

**MINUTES OF PRE-BID MEETING HELD AT PESHAWAR
03 & 06 APRIL 2023**

**OCB/KPCIP/CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING
NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION,
AND DISTRIBUTION SYSTEMS AND SCADA: Lot-01: Water Treatment Plant**

The pre-bid meeting was convened and chaired by the Project Director (PD), Project Management Unit (PMU), Khyber Pakhtunkhwa Cities Improvement Project (KPCIP), Local Government Elections and Rural Development Department (LGE&RDD) Peshawar, in PMU Office on 03 and 06 April 2023. Following PMU's staff attended:


- (1) Project Director, PMU, KPCIP, LGE&RDD
- (2) Director Technical, PMU, KPCIP, LGE&RDD
- (3) Director Finance & Admin, PMU, KPCIP, LGE&RDD
- (4) Director Compliance, PMU, KPCIP, LGE&RDD
- (5) Liaison Specialist, PMU, KPCIP, LGE&RDD
- (6) Water & Sanitation Specialist, PMU, KPCIP, LGE&RDD
- (7) Procurement Specialist, PMU, KPCIP, LGE&RDD
- (8) Other PMU Staffs

02. Project Director, PMU welcome and brief the participants (list attached as **Annexure-A**) regarding the Project. Then Project Director invited Director Technical and Procurement Specialist to explain the bidding document.

03. Director Technical and Procurement Specialist explained the bidding documents particularly the contents of Section-2 (Bid Data Sheet), Section-3 (Evaluation and Qualification Criteria), Section-4 (Bidding Forms) and Section-8 (Particular Conditions of the Contract). The meeting was held in two parts. During the first part, Director Technical and Procurement Specialist explained in detail by reading through the important clauses on preparation of bids and application of evaluation criteria (financial and experience). Moreover, the Section 4 of the bidding documents were explained to the bidders covering the standard format of different forms and the bidders were stressed to use the standard format of forms while submitting the bids.

04. During second part of the meeting, the participants were invited for any queries. Bidders were advised to submit their written query(s) to PMU for written replies / advice accordingly. The queries raised by the bidders were mainly related to bid security, extension of bid submission deadline, requirements on JV arrangement, the particular conditions of contract etc. In response to some queries, Project Director informed that Bid Security from Insurance Companies and / or in the form of Swift Messages would not be in line with Bidding Document. It was also decided that the bidders will submit their queries within week time.

05. The meeting was concluded with a vote of thanks to and from all the participants. The queries received in PMU and corresponding replies thereto are attached as **Annexure-B**.


Project Director
PMU KPCIP, LGE&RDD Govt. of KP
Ground Floor, Afzal Apartments, Jamrud Road,
Phase-3 Peshawar Pakistan

ANNEXURE-A

PRE-BID MEETING
(ATTENDANCE SHEET)

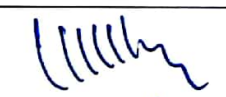
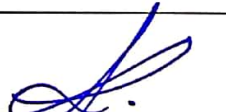
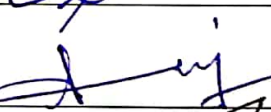

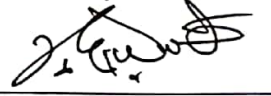

Subject: OCB/KPCIP/CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

➤ **LOT-1: WATER TREATMENT PLANT, MINGORA**

Place: Project Management Unit, Khyber Pakhtunkhwa Cities Improvement Project, Local Government Elections and Rural Development Department, Ground and First Floor, Afzal Apartments, Jamrud Road, Phase-3 Chowk, Hayatabad Peshawar, Khyber Pakhtunkhwa Pakistan

Date: 03 April 2023

Time: 11:00 Hours (PST)

S/No	Name	Designation	Organization	Contact / Email	Signature
1.					
2.	Engr. Mian Muhammad Shakil	Dir Technical	PMU-KPCIP	—	
3.	Qazi Rees	OFA-KPCIP	PMU-KPCIP	—	
4.	M. Arif	Rep.	KCL	mohammad.arif @ — hotmail.com	
5.	S. Fahad Rahim	BDM	BIDR	bidr-Fahad@bhatmas. com	
6.	Basit Ali	BDM	CRFG	0321-5255788 basitali.isb@gmail.com	
7.	Tauqeer H. Shah	Project Director	ZKB Engineers & Constructors	0348-5549316 pd@zkb.com.pk PD@ZKB.com.pk	

PRE-BID MEETING

(ATTENDANCE SHEET)

S/No	Name	Designation	Organization	Contact / Email	Signature
8.	Rafa Basim Majeed	CRS	ZKB-	0321-2488388	
9.	SHERAZI	GM.	UMJI NTUB	Newkhambuilders@gmail.com 0312 508 5195	
10.	Zohair Ahmad	Director	CASTEAR INTERNATIONAL	Zohair.kasteer@gmail.com 0332922296	
11.	Talha Razaq	Lead Business Development	Descor Engineering Limited	0320 5550371 talha.razaq@descor.com	
12.	Muhammad Umair	General Manager	Hayat Ali & Co.	0321-6093242 0300-74979031 Hayatali@786@yahoo.com	
13.					
14.					
15.					
16.					
17.					
18.					

ANNEXURE-B

QUERIES / OBSERVATION & RESPONSE MATRIX
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT
LOCAL GOVERNMENT ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT
GOVERNMENT OF KHYBER PAKHTUNKHWA

**BIDDING DOCUMENTS PACKAGE OCB/KPCIP/CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING
NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA: LOT-1: WATER TREATMENT PLANT, MINGORA**

Sr. #	Reference	Bidders Queries / Observations	Response
1.	General Query	BOQ shared online is same as it was at start of first Bidding, later there were some changes made through addendums and clarifications but those are not incorporated in present BOQ, so it is requested to please incorporate those changes so that we do not need to resend all those clarifications again.	This was mistake on PMU's part. The BOQs shared were the older one which have been replaced with the final BOQs which have all the changes made through addendums and clarifications incorporated. The revised BOQs are already uploaded on KPCIP's website.
2.	Bid Security	If a JV wants to Bid, can one member of JV give complete Bid Security on behalf of JV @ 69.00 million PKR	Please refer to ITB 19.8 of the BDs which states: "If the bid security is required as per ITB 19.1, the bid security of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the bid security shall be in the name of any or all of the Joint Venture partners. If the Bid-Securing Declaration is required as per ITB 19.1, the Bid-Securing Declaration of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent mentioned in ITB 4.1."

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3.	Similar Nature of Work	If a partner of JV has performed Similar nature of works which include River Training works and Construction of Small Dams Roller compacted Concrete, RCC and steel will those works get the JV points in pre - qualification.	<p>Please refer Sub-Clause 2.4.1: Contract of Similar Size and Nature in which it is written as:</p> <p><i>“Participation as a contractor, Joint Venture partner, or Subcontractor, in at least one contract that has been successfully or substantially completed within the last seven (07) years and that is similar to the proposed works, where the value of the Bidder’s participation exceeds amounts mentioned below. The similarity of the Bidder’s participation shall be based on:</i></p> <ol style="list-style-type: none"> <i>1. the physical size</i> <i>2. nature of works</i> <i>3. complexity, methods</i> <i>4. technology or</i> <i>5. other characteristics</i> <p><i>as described in Section 6, Employer’s Requirements.”</i></p> <p>Furthermore, since the intake structure for water treatment plant is part of Lot-2 under the same procurement package, therefore, the nature of work for Lot-1 cannot be considered similar river training works and small dams.</p> <p>Therefore, follow the as issued bidding documents.</p>
4.	Fixed Value in escalation formula	As we have found that fixed portion is 55% in this tender for calculation of escalation, whereas per PEC new approved escalation formula only 25% should be fixed portion hence we request that it should be replaced as per PEC @ 25%.	The bidder is advised to revisit PEC’s guidelines, where the limit of the adjustable portion shall be 75% which will comprise of cost elements having a value of 33% or more of the estimate value of the contract. In line with these guidelines the table of adjustment data

Sr. #	Reference	Bidders Queries / Observations	Response
			has been revised after a detailed analysis of the individual cost elements whereafter the adjustable portion is increased to 67% and fixed portion is decreased to 33%.
5.	Performance Security	<p>As per current notification of KPK Govt. contractors can Submit insurance Guarantee / Bond for Performance security.</p> <p>Will insurance Guarantee be acceptable as 10% of Performance Guarantee.</p> <p>Can one partner of JV Submit a complete guarantee on his individual name on behalf of JV</p>	<p>Insurance Guarantee not acceptable.</p> <p>Please refer to PCC Part A subclause 4.2 which clearly states: “The Performance Security will be in the form of an unconditional bank guarantee in the amount(s) of 10% (ten percent) of the Accepted Contract Amount. In case of JV, the Performance Security must be in the name of JV. “JV” means any joint venture, consortium or other unincorporated grouping of two or more persons as referred to in GCC 1.14.”</p>
6.	KPCIP-CW-4 LOT-1 WTP Mingora Bill no. 3: Mechanical Works	There is a spelling mistake in the title of the bill. Please correct.	Needful done.
7.	KPCIP-CW-4 LOT-1 WTP Mingora Bill no. 8: Rapid Gravity Filter Civil Works Item no. 15	<p><i>“Supplying and fixing flat iron (2"x3/8") ladder for OHR, holes @ 15" c/c, steps of MS bars 5/8" i/d & paint complete (for screen chamber)”</i></p> <p>Unit of measurement is missing, please provide.</p>	Already needful done (<i>Refer the uploaded BOQ</i>).

Sr. #	Reference	Bidders Queries / Observations	Response
8.	KPCIP-CW-4 LOT-1 WTP Mingora Summary of Bill No. 12 - Chemical Building	Plumbing Works This item "Plumbing Woks" is shown in summary, but detailed BOQ is missing. Please Clarify.	Major items under plumbing work are included in mechanical BOQ of bill no 12. NS_5, NS_6, NS_7
9.	KPCIP-CW-4 LOT-1 WTP Mingora Bill No. 18: Workshop Civil Works Item no. 42	"Khuras on roof 2'x2'x6" " Unit of measurement is missing, please provide.	Already needful done (Refer the uploaded BOQ).
10.	KPCIP-CW-4 LOT-1 WTP Mingora	There is Discrepancy in Drawings and BOQ items. Some of the instruments have been provided in P&ID but not available in BOQ. We suggest following BOQ for costing purpose. Please confirm.	The bidder shall follow the items as per BOQ. However, at construction stage if there is any variation as per site requirements, it will be handled accordingly as per instructions of the Engineer.
11.	KPCIP-CW-4 LOT-1 WTP Mingora Bill. No. 18 Workshop	No specs and details of workshop equipment are given in BOQ & Particular Specifications of WTP Mingora. Please provide at least capacity, brand / model, and their quantity to get quotation. Please provide details of equipment to get quote from vendor.	Capacity is given in the BOQ however, the contractor can take help from relevant section of the specifications for pricing purposes, for small equipment.
12.	KPCIP-CW-4 LOT-1 WTP Mingora VOLUME-2: TREATMENT (Mingora) DRAWINGS, Drawing No. CBC-WTP-MIN- 7507 &7508	In P&ID, the flowmeter, flow control valve & Level sensor have been given at inlet pipeline of Distribution Chamber No. 01. These items are not given in BOQ of Lot-1: WTP Mingora Bill No. 1: Distribution Chamber. We are following BOQ items for bid costing purpose. Please Clarify.	Scope (Design, Engineering, Supply & Installation of all items) of SCADA system is given in Bill No. 27 Scada System (A-1), hence all mention items are considered included in this scope.

Sr. #	Reference	Bidders Queries / Observations	Response
13.	KPCIP-CW-4 LOT-1 WTP Mingora BILL NO. 4: FLASH MIXER AND FLOCCULATION CHAMBER	Flocculation Mixers. In BOQ there are separate mixers, having different KW, for up steam and downstream mixing chambers. But in drawings only one stage mixing having been provided. In P&ID 4 nos. of flocculation tanks and mixers have been shown which are 8 in no.as provided in BOQ and drawings. We are following BOQ for bid costing purpose. Please clarify.	Please refer to relevant BOQ item and Drawing No. 7503 in which 4No. flash mixers and 8No. flocculators are proposed.
14.	KPCIP-CW-4 LOT-1 WTP Mingora BILL NO. 4: FLASH MIXER AND FLOCCULATION CHAMBER Item. No. 3	In P&ID, some instruments/ sensors, like Level transmitter LIT and AE, have been shown in flash mixing tank which are not available in BOQ and drawings. We are following BOQ for bid costing purpose. Please clarify.	Scope (Design, Engineering, Supply & Installation of all items) of SCADA System is given in Bill No. 27 Scada system (A-1), hence all mention items are considered included in this scope.
15.	KPCIP-CW-4 LOT-1 WTP Mingora BILL NO. 3: Distribution Chamber No.02	Drawing of Distribution chamber No. 02 is not available in drawings. Please provide. We are following BOQ items for bid costing purpose. Please clarify.	Please refer to drawing of Distribution Chamber for bidding purposes.
16.	KPCIP-CW-4 LOT-1 WTP Mingora Drawing No.CEC-WTP-MIN-7510, Plain sedimentation tank section A-A	In P&ID, MOV at inlet and manual type SV have been shown at outlet whereas in drawings only manual type SV has been shown in outlet of plain sedimentation tank. However, in Bill no. 2 of BOQ no valves items have been provided. These above-described valves are not required as well. We are following BOQ items for bid costing purpose. Please clarify.	Provision for SVs is given in Bill No. 21 - External Piping.

Sr. #	Reference	Bidders Queries / Observations	Response
17.	KPCIP-CW-4 LOT-1 WTP Mingora Drawing No. CEC-WTP-MIN-7661 P&ID	Sensors in PST, like pH, Turbidity, level transmitter for weir and sludge bed monitoring have shown in P&ID but these items have not been provided in drawings and BOQ. We are following BOQ items for bid costing purpose. Please clarify.	Please follow the BOQ item for PST
18.	KPCIP-CW-4 LOT-1 WTP Mingora Drawing No. CEC-WTP-MIN-7667, P&ID	Level transmitter, pH and chlorine Analyzer have been shown in P&ID but not given in BOQ Bill No. 10: Chlorine Contact Tank & Treated Water Tank. We are following BOQ items for bid costing purpose. Please clarify.	Provision for these items has been given in Bill No. 27 Scada System (A-1)
19.	KPCIP-CW-4 LOT-1 WTP Mingora Drawing No. CEC-WTP-MIN-7667, P&ID	Pumps are shown in P&ID b/w CCT and TWT. Which are not provided in drawings and BOQ. We are following BOQ items for bid costing purpose. Please clarify.	Follow the BOQ for CCT and TWT
20.	KPCIP-CW-4 LOT-1 WTP Mingora BILL NO. 7: CLARIFIER PUMPING STATION (04)	Drawings of Clarifier Pumping stations are not given. Please provide. Where as in BOQ bill no.7 the related items have been provided. We are following BOQ items for bid costing purpose. Please clarify.	Drawing will be provided at construction stage
21.	KPCIP-CW-4: LOT1 WTP Mingora BILL NO. 29: BELT FILTER PRESS UNIT	Ref to MINGORA WTP the requested model is the OS-30. This model is corresponding the BFP having belts 3.0 m wide, and this is also confirmed by the enclosed GA drawing, showing that the entire BFP is now of 3723 mm wide. At the same time, at page #1010-1, it is also requested that the	EDCM GA Drawings are for reference purpose only, actual BFP width will be selected by the offered manufacturer against project requirement of 15 m ³ /hr capacity and 3-5% Sludge content. Material of Construction shall be SS 316L. Any vendor complying to these specifications and satisfying Vendor profile

Sr. #	Reference	Bidders Queries / Observations	Response
		<p>units have to be able to dewater 15m³/h of sludge with loading 500 kg/h.</p> <p>We suggest considering the flow 15 m³/hr. with solids in feed sludge 2% to 5% (most probably less than 3% as gravity type sludge thickener has been proposed) and MOC SS316L as given in specs to get the quotation of belt filter press from different vendors.</p> <p>No need to mention the belt width in BOQ or drawings or in specs. The manufacturer will propose the belt width against sludge flow and desired sludge quality. Also, the provided specification and model of belt filter press is given from specific vendor. We suggest not to specify specs but use the standard design specs of approved manufacturer.</p> <p>Please clarify.</p>	<p>requirement/criteria can be acceptable by the Engineer.</p>
22.	<p>KPCIP-CW-4: LOT1 WTP Mingora</p>	<p>Providing and fixing Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects.: 6kg.</p> <p>Please suggest the type of fire extinguisher to get the quotation.</p>	<p>NFPA 10: Standard for Portable Powder Fire Extinguishers.</p>
23.	<p>KPCIP-CW-4 LOT-1: WTP Mingora. VOLUME-2: TENDER DRAWINGS, Drawing No. CEC-WTP-MIN-</p>	<p>Single Line Diagram (SLD) of MPB is shown partially in Drawing no. CEC-WTP-MIN-7623 and the same is being repeated in drawing no. CEC-WTP-MIN-7624 and CEC-WTP-MIN-7625.</p>	<p>Updated Drawings are attached.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
	7623, CEC-WTP-MIN-7624 & CEC-WTP-MIN-7625.	Please provide complete SLD of the MPB.	
24.	KPCIP-CW-4 LOT-1: WTP Mingora. VOLUME-2: TENDER DRAWINGS, Drawing No. CEC-WTP-MIN-7627	<p>SLDs for some Buildings i.e., Electric Room, Generator Room and Sub-Station Room, are shown repeatedly in the drawing, whereas SLDs for some Buildings are missing i.e., Primary Sludge Pumping Station, Clarifier Sludge Pumping Station, Rapid Sand Filter, Chemical Building, Chlorine Building, Workshop and Operator Room.</p> <p>Please provide complete set of missing Electrical drawings for the mentioned buildings.</p>	There is a typo error. All buildings' SLDS are typical and can be use as same.
25.	KPCIP-CW-4 LOT-1: WTP Mingora. VOLUME-2: TENDER DRAWINGS, Drawing No. CEC-WTP-MIN-7626 & Drawing No. CEC-WTP-MIN-7636.	<p>Different SLDs for electrical DBs of Admin Building are shown in Drawing no. CEC-WTP-MIN-7626 and Drawing no. CEC-WTP-MIN-7636.</p> <p>Please confirm requirement.</p>	Follow Drawing No. 7626 for reference.
26.	KPCIP-CW-4 LOT-1: WTP Mingora. VOLUME-2: TENDER DRAWINGS, Drawing No. CEC-WTP-MIN-7626	<p>2 no., 2KVA UPS for Essential Lighting / Power are shown in the SLDs for DBs of Admin Block, whereas these are not listed in the relevant BOQ of Electrical Works i.e., Bill no. 11, for the Admin Building.</p> <p>It is Bidder's understanding that provision of UPS for Essential Lighting / Power is not included in the Contractor's scope of work. Please confirm.</p>	Agreed. This is just a provision for UPS installation in future

Sr. #	Reference	Bidders Queries / Observations	Response
27.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 6: Primary Sludge Pumping Station (02) REF. Nos CH / Item: ELECTRICAL WORKS.	<p>Electrical drawings i.e., Single Line Diagram of DB, Lighting and Sockets Layout Plans, of Primary Sludge Pumping Station (02) are missing in the Tender Drawings.</p> <p>Please provide electrical drawings of Primary Sludge Pumping Station.</p>	<p>Estimates are already provided however, detailed Electrical drawings will be provided at construction stage.</p>
28.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 7: Clarifier Pumping Station (04) REF. Nos CH / Item: ELECTRICAL WORKS.	<p>Electrical drawings i.e., Single Line Diagram of DB, Lighting and Sockets Layout Plans, of Clarifier Pumping Station (04) are missing in the Tender Drawings.</p> <p>Please provide electrical drawings of Clarifier Pumping Station.</p>	<p>Estimates are already provided however, detailed Electrical drawings will be provided at construction stage.</p>
29.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 18: Workshop REF. Nos CH / Item: ELECTRICAL WORKS.	<p>Electrical drawings i.e., Single Line Diagram of DB, Lighting and Sockets Layout Plans, of Workshop are missing in the Tender Drawings.</p> <p>Please provide electrical drawings of Workshop Building.</p>	<p>Estimates are already provided however, detailed Electrical Drawings will be provided at construction stage.</p>
30.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 28: Belt Filter Press Sludge Pumping Station REF. Nos CH / Item: ELECTRICAL WORKS.	<p>Electrical drawings i.e., Single Line Diagram of DB, Lighting and Sockets Layout Plans, of Belt Filter Press Sludge Pumping Station are missing in the Tender Drawings.</p> <p>Please provide electrical drawings of Belt Filter Press Sludge Pumping Station.</p>	<p>Estimates are already provided. However, detailed Electrical Drawings will be provided at construction stage.</p>
31.	KPCIP-CW-4 LOT-1: WTP Mingora	<p>Main description of Road Light Fixture is mentioned under the BOQ item A.11 i.e.,</p>	

Sr. #	Reference	Bidders Queries / Observations	Response
	BILL NO. 6: Primary Sludge Pumping Station (02) Item No. A.11.	"Fitting and Fixtures", whereas, under listed items are for Indoor Lighting.	Agreed. It is understood that the bidder will follow indoor lighting descriptions for indoor lighting fixtures for all the buildings.
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 7: Clarifier Sludge Pumping Station (04) Item No. A.11.	It is Bidder's understanding that description of indoor Lighting Fixtures shall be followed for pricing. Please confirm.	
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 8: Rapid Gravity Filters Item No. 11.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11: Admin Building Item No. A.11.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 12: Chemical Building Item No. A.11.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 13: Chlorination Building Item No. A.11.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 14: Sub-Station Building Item No. A.11.		
	KPCIP-CW-4 LOT-1: WTP Mingora		

Sr. #	Reference	Bidders Queries / Observations	Response
	<p>BILL NO. 15: Electrical Control Room Item No. A.11.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 16: Generator Room Item No. A.11.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 17: Guard Room Item No. A.11.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 18: Workshop Item No. A.11.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 19: Operator Room Item No. A.11.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 28: Belt Filter Press Sludge Pumping Station Item No. A.11.</p>		
32.	<p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 6: Primary Sludge Pumping Station (02) Item No. A.11(i) REF. Nos CH/Item: 15-36-j-12.</p>	<p>The description of Light Fixture is mentioned as "10W LED Down Light Fixture suitable for 1300 lux".</p> <p>The rating of Light Fixture as given by OEM is in watts, Lumens, CCT etc., but not in "LUX".</p>	<p>It's a typo error in MRS schedule consider 1300 lux as 1300 Lumens for the mentioned structures / buildings.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 7: Clarifier Sludge Pumping Station (04) Item No. A.11(i) REF. Nos CH/Item: 15-36-j-12.	<p>"LUX" is required illumination level for an area to determine required no. of Light Fixtures. As the quantity of fixtures is already mentioned in the BOQ for each Building / Area, therefore, required value of "LUX" to be achieved by the Contractor is not understood, not to mention the exceptionally high value of "1300 lux".</p> <p>Please clarify.</p>	
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11: Admin Building Item No. A.11(i) REF. Nos CH/Item: 15-36-j-12.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 13: Chlorination Building Item No. A.11(i) REF. Nos CH/Item: 15-36-j-12 .		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 17: Guard Room Item No. A.11(i) REF. Nos CH/Item: 15-36-j-12.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 19: Operator Room Item No. A.11(i) REF. Nos CH/Item: 15-36-j-12.		

Sr. #	Reference	Bidders Queries / Observations	Response
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 28: Belt Filter Press Sludge Pumping Station Item No. A.11(i) REF. Nos CH/Item: 15-36- j-12.		
33.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11 Admin Building Item No. A.22 Ref. Nos. Ch / Item: 15- 105-h.	<p>The description of Earth Point is mentioned as:</p> <p>"Providing & fixing of Plate type Earthing compressed with excavated hole 6"up 63 feet, GI pipe 2"(50mm) with Tees, Sockets, Endcap of 60 (Mtr) Copper Plate of 1/2" x 2" x 48", 2x 70mmsq S/Core copper bare conductor 125 (Mtr) Earth Connection Point of 1200 x 50 x 50mm (L x W x T) Inspection Pit of 300 x 300 x 450 mm (L x W x D) completed with all respect."</p> <p>It is Bidder's understanding that bore hole shall be 63 feet deep and the quantity of Conductor etc., shall be according to the length of bore hole, whereas earth bar / connection point shall be of size: 200x50x50mm (L x W x T), considering the size of Inspection pit. Please confirm.</p>	<p>It is confirmed that Earth connecting point will be 200x50x50 (LxWxT).</p>
34.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 22: External Electrification Item No. 2 Ref. Nos. Ch / Item: 15- 123-a	<p>The BOQ description is mentioned as:</p> <p>"Supply, Laying, testing and commissioning of LT Street light Copper Conductor Cable, PVC insulated, PVC sheathed 4 cores 660/1100-volt grade cable, armored with G.I. wire 16 SWG. laid directly in the</p>	<p>Please follow the indoor lighting description for cable between base connection box of pole to light fixtures.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		<p>already excavated as per item B-1, including 2" UPVC pipe at road crossing with provision of warning tape as per drawings, specifications and approval of the consultant/the Engineer, Make Pakistan Cables, Newage Cables, Fast Cables or eqv.</p> <p>b) 3-Core 2.5mm² PVC/PVC Copper Conductor Cable between pole base Connection box to light fixture."</p> <p>In main description, the specifications are given of Main Lighting Cable, whereas, under listed item is for internal wiring of Light Pole between the connection / Junction Box and the Light Fixture.</p> <p>It is Bidder's understanding that the mentioned description of Cable for internal wiring of Light Pole shall be followed only, for pricing. Please confirm.</p>	
35.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 27 SCADA System Item No. 13 Ref. Nos. Ch / Item: B	<p>Quantity of BOQ Item: "24-Port ODF with coupler, pigtailed and Patch cords, complete accessories. Housing Material: Steel" is mentioned as "17", whereas, according to the CCTV Layout plan i.e., Drawing no. CEC-WTP-MIN-7660 (Rev-TA), of the Tender Drawings, the required quantity of the aforementioned item is "01".</p> <p>Please confirm requirement.</p>	Please follow the revised BOQ.
36.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 06: Primary	03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are	Follow quantity instead of description for pricing.

