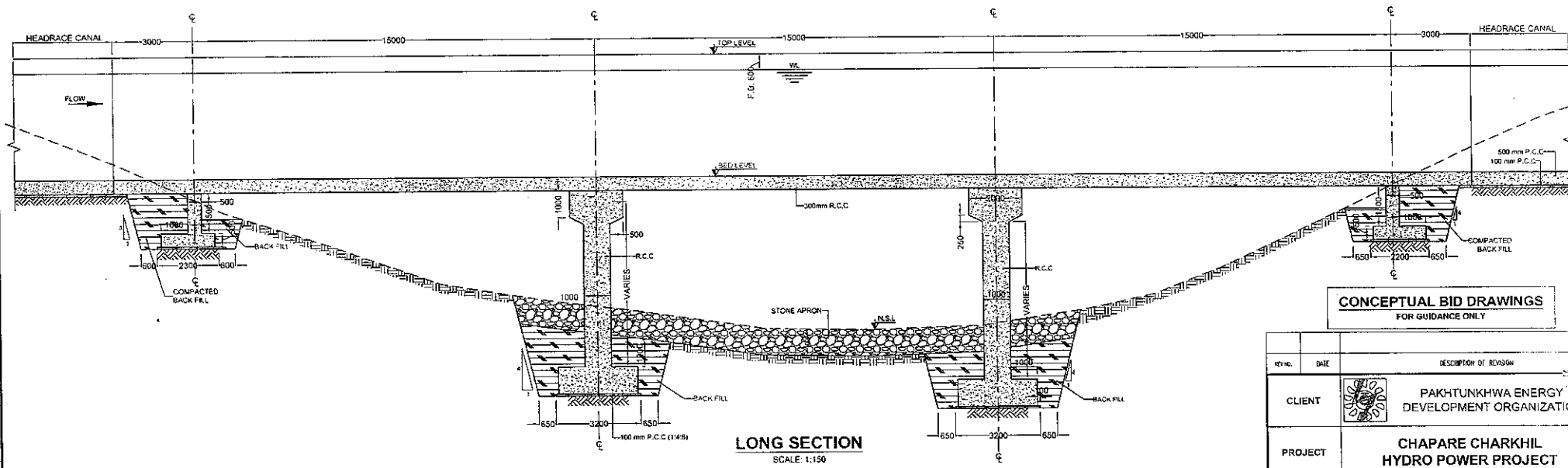
| | | |
|--|--------------------------------------|---|
| DATE | 02 | DESCRIPTION OF WORK |
| CLIENT | | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | | |
| PROJECT LAND ACQUISITION PLAN FORBAY, SPILL CHANNEL, PENSTOCK, POWER HOUSE, TAILRACE & COLONY PLAN & COORDINATES | | |
| DRAWN: | MURAN | DATE: SEPTEMBER, 2022 |
| DESIGNED: | UMER MAJEED | DRAWING NO. |
| CHECKED: | UMER MAJEED | SCALE |
| APPROVED: | H. FAROOQ AHMAD | CCKHPP-D |
| REV. No. | | 1:2500 |



Annexure - IX
to Addendum No.1



PLAN
SCALE: 1:150



LONG SECTION
SCALE: 1:150

- NOTE:
1. ALL LEVELS ARE IN MILLIMETERS UNLESS INDICATED OTHERWISE.
 2. ALL DIMENSIONS ARE IN MILLIMETERS INDICATED OTHERWISE.

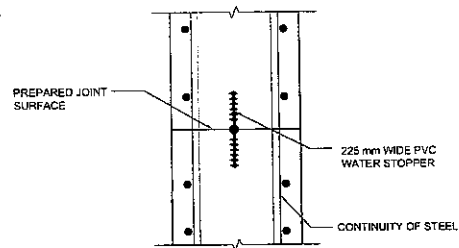
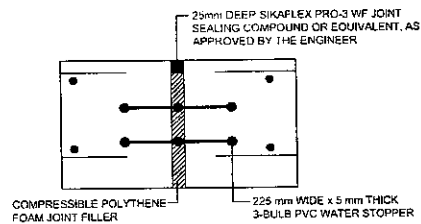
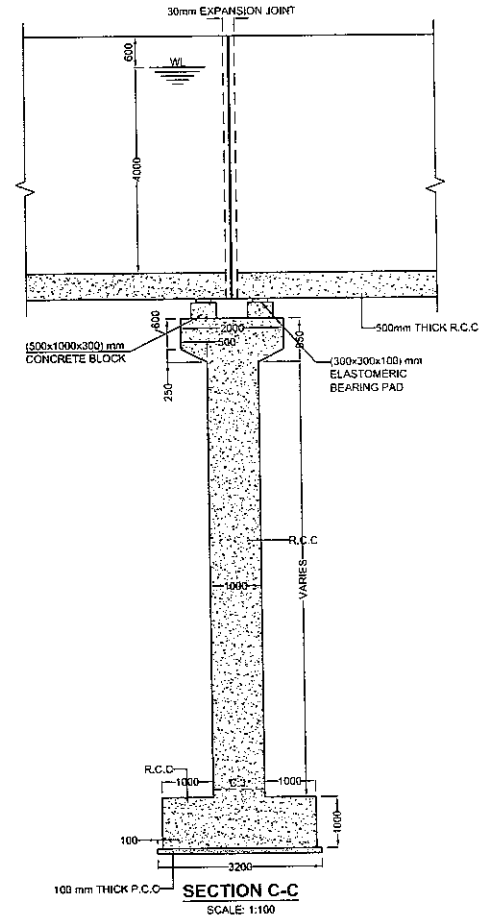
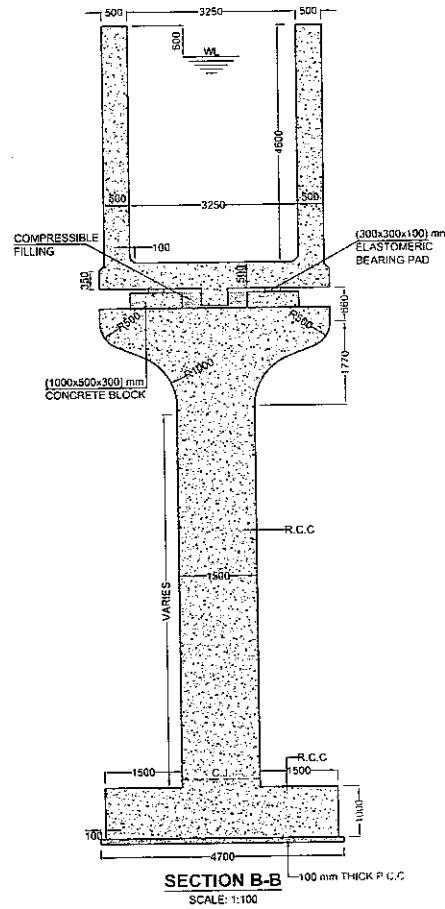
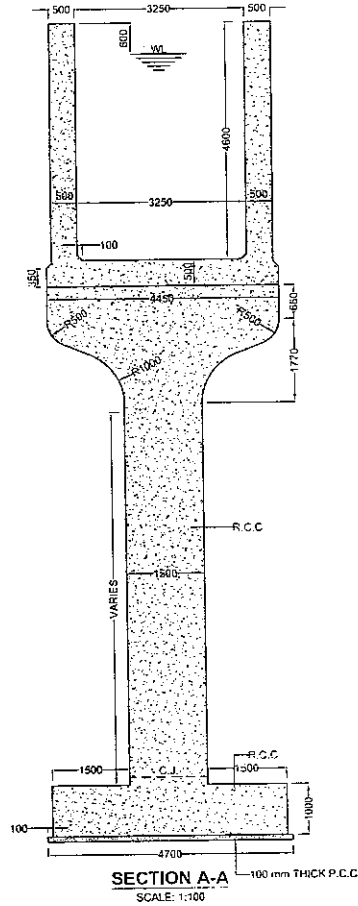
CONCEPTUAL BID DRAWINGS
FOR GUIDANCE ONLY