Sr. #	Reference	Bidders Queries / Observations	Response
	<p>Sludge Pumping Station (02) Item No. A.16 Ref. Nos. Ch/Item: 15-162-j</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 07: Clarifier Pumping Station (04) Item No. A.16 Ref. Nos. Ch/Item: 15-162-j</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 08: Rapid Gravity Filters Item No. 14 Ref. Nos. Ch/Item: 15-162-j</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 28: Belt Filter Press Sludge Pumping Station Item No. A.16 Ref. Nos. Ch/Item: 15-162-j</p>	<p>mentioned in the item description, whereas 'Qty' is mentioned as '02'. Please clarify.</p>	
37.	<p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11: Admin Building Item No. A.16 Ref. Nos. Ch/Item: 15-162-j</p>	<p>03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are mentioned in the item description, whereas 'Qty' is mentioned as '02'.</p> <p>It is Bidder's understanding that only 2no. Distribution Boards are to be provided for Admin Building. Please confirm.</p>	<p>Follow quantity instead of description for pricing.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
38.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11: Admin Building Item No. A.16 Ref. Nos. Ch/Item: 15-162-j	The DBs labeling / tags in the BOQ description are not according to the SLDs of DBs for Admin Building, as shown in the Tender Drawings i.e., Drawing no. CEC-WTP-MIN-7626 or CEC-WTP-MIN-7636. Please clarify.	Already explained above, Follow drawing No. 7626 for reference.
39.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 12: Chemical Building Item No. A.14 Ref. Nos. Ch/Item: 15-162-j	03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are mentioned in the item description, whereas 'Qty' is mentioned as '01'. It is Bidder's understanding that only 1no. Distribution Board is to be provided for Chemical Building. Please confirm.	Follow quantity instead of description for pricing.
40.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 14: Sub-Station Building Item No. A.14 Ref. Nos. Ch/Item: 15-162-j	03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are mentioned in the item description, whereas 'Qty' is mentioned as '01'. It is Bidder's understanding that only 1no. Distribution Board is to be provided for Sub-Station Building. Please confirm.	Follow quantity instead of description for pricing.
41.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 14: Sub-Station Building Item No. A.14 Ref. Nos. Ch/Item: 15-162-j	The DBs labeling / tags in the BOQ description are not according to the SLD of DB for Sub-Station Building, as shown in the Tender Drawings i.e., Drawing no. CEC-WTP-MIN-7627. Please clarify.	Already explained above, Follow drawing No. 7626 for reference.
42.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 16: Generator Room	03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are mentioned in the item description, whereas 'Qty' is mentioned as '01'.	Follow quantity instead of description for pricing.

Sr. #	Reference	Bidders Queries / Observations	Response
	Item No. A.14 Ref. Nos. Ch/Item: 15-162-j	<p>It is Bidder's understanding that only 1no. Distribution Board is to be provided for Generator Room. Please confirm.</p> <p>The DBs labeling / tags in the BOQ description are not according to the SLD of DB for Generator Room, as shown in the Tender Drawings i.e., Drawing no. CEC-WTP-MIN-7627. Please clarify.</p>	
43.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 17: Guard Room Item No. A.16 Ref. Nos. Ch/Item: 15-162-j	<p>03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are mentioned in the item description, whereas 'Qty' is mentioned as '01'.</p> <p>It is Bidder's understanding that only 1no. Distribution Board is to be provided for Guard Room. Please confirm.</p>	Follow quantity instead of description for pricing.
44.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 17: Guard Room Item No. A.16 Ref. Nos. Ch/Item: 15-162-j	The DBs labeling / tags in the BOQ description are not according to the SLD of DB for Guard Room, as shown in the Tender Drawings i.e., Drawing no. CEC-WTP-MIN-7643. Please clarify.	Already explained above, follow drawing No. 7626 for reference.
45.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 13: Chlorination Building Item No. A.14 Ref. Nos. Ch/Item: 15-162-j KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 15: Electrical Control Room	<p>03no. Distribution Boards (DBs) i.e., LPDB-B10-G1, LPDB-B10-F1, LPD5-510-S1, are mentioned in the item description, whereas 'Qty' is mentioned as '01'.</p> <p>It is Bidder's understanding that only 1no. Distribution Board is to be provided for each of the mentioned Buildings. Please confirm.</p>	Follow quantity instead of description for pricing.

Sr. #	Reference	Bidders Queries / Observations	Response
	<p>Item No. A.14 Ref. Nos. Ch/Item: 15-162-j</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 18: Workshop Item No. A.14 Ref. Nos. Ch/Item: 15-162-j</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 19: Operator Room Item No. A.16 Ref. Nos. Ch/Item: 15-162-j</p>		
46.	<p>KPCIP-CW-4 LOT-1: WTP Mingora VOLUME 2 - TENDER DRAWINGS BILL NO. 11 Admin Building Item No. A. 21</p>	<p>Layout / Networking Topology Drawings for Computer System are missing in the Tender Drawings. Please provide drawings for the Computer System in Admin Building.</p>	<p>Will be provided at construction stage.</p>
47.	<p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 22: External Electrification Item No. 18.</p>	<p>PROVISION OF WAPDA CONNECTION. Please identify location of existing 132/11.5KV Grid Station for provision of newly proposed 11KV Connection / Feeder for the Mingora WTP.</p>	<p>It is already explained that the contractor will identify the source where to get 11KV feeder for Mingora WTP.</p>
48.	<p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 22: External Electrification Item No. 19</p>	<p>ENHANCEMENT OF 132/11.5 KV GIS GRID STATION</p> <ul style="list-style-type: none"> Please provide the layout drawings of 132/11.5KV Grid Station showing locations of existing and newly proposed equipment. 	<p>It is only a provisional item and can be applicable if there will be no availability of feeder in the existing grid</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		<ul style="list-style-type: none"> • Please provide Single Line Diagrams of 132/11.5 KV GIS Grid Station, detailing existing and newly proposed equipment. • It is Bidder's understanding that Scope of work pertaining to the enhancement of 132/11.5KV Grid Station does not include any addition / modification to the existing 132 KV GIS equipment assembly. Please confirm. • It is Bidder's understanding that Scope of Work pertaining to the Earthing shall be limited to the provision of additional Earthing Risers for the Contractor's installed equipment only, whereas, earthing of equipment shall be done through the existing Earthing Grid. Please confirm. • It is Bidder's understanding that adequately sized UPS shall be provided as per the functional requirement of the Contractor's installed Equipment only. Please confirm. 	
49.	KPCIP-CW-4 LOT-1: WTP Mingora Technical Specification - Clause 37, Section 1202: Electrical System.	General Testing, Inspection and Pre-commissioning Requirements. It is bidder's understanding that provision of only the valid test certificates conforming to applicable EN / BS / IEC standards shall be sufficient in lieu of the witness test requirements for the OEM's equipment supplied under the Contract. Please confirm.	As per clause 37 of Technical Specification, the contractor is responsible for testing of equipment at site, or he shall make arrangements for these tests elsewhere. The contractor is responsible to follow the specifications' requirements.
50.	KPCIP-CW-4 LOT-1: WTP Mingora Technical Specification -	Requirement for provision of Non-maintained Emergency Lighting is mentioned for different areas of the WTP,	Non-maintained Emergency Lights are not part of BOQ.

Sr. #	Reference	Bidders Queries / Observations	Response
	Clause 9.62, Section 1202: Electrical System.	however, these are not listed in the relevant BOQs for Electrical Works. It is Bidder's understanding that provision of Non-maintained Emergency Lighting for different areas of the WTP is not included in the Contractor's scope of work. Please confirm.	
51.	<p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 8: Rapid Gravity Filter Item No. 15 REF. Nos CH / Item: 14-145-a.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11: Admin Building Item No. A.17 REF. Nos CH / Item: 14-145-a.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 12: Chemical Building Item No. A.15 REF. Nos CH / Item: 14-145-a.</p> <p>KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 13: Chlorination Building Item No. A.15 REF. Nos CH / Item: 14-145-a.</p>	<p>BOQ description of Fire Extinguisher is given as:</p> <p>"Providing and fixing Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. 6kg".</p> <p>Type of Fire Extinguisher is not mentioned. Please clarify.</p>	Dry Powder fire extinguisher will be used.

Sr. #	Reference	Bidders Queries / Observations	Response
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 14: Sub-Station Building Item No. A.15 REF. Nos CH / Item: 14-145-a.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 15: Electrical Control Room Item No. A.15 REF. Nos CH / Item: 14-145-a.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 15: Generator Room Item No. A.15 REF. Nos CH / Item: 14-145-a.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 18: Workshop Item No. A.15 REF. Nos CH / Item: 14-145-a.		
52.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 8: Rapid Gravity Filter Item No. 14 REF. Nos CH / Item: 15-135-e.	Item Description of Cable Tray is given as: "Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft long with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or	The size of Cable Tray will be 12"x 3" (WxH).

Sr. #	Reference	Bidders Queries / Observations	Response
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 11: Admin Building Item No. A.16 REF. Nos CH / Item: 15-135-e.	as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects." Width of the Cable Tray is not mentioned in the Item Description. Please clarify.	
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 12: Chemical Building Item No. A.14 REF. Nos CH / Item: 15-135-e.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 13: Chlorination Building Item No. A.14 REF. Nos CH / Item: 15-135-e.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 14: Sub-Station Building Item No. A.14 REF. Nos CH / Item: 15-135-e.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 15: Electrical Control Room Item No. A.14 REF. Nos CH / Item: 15-135-e.		

Sr. #	Reference	Bidders Queries / Observations	Response
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 16: Generator Room Item No. A.14 REF. Nos CH / Item: 15-135-e.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 18: Workshop Item No. A.14 REF. Nos CH / Item: 15-135-e.		
	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 22: External Electrification Item No. 6 REF. Nos CH / Item: 15-135-b.		
53.	Section 4- Bidding form Bill of Quantities / Preamble Serial No. 05	<p>The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Works.</p> <p>As the process and detail design is the responsibility of the Employer/Consultant. This is unit rate contract, and our price is based upon given BOQ and relevant specifications. Any change in BOQs/Quantities will be paid by the Employer accordingly. Furthermore, if</p>	<p>The issued bidding documents are crystal clear, follow the issued bidding documents.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		there will be any contradiction/discrepancies/missing items/ mismatch/ambiguity among Drawings, Specs and BOQs, the later i.e., BOQ shall prevail. Please confirm.	
54.	BILL NO. 22: SCADA SYSTEM Instruments and Control Equipment	<p>There is duplication of instruments in Mechanical BOQs and SCADA BOQ Bill No. 23. Instruments are given in Mechanical BOQs as per detail drawings whereas instruments given in SCADA BOQ are as per provided P&ID. There is duplication of instruments like pH sensor, level sensor and TSS etc.</p> <p>We understand that instruments provided in Mechanical BOQs are sufficient for process control of WTP and instruments given in the SCADA BOQ are Redundant and will be deleted. Please confirm.</p>	Agreed. The instruments which are provided in mechanical BOQ like pH meter, sensor meter and level sensor etc. will be taken. However, if some instrument is missing in mechanical BOQ that shall be taken from Scada System. The overall objective is that the plant should have a proper Scada system for operation.
55.	BILL NO. 27: SCADA SYSTEM Instruments and Control Equipment	<p>Instruments and valves list are given in SCADA BOQ as given below. No specs details are given:</p> <p>Programmable Logic Controller (PLC) No. 4 Data Switching element (Router/Hub/Switch) No. 4 Fiber Optical Cable Termination Cabinet No. 2 Level Indicator Transmitter No. 36 Ultrasonic Sludge Level Indicator No. 6 PH Analyzer Meter No. 10 Temperature Indicator Transmitter with Thermowell No. 1 Flow Indicator Transmitter with Totalizer No. 12</p>	Instruments and valves specs are given in specifications.

Sr. #	Reference	Bidders Queries / Observations	Response
		<p>Flow Transmitter with Totalizer No. 8 Turbidity Sensor with Transmitter No. 11 Flow Indicator No. 4 Streaming Current Detector with Transmitter No. 4 Pressure Indicator Transmitter No. 16 Level Indicator No. 8 Level Switch No. 8 Pressure Indicator No. 30 Motor Control Unit No. 40 Residual Chlorine Sensor with Transmitter No. 2 Motor operated Valve No. 30 Flow Control Valve No. 1</p> <p>Please provide the specs of all items of instruments and valves given in SCADA BOQ if these instruments are not redundant and deleted.</p>	
56.	<p>BILL NO. 5: PRIMARY SLUDGE PUMPING STATION Mechanical Works Item. No. 01 - Primary Sludge Pumps</p>	<p>Specs of Sludge pumps provided in BOQ are as follows; - Primary Sludge (Max Concentration: 5 %) Pumps: Capacity: 70 m³/h, Head: 10 m – EACH.</p> <p>Sludge Pumps (horizontal-shaft, end-suction, non-clogging / solids-handling, centrifugal type, Min Free Passage Size: 100 mm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%)</p> <p>- Sludge (Max Concentration: 5 %) Pumps: Capacity: 70 m³/h, Head: 10 m – EACH.</p>	Please follow the given specification.

Sr. #	Reference	Bidders Queries / Observations	Response
		<p>Sludge Pumps (horizontal-shaft, end-suction, non-clogging / solids-handling, centrifugal type, Min Free Passage Size: 100 mm), of internationally reputed approved make, complete with pump, 3phase induction motor (4-pole, Min Efficiency 90%),</p> <p>As per the recommendation of well renowned vendors such as KSB, non-clogging type pumps with this capacity are available with free passage size 50 mm or less only.</p> <p>Please review the requirements.</p>	
57.	<p>BILL NO. 23: BELT FILTER SLUDGE PUMPING STATION</p> <p>Mechanical Works</p> <p>Item. No. 01 - Sludge Pumps</p>	<p>Specs of Sludge Feed pump is given as in BOQ;</p> <p>Sludge Feeding Pump (Max Concentration: 5 %) Capacity: 15m³/h, Head: 20 m – Each.</p> <p>Sludge feeding Pumps (horizontal-shaft, end-suction, non-clogging / solids-handling, centrifugal type, Min Free Passage Size: 100 mm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%</p> <p>As per our past experience it is recommended to use progressive cavity type of pumps for the sludge pumping to BFP instead of horizontal centrifugal. Please confirm.</p>	Please follow the given specification.
58.	<p>LOT-4 Technical Specification</p> <p>SECTION 1004 - SLUDGE</p>	<p>No origin is mentioned for mechanical items in technical specs, Sludge Pumps</p>	Please follow the given specification.

Sr. #	Reference	Bidders Queries / Observations	Response
	<p>PUMPS Pg.1004-1 SECTION 1003 - DOSING PUMPS Pg.1003-1 Section 1002- Mixers SECTION 1005 - SCRAPER PRIMARY SETTLING TANK AND CLARIFIER</p>	<p>Sludge pumps shall be horizontal-shaft, end-suction, non-clogging/solids-handling, centrifugal type, Min Free Passage Size: 100 mm of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%)</p> <p>Dosing Pumps The dosing pumps shall be mechanical-diaphragm of internationally reputed approved make, complete with pump, 3-phase induction motor (4- pole, Min Efficiency 90%</p> <p>Sludge Scrapers Sludge Scrapers shall be End-Driven, Rotating Half-Bridge type of internationally reputed approved make. It is suggested to allow Pakistani renowned manufacturers for locally available equipment like Penstock Manual Gates, Pumps, Scrappers, Valves etc. In specifications internationally reputed approved make is mentioned for mechanical equipment like mixer, pump, scrapers, blower etc. You are requested to provide us the list of approved origin of country for each equipment in order to avoid any inconvenience at later stage and provide a level playing field for each bidder.</p>	
59.	BILL NO. 2: PLAIN SEDIMENTATION TANK (2 No's)	The dia. of plain sedimentation tank is given as in different docs and drawings.	Please follow the given BOQ. However, construction drawings shall be issued after bid acceptance.

Sr. #	Reference	Bidders Queries / Observations	Response
	Item No. 03 - Sludge Scrapers	<p>In specs: Primary Sedimentation Tanks (2 Nos) – Tank dia. 21.4 m side depth 4.6 m each.</p> <p>In DWG: Primary Sedimentation Tanks (2 Nos) – Tank dia. 21.4 m side depth 4.6 m each.</p> <p>In BOQ; In Primary Sedimentation Tanks (Internal Diameter: 20 m, Side Depth: 4.665 m)</p> <p>Please confirm the diameter of PST.</p>	
60.	BILL NO. 4: Clarifier Item No. 04 - Sludge Scrapers	<p>The dia of Clarifier is given as in different docs and drawings;</p> <p>In specs: Clarifier (4 Nos) – Tank dia. 33.75m side depth 4.6 m each.</p> <p>In DWG: Clarifier (4 Nos) – Tank dia. 33.75 m side depth 4.6 m each.</p> <p>In BOQ; In Clarifier (Internal Diameter: 32.3 m, Side Depth: 4.6 m)</p> <p>Please confirm the diameter of clarifier.</p>	Please follow the given BOQ. However, construction drawings shall be issued after bid acceptance
61.	BILL NO. 9: SLUDGE HOLDING TANK Item No. 05 - Sludge Scrapers	<p>The dia. of SHT is given as in different docs and drawings;</p> <p>In specs: SHT (1 Nos) – Tank dia. 18 m side depth 5.5 m each.</p> <p>In DWG: SHT (1 Nos) – Tank dia. 26 m side depth 5.6 m each.</p> <p>In BOQ; In SHT (Internal Diameter 21 m, Side Depth: 4.6m)</p> <p>Please confirm the diameter of SHT.</p>	Please follow the given BOQ. However, construction drawings shall be issued after bid acceptance
62.	WTP-Mingora Layout Plan DWG.No.CEC-WTP-MIN-7503	<p>No detail is given in BOQ / Specs / drawings for backwash water of Rapid Sand filters.</p> <p>Please Provide</p>	Drawings are self-explanatory; however, further details will be provided in the construction drawings
63.	Particular Specifications Section-1008 Air Blower	At Page-1008-1	BOQ provision shall be followed.

Sr. #	Reference	Bidders Queries / Observations	Response
	<p>Part -1 General 1.1 Description and PART 2 - PRODUCTS 2.1 AIR BLOWERS / 2.1.2 Positive Displacement Rotary Type Blowers</p>	<p>a) Four (4) blowers with Air Flow Rate: 2,700 Nm³/h, Differential Pressure: 1 bar shall be installed in filter building to supply air for filter backwashing. Air Blowers shall be Screw Type internationally reputed approved make, complete with 3-phase motor At Page-1008-4</p> <p>b) Blowers shall be air-cooled and of the double rotor positive displacement rotary type with cast iron casings delivering oil-free air.</p> <p>In Technical Specifications both types of air blowers (screw and double rotor positive displacement rotary) are mentioned whereas in BOQ screw type air blower is written. Furthermore, mostly in Water Treatment Plants, 3 lobe type air blowers are commonly used. Please review and confirm.</p>	
64.	<p>WTP-Mingora Sludge Holding tank DWG.No.CEC-WTP-MIN-7523-25</p>	<p>In BOQ, Mechanical Sludge Scraper (End-Driven, Rotating Half-Bridge type, Peripheral Speed: 1-2 m/min) is given for SHT.</p> <p>But no central shaft / arrangement/ detail is given in drawing dwg.no. 7523-25 for support of bridge and central bearing like mentioned in PST and clarifier.</p> <p>You are requested to provide the detailed drawing of Sludge holding tank which support the sludge scraper mechanism as given in BOQ of SHT sludge scraper.</p>	<p>Detail nomenclature of sludge scrapper is given in relevant BOQ, Bill No. 9 - Item No. NS-3. However, support of bridge for central bearing shall be provided with some modification in construction drawings.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
65.	BILL NO. 10: CHLORINE CONTACT TANK & TREATED WATER TANK Item No. 4, 5 & 6 REF. Nos. 06-07-a-01, 06-07-b-01 & 06-08-b	<p>In BOQ, the quantity of RCC in item No. 4 & 5 is given as 5,304.50 m³ & 4,632.29 m³. And the corresponding reinforcement in item no. 6 is 19,078.64 ton.</p> <p>Quantity of reinforcement provided in BOQ seems to be very high as compared to quantities of RCC, as according to the mentioned quantities reinforcement required for 1 cubic meter of concrete is 1.92 ton, which is practically very high. Please review BOQ quantities and clarify.</p>	<p>The provisional quantity of steel is 1908 ton, while 9936m³ is the quantity of concrete that is ~ 192 kg per m³ which seems reasonable.</p>
66.	WTP-Mingora Drawing - Belt Filter Press (OS-30) DWG.No.CEC-WTP-MIN-7550	<p>Only drawing of belt filter press (Type OS-30) is given in the tender drawings, other details like; installation of BFP, it's Piping arrangements, sludge cake disposal, connection with polymer dosing system, Civil work required for belt filter press, lifting arrangement and water supply arrangements for belt wash pumps are not provided in any drawing.</p> <p>Please provide all necessary details for installation of belt filter press.</p>	<p>Drawing No. 7550 is for reference purpose only. Other details/requirements will be submitted by the vendor from the manufacturer against project requirement.</p>
67.	WTP-Mingora BILL NO. 29: BELT FILTER PRESS UNIT CIVIL WORKS Item no. 1~11, Mechanical Works Item. No. 04 Belt Washing Pump	<p>1- Civil Works required for Belt filter press are given in BOQ No. 29 but no relevant drawings like any building or RCC slab / base for BFP installation are given.</p> <p>2- Given specs of belt washing pump in BOQ are specific to a particular manufacturer of BFP. While the common practice is that the manufacturer of BFP will provide built in suitable belt washing pump for BFP</p>	<p>Agreed that the offer of reputed manufacturer of belt filter press along with other components can be accepted by the competent authority.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		<p>with required capacity of proposed model.</p> <p>We suggest that any reputed manufacturer can propose their own pump with required capacity (flow and head) according to the proposed model of BFP. Therefore, there is no need to specify pump specs of belt washing pump in BOQ. Please review and confirm.</p>	
68.	<p>WTP-Mingora Particular Specification - Backwash Pump, Sec.2.5 Spare Parts and Tools, Pg.1009-6~7</p>	<p>Following detail is given in Sec.2.5 spare parts and tools.</p> <p><i>“A. Furnish list of recommended / operational spare parts for 5 years of satisfactory operation for the pumps with current price of the manufacturer for selection of the same by the Engineer / Client. However, the price shall not be added to the Tender price.</i></p> <p><i>B. Furnish the following basic mandatory parts with the supply along with the spares recommended by the manufacturer. The cost of these parts shall be included in the Tender price of concerned item.</i></p> <p><i>i) Bearings 4 Sets (Set: complete set for one pump)</i></p> <p><i>ii) Mechanical Seal 4 Sets (set: complete set for one pump)</i></p> <p><i>C. Furnish list and complete set of maintenance tools needed for normal maintenance of the pumps. These tools shall be neatly mounted in heavy duty steel cabinet provided with locks suitable for wall mounting. The price for each set of</i></p>	<p>Consider list of spares as finalized as mentioned in the specifications.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		<p><i>maintenance tools shall be included in the Tender Price of concerned item.”</i></p> <p>As per our experience the required quantity of spares mentioned in specs is quite high as compared to the necessity for each pump. Therefore, we suggest that we shall provide the list of spare parts of proposed model and tool list (if required) as recommended by manufacturer.</p>	
69.	<p>WTP-Mingora Particular Specification - sludge Pump, Sec.2.5 Spare Parts and Tools, Pg.1004-7</p>	<p>Following detail is given in Sec.2.5 spare parts and tools; <i>“A. Furnish list of recommended / operational spare parts for 5 years of satisfactory operation for the pumps with current price of the manufacturer for selection of the same by the Engineer / Client. However, the price shall not be added to the Tender price.</i> <i>B. Furnish the following basic mandatory parts with the supply along with the spares recommended by the manufacturer. The cost of these parts shall be included in the Tender price of concerned item.</i> <i>i) Bearings 10 Sets (Set: complete set for one pump)</i> <i>ii) Mechanical Seal 10 Sets (set: complete set for one pump)</i> <i>C. Furnish list and complete set of maintenance tools needed for normal maintenance of the pumps. These tools shall be neatly mounted in heavy duty steel cabinet provided with locks suitable for wall mounting. The price for each set of</i></p>	<p>Consider list of spares as finalized as mentioned in the specifications.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		<p><i>maintenance tools shall be included in the Tender Price of concerned item.”</i></p> <p>As per our experience the required quantity of spares mentioned in specs is quite high as compared to the necessity for each pump. Therefore, we suggest that we shall provide the list of spare parts of proposed model and tool list (if required) as recommended by manufacturer.</p>	
70.	Specifications	Please provide technical specifications of civil works along with plumbing and internal electrifications.	Civil works are covered under MRS.
71.	CEC-STP-MIN-7560 (General notes)	It is mentioned to provide waterproofing under the foundation of all concrete surfaces exposed on concrete to soil, but no quantities are given in the BOQs. If these works are required, then please provide relevant quantities in the BOQ.	Any important items not listed in BOQ but required at site will be considered as additional item during the construction.
72.	Volume-I (Procurement works), Table of adjustment data, Table-A local currency, section 4-28	Fixed portion is given a weightage of 55% and less weightage range is given for POL and Iron-bar, but in the current situation the market has seen a sharp rise in rates over the past month in both of these items. That is why you are requested to reduce the fixed portion and increase weightage range for POL and Iron-bar.	As responded in serial No. 4.
73.	Bill # 23, Road Works, Civil Works (Internal Road) - Landscaping	An item is given “ Operation & Maintenance of entire WTP & Client Staff Training ”, in our opinion this item is not relevant with the aforementioned bill. Please review and clarify.	Operation & Maintenance of entire WTP & Client Staff Training, is separately included in Bill No. 23-A.

Sr. #	Reference	Bidders Queries / Observations	Response
74.	Right of Way	It is bidder's understanding that any issue pertaining to the "right of way" for execution of the works under LOT-1 shall be resolved by the Client. Please confirm.	Yes, it will be solved by the Client
75.	Section 6: Employer's Requirements, Personnel Requirements	A list of Key personnel is provided. It is bidder's understanding that the list of the required personnel provided in this section requirement/Number of key personnel for each position are extraordinary. Furthermore, required experience of key personnel is also very high as in Pakistan only a few projects of this type are executed in the past years. Therefore, you are requested to review key personnel requirements.	The required personnel positions must have sufficient relevant experience as per the requirement of the bidding documents.
76.	Particular Specifications Mixers, Section 3.1 General and Section 3.3 Manufacturer Services, Pg. 1002-6 &7	CFD modelling results are required for mixers to demonstrate the proper mixing and required velocity gradient. As power ratings of mixers are given in BOQ so we understand that CFD modelling is not required. Please confirm.	Follow the specifications for reference.
77.	Bill. No. 12 Chemical Building, Item No. 03 Stock Solution Transfer Pumps	<p>The type of alum water transfer pump is given as Horizontal shaft end suction non clogging solid handling centrifugal type min free passage 100mm.</p> <p>For alum transfer pump, the pump with 100mm passage is not available. Manufacturer / Suppliers will offer available suitable pump for this application. Please confirm.</p>	Follow the BOQ for reference.
78.	Particular Specifications Scrapers PST & Clarifier,	It is written as "Scarper Torque shall be monitored and shall be connected with SCADA".	Please follow the BOQ and specifications and the recommendations from the manufacturer

Sr. #	Reference	Bidders Queries / Observations	Response
	Section 1.17 Controls (b), Pg. 1005-6	No such instrument is given in BOQ to monitor the torque of sludge scraper and shall be connected to SCADA. It is bidder's understanding that there is no need for torque monitoring through SCADA. Safety will be built in electrical panel if torque of motor of sludge scraper is increased due to any hurdle. Please confirm.	subject to the approval of the competent authority.
79.	Particular Specifications Air Blowers, Section 1.1 Description, Section 2.1.1 General, Pg. 1008-1,4	The acoustic enclosure shall limit the noise level to not more than 75 Db-A. Mostly manufacturer recommend and offer the acoustic enclosure shall limit the noise level to not more than 85 Db-A. Please confirm.	Please follow the specification limits.
80.	Particular Specifications Motorized Penstocks, Section 2.9 Spare Parts and Tools, Pg. 1011-7	Description of spare parts and tools given in this section is similar to pumps specs. Kindly change the description of spare parts as per requirement of penstock gates.	It is typing mistake and it is understood that this spare parts description is for penstocks.
81.	BILL NO. 23A: Operation & maintenance of entire WTP & Client staff training & Particular Specifications Water Treatment Plant Mingora	The referenced bill states that "Operation and maintenance of entire WTP including provision of staff as specified for operation and maintenance of plant training of the client's staff about the operation of the plant." The unit of this item is "month" and quantity are "3.00". It is bidder's understanding that the Contractor will only provide the Manpower for O&M of WTP Mingora for 3 months. Any Chemicals, Electricity charges, consumables, Sludge disposal etc. required	It is understood that the Client will provide and pay only for electricity and any other costs (chemicals, technical staff, manpower, equipment etc.) will be borne by the contractor.

Sr. #	Reference	Bidders Queries / Observations	Response
		during O&M period of 3 months will be the responsibility of the Employer. Please confirm.	
82.	Refer Following Bills of Quantity: Bill No. 1 Distribution Chamber No. 1 Bill No. 2: Plain Sedimentation Tank (2 No's) Bill No. 3: Distribution Chamber No. 2 Bill No. 4: Flash Mixer & Flocculation Chamber Bill No. 5: Clarifier Tank (04 No's) Bill No. 6: Primary Sludge Pumping Station (02) Bill No. 7: Clarifier Pumping Station (04) Bill No. 8: Rapid Gravity Filter Bill No. 9: Sludge Thickener Bill No. 10: Chlorine Contact Tank & Treated Water Tank Bill No. 11: Admin Building Bill No.12 Chemical Building Bill No.13 Chlorine Building Bill No.14 Sub Station Building	Unit of measurement for RCC in some items is mentioned as "m3" and in some items as "per CFT". And unit of rebar in some items is mentioned as "tonne" and in some items as "100kg". The steel to concrete ratio of the referenced items seems to be high and unusual. Therefore, you are requested to either review the quantities of concrete and steel or change the unit of measurement.	Please follow the BOQ provisions.

Sr. #	Reference	Bidders Queries / Observations	Response
	Bill No.15 Electrical Control Room		
	Bill No.16 Generator Room		
	Bill No.17 Guard Room		
	Bill No.18 Workshop		
	Bill No.19 Operator Room		
	Bill No.20 Main Gate & Boundary Wall		
	Bill No.21 External Piping		
	Bill No.22 External Electrification		
	Bill No.23 Road Works		
	BILL NO.23A Operation & Maintenance of Entire WTP & Client Staff Training		
	Bill No.24 Storm Water Drainage System		
	Bill No.25 External Sewerage System		
	Bill No.26 Flood Protection (Embankment)		
	Bill No.27 Scada System		
	Bill No.28 Belt Filter Press Sludge Pumping Station		
	Bill No.29 Belt Filter Press Unit		
	BILL NO.30 Health & Safety(H&S), Environmental Management Plan (EMP) And Traffic Management Plan (TMP) Cost - (Provisional Sums)		

Sr. #	Reference	Bidders Queries / Observations	Response
83.	KPCIP-CW-4 LOT-1: WTP Mingora Particular Specification - Clause 9.5.5, Section 1202: Electrical System.	<p>It is mentioned that <i>"Insulation material shall be at least of Class F according to IEC standards."</i></p> <p>The Insulation being offered by all renowned manufacturers i.e., PEL, Transpower & Elmetech etc., is of "Class-A", in accordance with IEC-60076 standard for Oil-Type Transformers. Therefore, it is Bidder's understanding that "Class-A" insulation material shall be acceptable to the Client. Please confirm.</p>	<p>Please follow specifications. However, any ambiguity during construction will be taken up by the Engineer in charge.</p>
84.	KPCIP-CW-4LOT-1: WTP Mingora Particular Specification - Clause 9.5.10, Section 1202: Electrical System.	<p>It is inter-alia stated that <i>"An enclosure shall be provided to house each transformer."</i></p> <p>As the Transformer is to be housed in the Sub-station building with reference to the Tender Drawing no. CEC-WS-MIN-7534, furthermore, separate protection panels are proposed for MV/LV side of the Transformer with reference to the Tender Drawing no. CEC-WS-MIN-7623, therefore, it is Bidder's understanding that a separate enclosure to house the Transformer is not needed and oil-type transformer of standard design / construction / specifications in accordance with IEC-60076 standard shall be adequate to meet the Client's requirements. Please confirm.</p>	<p>This is lump sum item and the contractor will execute this item through WAPDA.</p>
85.	KPCIP-CW-4 LOT-1: WTP Mingora Particular Specification - Clause 9.5.18, Section 1202: Electrical System.	<p><i>"Testing & Commissioning"</i> Requirements.</p> <p>It is Bidder's understanding that Routine Tests at Manufacturer's premises and at Site, in accordance with IEC-60076, as offered by the renowned Manufacturers</p>	<p>FAT will be sufficient as per WAPDA standard.</p>

Sr. #	Reference	Bidders Queries / Observations	Response
		within Pakistan, shall be sufficient to meet the Client's requirements. Please confirm.	
86.	KPCIP-CW-4 LOT-1: WTP Mingora Particular Specification - Clause 2.3.5, Clause 4.13 and Clause 11.4, Section 1101: Instrumentation Control & SCADA System.	"Particular requirements pertaining to the: 1) Factory Operational Test. 2) Factory Testing. 3) Factory Operational Readiness Test." It is Bidder's understanding that Factory / Operational Testing under simulated conditions at premises of the Control System Supplier (CSS) within Pakistan shall be sufficient to check readiness and to verify functional requirements of the control system. Please confirm.	Same as Observation No. 85.
87.	KPCIP-CW-4 LOT-1: WTP Mingora. VOLUME-2: TENDER DRAWINGS, Drawing No. CEC-WTP-MIN- 7623, CEC-WTP-MIN-7624 & CEC-WTP-MIN-7625.	Single Line Diagram (SLD) of MPB is shown partially in Drawing no. CEC-WTP-MIN- 7623 and the same is being repeated in drawing no. CEC-WTP-MIN-7624 and CEC- WTP-MIN-7625. Please provide complete SLD of the MPB.	Updated Drawings are attached.
88.	KPCIP-CW-4 LOT-1: WTP Mingora BILL NO. 22: External Electrification Item No. 19	ENHANCEMENT OF 132/11.5 KV GIS GRID STATION Please provide the layout drawings of 132/11.5KV Grid Station showing locations of existing and newly proposed equipment. <ul style="list-style-type: none"> • Please provide the layout drawings of 132/11.5KV Grid Station showing locations of existing and newly proposed equipment. • Please provide Single Line Diagrams of 132/11.5 KV GIS Grid Station, detailing existing and newly proposed equipment. 	Enhancement of the grid is an optional provision just in case of unavailability of a Feeder space, and it will be in the scope of the Bidder to Enhance the grid as per WAPDA/PESCO and NEPRA standards.

Sr. #	Reference	Bidders Queries / Observations	Response
		<ul style="list-style-type: none"> • It is Bidder's understanding that Scope of work pertaining to the enhancement of 132/11.5KV Grid Station does not include any addition / modification to the existing 132 KV GIS equipment assembly. Please confirm. • It is Bidder's understanding that Scope of Work pertaining to the Earthing shall be limited to the provision of additional Earthing Risers for the Contractor's installed equipment only, whereas, earthing of equipment shall be done through the existing Earthing Grid. Please confirm. • It is Bidder's understanding that adequately sized UPS shall be provided as per the functional requirement of the Contractor's installed Equipment only. Please confirm. 	
89.	Section-2: (Data Sheet) Section-4: Bidding Form	Kindly also make applicable the Bid Security Declaration	In the issued addendum, the requirement of furnishing a bid security has been forgone. Instead, the bidders are now required to submit a bid securing declaration.

ADDENDUM NO. 1

OCB-KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA [02-LOTS]:

➤ **LOT-1: WATER TREATMENT PLANT**

ADDENDUM NO. 01

Loan No. and Title:	4160-PAK: and 8412-PAK: Khyber Pakhtunkhwa Cities Improvement Project (KPCIP)
Contract No. and Title:	OCB/KPCIP/04: Mingora Greater Water Supply Scheme Including New Water Treatment Plant (WTP), Intake Structure, Transmission, and Distribution Systems and SCADA <i>Lot-01: Water Treatment Plant</i>

With reference to IFB Notice published on 20 March 2023 for the OCB/KPCIP/02 Lot-1, the following amendments have been made in the respective sections of the Bidding Documents under this Addendum No. 1 in accordance with ITB 8.1 of the Bidding Documents. The addendum shall be read and construed as an integral part of the Bidding Documents and shall take precedence over other conflicting items / ambiguities in the Bidding Documents and previously issued addenda.

As such, the changes made are mentioned herein below which are applicable to the subject Contract (OCB/KPCIP/04 Lot-1), unless indicated otherwise.

1. Section-2: Bid Data Sheet:

- **ITB 19.1: Bid Security/Bid-Securing Declaration:**
The provision of bid security is **Not Applicable**.

- **ITB 19.2: Bid Security/Bid-Securing Declaration:**
The ineligibility period is: **Three (03) Years**.
The bid securing declaration is: **Required**.
 - Page No. 2-3 of the Section-2 of the Bidding Documents be replaced with the amended Page No. 2-3 attached at **Annex-I**.

- **ITB 22.1: Bid Submission and ITB 25.1: Technical Bids Opening:**
Deadline for submission of bids followed by opening of technical bids has been extended from **1 May 2023** to **16 May 2023**.
 - Page No. 2-5 of the Section-2 of the Bidding Documents be replaced with the amended Page No. 2-5 attached at **Annex-II**.

2. Section-4: Bidding Forms:

- **Bill of Quantities in Section-4 of the Bidding Documents:**
The Bill of Quantities under Section-4 of the Bidding Documents were erroneously uploaded on our website which did not incorporate the changes made through addendums and clarifications during the first instance of bidding. The old BOQs have been replaced with the final BOQs and already uploaded on KPCIP website. The revised Bill of Quantities have been attached herewith as **Annexure-III**.

ADDENDUM NO. 01

- **Bid Security Form in Section-4 of the Bidding Documents:**

The form is now **not applicable**.

- Page No. 4-7 of the Section-4 of the Bidding Documents be replaced with the amended Page No. 4-7 attached at **Annex-IV**.

- **Bid Securing Declaration Form in Section-4 of the Bidding Documents:**

The form is now **applicable**.

- Page No. 4-8 of the Section-4 of the Bidding Documents be replaced with the amended Page No. 4-8 attached at **Annex-V**.

- **Table of Adjustment Data (Table-A: Local Currency) in Section-4 of the Bidding Documents:**

On the request of the prospective Bidders and in line with Pakistan Engineering Council's guidelines, the Table of Adjustment Data (Table-A: Local Currency) in Section-4 of the Bidding Documents has been revised to include additional items/materials and to reflect the realistic indices thereof. The revised Table of Adjustment Data (Table-A: Local Currency) is attached herewith.

- Page No. 4-27 of the Section-4 of the Bidding Documents be replaced with the amended Page No. 4-27 attached at **Annex-VI**.

- **Drawings:**

The Drawings under Section-4 of the Bidding Documents have been revised wherein the Works have been improved, minor corrections and addition of the Drawings have been made and some have been rectified related to scope of work. The Drawings wherein the modifications are made have been attached herewith as **Annex-VII**.

3. This Addendum shall now serve as mandatory part of the bidding document for the relevant sections and shall be referred to while preparing the bid.

4. All other terms and conditions shall remain same.



Project Director

PMU KPCIP, LGE&RDD Govt. of KP
Ground Floor, Afzal Apartments, Jamrud Road
Phase-3 Peshawar Pakistan
Tel. 92 91 5854555 Fax: +92 91 5854555
E-mail: pdkpcip@gmail.com
Website: <https://kpcip.gov.pk>

ANNEXURE-I

ITB 11.2 (g)	<p>vii. Construction Schedule (on Primavera / MS project or equivalent) by allocating the equipment and other resources; critical activities must be identified.</p> <p>viii. Bidders are encouraged to submit colored photographs of project area describing Work Site.</p>
ITB 11.3 (d)	<p>The Bidder shall submit with its Price Bid the following additional documents:</p> <ul style="list-style-type: none"> • Not Applicable
ITB 12.1	<p>The units and rates in figures entered into the Bill of Quantities should be unambiguous and typewritten, if written by hand, must be in print form. Bill of Quantities not presented accordingly may be considered nonresponsive</p>
ITB 13.1	<p>Alternative Bids shall not be permitted.</p>
ITB 13.2	<p>Alternative times for completion shall not be permitted.</p>
ITB 13.4	<p>Alternative technical solutions shall be permitted for the following parts of the Works: Not Applicable</p>
ITB 14.5	<p>The prices quoted by the Bidder shall be Adjustable.</p>
ITB 15.1	<p>The unit rates and the prices shall be quoted by the Bidder entirely in: “Pakistan Rupees”.</p>
ITB 15.4	<p>The rates of exchange shall be the selling rates 28 days prior to the deadline for submission of bids published by State Bank of Pakistan.</p>
ITB 16.1	<p>The technical Proposal shall also include a Health and Safety COVID-19 Management Plan, in accordance with Standard Operating Procedures (SOPs) issued by the Government of Pakistan from time to time on COVID-19 prevention and controls, and with international good practice guidelines [<i>World Health Organization, Considerations for public health and social measures in the workplace in the context of COVID-19. Geneva. Available here: https://www.who.int/publications-detail/considerations-for-public-health-and-social-measures-in-the-workplace-in-the-context-of-covid-19.</i>] Absence of or incomplete submission may result in rejection of the bid.</p>
ITB 18.1	<p>The bid validity period shall be Two Hundred and Seventy (270) days.</p>
ITB 19.1	<p>The Bidder shall furnish a Bid-Securing Declaration</p>
ITB 19.2	<p>The ineligibility period will be three (3) years.</p>
ITB 19.3	<p>Bid security in the form of SWIFT message is not acceptable.</p>
ITB 19.4	<p>Subject to the succeeding sentences, any bid not accompanied by an irrevocable and callable bid security shall be rejected by the Employer as nonresponsive. If a Bidder submits a bid security that (i) deviates in form, amount, and/or period of validity, or (ii) does not provide sufficient identification of the Bidder (including, without limitation, failure to indicate the name of the Joint Venture or, where the.</p>

ANNEXURE-II

ITB 21.1 (b)	electronic bidding submission procedures shall be: Not Applicable																
ITB 22.1	<p>For bid submission purposes only, the Employer's address is:</p> <table border="1"> <tr> <td>Attention:</td> <td>Project Director Project Management Unit (PMU) Khyber Pakhtunkhwa Cities Improvement Project Local Government, Elections and Rural Development Department</td> </tr> <tr> <td>Street address:</td> <td>First Floor, Afzal Apartments, Jamrud Road, Phase-3 Chowk, Hayatabad Peshawar, Pakistan</td> </tr> <tr> <td>Floor / Room number:</td> <td>Committee Room, First Floor, Office of the Project Director, PMU, KPCIP, LGE&RDD</td> </tr> <tr> <td>City:</td> <td>Peshawar</td> </tr> <tr> <td>ZIP code:</td> <td>25000</td> </tr> <tr> <td>Country:</td> <td>Islamic Republic of Pakistan</td> </tr> </table> <p>The deadline for bid submission is:</p> <table border="1"> <tr> <td>Date:</td> <td>16 May 2023</td> </tr> <tr> <td>Time:</td> <td>1400 Hours</td> </tr> </table>	Attention:	Project Director Project Management Unit (PMU) Khyber Pakhtunkhwa Cities Improvement Project Local Government, Elections and Rural Development Department	Street address:	First Floor, Afzal Apartments, Jamrud Road, Phase-3 Chowk, Hayatabad Peshawar, Pakistan	Floor / Room number:	Committee Room, First Floor, Office of the Project Director, PMU, KPCIP, LGE&RDD	City:	Peshawar	ZIP code:	25000	Country:	Islamic Republic of Pakistan	Date:	16 May 2023	Time:	1400 Hours
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Date:	16 May 2023																
Time:	1400 Hours																
ITB 25.1	<p>The opening of the Technical Bid shall take place at:</p> <table border="1"> <tr> <td>Place:</td> <td>Office of the Project Director</td> </tr> <tr> <td>Street address:</td> <td>First Floor, Afzal Apartments, Jamrud Road, Phase-3 Chowk, Hayatabad Peshawar, Pakistan</td> </tr> <tr> <td>Floor / Room number:</td> <td>Committee Room, First Floor, Office of the Project Director, PMU, KPCIP, LGE&RDD</td> </tr> <tr> <td>City:</td> <td>Peshawar</td> </tr> <tr> <td>ZIP code:</td> <td>25000</td> </tr> <tr> <td>Country:</td> <td>Islamic Republic of Pakistan</td> </tr> <tr> <td>Date:</td> <td>16 May 2023</td> </tr> <tr> <td>Time:</td> <td>Immediately after deadline for bid submission</td> </tr> </table>	Place:	Office of the Project Director	Street address:	First Floor, Afzal Apartments, Jamrud Road, Phase-3 Chowk, Hayatabad Peshawar, Pakistan	Floor / Room number:	Committee Room, First Floor, Office of the Project Director, PMU, KPCIP, LGE&RDD	City:	Peshawar	ZIP code:	25000	Country:	Islamic Republic of Pakistan	Date:	16 May 2023	Time:	Immediately after deadline for bid submission
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Date:	16 May 2023																
Time:	Immediately after deadline for bid submission																
ITB 25.1	Electronic bid opening procedure shall be as follows: Not Applicable																
ITB 25.5	The Letter of Technical Bid shall be initialed by at least three (03) representatives of the Employer attending Bid opening.																
ITB 25.10	The Letter of Price Bid and Bill of Quantities shall be initialed by at least three (03) representatives of the Employer attending Bid opening																

E. Evaluation and Comparison of Bids

ITB 32.2	Qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialist Subcontractors permitted in ITB 33.2 and Para 2.4.2 Section 3 of the Bidding document) shall not be permitted.
ITB 33.1	The Employer does not intend for the contractor to execute any specific elements of the Works through nominated subcontractors.
ITB 35.1	The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: Pak Rupees (PKR)
ITB 36.1	Domestic preference shall not apply.