| REV. NO. | DATE | DESCRIPTION OF REVISION |
|---------------------------------------|--------------------------------------|---|
| | | |
| CLIENT | | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | | ELECTRA CONSULTANTS PESHAWAR PAKISTAN CIVITECH CONSULTANTS PESHAWAR PAKISTAN TECHNICAL ENGINEERING AND MANAGEMENT (TEAM) PRIVATE LIMITED PAKISTAN |
| AQUEDUCT TYPICAL PLAN & SECTION | | |
| DRAWN | IMRAN | DATE: MARCH, 2023 |
| DESIGNED | Engr. ASHAR | DRAWING NO. |
| CHECKED | Engr. UMER MAJEED | SCALE: |
| APPROVED | H. FAROOQ AHMAD | CCKHPP-156 |
| | | REV. No. |
| | | 1:150 |

NOTE:

- 1 ALL LEVELS ARE IN MILLIMETERS UNLESS INDICATED OTHERWISE.
- 2 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS INDICATED OTHERWISE.

*Annexure - IX
Addendum NO.1*



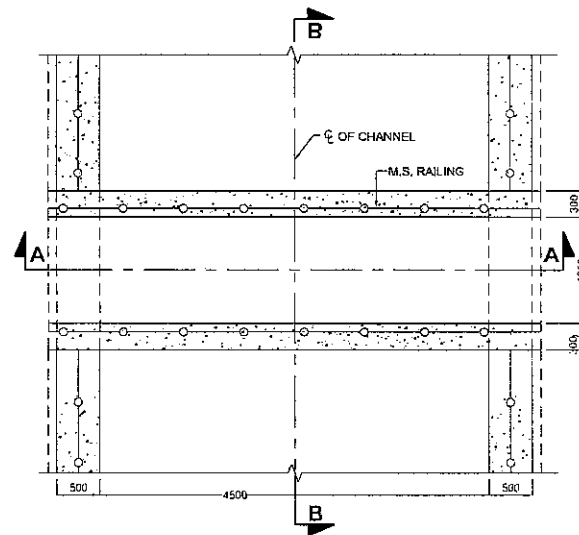
CONCEPTUAL BID DRAWINGS
FOR GUIDANCE ONLY

| REVNO | DATE | DESCRIPTION OF REVISION |
|--|--|---|
| | | |
| CLIENT | | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | ELECTRA CONSULTANTS PESHAWAR, PAKISTAN CIV-TECH CONSULTANTS PESHAWAR, PAKISTAN TECHNICAL ENGINEERING AND MANAGEMENT (TEAM) PRIVATE LIMITED, PAKISTAN | |
| AQUEDUCT TYPICAL SECTIONS & TYPICAL JOINT DETAILS | | |
| DRAWN: | IMRAN | DATE: MARCH, 2023 |
| DESIGNED: | Engr. ASHAR | DRAWING NO. |
| CHECKED: | Engr. UMER NAJEED | SCALE: |
| APPROVED: | H. FAROOQ AHMAD | CCKHPP-157 |
| | | AS SHOWN |