ANNEXURE-III

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILLS

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	Distribution Chamber No. 1	
2	Plain Sedimentation Tank	
3	Distribution Chamber No. 2	
4	Flash Mixer and Flocculation Chamber	
5	Clarifier	
6	Primary Sludge Pumping Station	
7	Clarifier Sludge Pumping Station	
8	Rapid Sand Filter	
9	Sludge Thickener	
10	Chlorine Contact Tank and TWT	
11	Admin Building	

GOVERNMENT OF KHYBER PAKHTUNKHWA

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LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILLS

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
12	Chemical Building	
13	Chlorine Building	
14	Sub Station Building	
15	Electrical Control Room	
16	Generator Room	
17	Guard Room	
18	Workshop	
19	Operator Room	
20	Main Gate & Boundry Wall	
21	External Piping	
22	External Electrification	

GOVERNMENT OF KHYBER PAKHTUNKHWA

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LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILLS

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
23	Road Works	
23A	Operation & Maintenance of entire WTP & Client Staff Training	
24	Storm Water Drainage System	
25	External Sewerage System	
26	Flood Protection (Embankment)	
27	SCADA System	
28	Belt Filter Press Sludge Pumping Station	
29	Belt Filter Press Unit	
30	Health & Safety (H&S), Environmental Management Plan (EMP) and Traffic Management Plan (TMP) Cost - (Provisional Sums)	6,410,500
TOTAL AMOUNT (PKR)		

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 1: DISTRIBUTION CHAMBER NO. 1

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	
2	MECHANICAL WORKS	
TOTAL AMOUNT RS		-
		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 1 DISTRIBUTION CHAMBER NO. 1

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	43.47			
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	25.00			
3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	1.54			
4	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	27.00			
5	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	Per Cft	7.15			
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	56.56			
7	06-25-j	Providing and fixing ribbed polyvinyl chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	12.88			
8	25-10&11	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Steel stair including duly painting red oxide)	Tonne	0.77			
9	25-33-a	Providing and fixing terrace railing 2" i/d conduit pipe 16 SWG, welded with 5/8" x 5/8" square bar 2.75 ft. high fixed at 5" centre to centre, in RCC slab with suitable arrangement, complete in all respects as per design and drawing.	M	18.86			
10	24-34	Supplying and Fixing flat iron (2"x3/8") ladder for OHR, holes @ 15" c/c, steps of MS bars 5/8" i/d & paint complete	M	4.14			

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 1 DISTRIBUTION CHAMBER NO. 1

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
11	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	25.00			
12	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	25.00			
13	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	25.00			
14	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	25.00			
15	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m2	12.40			
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 1 DISTRIBUTION CHAMBER NO. 1

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Manual Penstock gate					
		Providing, installing and testing cast iron (CI) Penstocks (Manually Operated) in concrete structures, complete with sliding cover/gate & wedges, cover/gate guide & seating mechanism, stem, stem couplings, stem guides, top mounting brackets, thimbles and manual gate lifting assembly, including all jointing, fixing, sealing & installation accessories, initial lubricant charge, all painting & coatings, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:					
		Penstock Gate Size with clear opening (1050mm x 1050mm)	Each	2.00			-
2	NS-2	Temperature sensor					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 1 DISTRIBUTION CHAMBER NO. 1

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing, testing and commissioning water temperature sensor (Max water Temperature: 40°C) in Distribution chamber, of internationally reputed approved make, complete with on-site LCD display unit(with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door),electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	1.00			-
3	NS-3	pH Meter					
		Providing, installing, testing and commissioning water pH Meter (Range: 0 – 14.00 pH, Max water Temperature: 40°C) in Distribution Chamber, of internationally reputed approved make, complete with pH probe/sensor, relays,on-site LCD display unit(with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door),electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 1 DISTRIBUTION CHAMBER NO. 1

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
4	NS-4	TSS Sensor					
		Providing, installing, testing and commissioning TSS sensor (with measuring range of 0.001 - 500g/l, Max water Temperature: 40°C) in Distribution chamber, of internationally reputed approved make, complete with on-site LCD display unit(with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door),electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	1.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 2: PLAIN SEDIMENTATION TANK (2 No's)

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-
		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: PLAIN SEDIMENTATION TANK (2 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	CIVIL WORKS						
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	2,415.05			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	555.46			-
3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	120.16			-
4	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	124.71			-
5	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	432.86			-
6	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	1,776.72			-
7	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	3,589.95			-
8	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors	M	157.88			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: PLAIN SEDIMENTATION TANK (2 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
9	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	555.46			-
10	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	555.46			-
11	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	555.46			-
12	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	555.46			-
13	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	357.67			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: PLAIN SEDIMENTATION TANK (2 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	24-30-b-12	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects except excavation. (250 mm dia) PN-10	m	40.00			-
3	NS-1	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 (800mm)	m	50.00			-
4	NS-2	Providing cutting, fabricating and fixing in position SS scum and weir plates 5mm thick welded with SS angle and embedded into concrete with bolt and nut @ 500mm c/c complete in all respect as per given drawing and specification	m	66.00			-
5	NS-3	Sludge Scrappers					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: PLAIN SEDIMENTATION TANK (2 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing, testing and commissioning Mechanical Sludge Scraper (End-Driven, Rotating Half-Bridge type, Peripheral Speed: 1-2 m/min), of internationally reputed approved make, complete with the main bridge structure with decking (Min Width: 1000 mm) & safety handrails (Min Height: 1100 mm), scraper blades (discontinuous, fish bone type, furnished with sweeping strip of EPDM)& their support structure, central support/bearing unit, current collector unit, end drive unit with motor, motor starter, reduction gearbox& wheels, obstacle detection switch, electric cable & conduit from current collector unit to end drive unit, inlet drum, scum skimmer, scum collection box, scum outflow pipe & valved outlet, with all the submerged/wetted components to be of stainless steel (Grade 316) and other structural components to be of carbon steel (approved epoxy coated), including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In Primary Sedimentation Tanks (Internal Diameter: 21.4 m, Side Depth: 4.665 m)	Each	2.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 3: DISTRIBUTION CHAMBER NO. 2

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-
		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: DISTRIBUTION CHAMBER NO. 2

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	CIVIL WORKS						
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	150.31			-
2	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	2.67			-
3	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	96.00			-
4	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	16.88			-
5	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	162.55			-
6	06-25-j	Providing and fixing ribbed polyvinyl chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	20.00			-
7	25-10&11	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Steel stair including duly painting red oxide)	Tonne	0.77			-
8	25-33-a	Providing and fixing terrace railing 2" i/d conduit pipe 16 SWG, welded with 5/8" x 5/8" square bar 2.75 ft. high fixed at 5" centre to centre, in RCC slab with suitable arrangement, complete in all respects as per design and drawing.	M	26.00			-
9	24-34	Supplying and Fixing flat iron (2"x3/8") ladder for OHR, holes @ 15" c/c, steps of MS bars 5/8" i/d & paint complete	M	3.60			-
10	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	75.16			-
11	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	75.16			-

12	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	75.16			-
13	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	75.16			-
14	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	12.40			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 3: DISTRIBUTION CHAMBER NO. 2							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ECHANICAL WORKS					
1	NS-1	Manual Penstock Gate					
		Providing, installing and testing cast iron (CI) Penstocks (Manually Operated) in concrete structures, complete with sliding cover/gate & wedges, cover/gate guide & seating mechanism, stem, stem couplings, stem guides, top mounting brackets, thimbles and manual gate lifting assembly, including all jointing, fixing, sealing & installation accessories, initial lubricant charge, all painting & coatings, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:					
		Penstock Gate Size with clear opening (1050mm x 1050mm)	Each	4.00			-
2	NS-2	Temperature sensor					
		Providing, installing, testing and commissioning water temperature sensor (Max water Temperature: 40°C) in Distribution chamber, of internationally reputed approved make, complete with on-site LCD display unit (with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door), electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	1.00			-
3	NS-3	pH Meter					
		Providing, installing, testing and commissioning water pH Meter (Range: 0 – 14.00 pH, Max water Temperature: 40°C) in Distribution Chamber, of internationally reputed approved make, complete with pH probe/sensor, relays, on-site LCD display unit (with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door), electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 3: DISTRIBUTION CHAMBER NO. 2							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
4	NS-4	TSS Sensor					
		Providing, installing, testing and commissioning TSS sensor (with measuring range of 0.001 - 500g/l, Max water Temperature: 40°C) in Distribution chamber, of internationally reputed approved make, complete with on-site LCD display unit(with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door),electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	1.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 4: FLASH MIXER & FLOCCULATION CHAMBER

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-
		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: FLASH MIXER & FLOCCULATION CHAMBER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	2,994.46			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	1,497.23			-
2	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	85.56			-
3	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	757.43			-
4	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	320.84			-
5	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	2,070.28			-
6	25-10&11	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Steel stair including duly painting red oxide)	Tonne	24.66			-
7	25-33-a	Providing and fixing terrace railing 2" i/d conduit pipe 16 SWG, welded with 5/8" x 5/8" square bar 2.75 ft. high fixed at 5" centre to centre, in RCC slab with suitable arrangement, complete in all respects as per design and drawing.	M	199.40			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: FLASH MIXER & FLOCCULATION CHAMBER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	321.80			-
9	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	1,497.23			-
10	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	1,497.23			-
11	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	1,497.23			-
12	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	1,497.23			-
13	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	571.31			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: FLASH MIXER & FLOCCULATION CHAMBER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	FLASH MIXER					
		Providing, installing, testing and commissioning Mechanical Mixers (vertical-shaft, single impeller, pitched blade or propeller type, 3-4 blades), of internationally reputed approved make, complete with motor (4 pole, installed power to be determined by the manufacturer), gear box, motor starter, support base/frame, shaft, impeller and canopy, with all the submerged/wetted components to be of stainless steel (Grade 316), including all jointing, fixing & installation accessories, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In Flash Mixer Tanks (Imparted Mixing Power: 16 kW, Rotational Speed: 40 – 100 RPM, Impeller Diameter: 1.0 – 1.5 m)	Each	4.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: FLASH MIXER & FLOCCULATION CHAMBER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
2	NS-2	FLOCCULATOR					
		Providing, installing, testing and commissioning Mechanical Flocculators/Mixers (vertical shaft, flat blade/paddle type), of internationally reputed approved make, complete with motor (4 pole, installed power to be determined by the manufacturer), gear box, motor starter, support base/frame, shaft, blades/paddles, connecting arms and canopy, with all the submerged/wetted components to be of stainless steel (Grade 316), including all jointing, fixing & installation accessories, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In Flocculation Chambers (Imparted Mixing Power: 1.4 kW, Rotational Speed: 5 – 15 RPM, Turbine Diameter: Min 3.4)	Each	8.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: FLASH MIXER & FLOCCULATION CHAMBER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
3	NS-3	pH Meter					
		Providing, installing, testing and commissioning water pH Meter (Range: 0 – 14.00 pH, Max water Temperature: 40°C) in Flash mixer, of internationally reputed approved make, complete with pH probe/sensor, relays, on-site LCD display unit (with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door), electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	Each	4.00			-
4	NS-4	Providing cutting, fabricating and fixing in position weir plates 5mm thick welded with SS angle and embedded into concrete with bolt and nut @ 500mm c/c complete in all respect as per given drawing and specification.	M	3.70			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 5: CLARIFIER TANK (04 No's)

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: CLARIFIER TANK (04 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	10,923.08			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	2,184.62			-
3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	523.38			-
4	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	620.37			-
5	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	1,500.28			-
6	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	4,771.88			-
7	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	10,190.51			-
8	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	494.96			-
9	25-10&11	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Steel stair including duly painting red oxide)	Tonne	1.54			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: CLARIFIER TANK (04 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
10	24-30-b-10	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects (160 mm dia) PN-10	M	20.00			-
11	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	2,512.31			-
12	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	2,512.31			-
13	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	2,512.31			-
14	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	2,512.31			-
15	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	1,872.25			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: CLARIFIER TANK (04 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	MECHANICAL WORKS						
1	24-30-b-10	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects (160 mm dia) PN-10	M	80.00			-
2	NS-1	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 1000mm (including fittings as Bends etc)	M	150.00			-
3	NS-2	Providing cutting, fabricating and fixing in position SS scum and weir plates 5mm thick welded with SS angle and embedded into concrete with bolt and nut @ 500mm c/c complete in all respect as per given drawing and specification	M	280.34			-
4	NS-3	Sludge Scrappers					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: CLARIFIER TANK (04 No's)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		<p>Providing, installing, testing and commissioning Mechanical Sludge Scraper (End-Driven, Rotating Half-Bridge type, Peripheral Speed: 1-2 m/min), of internationally reputed approved make, complete with the main bridge structure with decking (Min Width: 1000 mm) & safety handrails (Min Height: 1100 mm), scraper blades (discontinuous, fish bone type, furnished with sweeping strip of EPDM)& their support structure, central support/bearing unit, current collector unit, end drive unit with motor, motor starter, reduction gearbox& wheels, obstacle detection switch, electric cable & conduit from current collector unit to end drive unit, inlet drum, scum skimmer, scum collection box, scum outflow pipe & valved outlet, with all the submerged/wetted components to be of stainless steel (Grade 316) and other structural components to be of carbon steel (approved epoxy coated), including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract, as follows:</p>	EACH	4.00			-
	In Clarifier (Internal Diameter: 33.75 m, Side Depth: 4.665 m)						
SUB TOTAL MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-b-ii	Structural Excavation in Common Material by mechanical means	M3	52.90			-
2	07-30	Supplying and filling sand under floor or plugging in wells	M3	19.14			-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	26.45			-
4	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	8.25			-
5	06-07-d-01	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c cost of all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1:2)	M3	7.68			-
6	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	18.15			-
7	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	10.62			-
8	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	69.99			-
9	07-05-a-03	1st class brick work in ground floor Cement, sand mortar 1:4	M3	17.47			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
10	11-08-b	Cement plaster 1:3 upto 20' height 1/2" thick	M2	87.36			-
11	11-21-a-03	Distempering New surface : Three coats	M2	87.36			-
12	11-18-b	Cement pointing struck joints, on walls, upto 20' height : Ratio 1:3	M2	87.36			-
13	11-10-a	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:2)	M2	87.36			-
14	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	23.00			-
15	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	23.00			-
16	09-01	First class tile roofing including earth, mud plaster, gobri leeping, cement plaster etc complete	M2	52.08			-
17	09-13	2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft	M2	52.08			-
18	06-28	Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge) under cement concete.	M2	52.08			-
19	25-39-a-02	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embed over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	7.20			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
20	25-45-b	Supplying and Fixing 18 SWG MS Sheet Gate with angle iron frame (2"x2"x3/16") with side window, lock, painting etc	M2	7.20			-
21	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	26.45			-
22	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	26.45			-
23	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	26.45			-
24	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	26.45			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1.00	NS-1	Primary Sludge Pumps					
		Providing, installing, testing and commissioning Sludge Pumps (horizontal-shaft, end-suction, non-clogging/solids-handling, centrifugal type, Min Free Passage Size: 15-50 mm), of internationally reputed approved make, complete with pump, 3 phase induction motor (4-pole, Efficiency class IE3), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices)and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Primary Sludge (Max Concentration: 5 %) Pumps: Capacity: 70 m ³ /h, Head: 10 m	No	4.00			-
2.00	NS-2	Flow Meter					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing, testing and commissioning Water Flow Meter (Electromagnetic type, Range: 0 to 2000 m ³ /h, Accuracy: ± 0.5%, PN 16, Max Water Temperature: 40°C) on pipeline (HDPE, DN 150), of internationally reputed approved make, complete with meter, relays, on-site LCD display unit (with adjustable backlight and contrast) & its mounting arrangement (in stainless steel, Grade 316), display unit cabinet (painted metallic box with glazed front door), all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	No	2.00			-
3.00	NS-3	DUCTILE IRON PIPE (DI PIPE)					
		Providing at site, laying, cutting, fixing, jointing, testing and commissioning Ductile iron Pipe class-K12 conforming to specifications (ISO2531 and BS 4772) and relevant ANSI/AWWA standards with all accessories, Nut, Bolts, washers, jointing material and lubricants complete in all respect as per drawings and specifications.					
		DI Pipe 150mm	M	30.00			-
4.00	NS-4	Providing at site, laying, cutting, fixing, jointing, testing and commissioning Ductile iron (cast on flange) specials (such as bend, tee, cross collar, reducer, tail piece, flanged spigot, cap, flanged socket, taper, angle branch, plug etc) class-K12 conforming to specifications (ISO2531 and BS 4772) and relevant ANSI/AWWA standards with all accessories, Nut, Bolts, washers, jointing material and lubricants complete in all respect as per drawings and specifications.					
a)		Bend 90°					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		150 mm	No	16.00			-
b)		DI TEE					
		150mm x 150mm	No	6.00			-
c)		DI REDUCER					
		150mm	No	4.00			-
		(CI) Check Valves (150mm)					
5.00	NS-5	Providing, installing and testing cast iron (CI) Check Valves (Swing type, Flanged, BS 5153, PN 10) on pipelines, of internationally reputed approved make, including gaskets, steel nuts & bolts and other jointing accessories, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:	No	4.00			-
		SLUICE VALVE (150mm)					
6	NS-6	Sluice Valves with all accessories complete in all respect for various pipe sizes as shown on the drawings	No	4.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	146.34			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	73.17			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexiable conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	256.10			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	170.73			-
A.03		Point -Point Wiring					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	268.30			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	178.87			-
A.04		Gang Light Control Switches					
	15-127-b	Supply at site, installation, testing and commissioning of Two gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	4.00			-
	15-127-c	Supply at site, installation, testing and commissioning of Three gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	4.00			-
A.05		Exhaust Fan Point					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc: 3/4" i/d	M	36.59			-
A.06		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	82.32			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	54.88			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	73.17			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	146.34			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	97.56			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	195.12			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	14.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	256.10			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	170.73			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	341.47			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	14.00			-
A.10		1-20 Amps Switch Socket					
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.18			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.79			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	97.57			-
	15-81	Supply and Fixing 20 Amp power plug	Each	4.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivery circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	Nos.	12.00			-
iii)	15-36-i-15	Supply, installation, testing and commissioning of recessed Dawn Light of best quality with CFL (13-17 watt) Energy saver and with Glass Reflector	Nos.	24.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	8.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00			-
A.13		Ceiling Fan					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND
SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00			-
	26-01-l-01	Supply and Erection of AC ENERGY EFFICIENT CEILING FANS 56 inch, 50 W	Nos.	8.00			-
A.14		Wall Bracket Fan					
	15-68-e	Supply, installation, testing & commissioning of Direct axial Wall Bracket fan	Nos.	2.00			-
A.15		PVC Conduit					
		Supply at site of PVC conduit heavy duty to be concealed in RCC slabs, walls, floor, columns above false ceiling or as required as per site conditions including cost of all PVC conduit accessories, steel pull wires, complete in all respects.					
i)	15-02-b-08	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 4" i/d	M	18.30			-
A.16		Distribution Board					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 6: PRIMARY SLUDGE PUMPING STATION (02)

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, DBLP-G2, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	2.00			-
A.17		<u>Non-maintained Emergency Lighting</u>					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangment on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	4.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 7: CLARIFIER PUMPING STATION (04)

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-b-ii	Structural Excavation in Common Material by mechanical means	M3	105.80			-
2	07-30	Supplying and filling sand under floor or plugging in wells	M3	38.28			-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	52.90			-
4	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	16.50			-
5	06-07-d-01	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c cost of all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1:2)	M3	25.83			-
6	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	25.83			-
7	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	21.24			-
8	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	139.98			-
9	07-05-a-03	1st class brick work in ground floor Cement, sand mortar 1:4	M3	34.94			-
10	11-08-b	Cement plaster 1:3 upto 20' height 1/2" thick	M2	174.72			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

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Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
11	11-21-a-03	Distempering New surface : Three coats	M2	174.72			-
12	11-18-b	Cement pointing struck joints, on walls, upto 20' height : Ratio 1:3	M2	174.72			-
13	11-10-a	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:2)	M2	174.72			-
14	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	46.00			-
15	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	46.00			-
16	09-01	First class tile roofing including earth, mud plaster, gobri leeping, cement plaster etc complete	M2	104.16			-
17	09-13	2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft	M2	104.16			-
18	06-28	Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge) under cement concete.	M2	104.16			-
19	25-39-a-02	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in - charge Glass pane 2.5mm thick	M2	14.40			-
20	25-45-b	Supplying and Fixing 18 SWG MS Sheet Gate with angle iron frame (2"x2"x3/16") with side window, lock, painting etc	M2	14.40			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
21	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	52.90			-
22	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	52.90			-
23	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	52.90			-
24	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	52.90			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Clarifier Sludge Pumps					
		Providing, installing, testing and commissioning Sludge Pumps (horizontal-shaft, end-suction, non-clogging/solids-handling, centrifugal type, Min Free Passage Size: 15-50 mm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Efficiency class IE3), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices)and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Primary Sludge (Max Concentration: 5 %) Pumps: Capacity: 70 m ³ /h, Head: 10 m	No	8.00			-
2.00	NS-2	Flow Meter					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing, testing and commissioning Water Flow Meter (Electromagnetic type, Range: 0 to 2000 m ³ /h, Accuracy: ± 0.5%, PN 16, Max Water Temperature: 40°C) on pipeline (HDPE, DN 150), of internationally reputed approved make, complete with meter, relays, on-site LCD display unit (with adjustable backlight and contrast) & its mounting arrangement (in stainless steel, Grade 316), display unit cabinet (painted metallic box with glazed front door), all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	No	4.00			-
3.00	NS-3	DUCTILE IRON PIPE (DI PIPE)					
		Providing at site, laying, cutting, fixing, jointing, testing and commissioning Ductile iron Pipe class-K12 conforming to specifications (ISO2531 and BS 4772) and relevant ANSI/AWWA standards with all accessories, Nut, Bolts, washers, jointing material and lubricants complete in all respect as per drawings and specifications.					
		DI Pipe 150mm	M	30.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
4.00	NS-4	Providing at site, laying, cutting, fixing, jointing, testing and commissioning Ductile iron (cast on flange) specials (such as bend, tee, cross collar, reducer, tail piece, flanged spigot, cap, flanged socket, taper, angle branch, plug etc) class-K12 conforming to specifications (ISO2531 and BS 4772) and relevant ANSI/AWWA standards with all accessories, Nut, Bolts, washers, jointing material and lubricants complete in all respect as per drawings and specifications.					
a)		Bend 90°					
		150 mm	No	16.00			-
b)		DI TEE					
		150mm x 150mm	No	6.00			-
c)		DI REDUCER					
		150mm	No	4.00			-
5.00	NS-5	(CI) Check Valves (150mm)					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing and testing cast iron (CI) Check Valves (Swing type, Flanged, BS 5153, PN 10) on pipelines, of internationally reputed approved make, including gaskets, steel nuts & bolts and other jointing accessories, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:	No	8.00			-
6	NS-6	SLUICE VALVE (150mm)					
		Sluice Valves with all accessories complete in all respect for various pipe sizes as shown on the drawings	No	8.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage,AGE Cables,Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	146.34			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	73.17			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexiable conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	256.10			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	170.73			-
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	268.30			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	178.87			-
A.04		Gang Light Control Switches					
	15-127-b	Supply at site, installation, testing and commissioning of Two gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	4.00			-
	15-127-c	Supply at site, installation, testing and commissioning of Three gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	4.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	36.59			-
A.06		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	82.32			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	54.88			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	73.17			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm ² (P+N) & 1x2.5mm ² as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	146.34			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	97.56			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	195.12			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	14.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm ² (P+N) & 1x2.5mm ² as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	256.10			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	170.73			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	341.47			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	14.00			-
A.10		1-20 Amps Switch Socket					
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.18			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.79			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	97.57			-
	15-81	Supply and Fixing 20 Amp power plug	Each	4.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, driveway circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	Nos.	12.00			-
iii)	15-36-i-15	Supply, installation, testing and commissioning of recessed Dawn Light of best quality with CFL (13-17 watt) Energy saver and with Glass Reflector	Nos.	24.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	8.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	No	4.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00			-
	26-01-l-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	8.00			-
A.14		Wall Bracket Fan					
	15-68-e	Supply, installation, testing & commissioning of Direct axial Wall Bracket fan	Nos.	2.00			-
A.15		PVC Conduit					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 7: CLARIFIER PUMPING STATION (04)

1	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Supply at site of PVC conduit heavy duty to be concealed in RCC slabs, walls, floor, columns above false ceiling or as required as per site conditions including cost of all PVC conduit accessories, steel pull wires, complete in all respects.					
i)	15-02-b-08	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 4" i/d	M	18.30			-
A.16		<u>Distribution Board</u>					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, DBLP-G2, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	2.00			-
A.17		<u>Non-maintained Emergency Lighting</u>					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	4.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 8: RAPID GRAVITY FILTER

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 8: RAPID GRAVITY FILTER						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
CIVIL WORKS						
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	15,374.03		-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	7,687.02		-
3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	301.87		-
4	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	4,805.72		-
5	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	1,509.33		-
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	12,124.90		-
7	23-03-c-07	Providing & laying R.C.C. pipe sewers, moulded with cement concrete 1:1-1/2:3 conforming to ASTM specification C-76-79, Class IV, Wall B, including carriage, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:- 30" i/d, Wall B	M	25.00		-
8	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	1,478.07		-
9	07-05-a-03	1st class brick work in ground floor Cement, sand mortar 1:4	M3	274.36		-
10	11-08-b	Cement plaster 1:3 upto 20' height 1/2" thick	M2	1,316.79		-
11	11-21-a-03	Distempering New surface : Three coats	M2	1,316.79		-
12	11-18-b	Cement pointing struck joints, on walls, upto 20' height : Ratio 1:3	M2	1,034.52		-
13	11-10-a	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:2)	M2	136.17		-
14	25-33-a	Providing and fixing terrace railing 2" i/d conduit pipe 16 SWG, welded with 5/8" x 5/8" square bar 2.75 ft. high fixed at 5" centre to centre, in RCC slab with suitable arrangement, complete in all respects as per design and drawing.	M	470.80		-
15	24-34	Supplying and Fixing flat iron (2"x3/8") ladder for OHR, holes @ 15" c/c, steps of MS bars 5/8" i/d & paint comple (for screen chamber)	M	49.75		-
16	09-01	First class tile roofing including earth, mud plaster, gobri leeping, cement plaster etc complete	M2	1,214.90		-
17	09-13	2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft	M2	1,214.90		-
18	06-28	Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge) under cement concete.	M2	1,214.90		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 8: RAPID GRAVITY FILTER							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
19	25-39-a-02	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embeded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	24.00			-
20	25-45-b	Supplying and Fixing 18 SWG MS Sheet Gate with angle iron frame (2"x2"x3/16") with side window, lock, painting etc	M2	17.55			-
21	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	35.10			-
22	06-08-a	Supply & fabricate M.S. reinforcement for cement concrete (Plain bars) (Rungs for UGWT)	100 Kg	4.00			-
23	14-37-c	Supply and Fixing cast iron (CI) manhole cover with frame etc (Heavy Type) of approved uality complete: 24" (610 mm) dia	Each	6.00			-
24	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	7,687.02			-
25	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	7,687.02			-
26	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	7,687.02			-
27	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	7,687.02			-
28	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	1,929.20			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Providing cutting, fabricating and fixing in position SS scum and weir plates 5mm thick welded with SS angle and embedded into concrete with bolt and nut @ 500mm c/c complete in all respect as per given drawing and specification	M	61.30			-
2	NS-2	Backwash Pumps					
		Providing, installing, testing and commissioning backwash Pumps (vertical-shaft, non-clogging/solids-handling, submersible, centrifugal type), of internationally reputed approved make, complete with pump, motor (4-pole), automatic liquid level-controlled switching device (ultrasonic sensor type) and starter, with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Capacity: 14.5 ft ³ /s, Head: 55 ft	No.	6.00			-
3	NS-3	Motorized Penstock Gates					
		Providing, installing, testing and commissioning cast iron (CI) Penstocks (Motor Operated, with Manual Override) in concrete structures, of internationally reputed approved make, complete withsliding cover/gate & wedges, cover/gate guide & seating mechanism, stem, stem couplings, stem guides, top mounting brackets, thimbles, manual gate lifting assembly, geared motor, motor starter and on/off control device,including all jointing, fixing, sealing& installation accessories,initial lubricant charge, all painting & coatings, with all the exposed ferrous surfaces to be epoxy coated, and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		1000mm x 600mm (For all installation depths)	No.	20.00			-
		450mm x 450mm (For all installation depths)	No.	20.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
4	NS-4	Top-Running Double-Girder Bridge Cranes					
		Providing, installing, testing and commissioning Top-Running Double-Girder Bridge Cranes, of internationally reputed approved make, complete with all its moving components, drives, drive controls, safety mechanisms, cables, cables collapsing mechanisms, operation-control equipment, and side rails, to be supported on the structure, including all jointing, fixing & installation accessories, initial charging of lubricants, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Capacity: 5 Tons	Each	2.00			-
5	NS-5	Air Blowers					
		Providing, installing, testing and commissioning Air Blowers (Screw Type) for Backwashing in rapid sand filters, of internationally reputed approved make, complete with 3-phase motor, support base/frame, sound absorber canopy (Maximum Sound Level: 75 dB-A), silencer, air filter, pressure gauge, check valve, blow off valve, safety valve, inlet & outlet connections, all necessary devices for automatic switching ON/OFF of blower, motor control unit (MCU, in painted metallic box, complete with starter and all the required control, relay, monitoring and protection devices) and electrical & control cables (between blower and MCU), including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In Rapid Gravity Filters; Air Flow rate: 2700 m3/hr, Differential Pressure = 1bar	No.	4.00			-
6	NS-6	Ductile Iron (DI) Pipe					
		Providing, laying, cutting, jointing, testing and disinfecting DI PIPE in filtration assembly, complete in all respects.(including fittings as Bends etc)					
a)		200mm	M	192.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
b)		300mm	M	48.00			-
c)		600mm	M	168.00			-
7	NS-7	Motorized Butterfly valve					
		200mm	No.	20.00			-
		300mm	No.	20.00			-
		600mm	No.	40.00			-
9	NS-9	Ultrasonic Level Sensor					
		Providing, installing, testing and commissioning Ultrasonic level sensors (Max Water Temperature: 40C, With automatic temperature compensation) in Rapid Sand Filtration Tank, of internationally reputed approved make, complete with on-site LCD display unit (with adjustable backlight and contrast), mounting arrangements (in stainless steel, Grade 316) for probe & display unit, display unit cabinet (painted metallic box with glazed front door),electric cable & conduit between probe & display unit, all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	No.	20.00			-
6	NS-6	Provide , Place & compact filter media containing layers of silica sand (800mm depth) and well graded gravel (460mm depth) as per given specification and drawing complete in all respect	per sq.m	1,250.70			-
7	NS-7	Supply, installation, testing and commissioning of Filter Nozzles with threaded sleeves to be embedded into precast plenum floor in PP / PVDF / FRP material of construction complete in all respect s as per drawings and specifications.	No.	38,880.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
1.0		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	97.56			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
2.0		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	146.34			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	48.78			-
3.0		Point -Point Wiring					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	390.24			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	130.08			-
4.0		Gang Light Control Switches					
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	8.00			-
5.0		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	109.76			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	36.59			-
6		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	439.02			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	146.34			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
7.0		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	36.59			-
8.0		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	329.27			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	109.76			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	109.76			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	18.00			-
9.0		Loop-Loop- 5 Amps Switch Socket					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	329.27			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	109.76			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	109.76			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	18.00			-
10.0		1-20 Amps Switch Socket					
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.17			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	24.39			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
	15-81	Supply and Fixing 20 Amp power plug	Each	4.00			-
11.0		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivery circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	40.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	12.00			-
12.0		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	8.00			-
13.0		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	12.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	26-01-l-01	Supply and Erection of AC ENERGY EFFICIENT CEILING FANS 56 inch, 50 W	Nos.	12.00			-
14.0		<u>Distribution Board</u>					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, DBLP-G2, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	2.00			-
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	42.68			-
15.0		<u>Fire Extinguisher</u>					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	4.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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BILL NO. 8: RAPID GRAVITY FILTER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	4.00			-
16		<u>Non-maintained Emergency Lighting</u>					
	Appendix ' c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangment on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	6.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 9: SLUDGE THICKENER

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 9: SLUDGE THICKENER

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	4,355.63			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	871.13			-
2	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	54.00			-
3	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	80.04			-
4	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	255.86			-
5	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	Per Cft	420.39			-
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	955.41			-
7	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	83.25			-
8	25-10&11	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Steel stair including duly painting red oxide)	Tonne	1.54			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

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Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
9	25-33-a	Providing and fixing terrace railing 2" i/d conduit pipe 16 SWG, welded with 5/8" x 5/8" square bar 2.75 ft. high fixed at 5" centre to centre, in RCC slab with suitable arrangement, complete in all respects as per design and drawing.	M	59.60			-
10	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	871.13			-
11	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	871.13			-
12	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	871.13			-
13	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	871.13			-
14	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	169.56			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

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Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	MECHANICAL WORKS						
1	24-30-b-10	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects (160 mm dia) PN-10	M	25.00			-
2	24-30-b-12	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects (250 mm dia) PN-10	M	45.00			-
3	NS-1	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 710mm (including fittings as Bends etc)	M	30.00			-
4	NS-2	Providing cutting, fabricating and fixing in position SS scum and weir plates 5mm thick welded with SS angle and embedded into concrete with bolt and nut @ 500mm c/c complete in all respect as per given drawing and specification	M	36.14			-
5	NS-3	Sludge Scrappers					
		Providing, installing, testing and commissioning Mechanical Sludge Scraper (End-Driven, Rotating Half-Bridge type, Peripheral Speed: 1-2 m/min), of internationally reputed approved make, complete with the main bridge structure with decking (Min Width: 1000 mm) & safety handrails (Min Height: 1100 mm), scraper blades (discontinuous, fish bone type, furnished with sweeping strip of EPDM)& their support structure, central support/bearing unit, current collector unit, end drive unit with motor, motor starter, reduction gearbox& wheels, obstacle detection switch, electric cable & conduit from current collector unit to end drive unit, inlet drum, scum skimmer, scum collection box, scum outflow pipe & valved outlet, with all the submerged/wetted components to be of stainless steel (Grade 316) and other structural components to be of carbon steel (approved epoxy coated), including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract, as follows:	EACH	1.00			-
		In Sludge Thickener (Internal Diameter: 18.0 m, Side Depth:4.5m)					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

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Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
6	NS-4	Tractor with Trolley					
		Providing Tractor with trolley at site including registration or any other Govt dues with following details The tractor having capacity of 75HP and should be 4WD with trolley 7Cu.m capacity as per given specification	Each	2.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 10: CHLORINE CONTACT TANK & TREATED WATER TANK

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 10: CHLORINE CONTACT TANK & TREATED WATER TANK							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	58,174.05			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	14,543.51			-
3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	956.66			-
4	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	5,304.50			-
5	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	4,632.29			-
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	19,078.64			-
7	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	615.00			-
8	25-33-a	Providing and fixing terrace railing 2" i/d conduit pipe 16 SWG, welded with 5/8" x 5/8" square bar 2.75 ft. high fixed at 5" centre to centre, in RCC slab with suitable arrangement, complete in all respects as per design and drawing.	M	338.30			-
8a	24-34	Supplying and Fixing flat iron (2"x3/8") ladder for OHR, holes @ 15" c/c, steps of MS bars 5/8" i/d & paint complete	M	3.96			-
9	25-10&11	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Steel stair including duty painting red oxide)	Ton	0.58			-
10	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	14,543.51			-
11	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	14,543.51			-
12	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	14,543.51			-
13	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	14,543.51			-
14	13-08-a	Bitumen coating to plastered/cement concrete surface: 20 lbs per 100 sft	m ²	2,048.65			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 10: CHLORINE CONTACT TANK & TREATED WATER TANK							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
MECHANICAL WORKS							
1	NS-1	Providing, installing and testing cast iron (CI) Penstocks (Manually Operated) in concrete structures, of internationally reputed approved make, complete with sliding cover/gate & wedges, cover/gate guide & seating mechanism, stem, stem couplings, stem guides, top mounting brackets, thimbles and manual gate lifting assembly, including all jointing, fixing, sealing & installation accessories, initial lubricant charge, all painting & coatings, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:					
		1050 mm x 1050 mm(for all Installation Depths)	No.	2.00			-
2	NS-2	Providing cutting, fabricating and fixing in position weir plates 5mm thick welded with SS angle and embedded into concrete with bolt and nut @ 500mm c/c complete in all respect as per given drawing and specification.	M	60.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 11: ADMIN BUILDING

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
4	PLUMBING WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
1	03-67-b-i	Structural Excavation in Common Material by mechanical means	M3	315.92			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	210.61			-
		Anti-Termite					
3	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	370.57			-
		Plain and Reinforcement Concrete					
4	06-03-b	Cement Concrete (brick/stone ballast, 1.5" to 2"/nullah shingle well graded and cleaned) in foundation & plinth (Ratio 1:4:8)	M3	5.28			-
5	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	24.52			-
		GROUND FLOOR					
6	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	43.40			-
		FIRST FLOOR					
7	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	37.06			-
		MUMTY					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	5.04			-
		Steel Reinforcement					
9	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	26.67			-
10	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	30.50			-
11	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	55.23			-
		Brick Work					
12	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	17.32			-
		GROUND FLOOR					
13	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	61.82			-
		FIRST FLOOR					
14	07-05-a-04	1st class brick work in first floor Cement, sand mortar 1:5	M3	66.62			-
		MUMTY					
15	07-05-a-04	1st class brick work in second floor Cement, sand mortar 1:5	M3	12.17			-
		Flooring					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
16	07-30	Supplying and filling sand under floor or plugging in wells	M3	10.49			-
17	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	18.37			-
18	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	9.16			-
19	10-55-g	Providing and Fixing of Porcelain Floor Tile 24" x 24" of approved quality	M2	143.12			-
20	10-51	Providing and Fixing of Ceramic Tiles 12"x24" of Imported Approved Quality with jointing and finishing	M2	22.27			-
21	10-42	Providing and fixing on walls 1/4"(6mm approx.) thick of imported first grade ceramic tiles of size 24 in x 24 in of approved colour on walls, over 1/2" (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base including filling the joint with white cement and washing the tile, curing and cleaning etc. complete.	M2	116.30			-
		Surface Rendering					
22	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	173.77			-
23	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	1,017.88			-
24	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	338.66			-
		Wood Work					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
25	12-49-c	First class deodar wood wrought joinery in doors and windows etc. panelled or panelled or glazed or fully glazed fixed in position including chowkhat, holdfast, hinges, tower bolt rubber stop cleats/G I clamp, handles and chord with hooks etc. complete (excluding sliding bolts or lock) : 1½" (40mm) thick.	M2	5.38			-
26	12-56-c	Providing and fixing 1.5" (38 mm) thick pressed veneered door shutters fully flushed with First class wood veneering on all faces and sides fixed over partial wood cavited core and frame work of not less than 4" (100mm) wide strips all round with approved iron hinges, tower bolts as required.	M2	33.94			-
27	12-57-a	Providing and fixing single leaf steel door with frame fully panelled with M.S sheet 16 gauge (1.59mm) painted with two coats of red oxide paint with brass fitting of approved make including cost of fabrication, iron lugs, cutting holes and making good the damages to walls	M2	2.35			-
28	12-70-a	Supply and Fixing MS Sheet 16 guage(10" x 2") box type chowkats including fixing in position with all charges for Hold fast, Hinges and Painting etc	M	81.84			-
29	12-24-a-01	providing/fixing approved quality Rim locks : Imported	Each	13.00			-
30	12-22-a-01	Providing and fixing sliding bolt to doors Iron sliding bolts : 10" long	Each	8.00			-
31	12-21-b	P/F hydraulic Door Closer (Best Quality)	Each	7.00			-
32	12-78-a	Kitchen Floor Cabinet as per MES Design/Specification.	M2	5.02			-
33	12-78-b	Kitchen Wall Cabinet as per MES Design/Specification.	M2	3.65			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Painting and Warnishing					
34	11-20-b	Providing and applying wall putty of 2mm thickness over plastered surface to prepare the surface even and smooth complete.	M2	1,251.24			-
35	13-03-i	Providing and applying 3 coats of approved type of Plastic emulsion paint to Plastic surface as per manufacture specification.	M2	1,251.24			-
36	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	355.59			-
37	Ch-13 item 06 P-100	Applying lacquer polish to wood work of any type	M2	78.63			-
38	Ch-13 item 03-c-01+(c-02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	4.70			-
		Metal Work					
39	12-66	Supply and Fixing of double glazed aluminium (color as approved) Premium model (Gauge 2 mm) 4" sect. Sliding window, including all necessary fittings and fly screen shutters complete.	M2	37.28			-
40	12-61	MS flat 1/2"x1/8" grill in windows of approved design	M2	18.56			-
41	25-47	Supply and fixing of fancy type stainless steel chromium plate 2" dia pipes stair railing 3/4" dia pipe fixed on specified space on steps in horizontal positions, complete in all respects	M	16.00			-
		Roofing & Water Proofing					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
42	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	104.94			-
43	09-16	Khuras on roof 2'x2'x6"	Each	2.00			-
44	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	2.00			-
45	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	210.61			-
46	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	210.61			-
47	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	210.61			-
48	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	210.61			-
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	9.82			-
		Entrance Steps / Podium					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
2	N.S	Providing and fixing 3/4" thick pre-polished Granite Marble Slab uniform texture full width area above 2 sft laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges complete in all respect as approved / directed by The Engineer.	M2	3.22			-
		Stair Steps					
3	N.S	Providing and laying Pre-polished Black Granite (supreme quality) slabs laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making rounding edge and chemical polishing etc; complete in all respect as per Specifications, and as per sample approved by The Engineer.					
3.1	a)	3/4" thick Pre-polished Black Granite (supreme quality) one-piece slab of length and width as shown on drawings, over treads and projecting edge of treads will be doubled by bounding and rounded smooth of stairs and entrance steps.	M2	17.07			-
3.2	b)	1/2" thick Pre-polished Black Granite (supreme quality) slabs of length and height as shown on drawings, over risers of stairs and entrance steps.	M2	6.83			-
4	N.S	Providing and laying Pre-polished Black Granite one-piece marble slabs Kitchen / Vanity Counter etc; laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making rounding edge and chemical polishing etc; complete in all respect, as per drawings and Specifications, sample as approved by The Engineer.	M2	3.65			-
		Miscellenious					
5	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		4" dia	M	19.20			-
6	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	2.00			-
7	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	2.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 11: ADMIN BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
		MECHANICAL WORKS				
1	NS-1	laboratory Equipments				
		Providing laboratory equipment at water treatment plant site laboratory to check different water quality parameters.(i.e. Drying oven & sterilizers, Ultrasonic washers, Colony counter, Double beam spectrophotometer, Turbidity meter, pH meters,Conductivity meter, Refrigerator and medical freezer, Centrifuges, Nitrogen digester and distillation apparatus, Jar testers, Furniture and glassware, Microscopes, and any equipment/instrument for testing of parameters specified by engineer.)	LS	1.00		-
2	NS-2	Potable water Pumps				
		Designing, manufacturing, testing at manufacturer's workshop, supplying at site, installaiton, testing, commissioning, gurantee and maintenance for one yerar during defect liability period of each item of Horizontal shaft split centrifugal pump including all accessories with suitable motor, control panel and delivery pipe, complete in all respects as per drawings and specificaitons. The pump and motor shall be of approved manufacturer.	No	2.00		-
		Capacity:17m3/hr, Head:20m				
SUB TOTAL OF MECHANICAL WORKS						-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	m	402.44			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	m	100.61			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	m	768.29			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	m	256.10			-
A.03		Point -Point Wiring					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	m	914.63			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	m	304.88			-
A.04		Gang Light Control Switches					
	15-127-b	Supply at site, installation, testing and commissioning of Two gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	10.00			-
	15-127-c	Supply at site, installation, testing and commissioning of Three gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	6.00			-
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	14.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	12.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	m	96.04			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	m	32.01			-
A.06		Ceiling Fan Point					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	m	178.35			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	m	59.45			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	m	219.51			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	m	73.17			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	m	219.51			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	m	73.17			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	m	73.17			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	24.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	m	402.44			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	m	134.15			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	m	134.15			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	22.00			-
A.10		1-20 Amps Switch Socket					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm ² (P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm ² cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	m	219.51			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	m	73.17			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	m	73.17			-
	15-81	Supply and Fixing 20 Amp power plug	Each	12.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, driveway circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	No	27.00			-
iii)	15-36-i-15	Supply, installation, testing and commissioning of recessed Dawn Light of best quality with CFL (13-17 watt) Energy saver and with Glass Reflector	Nos.	48.00			-
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	No	2.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	No	27.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	No	7.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	No	13.00			-
	26-01-l-01	Supply and Erection of AC ENERGY EFFICIENT CEILING FANS 56 inch, 50 W	No	13.00			-
A.14		Wall Bracket Fan					
	15-68-e	Supply, installation, testing & commissioning of Direct axial Wall Bracket fan	No	1.00			-
A.15		PVC Conduit					
		Supply at site of PVC conduit heavy duty to be concealed in RCC slabs, walls, floor, columns above false ceiling or as required as per site conditions including cost of all PVC conduit accessories, steel pull wires, complete in all respects.					
i)	15-02-b-08	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 4" i/d	m	106.71			-
A.16		<u>Distribution Board</u>					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-GF, DBLP-1F, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	2.00			-
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	m	15.24			-
A.17		Fire Extinguisher					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	2.00			-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	3.00			-
A.18		Fire Alarm System					
	15-131-a	Supply, testing and commissioning of 2 core 1.5mm. Sqmm stranded copper conductor tin coated with drain PVC insulated wires 600/1000 V. grade, fire resistant, LSZH Cu Conductor to be pulled in already installed 20mm dia. heavy duty PVC conduit recessed in wall, columns, slab, floor or above false ceiling with all necessary fixing accessories as per site conditions	Point	20.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-131-b	Supply, installation, testing & commissioning of Analogue Addressable Manual Call Point / Pull Station with Base and Back Box with Key UL Listed complete in all respects.	Each	4.00			-
	15-131-c	Supply, installation, testing & commissioning of Analogue Addressable Sounder with Flasher, 24 VDC, Mounting Base and with Base and Back Box with Key UL Listed complete in all respects.	Each	4.00			-
	15-131-d	Supply, installation, testing & commissioning of Analogue Addressable Optical Smoke Detector with Base; 24 VDC; UL LISTED, low voltage, solid state, Not Radio Active type, uni-polar and dual chamber with LED alarm indication to be installed on RCC slab, complete in all respects.	Each	16.00			-
	15-131-e	Supply, installation, testing & commissioning of Addressable Heat Detector	Each	1.00			-
	15-131-g	Supply, installation, testing & commissioning of Microprocessor based Fire Alarm Control Panel, suppression consisting of loops and can address around 125points, indicating circuits, including 2x12V VDC Batteries, suppression zone built in power supply, including stand by battery, alarm and trouble indication, silence alarm and reset system, general alarm and reset system, general alarm facility, complete in all respects.	Each	1.00			-
A.19		CCTV System					
	15-139-a	Supply and Installation of Outdoor True Day & Night Color Camera 1/3" CCD, 530TVL, 0 Lux, 49 IR LEDs, 2.8 to 10mm Auto Iris Varifocal Lens, IP66 Rating Outdoor Weatherproof Housing, DC12V/ AC24V, PAL, HCD-92534X-Honyewell completed in all respect	Each	2.00			-
	15-139-b	Supply and Installation of True Day & Night Color Indoor Camera 1/3" CCD, 550TVL, Color 0.3Lux & B/W 0.002Lux, Day/Night, DC12V/ AC24V, PAL, HCC-690P completed in all respect	Each	4.00			-
	15-140-b	Supply, installation, testing and commissioning of Patch Panel 24 Port Loaded with RJ-45 I/Os Suitable for CAT-VI FTP CABLE; Rack Mount, complete in all respects.	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-139-f	Supply Installation of 32-Channel Digital Video Recorder, real time display 400ips andwith Built-in DVD writer, XtraStor/MPEG4 compression,1TB,HDD,SATA port with remoteviewing and management software HNDR-E1648L-N-D-E,Honyewell.complated with all respect	Each	1.00			-
	15-141-a	Supply, installation, testing and commissioning of Cable Manager / Organizer	Each	1.00			-
	15-181	Supply and installation of structure cable as required for CAT-6 PVC shielded cable in already installed Trunking/ conduit/ Channel , inducing Balun for vedio and power facility at both ends of cable to be provided. The CAT- 6 cable should be 3M Australian or equivalent, complete in all respects	m	300.00			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	m	300.00			-
A.20		Telephone System.					
	15-138-a-03	Supply and Installation of 50-Pair Telephone Junction Box with back mounting frame and connection strip Recessed in wall Type where shown on drawings, made of 16 SWG M.S. Sheet with hinged door. Completed in all respects	Each	1.00			-
	15-138-g	Supply and Erection of 3M Cat-6 Cable in 3/4",1"pvc conduit, complete in all respect	m	455.79			-
	15-138-j	Supply and Installation of Double Port Telephone outlet of CAT-5,1 x RJ-45 I/Os and back box of 16 SWG, complete in all respects	Each	2.00			-
	15-138-i	Supply and Installation of Single Port Telephone outlet of CAT-5,1 x RJ-45 I/Os and back box of 16 SWG, complete in all respects	Each	23.00			-
	15-138-k-01	Supply installation, connection, testing and Commissioning of Telephone Exchange comprising 4 Trunk lines, 12 Digital Estentions, 200 Auto Dial Extention and attendeant console with UPS builtin 16+ 34 Kx-Txa 600.	Each	1.00			-
A.21		Computer System					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-136-c	Supply at site, installation, testing and commissioning of U/UTP, 4 pair Cat 6a (500 MHz) Network Cable supports (10 Giga) laid in PVC Conduit , with pure copper conductor PVC insulated PVC sheathed including cost of Single Shutter Face plate with UTP Cat-6a Keystone Jack with Back Box to be installed on walls, from Data Cabinet to Computer Points, PVC conduit & Cable tray. Complete in all respects.	Each	23.00			-
	15-136-b	Supply at site, installation, testing and commissioning of Layer 2 (Edge) Level Network Switch, Manageable for Data Rack, 24 Port Giga Ethernet (10/100/1000) with Copper & Fiber Uplink Ports (Support 04 Nos 1.0 Giga SFP Modules). 1.0 Gigabit uplink flexibility with Small Form-Factor Pluggable Plus (SFP+). 8 ports of Gigabit Ethernet for desktop connectivity, complete in all respects.	Each	1.00			-
	15-136-f	Supply at site, installation, testing and commissioning of data cabinet of approximate size as mentioned below, powder coated, having lockable glass door at front, 4 exhaust fans on top, suitable for under mentioned patch panels, consisting of the following voice and data points to be terminated on modular patch panel, including cost of power bus bar, input / output RJ-45 connectors suitable for Cat. 6a cables patch guides, patch cords, both for Voice and Data, all necessary accessories / materials for active and passive equipment, 24 ports switch. The data cabinet shall be complete in all respects including cost of all necessary materials / accessories required for proper functioning for the data cabinet. Data cabinet shall be installed after obtaining necessary permission from the computer specialist of the Client.	Each	1.00			-
	15-136-h	Supply, Installation, testing and commissioning of 42 port DATA cabinet with 3 no's cabinet tray, 4 no's power socket and with flexi glass door	Each	1.00			-
	15-138-f	Supply, Installation, testing and commissioning of Patch Cord CAT-6, 1m for computer complete in all respects	Each	23.00			-
A.22		Earthing System					
	15-105-h	Providing & fixing of Plate type Earthing compressed with execveted hole 6"up 63 feet, GI pipe 2"(50mm)with Tees , Sockets , Endcap of 60 (Mtr) Copper Plate of 1/2"x 2"x 48", 2x 70mmsq S/Core copper bare conductor 125 (Mtr) Earth Connection Point of 200 x 50 x 50mm (L x W x T) Inspection Pit of 300 x 300 x 450 mm (L x W x D) completed with all respect	Each	4.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-105-i	Construction of water tight brick type Grounding inspection pit.	Each	4.00			-
B.01		Switch & Sockets.					
i	Appendix ' c' Page No-1	Supply and installation of Floor Box / Technology Box, Suiteable for 1 No. Telephone outlet and 1 no. Data outlet, including cost of 2 No. 10/13 Amp socket and 1 no. 5 Amp Socket.	Each	35.00			-
B.02		<u>5-KVA Online UPS Un-Intruptible Power Supply for Main Data / Server Cabinet.</u>					
	Appendix ' c' Page No-2	Supply at Site, Installation of Online5 KVA UPS with 0.8 Power Factor with dry gel battries for standard backup upto 15 minutes. Make : APC, I-Power - Emerson.	Each	2.00			-
B.03		<u>WIFI ACCESS POINT</u>					
	Appendix ' c' Page No-3	Supply, installation and connections of wireless wave two Wi-Fi access point or equivalent 2533Mbps dual-band, 802.11 abgn/ac with 20,40,80 MHz Channel width Support 4x4:4 streams, Beam Flex, Dual Polarized Integrated smart Directional antenna array. Auto-sensing 10/100/1000 Mbps, RJ-45 Power over Ethernet (PoE) Integrated 24 Antenna elements with more than 3000 Antenna Patterns, 15db interference mitigation, make Ruckus, Aruba, Linksys or as specified in appendix-A as approved by engineer's Incharge or consultants, Actual quantities shall be measured as per site & paid accordingly. Complete in all respects	Each	1.00			-
		<u>Server Machine</u>					
	Appendix ' c' Page No-4	Supply at site, 2 x Intel Xeon E5-2630 v4 2.2GHz, 25 M cache, 8.0 GT/s, QPI, Turbo, HT, 10C/20T(85W)85W, Chipset: Genuine Intel, Memory: 32GB(2x16GB) RDIMM, multi Slots, Storage: 3 x 1TB 7.2k RPM Near Line SAS 12 Gbps, Drive bays: 2.5" Drive, Raid Controller: RAID 5 for H330/H730P/H730, Network: Dual Port Ethernet, DVD +/- RW, Display: 18.5" LCD, Power Supply: 2 x power cord 12A 4M C13/C14, hot plug, Redundant, Ready Rail Sloding Rails with Cable Management arm, Chasis: 2U, Windows Server 2012, Warranty : 03 Years	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
B.04		<u>MONITOR</u>					
	Appendix ' c' Page No-5	Supply, installation and connections of 32" BACKLIT LED 1080p monitor with operation capacity of 24/7 wit 3 year warranty. make by Samsung, TCL, LG or as specified in appendix-A approved equivalent by consultant or Engineer Incharge, Complete in all respectsActual quantities shall be measured as per site & paid accordingly. Complete in all respects.	Nos.	1.00			-
B.05		<u>Non-maintained Emergency Lighting</u>					
	Appendix ' c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangment on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	12.00			-
B.06		<u>2-KVA Online UPS Un-Intruptible Power Supply for Building</u>					
	Appendix ' c' Page No-2	Supply at Site, Installation of Online 02 KVA UPS with 0.8 Power Factor with dry gel battries for standard backup upto 60 minutes including cost of rack complete by all respect as approved by engineer incharge. Make : APC,Delpro(uk) - Emerson.	Each	2.00			-
SUB TOTAL ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 11: ADMIN BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		PLUMBING WORKS					
		Indian W.C					
1	14-03-a	Providing and fitting glazed earthenware water closet (WC), squatter type (orisa pattern) combined with foot rest. complete in all respects : White	Each	1.00			-
		WC European					
2	14-01-a	Providing and Fixing glazed earthen ware WC European type of approved size excluding cost of seat & cover, complete in all respects: White	Each	3.00			-
3	14-10-a	Providing and Fixing glazed earthen ware low down flushing cistern 3 gallons (13.63 Liters) capacity including bracket set, copper connection,etc. complete in all respects: White	Each	4.00			-
4	14-05-a-01	Providing and Fixing glazed earthen ware wash hand basin (WHB) complete size 56x40 cm (22"x16"), including bracket set, waste coupling, complete in all respects: White with pedestal (Best Quality)	Each	4.00			-
5	14-102	Providing & Fixing of SHOWER SET locally made complete with concealed T-STOP COCK for cold and hot water supply with mixer, swivel shower rose, long bib cock etc Complete in all respect.	Each	4.00			-
6	14-27-a	Providing and fixing chromium plated (CP) mixing valve for wash hand basin (WHB), sink or shower of approved (Best) quality	Each	12.00			-
7	14-06-a	Providing and Fixing stainless steel sink with drain board size (120 x 60 cm) 48"x24", including set of brackets, waste pipe etc - (Best Quality)	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	14-13	Providing and fixing chromic plated soap dish complete.	Each	4.00			-
9	14-16-a	Providing and Fixing chromium plated (CP) towel 60 cm (24") long and 2 cm (3/4") dia	Each	4.00			-
10	14-17-a	Providing and fixing best quality looking glass 5 mm thick neatly fitted on masonry wall etc. as per instruction of Engineer In-charge complete. Mirror 60 x 45 cm (24"x18") size	Each	4.00			-
11	14-21-c	Providing and fixing chromium plated (CP) double bib cock, heavy duty of approved quality : 1.5 cm (1/2")	Each	4.00			-
12	14-25-a	Providing and fixing chromium plated (CP) tee stop cock 1.5 cm (1/2") of approved quality	Each	12.00			-
13	14-31-a	Providing and Fixing cast iron (CI) floor trap of approved quality including CI grating & concrete chamber all round : 4"x2" (100mm x 50 mm)	Each	12.00			-
14	14-33	Providing and Fixing 4" gully trap of approved quality including cement concrete cost of PVC grating 6" x6" (150 x 150 mm) and masonry chamber 12"x12" (300 x 300 mm).	Each	4.00			-
15	14-157	P-Trap (uPVC) for squatting type WC.					
	14-157	ii) 10 cm (4") glazed.	Each	4.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		SEWERAGE SYSTEM					
16	14-95-a	Making connection with the existing system PVC pipe line including cutting the pipe for providing & fixing required fittings : Class B PVC					
		a) 3" i/d (75 mm)	M	40.00			-
		b) 4" i/d (100 mm)	M	25.00			-
		d) 6" i/d (150 mm)	M	30.00			-
1	NS-1	Providing, fixing, jointing and testing Polypropylene Random (PPR) PN20 pressure pipe for cold, hot and hot water return water as per DIN 8077-8078 for pipes and DIN 16962,PN25 for fittings (polyfusion welded joints) inside building including fittings and specials (sockets, tees, elbows, bends, crosses, reducers, adaptor, plugs and union etc.) supported on walls or suspended from roof slab or run in chases including pipe hangers, supports, walls cutting for pipelines, complete in all respect as per specifications and drawings as well as directed by the Engineer.					
		20 mm dia	M	40.00			-
		25 mm dia	M	20.00			-
		32 mm dia	M	35.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
2	NS-2	Providing and making Manhole 2'x2' internal size including 9" thick brick masonry (1:4), 1/2" th. Plastering (1:3) i/side, benching with PCC 1:2:4 4" th. with cement finish, excluding manhole cover, complete in all respects.	Each	2.00			-
3	NS-3	Providing and fixing food grade plastic over head water tank (200 gallon) including all necessary accessories required for installation, complete in all respect as per specifications and drawings as well as directed by the Engineer.	Each	1.00			-
SUB TOTAL OF PLUMBING WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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SUMMARY OF BILL NO. 12: CHEMICAL BUILDING