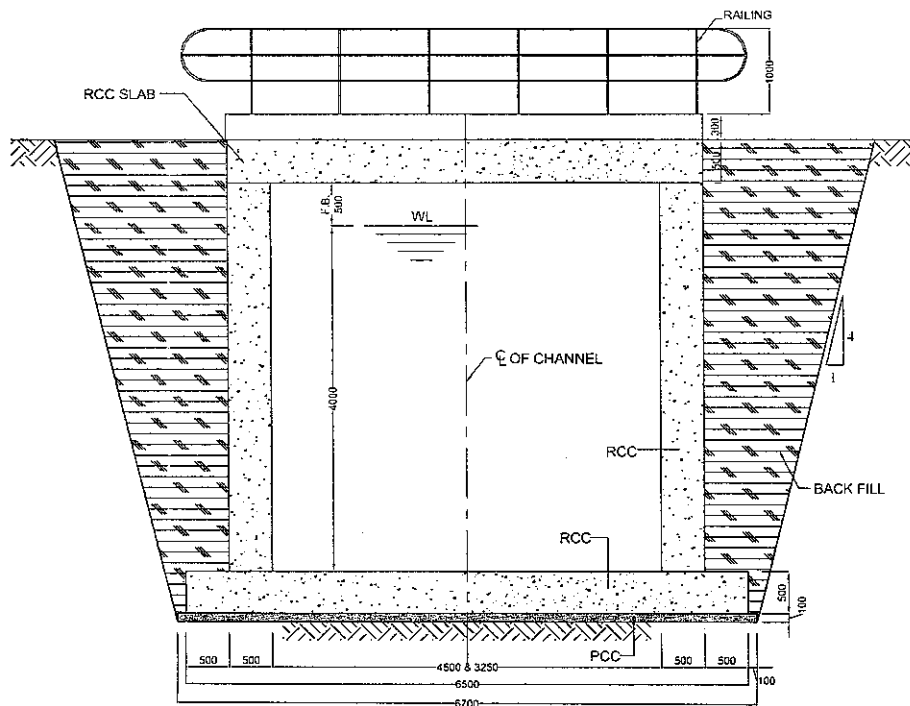
NOTE:

1. ALL LEVELS ARE IN MILLIMETERS UNLESS INDICATED OTHERWISE.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS INDICATED OTHERWISE.

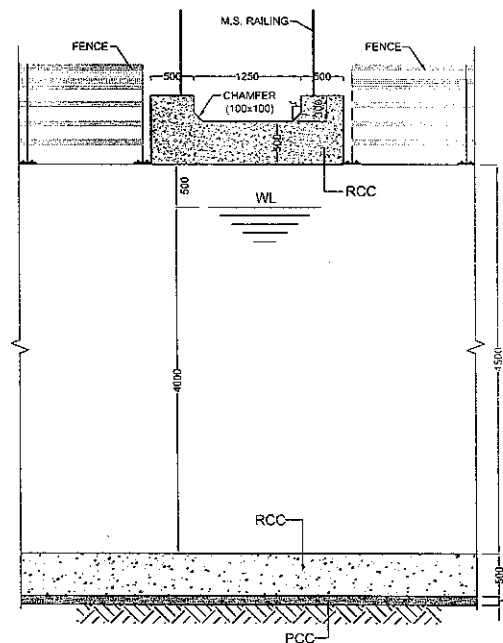
Annexure - X
Addendum No. 1



PLAN OF FOOT BRIDGE
SCALE 1:60



SECTION A-A
SCALE 1:60



SECTION B-B
SCALE 1:60

CONCEPTUAL BID DRAWINGS
FOR GUIDANCE ONLY

| REV. NO. | DATE | DESCRIPTION OF REVISION |
|---|--------------------------------------|---|
| | | |
| CLIENT | | PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION |
| PROJECT | CHAPARE CHARKHIL HYDRO POWER PROJECT | |
| MANAGEMENT CONSULTANTS | | |
| FOOT BRIDGE TYPICAL PLAN & SECTION | | |
| DRAWN: | IMRAN | DATE: MARCH, 2023 |
| DESIGNED: | Engr. ASHAR | DRAWING NO. |
| CHECKED: | Engr. UMER MAJEED | SCALE: |
| APPROVED: | H. FAROOQ AHMAD | CCKHPP-151 |
| | | REV. No. |
| | | AS SHOWN |