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL NO. 12: CHEMICAL BUILDING

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-25-d	Excavation in foundation of building, bridges etc complete : in shingle/gravel	M3	900.11			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	270.03			-
		Anti-Termite					
2	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	2,751.69			-
		Plain and Reinforcement Concrete					
3	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	M3	356.44			-
		FOUNDATION					
4	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	468.14			-
		GROUND FLOOR					
5	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	111.96			-
6	06-07-a-02	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1.5:3)	M3	170.40			-
		FIRST FLOOR					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL NO. 12: CHEMICAL BUILDING

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
7	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	5.07			-
8	06-07-a-02	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1.5:3)	M3	136.73			-
		Steel Reinforcement					
9	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	210.15			-
10	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	26.88			-
11	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	35.28			-
		Brick Work					
12	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	50.09			-
		GROUND FLOOR					
13	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	115.64			-
		FIRST FLOOR					
14	07-05-a-04	1st class brick work in first floor Cement, sand mortar 1:5	M3	22.59			-
		Flooring					
15	07-30	Supplying and filling sand under floor or plugging in wells	M3	2,478.32			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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16	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	3.21			-
17	10-22-b	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	135.66			-
18	10-41-b-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	20.67			-
		Surface Rendring					
19	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	945.00			-
20	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	695.15			-
21	11-18-b	Cement pointing struck joints, on walls, upto 20' height : Ratio 1:3 (External walls)	M2	560.18			-
22	11-18-b	Cement pointing struck joints, on walls, upto 30' height : Ratio 1:3 (External walls)	M2	425.83			-
		Painting and Warnishing					
23	11-20-a	Priming coat of chalk under distemper	M2	1,722.16			-
24	11-21-a-03	Distempering New surface : Three coats	M2	1,722.16			-
25	13-25-a+(bx2)	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	1,014.01			-
26	13-03-c-01+(c-02x2)	Prepare & Paint new surface, doors & windows: 3 Coats	M2	10.58			-
		Metal Work					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
27	12-57-b	Providing and fixing double leaf steel door with frame fully panelled with M.S sheet 16 gauge (1.59mm) painted with two coats of red oxide paint with brass fitting of approved make including cost of fabrication, iron lugs, cutting holes and making good the damages to walls.	M2	5.29			-
28	25-39-a-01	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	34.02			-
29	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	40.82			-
30	25-10	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Louvre Gate including duly painting red oxide)	Tonne	0.15			-
		Roofing & Water Proofing					
31	9-06+13 + 6- 28	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	945.00			-
32	09-16	Khuras on roof 2'x2'x6"	Each	5.00			-
33	9-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	5.00			-
34	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	270.03			-
35	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	270.03			-

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KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
36	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	270.03			-
37	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	270.03			-
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	11.52			-
		Miscellenious					
2	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:4" dia	M	1.75			-
3	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:4" dia	Each	5.00			-
SUB TOTAL OF CIVIL WORKS							-

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Top-Running Double-Girder Bridge Cranes					
		Providing, installing, testing and commissioning Top-Running Double-Girder Bridge Cranes, of internationally reputed approved make, complete with all its moving components, drives, drive controls, safety mechanisms, cables, cables collapsing mechanisms, operation-control equipment, and side rails, to be supported on the structure, including all jointing, fixing & installation accessories, initial charging of lubricants, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In Chemical Building: Capacity: 5 Tons	Each	1.00			-
2	NS-2	MIXER					
		Providing, installing, testing and commissioning Mechanical Mixers (vertical-shaft, single impeller, pitched blade or propeller type, 3-4 blades), of internationally reputed approved make, complete with motor (4 pole, installed power to be determined by the manufacturer), gear box, motor starter, support base/frame, shaft, impeller and canopy, with all the submerged/wetted components to be of stainless steel (Grade 316), including all jointing, fixing & installation accessories, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In Alum Dosing Tanks (Imparted Mixing Power: 2.9 kW, Rotational Speed: 40 – 100 RPM, Impeller Diameter: 0.9 – 1.2 m)	Each	2.00			-
		In Lime Dosing Tanks (Imparted Mixing Power: 2.9 kW, Rotational Speed: 40 – 100 RPM, Impeller Diameter: 0.9 – 1.2 m)	Each	2.00			-
		In Polymer 1 Dosing Tanks (Imparted Mixing Power: 2.9 kW, Rotational Speed: 40 – 100 RPM, Impeller Diameter: 0.9 – 1.2 m)	Each	2.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
3	NS-3	Stock Solution Transfer Pumps					
		Providing, installing, testing and commissioning Alum Water Transfer Pumps (horizontal-shaft, end-suction, non-clogging/solids-handling, centrifugal type, Min Free Passage Size: 100 mm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices)and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare mplete in all respects, in accordance with the Contract, as follows:t, as fol					
		Alum Stock Solution Transfer pump: Capacity: 20m ³ /hr, Head:3m	Each	2.00			-
		Lime Stock Solution Transfer pump: Capacity: 20m ³ /hr, Head:3m	Each	2.00			-
		Polymer Stock Solution Transfer pump: Capacity: 20m ³ /hr, Head:3m	Each	2.00			-
4	NS-4	Dosing Pumps					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing, testing and commissioning Alum Dosing Pumps (horizontal-diaphragm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices)and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Alum Dosing Pump; Capacity: 1.2m ³ /hr, Head: 40ft	Each	5.00			-
		Lime Dosing Pump; Capacity: 1.2m ³ /hr, Head: 40ft	Each	5.00			-
		Polymer Dosing Pump; Capacity: 1.2m ³ /hr, Head: 40ft	Each	5.00			-
5	NS-5	Sluice Valves					
		Providing, installing and testing cast iron (CI) Sluice Valves (Swing type, Flanged, BS 5153, PN 10) on pipelines, of internationally reputed approved make, including gaskets, steel nuts & bolts and other jointing accessories, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:					
		32mm	Each	54.00			-
6	NS_6	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 32mm (including fittings as Bends etc)	M	158.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
7	NS-7	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10, 90mm (including fittings as Bends etc)	M	34.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
ELECTRICAL WORKS							
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	170.73			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	42.68			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexiable conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	676.83			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	225.61			-
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	768.29			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	256.10			-
A.04		Gang Light Control Switches					
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	5.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	12.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	137.20			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	45.73			-
A.06		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	493.90			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	164.63			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	201.22			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	67.07			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	548.78			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	182.93			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	182.93			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	30.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	548.78			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	182.93			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	182.93			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	30.00			-
A.10		1-20 Amps Switch Socket					
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	36.59			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	36.59			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-81	Supply and Fixing 20 Amp power plug	Each	6.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, driveway circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	100.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	6.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	10.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	36.00			-
	26-01-l-01	Supply and Erection of AC ENERGY EFFICIENT CEILING FANS 56 inch, 50 W	Nos.	36.00			-
A.14		Distribution Board					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 12: CHEMICAL BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00			-
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	21.34			-
A.15		<u>Non-maintained Emergency Lighting</u>					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	6.00			-
A.16		Fire Extinguisher					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	2.00			-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	2.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP),
INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:**

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 13: CHLORINATION BUILDING

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 13: CHLORINATION BUILDING							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-25-d	Excavation in foundation of building, bridges etc complete : in shingle/gravel	M3	259.15			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	77.75			-
		Anti-Termite					
3	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	821.59			-
		Plain and Reinforement Concrete					
4	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	M3	71.56			-
		FOUNDATION					
5	06-07-a-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	155.67			-
		GROUND FLOOR					
6	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	51.22			-
7	06-07-a-02	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1.5:3)	M3	28.87			-
		FIRST FLOOR					
8	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	4.89			-
9	06-07-a-02	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1.5:3)	M3	56.28			-
		Steel Reinforcement					
10	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	69.93			-
11	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	13.15			-
12	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	34.52			-
		Brick Work					
13	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	28.22			-
		GROUND FLOOR					
14	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	63.87			-
		FIRST FLOOR					
15	07-05-a-04	1st class brick work in first floor Cement, sand mortar 1:5	M3	16.31			-
		Flooring					
16	07-10	Supplying and filling sand under floor or plugging in wells	M3	535.77			-
17	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	2.14			-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 13: CHLORINATION BUILDING							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
18	10-22-b	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	63.00			-
19	10-41-b-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	9.60			-
		Surface Rendering					
20	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	192.22			-
21	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	402.78			-
22	11-18-b	Cement pointing struck joints, on walls, upto 20' height : Ratio 1:3 (External walls)	M2	316.47			-
23	11-18-b	Cement pointing struck joints, on walls, upto 30' height : Ratio 1:3 (External walls)	M2	84.61			-
		Painting and Warnings					
24	11-20-a	Priming coat of chalk under distemper	M2	624.75			-
25	11-21-a-03	Distemping New surface : Three coats	M2	624.75			-
26	13-25-a+(bx2)	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	416.90			-
27	13-03-c-01+(c-02x2)	Prepare & Paint new surface, doors & windows: 3 Coats	M2	10.58			-
		Metal Work					
28	12-57-b	Providing and fixing double leaf steel door with frame fully panelled with M.S sheet 16 gauge (1.59mm) painted with two coats of red oxide paint with brass fitting of approved make including cost of fabrication, iron lugs, cutting holes and making good the damages to walls.	M2	5.29			-
29	25-39-a-01	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embeded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	13.61			-
30	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	27.22			-
31	25-10	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc including Erection and fitting in position iron trusses, staging of water tanks, etc (for Louvre Gate including duly painting red oxide)	Tonne	0.15			-
		Roofing & Water Proofing					
32	9-06+13 + 6-28	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	201.60			-
33	09-16	Khuras on roof 2'x2'x6"	Each	2.00			-
34	09-17	Bottom khuras of brick masonry in c/s mortar 1:6.4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	2.00			-
35	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	77.75			-
36	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	77.75			-
37	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	77.75			-
	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	77.75			-
		Windows Sill					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 13: CHLORINATION BUILDING							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	4.61			-
		Miscellenious					
2	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:4" dia	M	0.70			-
3	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:4" dia	Each	2.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 13: CHLORINATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
MECHANICAL WORKS						
1	NS-1	Top-Running Double-Girder Bridge Cranes				
		Providing, installing, testing and commissioning Top-Running Double-Girder Bridge Cranes, of internationally reputed approved make, complete with all its moving components, drives, drive controls, safety mechanisms, cables, cables collapsing mechanisms, operation-control equipment, and side rails, to be supported on the structure, including all jointing, fixing & installation accessories, initial charging of lubricants, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:				
		In Chlorine Building: Capacity: 5 Tons	Each	1.00		-
2	NS-2	MIXER				
		Providing, installing, testing and commissioning Mechanical Mixers (vertical-shaft, single impeller, pitched blade or propeller type, 3-4 blades), of internationally reputed approved make, complete with motor (4 pole, installed power to be determined by the manufacturer), gear box, motor starter, support base/frame, shaft, impeller and canopy, with all the submerged/wetted components to be of stainless steel (Grade 316), including all jointing, fixing & installation accessories, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:				
		In Sodium Hypochlorite Dosing Tank (Imparted Mixing Power: 0.45 kW, Rotational Speed: 40 – 100 RPM, Impeller Diameter: 0.6 – 0.8 m)	Each	2.00		-
		In polymer 2 Dosing Tank (Imparted Mixing Power: 0.45 kW, Rotational Speed: 40 – 100 RPM, Impeller Diameter: 0.6 – 0.8 m)	Each	2.00		-
1		Stock Solution Transfer Pumps				
		Providing, installing, testing and commissioning Sodium Hypochlorite Water Transfer Pumps (horizontal-shaft, end-suction, non-clogging/solids-handling, centrifugal type, Min Free Passage Size: 100 mm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices) and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipare parts, complete in all respects, in accordance with the Contract, as follows: tions and				
		NaOCL Stock Solution Transfer pump: Capacity: 10m ³ /hr, Head:3m	Each	2.00		-
		Polymer Stock Solution Transfer pump: Capacity: 10m ³ /hr, Head:3m	Each	2.00		-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 13: CHLORINATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
2		Sodium Hypochlorite Dosing Pumps				
		Providing, installing, testing and commissioning Sodium Hypochlorite Dosing Pumps (horizontal-diaphragm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Min Efficiency 90%), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices)and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:				
		NaOCl Dosing Pump; Capacity: 0.2m ³ /hr, Head: 40ft	Each	3.00		-
		Polymer Dosing Pump; Capacity: 0.2m ³ /hr, Head: 40ft	Each	3.00		-
6	NS-6	Sluice Valves				
		Providing, installing and testing cast iron (CI) Sluice Valves (Swing type, Flanged, BS 5153, PN 10) on pipelines, of internationally reputed approved make, including gaskets, steel nuts & bolts and other jointing accessories, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:				
		32mm	Each	20.00		-
7	NS-7	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 32mm (including fittings as Bends etc)	M	48.00		-
8	NS-8	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 90mm (including fittings as Bends etc)	M	26.00		-
SUB TOTAL OF MECHANICAL WORKS						-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 13: CHLORINATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Amount (PKR)
		ELECTRICAL WORKS				
A.01		Light Circuits				
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta, Popular recessed in walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires, complete in all respects. Each circuit shall have independent PE.				
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	170.73		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	42.68		-
A.02		1-Light Point Controlled By One Switch				
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta, Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	567.07		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	189.02		-
A.03		Point -Point Wiring				
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	414.63		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	138.21		-
A.04		Gang Light Control Switches				
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	6.00		-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	12.00		-
A.05		Exhaust Fan Point				
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29		-
A.06		Ceiling Fan Point				
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	109.76		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	36.59		-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 13: CHLORINATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Amount (PKR)
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp				
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	182.93		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	60.98		-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp				
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	548.78		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	182.93		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	182.93		-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	30.00		-
A.09		Loop-Loop- 5 Amps Switch Socket				
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	548.78		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	182.93		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	182.93		-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	30.00		-
A.10		1-20 Amps Switch Socket				
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76		-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 13: CHLORINATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	36.59		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	36.59		-
	15-81	Supply and Fixing 20 Amp power plug	Each	6.00		-
A.11		Fitting and Fixtures.				
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, driveway circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.				
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	43.00		-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	6.00		-
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	Nos.	22.00		-
A.12		Exhaust Fans				
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00		-
A.13		Ceiling Fan				
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	8.00		-
	26-014-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	8.00		-
A.14		Distribution Board				
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.				
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00		-
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" Wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	21.34		-
A.15		Non-maintained Emergency Lighting				
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K .235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	6.00		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 13: CHLORINATION BUILDING							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
A.15		Fire Extinguisher					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	2.00			-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	2.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 14: SUB-STATION BUILDING

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	ELECTRICAL WORKS	-
TOTAL AMOUNT		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 14: SUB-STATION BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	CIVIL WORKS						
		Earth Work					
1	03-67-b-i	Excavation in foundation of building, bridges etc complete : in shingle/gravel	M3	59.95			-
2	03-67-b-ii	Structural Excavation In Medium Rock Material	M3	179.85			-
3	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	M3	159.86			-
4	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 8 km. (as per actual borrow pit lead)	M3	239.79			-
		Anti-Termite					
5	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	326.81			-
		Plain and Reinforement Concrete					
6	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	9.18			-
		GROUND FLOOR					
	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	25.92			-
7	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	69.54			-
		Steel Reinforcement					
8	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	22.39			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 14: SUB-STATION BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
9	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	12.80			-
10	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	12.80			-
		Brick Work					
11	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	24.32			-
		GROUND FLOOR					
12	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	27.24			-
		Flooring					
13	07-30	Supplying and filling sand under floor or plugging in wells	M3	8.85			-
14	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	8.85			-
15	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	4.41			-
16	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	89.29			-
17	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	6.20			-
		Surface Rendring					
18	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	88.20			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 14: SUB-STATION BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
19	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	166.32			-
20	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	137.74			-
		Painting and Warnishing					
21	11-20-a	Priming coat of chalk under distemper	M2	267.25			-
22	11-21-a-03	Distempering New surface : Three coats	M2	267.25			-
23	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	144.63			-
24	Ch-13 item U3-c01+(c-02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	32.77			-
		Metal Work					
25	12-57-a	Providing and fixing single leaf steel door with frame fully panelled with M.S sheet 16 gauge (1.59mm) painted with two coats of red oxide paint with brass fitting of approved make including cost of fabrication, iron lugs, cutting holes and making good the damages to walls.	M2	8.70			-
26	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	7.68			-
27	12-66	Supply and Fixing of double glazed aluminium (color as approved) Premium model (Gauge 2 mm) 4" sect. Sliding window, including all necessary fittings and fly screen shutters complete.	M2	10.75			-
28	12-61	MS flat 1/2"x1/8" grill in windows of approved design	M2	10.75			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 14: SUB-STATION BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
29	25-47	Supply and fixing of fancy type stainless steel chromium plate 2" dia pipes stair railing 3/4" dia pipe fixed on specified space on steps in horizontal positions, complete in all respects	M	4.20			-
		Roofing & Water Proofing					
30	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	80.85			-
31	09-16	Khuras on roof 2'x2'x6"	Each	2.00			-
32	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	2.00			-
33	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	159.86			-
34	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	159.86			-
35	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	159.86			-
36	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	159.86			-
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	1.92			-
		Miscellenious					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 14: SUB-STATION BUILDING

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
2	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					
		4" dia	M	9.60			-
3	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	2.00			-
4	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	2.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 14: SUB-STATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Amount (PKR)
Unit Rate (Rs) in Words						
ELECTRICAL WORKS						
A.01		Light Circuits				
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta, Popular recessed in walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires, complete in all respects. Each circuit shall have independent PE.				
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.78		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20		-
A.02		1-Light Point Controlled By One Switch				
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables., in and including cost of 3/4" dia. heavy duty PVC conduit make Beta, Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	73.17		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	24.39		-
A.03		Point -Point Wiring				
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	134.15		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	44.72		-
A.04		Gang Light Control Switches				
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box complete in all respects.	Each	1.00		-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box complete in all respects.	Each	2.00		-
A.05		Exhaust Fan Point				
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29		-
A.06		Ceiling Fan Point				
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.				
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88		-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29		-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp				

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 14: SUB-STATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Amount (PKR)
				Unit Rate (Rs) in Words		
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20		-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp				
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	54.88		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	18.29		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	18.29		-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	5.00		-
A.09		Loop-Loop- 5 Amps Switch Socket				
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	91.46		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	30.49		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	30.49		-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	5.00		-
A.10		1-20 Amps Switch Socket				
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.				
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59		-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20		-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20		-
	15-81	Supply and Fixing 20 Amp power plug	Each	2.00		-
A.11		Fitting and Fixtures.				

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 14: SUB-STATION BUILDING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivey circuitry make as specified or by any one of the manufacturers mentioned in Annexure-'A', complete in all respects.				
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	9.00		-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	6.00		-
A.12		Exhaust Fans				
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00		-
A.13		Ceiling Fan				
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00		-
	26-01-I-01	Supply and Erection of AC ENERGY EFFICIENT CEILING FANS 56 inch, 50 W	Nos.	4.00		-
A.14		Distribution Board				
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.				
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00		-
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" Wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	21.34		-
A.15		Non-maintained Emergency Lighting				
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	6.00		-
A.16		Fire Extinguisher				
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	2.00		-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	2.00		-
SUB TOTAL OF ELECTRICAL WORKS						-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 15: ELECTRICAL CONTROL ROOM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-67-b-i	Structural Excavation in Common Material by mechanical means	M3	239.79			-
2	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	M3	159.86			-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 8 km. (as per actual borrow pit lead)	M3	176.25			-
		Anti-Termite					
4	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	497.51			-
		Plain and Reinforcement Concrete					
5	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	9.18			-
		GROUND FLOOR					
6	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	25.92			-
7	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	47.59			-
		Steel Reinforcement					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	17.09			-
9	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	9.60			-
10	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	25.60			-
		Brick Work					
11	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	15.80			-
		GROUND FLOOR					
12	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	27.24			-
		Flooring					
13	07-30	Supplying and filling sand under floor or plugging in wells	M3	10.34			-
14	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	10.34			-
15	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	5.15			-
16	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	101.85			-
17	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	6.63			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Surface Rendring					
18	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	95.55			-
19	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	307.22			-
20	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	159.50			-
		Painting and Warnishing					
21	11-20-a	Priming coat of chalk under distemper	M2	422.91			-
22	11-21-a-03	Distempering New surface : Three coats	M2	422.91			-
23	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	167.48			-
24	Ch-13 item 03-c-01+(c-02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	15.36			-
		Metal Work					
25	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	7.68			-
26	12-66	Supply and Fixing of double glazed aluminium (color as approved) Premium model (Gauge 2 mm) 4" sect. Sliding window, including all necessary fittngs and fly screen shutters complete.	M2	13.83			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
27	12-61	MS flat 1/2"x1/8" grill in windows of approved design	M2	13.83			-
28	25-47	Supply and fixing of fancy type stainless steel chromium plate 2" dia pipes stair railing 3/4" dia pipe fixed on specified space on steps in horizontal positions, complete in all respects	M	4.20			-
		Roofing & Water Proofing					
29	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	95.55			-
30	09-16	Khuras on roof 2'x2'x6"	Each	2.00			-
31	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	2.00			-
31	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	159.86			-
32	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	159.86			-
33	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	159.86			-
33	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	159.86			-
		Windows Sill					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	2.30			-
		Miscellenious					
2	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					
		4" dia	M	9.60			-
3	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	2.00			-
4	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	2.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.78			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexiable conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	128.05			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	42.68			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	134.15			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	44.72			-
A.04		Gang Light Control Switches					
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	1.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18			-
A.06		Ceiling Fan Point					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 15: ELECTRICAL CONTROL ROOM

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.17			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	24.39			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	6.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	36.59			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	36.59			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	6.00			-
A.10		1-20 Amps Switch Socket					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm ² (P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm ² cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
	15-81	Supply and Fixing 20 Amp power plug	Each	2.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivery circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	12.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	6.00			-
A.12		Exhaust Fans					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00			-
	26-01-l-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	4.00			-
A.14		<u>Distribution Board</u>					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00			-
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	21.34			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
A.15		<u>Non-maintained Emergency Lighting</u>					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	6.00			-
A.16		Fire Extinguisher					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	2.00			-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	2.00			-
Sub Total of Electrical Works							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 16: GENERATOR ROOM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-67-b-i	Structural Excavation in Common Material by mechanical means	M3	239.79			-
3	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	M3	159.86			-
		Anti-Termite					
4	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	326.81			-
5		Plain and Reinforcement Concrete					
6	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	9.18			-
		GROUND FLOOR					
7	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	25.92			-
8	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	75.93			-
		Steel Reinforcement					
9	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	22.54			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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BILL NO. 16: GENERATOR ROOM

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10	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	12.80			-
11	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	12.80			-
		Brick Work					
12	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	22.48			-
13		GROUND FLOOR					
14	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	27.24			-
		Flooring					
15	07-30	Supplying and filling sand under floor or plugging in wells	M3	10.34			-
16	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	10.34			-
17	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	5.15			-
18	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	103.99			-
19	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	6.63			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 16: GENERATOR ROOM

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Surface Rendring					
20	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	95.55			-
21	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	166.32			-
22	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	151.44			-
		Painting and Warnishing					
23	11-20-a	Priming coat of chalk under distemper	M2	274.96			-
24	11-21-a-03	Distempering New surface : Three coats	M2	274.96			-
25	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	159.01			-
26	Ch-13 item 03-c-01+(c-02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	32.77			-
		Metal Work					
27	12-57-a	Providing and fixing single leaf steel door with frame fully panelled with M.S sheet 16 gauge (1.59mm) painted with two coats of red oxide paint with brass fitting of approved make including cost of fabrication, iron lugs, cutting holes and making good the damages to walls.	M2	8.70			-
28	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	7.68			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 16: GENERATOR ROOM

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29	12-66	Supply and Fixing of double glazed aluminium (color as approved) Premium model (Gauge 2 mm) 4" sect. Sliding window, including all necessary fittings and fly screen shutters complete.	M2	10.75			-
30	12-61	MS flat 1/2"x1/8" grill in windows of approved design	M2	10.75			-
31	25-47	Supply and fixing of fancy type stainless steel chromium plate 2" dia pipes stair railing 3/4" dia pipe fixed on specified space on steps in horizontal positions, complete in all respects	M	4.20			-
		Roofing & Water Proofing					
32	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	95.55			-
33	09-16	Khuras on roof 2'x2'x6"	Each	2.00			-
34	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	2.00			-
35	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	37.16			-
36	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	37.16			-
37	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	37.16			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 16: GENERATOR ROOM

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38	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	37.16			-
		NON SCHEDULE ITEMS-B					
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	1.92			-
		Miscellenious					
2	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					
		4" dia	M	9.60			-
3	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	2.00			-
4	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	2.00			-
SUB TOTAL OF CIVIL WORK							-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
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Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta, Popular recessed in walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires, complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.78			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta, Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	128.05			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	42.68			-
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	134.15			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	44.72			-
A.04		Gang Light Control Switches					
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	1.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29			-
A.06		Ceiling Fan Point					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 16: GENERATOR ROOM							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.17			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	24.39			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	6.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	36.59			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	36.59			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	6.00			-
A.10		1-20 Amps Switch Socket					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 16: GENERATOR ROOM							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
	15-81	Supply and Fixing 20 Amp power plug	Each	2.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, driveway circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
	i) 15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	12.00			-
	iii) 15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	6.00			-
A.12		Exhaust Fans					
	a) 15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00			-
	26-01-l-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	4.00			-
A.14		Distribution Board					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 16: GENERATOR ROOM							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	21.34			-
A.15		<u>Non-maintained Emergency Lighting</u>					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	6.00			-
A.16		Fire Extinguisher					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects. : 6kg	Each	2.00			-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	2.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 17: GUARD ROOM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	ELECTRICAL WORKS	-
3	PLUMBING WORKS	-
TOTAL AMOUNT		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	CIVIL WORKS						
		Earth Work					
1	03-67-b-i	Structural Excavation in Common Material by mechanical means	M3	37.74			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	25.16			-
		Anti-Termite					
3	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	162.28			-
		Plain and Reinforcement Concrete					
4	06-03-b	Cement Concrete (brick/stone ballast, 1.5" to 2"/nullah shingle well graded and cleaned) in foundation & plinth (Ratio 1:4:8)	M3	5.85			-
		GROUND FLOOR					
5	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	12.29			-
		Steel Reinforcement					
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	1.01			-
7	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	15.60			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	06-26-a-02	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	24.26			-
		Brick Work					
9	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	30.45			-
		GROUND FLOOR					
10	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	27.49			-
		Flooring					
11	07-30	Supplying and filling sand under floor or plugging in wells	M3	7.43			-
12	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	7.43			-
13	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	3.70			-
14	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	65.26			-
15	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	8.94			-
16	10-51	Providing and Fixing of Ceramic Tiles 12"x24" of Imported Approved Quality with jointing and finishing	M2	7.91			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Surface Rending					
17	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	60.66			-
18	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	172.58			-
19	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	117.61			-
		Wood Work					
20	12-56-b	Providing and fixing 1.5" (38 mm) thick pressed veneered door shutters fully flushed with First class wood veneering on all faces and sides fixed over partal wood cavited core and frame work of not less than 4" (100mm) wide strips all round with approved iron hinges, tower bolts as required.	M2	8.18			-
21	12-70-a	Supply and Fixing MS Sheet 16 guage(10" x 2") box type chowkats including fixing in position with all charges for Hold fast, Hinges and Painting etc	M2	20.70			-
22	12-24-a-02	providing/fixing approved quality Rim locks : Imported	Each	4.00			-
23	12-22-a-01	Providing and fixing sliding bolt to doors Iron sliding bolts : 10" long	Each	3.00			-
24	12-78-a	Kitchen Floor Cabinet as per MES Design/Specification.	M2	1.52			-
25	12-78-b	Kitchen Wall Cabinet as per MES Design/Specification.	M2	1.10			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Painting and Warnishing					
26	11-20-a	Priming coat of chalk under distemper	M2	244.91			-
27	11-21-a-03	Distempering New surface : Three coats	M2	244.91			-
28	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	123.49			-
29	Ch-13 item 03-c-U1+(c- 02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	16.35			-
		Metal Work					
30	25-39-a-02	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embeded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	7.68			-
		Roofing & Water Proofing					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
31	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	73.90			-
32	09-16	Khuras on roof 2'x2'x6"	Each	1.00			-
33	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	1.00			-
34	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	25.16			-
35	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	25.16			-
36	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	25.16			-
37	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	25.16			-
		NON SCHEDULE ITEMS-B					
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	2.08			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
2	N.S	Providing and laying Pre-polished Black Granite one-piece marble slabs Kitchen / Vanity Counter etc; laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making rounding edge and chemical polishing etc; complete in all respect, as per drawings and Specifications, sample as approved by The Engineer.	M2	1.10			-
		Miscellenious					
3	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					
		4" dia	M	9.60			-
4	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	1.00			-
5	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	1.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage,AGE Cables,Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	73.17			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	18.29			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexiable conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	128.05			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	42.68			-
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	134.15			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	44.72			-
A.04		Gang Light Control Switches					
	15-127-b	Supply at site, installation, testing and commissioning of Two gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
	15-127-c	Supply at site, installation, testing and commissioning of Three gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	1.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	27.44			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	9.15			-
A.06		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	41.16			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	13.72			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	54.88			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	18.29			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.17			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	24.39			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	7.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	128.05			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	42.68			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	42.68			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	7.00			-
A.10		1-20 Amps Switch Socket					
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
	15-81	Supply and Fixing 20 Amp power plug	Each	2.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivery circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	Nos.	6.00			-
iii)	15-36-i-15	Supply, installation, testing and commissioning of recessed Dawn Light of best quality with CFL (13-17 watt) Energy saver and with Glass Reflector	Nos.	12.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	4.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	2.00			-
A.13		Ceiling Fan					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	2.00			-
	26-01-I-01	Supply and Erection of AC ENERGY EFFICIENT CEILING FANS 56 inch, 50 W	Nos.	2.00			-
A.14		Wall Bracket Fan					
	15-68-e	Supply, installation, testing & commissioning of Direct axial Wall Bracket fan	Nos.	1.00			-
A.15		PVC Conduit					
		Supply at site of PVC conduit heavy duty to be concealed in RCC slabs, walls, floor, columns above false ceiling or as required as per site conditions including cost of all PVC conduit accessories, steel pull wires, complete in all respects.					
i)	15-02-b-08	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 4" i/d	M	9.15			-
A.16		<u>Distribution Board</u>					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00			-
A.17		<u>Non-maintained Emergency Lighting</u>					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	1.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		PLUMBING WORKS					
		Indian W.C					
1	14-03-a	Providing and fitting glazed earthenware water closet (WC), squatter type (orisa pattern) combined with foot rest. complete in all respects : White	Each	1.00			-
2	14-10-a	Providing and Fixing glazed earthen ware low down flushing cistern 3 gallons (13.63 Liters) capacity including bracket set, copper connection,etc. complete in all respects: White	Each	1.00			-
3	14-05-a-01	Providing and Fixing glazed earthen ware wash hand basin (WHB) complete size 56x40 cm (22"x16"), including bracket set, waste coupling, complete in all respects: White with pedestal (Best Quality)	Each	1.00			-
4	14-102	Providing & Fixing of SHOWER SET locally made complete with concealed T-STOP COCK for cold and hot water supply with mixer, swivel shower rose, long bib cock etc Complete in all respect.	Each	1.00			-
5	14-27-a	Providing and fixing chromum plated (CP) mixing valve for wash hand basin (WHB), sink or shower of approved (Best) quality	Each	3.00			-
6	14-06-a	Providing and Fixing stainless steel sink with drain board size (120 x 60 cm) 48"x24", including set of brackets, waste pipe etc - (Best Quality)	Each	1.00			-
7	14-13	Providing and fixing chromum plated soap dish complete.	Each	2.00			-
8	14-16-a	Providing and Fixing chromium plated (CP) towel 60 cm (24") long and 2 cm (3/4") dia	Each	2.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
9	14-17-a	Providing and fixing best quality looking glass 5 mm thick neatly fitted on masonry wall etc. as per instruction of Engineer In-charge complete. Mirror 60 x 45 cm (24"x18") size	Each	1.00			-
10	14-21-c	Providing and fixing chromium plated (CP) double bib cock, heavy duty of approved quality : 1.5 cm (1/2")	Each	1.00			-
11	14-25-a	Providing and fixing chromium plated (CP) tee stop cock 1.5 cm (1/2") of approved quality	Each	3.00			-
12	14-31-a	Providing and Fixing cast iron (CI) floor trap of approved quality including CI grating & concrete chamber all round : 4"x2" (100mm x 50 mm)	Each	3.00			-
13	14-33	Providing and Fixing 4" gully trap of approved quality including cement concrete cost of PVC grating 6" x6" (150 x 150 mm) and masonry chamber 12"x12" (300 x 300 mm).	Each	1.00			-
14	14-157	P-Trap (uPVC) for squatting type WC.					
	14-157	ii) 10 cm (4") glazed.	Each	1.00			-
		SEWERAGE SYSTEM					
15	14-95-a	Making connection with the existing system PVC pipe line including cutting the pipe for providing & fixing required fittings : Class B PVC					
		a) 3" i/d (75 mm)	m	20.00			-
		b) 4" i/d (100 mm)	m	20.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		d) 6" i/d (150 mm)	m	20.00			-
		NON-SCHEDULE ITEM					
1	NS-1	Providing, fixing, jointing and testing Polypropylene Random (PPR) PN20 pressure pipe for cold, hot and hot water return water as per DIN 8077-8078 for pipes and DIN 16962,PN25 for fittings (polyfusion welded joints) inside building including fittings and specials (sockets, tees, elbows, bends, crosses, reducers, adaptor, plugs and union etc.) supported on walls or suspended from roof slab or run in chases including pipe hangers, supports, walls cutting for pipelines, complete in all respect as per specifications and drawings as well as directed by the Engineer.					
		20 mm dia	m	25.00			-
		25 mm dia	m	20.00			-
		32 mm dia	m	20.00			-
2	NS-2	Providing and making Manhole 2'x2' internal size including 9" thick brick masonry (1:4), 1/2" th. Plastering (1:3) i/side, benching with PCC 1:2:4 4" th. with cement finish, excluding manhole cover, complete in all respects.	Each	2.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 17: GUARD ROOM

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
3	NS-3	Providing and fixing food grade plastic over head water tank (200 gallon) including all necessary accessories required for installation, complete in all respect as per specifications and drawings as well as directed by the Engineer.	Each	1.00			-
SUB TOTAL OF PLUMBING WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 18: WORKSHOP

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-67-b-i	Structural Excavation in Common Material by mechanical means	M3	85.02			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	56.68			-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 8 km. (as per actual borrow pit lead)	M3	170.65			-
		Anti-Termite					
4	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	523.48			-
		Plain and Reinforement Concrete					
5	06-03-b	Cement Concrete (brick/stone ballast, 1.5" to 2"/nullah shingle well graded and cleaned) in foundation & plinth (Ratio 1:4:8)	M3	14.17			-
		GROUND FLOOR					
6	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	22.90			-
		FIRST FLOOR					
7	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	35.35			-
		Steel Reinforcement					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	7.38			-
9	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	66.11			-
10	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	67.62			-
		Brick Work					
11	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	95.16			-
		GROUND FLOOR					
12	07-04-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	99.31			-
		FIRST FLOOR					
13	07-05-a-04	1st class brick work in first floor Cement, sand mortar 1:5	M3	60.04			-
		Flooring					
14	07-30	Supplying and filling sand under floor or plugging in wells	M3	19.16			-
15	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	19.16			-
16	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	9.55			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
17	10-55-g	Providing and Fixing of Porcelain Floor Tile 24" x 24" of approved quality	M2	21.00			-
18	10-51	Providing and Fixing of Ceramic Tiles 12"x24" of Imported Approved Quality with jointing and finishing	M2	21.00			-
19	10-42	Providing and fixing on walls 1/4"(6mm approx.) thick of imported first grade ceramic tiles of size 24 in x 24 in of approved colour on walls, over 1/2" (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base including filling the joint with white cement and washing the tile, curing and cleaning etc. complete.	M2	64.24			-
20	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	142.80			-
21	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	9.15			-
		Surface Rendring					
22	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	188.79			-
23	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	798.01			-
24	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	424.16			-
		Wood Work					
25	12-49-c	First class deodar wood wrought joinery in doors and windows etc. panelled or panelled or glazed or fully glazed fixed in position including chowkhat, holdfast, hinges, tower bolt rubber stop cleats/G I clamp, handles and chord with hooks etc. complete (excluding sliding bolts or lock) : 1½" (40mm) thick.	M2	2.35			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

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26	12-56-b	Providing and fixing 1.5" (38 mm) thick pressed veneered door shutters fully flushed with First class wood veneering on all faces and sides fixed over partial wood cavited core and frame work of not less than 4" (100mm) wide strips all round with approved iron hinges, tower bolts as required.	M2	20.16			-
27	25-35	Providing and Fixing 24 SWG GI sheet rolling shutter of steel frame of MS channel 2"x1.25"x1/8" complete	M2	19.20			-
28	12-70-a	Supply and Fixing MS Sheet 16 guage(10" x 2") box type chowkats including fixing in position with all charges for Hold fast, Hinges and Painting etc	M	44.73			-
29	12-24-a-01	providing/fixing approved quality Rim locks : Imported	Each	8.00			-
30	12-22-a-01	Providing and fixing sliding bolt to doors Iron sliding bolts : 10" long	Each	3.00			-
31	12-21-b	P/F hydraulic Door Closer (Best Quality)	Each	2.00			-
		Painting and Warnishing					
32	11-20-b	Providing and applying wall putty of 2mm thickness over plastered surface to prepare the surface even and smooth complete.	M2	1,036.14			-
33	13-03-i	Providing and applying 3 coats of approved type of Plastic emulsion paint to Plastic surface as per manufacture specification.	M2	1,036.14			-
34	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	445.37			-
35	13-06	Applying lacquer polish to wood work of any type	M2	45.03			-
36	Ch-13 item 03-c-01+(c-02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	38.40			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

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		Metal Work					
37	12-66	Supply and Fixing of double glazed aluminium (color as approved) Premium model (Gauge 2 mm) 4" sect. Sliding window, including all necessary fittngs and fly screen shutters complete.	M2	28.67			-
38	12-61	MS flat 1/2"x1/8" grill in windows of approved design	M2	28.67			-
39	25-47	Supply and fixing of fancy type stainless steel chromium plate 2" dia pipes stair railing 3/4" dia pipe fixed on specified space on steps in horizontal positions, complete in all respects	M	2.10			-
40	25-44	Supplying and Fixing 18SWG Steel Almirah, 12" max depth including box shelves, back, shelves, lock, spray paint complete	M2	18.31			-
		Roofing & Water Proofing					
41	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	208.32			-
42	09-16	Khuras on roof 2'x2'x6"	Each	3.00			-
43	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	3.00			-
44	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	56.58			-
45	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	56.58			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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46	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	56.58			-
47	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	56.58			-
		NON SCHEDULE ITEMS-B					
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	6.40			-
		Entrance Steps / Podium					
2	N.S	Providing and fixing 3/4" thick pre-polished Granite Marble Slab uniform texture full width area above 2 sft laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges complete in all respect as approved / directed by The Engineer.	M2	3.22			-
		Stair Steps					
3	N.S	Providing and laying Pre-polished Black Granite one-piece marble slabs Kitchen / Vanity Counter etc; laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making rounding edge and chemical polishing etc; complete in all respect, as per drawings and Specifications, sample as approved by The Engineer.	M2	1.52			-
		Miscellenious					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

**KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS
AND SCADA:**

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BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
4	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					
		4" dia	M	19.20			-
5	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	3.00			-
6	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	3.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 18: WORKSHOP							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Single-Girder Bridge Cranes					
		Providing, installing, testing and commissioning Top-Running Single-Girder Bridge Cranes, of internationally reputed approved make, complete with all its moving components, drives, drive controls, safety mechanisms, cables, cables collapsing mechanisms, operation-control equipment, and side rails, to be supported on the structure, including all jointing, fixing & installation accessories, initial charging of lubricants, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		In WORKSHOP: Capacity: 2 Tons	Nos:	1.00			
		Providing Tools and equipment as per requirement to development of the workshop or directed by the Engineer	LS	1.00			
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta , Popular recessed in , walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires , complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.78			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta , Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexiable conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	128.05			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	42.68			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	134.15			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	44.72			-
A.04		Gang Light Control Switches					
	15-127-d	Supply at site, installation, testing and commissioning of Four gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	1.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29			-
A.06		Ceiling Fan Point					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	18.29			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL NO. 18: WORKSHOP

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	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.17			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	24.39			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	6.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm ² (P+N) & 1x2.5mm ² as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	36.59			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	36.59			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	6.00			-
A.10		1-20 Amps Switch Socket					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm ² (P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm ² cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
	15-81	Supply and Fixing 20 Amp power plug	Each	2.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivery circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-k-01	Supply, installation, connecting, testing and commissioning of Surface mounting LED tube light with 2x2000 lumens, complete in all respects	Nos.	12.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	6.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00			-
	26-01-l-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	4.00			-
A.14		<u>Distribution Board</u>					
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 18: WORKSHOP

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	15-135-e	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" Wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	21.34			-
A.15		<u>Non-maintained Emergency Lighting</u>					
	Appendix ' c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	1.00			-
A.16		Fire Extinguisher					
	14-145-a	Providing and fixing of Dry powder type Fire Extinguisher of approved quality and manufacturer best design including all fittings complete in all respects: 6kg	Each	2.00			-
	14-172-a	Supplying and fixing of Dry Chemical Powder Fire Extinguisher 6Kg Capacity complete in all respect	Each	2.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 19: OPERATOR ROOM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	ELECTRICAL WORKS	-
3	PLUMBING WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

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LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-67-b-i	Structural Excavation in Common Material by mechanical means	M3	48.56			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	32.37			-
		Anti-Termite					
3	28-15	Pre anti Termite Treatment in the building mixed with water of mixing ratio as per the manufacturer's certified manual	M2	265.58			-
		Plain and Reinforcement Concrete					
4	06-03-b	Cement Concrete (brick/stone ballast, 1.5" to 2" nullah shingle well graded and cleaned) in foundation & plinth (Ratio 1:4:8)	M3	7.90			-
		GROUND FLOOR					
5	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	11.38			-
		Steel Reinforcement					
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.96			-
7	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	M2	10.75			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
8	06-30-a-04	V. Damp proof c/s plaster, 1 layer polythene 1 coat bitumen Ratio 1:3 (0.75" thick)	M2	10.75			-
		Brick Work					
9	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	23.26			-
		GROUND FLOOR					
10	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	M3	39.31			-
		Flooring					
11	07-30	Supplying and filling sand under floor or plugging in wells	M3	54.94			-
12	10-03-b	Provide, lay, water & ram brick ballast 1.5" to 2" guage mixed with 25% sand for floor foundations	M3	7.07			-
13	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	2.39			-
14	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	47.17			-
15	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	5.53			-
16	10-51	Providing and Fixing of Ceramic Tiles 12"×24" of Imported Approved Quality with jointing and finishing	M2	6.90			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL OF QUANTITIES

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
17	10-42	Providing and fixing on walls 1/4"(6mm approx.) thick of imported first grade ceramic tiles of size 24 in x 24 in of approved colour on walls, over 1/2" (13mm) thick base of cement mortar 1:3 setting of tiles in slurry of grey cement over mortar base including filling the joint with white cement and washing the tile, curing and cleaning etc. complete.	M2	15.75			-
		Surface Rendering					
18	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3) (ceiling plaster)	M2	34.02			-
19	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	171.62			-
20	11-09-c	Cement Plaster 1:5, upto 20' height 3/4" thick (External walls)	M2	117.61			-
		Wood Work					
21	12-56-b	Providing and fixing 1.5" (38 mm) thick pressed veneered door shutters fully flushed with First class wood veneering on all faces and sides fixed over partial wood caved core and frame work of not less than 4" (100mm) wide strips all round with approved iron hinges, tower bolts as required.	M2	8.18			-
22	12-70-a	Supply and Fixing MS Sheet 16 guage(10" x 2") box type chowkats including fixing in position with all charges for Hold fast, Hinges and Painting etc	M	20.70			-
23	12-24-a-01	Extra for providing/fixing approved quality Rim locks : Imported	Each	4.00			-
24	12-22-a-01	Providing and fixing sliding bolt to doors Iron sliding bolts : 10" long	Each	3.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
25	12-78-a	Kitchen Floor Cabinet as per MES Design/Specification.	M2	1.52			-
26	12-78-b	Kitchen Wall Cabinet as per MES Design/Specification.	M2	1.10			-
		Painting and Warnishing					
27	11-20-a	Priming coat of chalk under distemper	M2	215.92			-
28	11-21-a-03	Distempering New surface : Three coats	M2	215.92			-
29	Ch-13 item 25-a+(bx2) P-102	Preparing surface & painting with snowcem / weathershield paint: 3 Coats	M2	123.49			-
30	Ch-13 item 03-c-01+(c-02x2) P-100	Prepare & Paint new surface, doors & windows: 3 Coats	M2	16.35			-
		Metal Work					
31	25-39-a-02	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	7.68			-
		Roofing & Water Proofing					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

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KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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BILL NO. 19: OPERATOR ROOM

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
32	Ch-9 item 06+13 P-56&57 + Ch-6 item 28 P-34	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab, provided with 2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft.i/c P/L Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge)	M2	73.90			-
33	09-16	Khuras on roof 2'x2'x6"	Each	1.00			-
34	09-17	Bottom khuras of brick masonry in c/s mortar 1:6,4'x2'x4.5" over 3" cem. concrete 1:4:8	Each	1.00			-
35	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	25.16			-
36	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	25.16			-
37	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	25.16			-
38	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	25.16			-
		NON SCHEDULE ITEMS					
		Windows Sill					
1	N.S	ProvidinProviding and fixing 1/2" thick Pre-polished Sunny White Marble Slab uniform texture full width area above 3-8 sft laid ove 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment i/c beveling charges on exposed edges, complete in all respect as approved / directed by The Engineer.	M2	2.08			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
2	N.S	Providing and laying Pre-polished Black Granite one-piece marble slabs Kitchen / Vanity Counter etc; laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making rounding edge and chemical polishing etc; complete in all respect, as per drawings and Specifications, sample as approved by The Engineer.	M2	1.10			-
		Miscellenious					
3	N.S	Supply, provide and fix in position uPVC rain water down pipe lines conforming to ISO 3633:1991 and BS 3505 1968 (wall thickness 3.2mm) including proper joints complete in all respects, and system leak-free:					
		4" dia	M	9.60			-
4	N.S	Provide and fix uPVC plain bends with grating (as rain water inlets at roof), water tight connection leak-free:					
		4" dia	Each	1.00			-
5	N.S	Provide and fix uPVC shoe bends (as rain water outlets), water tight connection leak-free					
		4" dia	Each	1.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
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BILL OF QUANTITIES							
BILL NO. 19: OPERATOR ROOM							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta, Popular recessed in walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires, complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	73.17			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	18.29			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta, Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	128.05			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	42.68			-
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	134.15			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	44.72			-
A.04		Gang Light Control Switches					
	15-127-b	Supply at site, installation, testing and commissioning of Two gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
	15-127-c	Supply at site, installation, testing and commissioning of Three gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	1.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	27.44			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	9.15			-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
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BILL OF QUANTITIES							
BILL NO. 19: OPERATOR ROOM							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
A.06		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	41.16			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	13.72			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	54.88			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	18.29			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.17			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	24.39			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	24.39			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	7.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	128.05			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	42.68			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	42.68			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	7.00			-
A.10		1-20 Amps Switch Socket					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
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BILL OF QUANTITIES							
BILL NO. 19: OPERATOR ROOM							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	36.59			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	12.20			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	12.20			-
	15-81	Supply and Fixing 20 Amp power plug	Each	2.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, driveway circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	No	6.00			-
iii)	15-36-i-15	Supply, installation, testing and commissioning of recessed Dawn Light of best quality with CFL (13-17 watt) Energy saver and with Glass Reflector	Nos.	12.00			-
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	4.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	No	2.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	No	2.00			-
	26-01-l-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	2.00			-
A.14		Wall Bracket Fan					
	15-68-e	Supply, installation, testing & commissioning of Direct axial Wall Bracket fan	Nos.	1.00			-
A.15		PVC Conduit					
		Supply at site of PVC conduit heavy duty to be concealed in RCC slabs, walls, floor, columns above false ceiling or as required as per site conditions including cost of all PVC conduit accessories, steel pull wires, complete in all respects.					
i)	15-02-b-08	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 4" i/d	M	9.15			-
A.16		Distribution Board					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
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KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
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BILL NO. 19: OPERATOR ROOM							
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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, Distribution Boards, complete with all metering with indication lamps complete in all respects as per SLD.	Each	1.00			-
A.17		Non-maintained Emergency Lighting					
	Appendix 'c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangement on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	1.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		PLUMBING WORKS					
		Indian W.C					
1	14-03-a	Providing and fitting glazed earthenware water closet (WC), squatter type (orisa pattern) combined with foot rest. complete in all respects : White	Each	1.00			-
2	14-10-a	Providing and Fixing glazed earthen ware low down flushing cistern 3 gallons (13.63 Liters) capacity including bracket set, copper connection,etc. complete in all respects: White	Each	1.00			-
3	14-05-a-01	Providing and Fixing glazed earthen ware wash hand basin (WHB) complete size 56x40 cm (22"x16"), including bracket set, waste coupling, complete in all respects: White with pedestal (Best Quality)	Each	1.00			-
4	14-102	Providing & Fixing of SHOWER SET locally made complete with concealed T-STOP COCK for cold and hot water supply with mixer, swivel shower rose, long bib cock etc Complete in all respect.	Each	1.00			-
5	14-27-a	Providing and fixing chromium plated (CP) mixing valve for wash hand basin (WHB), sink or shower of approved (Best) quality	Each	3.00			-
6	14-06-a	Providing and Fixing stainless steel sink with drain board size (120 x 60 cm) 48"x24", including set of brackets, waste pipe etc - (Best Quality)	Each	1.00			-
7	14-13	Providing and fixing chromium plated soap dish complete.	Each	2.00			-
8	14-16-a	Providing and Fixing chromium plated (CP) towel 60 cm (24") long and 2 cm (3/4") dia	Each	2.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
9	14-17-a	Providing and fixing best quality looking glass 5 mm thick neatly fitted on masonry wall etc. as per instruction of Engineer In-charge complete. Mirror 60 x 45 cm (24"x18") size	Each	1.00			-
10	14-21-c	Providing and fixing chromium plated (CP) double bib cock, heavy duty of approved quality : 1.5 cm (1/2")	Each	1.00			-
11	14-25-a	Providing and fixing chromium plated (CP) tee stop cock 1.5 cm (1/2") of approved quality	Each	3.00			-
12	14-31-a	Providing and Fixing cast iron (CI) floor trap of approved quality including CI grating & concrete chamber all round : 4"x2" (100mm x 50 mm)	Each	3.00			-
13	14-33	Providing and Fixing 4" gully trap of approved quality including cement concrete cost of PVC grating 6" x6" (150 x 150 mm) and masonry chamber 12"x12" (300 x 300 mm).	Each	1.00			-
14	14-157	P-Trap (uPVC) for squatting type WC.					
	14-157	ii) 10 cm (4") glazed.	Each	1.00			-
		SEWERAGE SYSTEM					
15	14-95-a	Making connection with the existing system PVC pipe line including cutting the pipe for providing & fixing required fittings : Class B PVC					
		a) 3" i/d (75 mm)	m	20.00			-
		b) 4" i/d (100 mm)	m	20.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		d) 6" i/d (150 mm)	m	20.00			-
		Non SCHEDULE ITEM					
1	NS-1	Providing, fixing, jointing and testing Polypropylene Random (PPR) PN20 pressure pipe for cold, hot and hot water return water as per DIN 8077-8078 for pipes and DIN 16962,PN25 for fittings (polyfusion welded joints) inside building including fittings and specials (sockets, tees, elbows, bends, crosses, reducers, adaptor, plugs and union etc.) supported on walls or suspended from roof slab or run in chases including pipe hangers, supports, walls cutting for pipelines, complete in all respect as per specifications and drawings as well as directed by the Engineer.					
		20 mm dia	m	25.00			-
		25 mm dia	m	20.00			-
		32 mm dia	m	20.00			-
2	NS-2	Providing and making Manhole 2'x2' internal size including 9" thick brick masonry (1:4), 1/2" th. Plastering (1:3) i/side, benching with PCC 1:2:4 4" th. with cement finish, excluding manhole cover, complete in all respects.	Each	2.00			-
3	NS-3	Providing and fixing food grade plastic over head water tank (200 gallon) including all necessary accessories required for installation, complete in all respect as per specifications and drawings as well as directed by the Engineer.	Each	1.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 19: OPERATOR ROOM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
SUB TOTAL OF PLUMBING WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 20: MAIN GATE & BOUNDRY WALL

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 20: MAIN GATE & BOUNDRY WALL							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-67-a	Structural Excavation in Common Material by mechanical means	M3	2,475.00			-
2	07-30	Supplying and filling sand under floor or plugging in wells	M3	1,732.50			-
3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	165.00			-
4	06-07-a-02	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1.5:3)	M3	928.12			-
5	06-07-b-02	RCC in raft foundation slab, base slab of column & ret.wall etc, not including in 06-06 (1:1.5:3)	M3	1,035.18			-
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	2,771.40			-
7	25-30-b	Providing and fixing steel grated doors, complete with locking arrangement, angle iron frame 2"x2"x3/8" and 1" square bars 4" center to center.	M2	72.00			-
8	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	1,732.50			-
9	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	1,732.50			-
10	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	1,732.50			-
11	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	1,732.50			-
SUB TOTAL OF CIVIL WORKS							

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 21: EXTERNAL PIPING

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
<u>KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 21: EXTERNAL PIPING							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-49-b	Excavation in open cut for sewers & manholes except shingle, gravel & rock : 2m to 5m	M3	2,100.00			-
2	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	10,500.00			-
3	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	10,500.00			-
4	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	10,500.00			-
5	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	10,500.00			-
6	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	10,500.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 21: EXTERNAL PIPING						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
MECHANICAL WORKS						
1	NS-1	DN-180 HDPE PIPE				
		Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 (180mm) (including fittings and Bends etc)				
		HDPE Pipe	M	432.00		-
2	NS-2	DN-1200 HDPE PIPE				
		Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 1200mm (including fittings and Bends etc)				
		HDPE Pipe	M	306.00		-
3	NS-3	DN-900 HDPE PIPE				
		Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 900mm (including fittings and Bends etc)				
		HDPE Pipe	M	462.00		-
4	NS-4	DN-1000 HDPE PIPE				
		Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects PN-10 1000mm (including fittings and Bends etc)				
		HDPE Pipe	M	336.00		-
5	NS-5	Sluice Valves				
		Sluice Valves with all accessories complete in all respect for various pipe sizes as shown on the drawings				
		HDPE Pipe Line				
		800mm	No	7.00		-
		900mm	No	12.00		-
		1000mm	No	6.00		-
SUB TOTAL OF MECHANICAL WORKS						

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 22: EXTERNAL ELECTRIFICATION

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 22: EXTERNAL ELECTRIFICATION							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
		Earth Work					
1	03-25-b	Excavation in foundation of building, bridges etc complete : in ordinary soil	M3	289.00			-
2	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	M3	212.00			-
		Plain and Reinforcement Concrete					
3	06-03-b	Cement Concrete (brick/stone ballast, 1.5" to 2"/nullah shingle well graded and cleaned) in foundation & plinth (Ratio 1:4:8)	M3	42.00			-
4	06-07-b-03	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:2:4)	M3	58.00			-
5	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	M3	26.00			-
		Steel Reinforcement					
6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	7.40			-
		Brick Work					
7	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	M3	54.10			-
		Surface Rendering					
8	11-09-b	Cement plaster 1:5, upto 20' height 1/2" thick (Internal walls)	M2	375.80			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 22: EXTERNAL ELECTRIFICATION						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
ELECTRICAL WORKS						
2		LT CABLES				
		Supply at site, installation, testing & Commissioning of following under mentioned PVC insulated unarmoured copper conductor cable 600 /1000 Volt grade manufactured by any one of the manufacturers as mentioned in prelaid conduits/ trenches to be installed as per routes shown on drawings including cost of all necessary materials, connections, identification tags, cables lugs properly crimped at both ends for the following sizes complete in all respects. manufacturers as specified in Annexure "A" Actual length of cables to be installed shall be measured at site by the Contractor, duly authenticated by the employers electrical engineer before placing the order with the manufacturer, however, approximate length of cables are shown herewith. Payments shall be made as per actual length installed				
	15-123-a	b) 3-Core 2.5mm ² PVC/PVC Copper Conductor Cable between pole base Connection box to light fixtur	M	1,800.00		-
ii		Circuit Protective Conductor (CPC)				
	15-48-d	1 CORE 16mm sq	M	2,020.00		-
	15-48-c	1 CORE 6mm sq	M	1,295.00		-
	15-48-b	1 CORE 2.5mm sq	M	1,350.00		-
3		ROUND CONICAL POLE				
3.1	26-01-a-04	Single arm round conical Pole, hot dipped galvanized (80 microns) 8 meters overall thickness 4mm Arm length 1.5 meters each with OD 60 mm, base dia 180 mm and top dia 75mm with base plate arrangement (400mm x 400 mm x 20mm), 4 No of Stiffners (200mm x 100mm x 20mm), complete in all respects	Each	72.00		-
3.2	26-01-a-03	Double arm round Conical Pole, hot dipped galvanized (80 microns) 8 meters overall thickness 4mm Arm length 1.5 meters each with OD 60 mm, base dia 180 mm and top dia 75mm with base plate arrangement 400mm x 400 mm x 20mm, 4 No of Stiffners (200mm x 100mm x 20mm), complete in all respects	Each	4.00		-
3.3	15-35-g	Providing and laying of cable route marker cast iron for all sort of Road Light, Street Lights & Boundary Wall lights complete in all respects with all installation material complete	Each	54.00		-
4		STREET LIGHT FIXTURES				
4.1	15-36-e	Supply & erection of SMD Type LED Road light Fixture (90-100 watts)	Each	80.00		-
4.2	15-36-l01	Supply & Erection of candle flood light 150 watt complete in all aspects	Each	12.00		-
5		MAN HOLE				
	15-42-b	Manhole For LT Cable Pulling	Each	30.00		-
6		CABLE TRAY				
	15-135-b	Supply at site, fabrication and installation of GI perforated cable tray 14 SWG 8 ft. to 10 ft. long, 12" wide with sides 3" high to be installed on wall, or in vertical, or above false ceiling in horizontal position or floor mounted or as shown on drawing, including cost of hanging arrangement brackets made of angle iron 38mm x 38mm x 6mm installed at every 3 ft., cost of all necessary fixing accessories, complete in all respects.	M	60.98		-
NON SCHEDULE ITEMS						
		11 KV WAPDA GRID PANEL				
		Supply, installation and energizing of HT Grid Panel factory fabricated & tested, manufactured by (SIEMENS / AREVA / PEL / FICO make only) consists of 12 SWG mild steel sheet fabricated floor mounted free standing 1-cubical, indoor type (IP-54) totally enclosed with hinged front doors. The panel designed suitable for 11 KV 3-phase, (3-wire) 50 Hz AC system, high conductivity, hard drawn electrolytic copper bus bars of adequate current carrying capacity and short circuit rating copper interconnections, internal wiring and cable termination arrangements using HT Raychem Heat Shrinkable Termination Kit (German) for 3 core HT Armoured cable of appropriate size as per WAPDA specifications (P-44:96) and finished with RAL-7032 powder coating baked. Equipped with following components (All components used should be from WAPDA approved list)				

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 22: EXTERNAL ELECTRIFICATION							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
1		Components 1 No. 11KV VCB 630A 17.5KV 25KA with drawout type (Make Hyundai / Eqv) 1 No. Electronics IDMT/S/C, O/C, E/F Relay/TEST Block (Make Areva/GE) 3 Nos. 11KV Current Transformers (Make FICO) 400/200/5A For Protection 3 Nos. 11KV Current Transformers (Make FICO) 400/200/5A For Metering 3 Nos. Voltage Transformer 11KV/110V (Make FICO) 1 No. Ampere Meter 0-100/400A (Make Lumel / Frer) 1 No. Ampere Selector Switch 4-position (Make GGT/Merz) 1 No. Volt Meter 96x96 0-15KV (Make Lumel / Frer) 1 No. Volt Selector Switch 4-position (Make GGT/Merz) 2 Nos. Push Button 25MM For VCB (Make Telemecanique) 4 Nos. Indication Lamp 25MM 110VAC/110VDC (Make Telemecanique) 1 No. 6A Control MCB TP 6KA (Make ABB/GE) 4 Nos. 6A Control MCB DP 6KA (Make ABB/GE) 1 No. Auxiliary Contact 2NO+2NC (Make ABB/GE) 1 No. Auxiliary Contact 2NO+2NC (Make ABB/GE) 1 No. DC supervision Relay (Make E-Lab) 3 Nos. Surge Arrestor 5 To 15kv (Make Chint) 15 Set 11kv Insulator for Fitting Arrangement Bus Bar (Make Jeorjordan) 1 Set Control & CTs Terminal Block (Make Kelmson/Wiland) 126 Cft 10/12SWG Powder Painted 01-Cubicles. Size 7'2"x3'x6' each 230 Kg 2500A Electrolytic Copper bus bar for main & link. Size as per WAPDA standred 3x2x100x10MM Main Bus Bar as Per P-44:96 8 Nos. 1-1/2" Fibre glass insulator for bus bar mounting					
	Appendix-C Electrical Works Page 1	1 L/S Wiring, wiring cables, thimbles, sleeves, cable tray and other wiring accessories. Complete in all respect as per satisfaction of the Engineer Incharge.	Each	1.00			-
2		11 KV WAPDA METERING PANEL Supply , installation , and energizing of HT Metering Panel factory fabricated & tested, manufacture by SIEMENS, PEL, PEMPAK, FICO MAKE only, consist of 12 SWG mild steel sheet fabricated floor mounted free standing one cubical indoor type (I.P 54) total enclosed with hinged front doors, the panel designe suitable for 11KV three phase 50 Hzr. AC system, high conductivity, hard drawn electrolytic copper bus bars of adequate curren carrying capacity and short circuit rating copper interconnections, internal wiring and cables, termination arrangements, using HT Raychem Heat Shrinkable termination kit German for 3 core HT Armoured cable of appropriate size as per wapda specification and finished with RAL- 7032 powder coating baked. Equiped with following compnents (All components used should be from WAPDA approved list). 1 No. 11KV VCB 630 Amps 17.5 KV 25 KA with drawout type. (Make Hyndai or Equ.) 1 No. Electronics IDMT/S/C, O/C, E/F Relay / TEST Block. (Make Areva or Micro or Equ.) 3 Nos. 11 KV current transformers.(Make FICO or Equ.) 400/200 /5A for protection. 3 Nos. 11 KV current transformers. (Make FICO or Equ.) 400/200 /5A for metering. 3 Nos. Voltage transformer 11kv/110 V.(Make FICO or Equ.) 1 No. Ampere meter 0-100/400A. (Make Lumel or Frer) 1 No. Ampere selector switch 4-position.(Make Merz or Bretrer) 1 No. Voltmeter 96x96 0-15 KV. (Make Lumel or Frer) 1 No. Volt selector switch 4-position.(Make Merz or Bretrer) 2 Nos. Push button 25mm for VCB. (Make Telemecanique) 4 Nos. Indication Lamp 25mm 110 VAC/110 VDC. (Make Telemecanique) 1 No. 6A control MCB TP 6KA (Make ABB or GE) 2 Nos. 6A control MCB DP 6KA. (Make ABB or GE) 1 No. Auxiliary Contact 2NO+2NC (Make ABB or GE) 1 No. Auxiliary Contact 2NO+2NC (Make ABB or GE) 1 No. Capacitor Trip Unit. (Make E-Lab) 9 Set 11KV insulator for fitting arrangement Bus Bar (Make Jeorjordan) 1 Set Control and CTs terminal Block. (Make Kelmson/ Wiland) 126 Cft 10/12 SWG Powder Painted 01- Cubical Size 7'2"x3'x6' Each 90 Kg 2500A Electrolytic copper bus bar for main & link size as per wapda stander 3x2x100x10mm main bus bar as per P-44:96 4 Nos. 1-1/2" fiber glass insulator for bus bar mounting. 1 L/S Wiring, wiring cables, Thimbels, Sleeves, Cable Tray or other wiring Accessories.					
	Appendix-C Electrical Works Page 2	complete in all respect, as per satisfaction of the Engineer Incharge.	Each	1.00			-
		HT. CONSUMER/PROTECTION PANEL Supply , installation , testing and commissioning of HT consumer / protection panel factory fabricated and tested, manufacture by SIEMENS, PEL, PEMPAK, FICO MAKE only, consist of 12 SWG mild steel sheet fabricated floor mounted free standing one cubical indoor type (I.P 54) total enclosed with hinged front doors, the panel designe suitable for 11KV three phase 50 Hzr. AC system, high conductivity, hard drawn electrolytic copper bus bars of adequate curren carrying capacity and short circuit rating copper interconnections, internal wiring and cables, termination arrangements, using HT Raychem Heat Shrinkable termination kit German for 3 core HT Armoured cable of appropriate size as per wapda specification and finished with RAL- 7032 powder coating baked. Equiped with following compnents (All components used should be from WAPDA approved list).					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 22: EXTERNAL ELECTRIFICATION							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
3	Appendix-C Electrical Works Page 3	1 No. 11KV VCB 630 Amps 17.5 KV 25 KA complete.(Make Hyundai/Equ) 1 No. Electronics IDMT/S/C, O/C, E/F Relay (Make Areval/GE) 3 Nos. 11 KV current transformers (Make FICO) as per suitable rating for protection. 3 Nos. Voltage transformer 11kv/110 V. (Make FICO) 1 No. Ampere meter 0-100/400A.(Make Lumel) 1 No. Ampere selector switch 4-position.(Make GGT/Merz) 1 No. Voltmeter 96x96 0-15 KV (Make Lumel) 1 No. Volt selector switch 4-position.(Make GGT/Merz) 2 Nos. Push button 25mm for VCB.(Make Telemecanique) 4 Nos. Indication Lamp 25mm 110 VAC/110 VDC.(Make Telemecanique) 1 No. 6A control MCB TP 6KA (Make GE/ABB) 2 Nos. 6A control MCB DP 6KA (Make GE/ABB) 1 No. Auxiliary Contact 2NO+2NC (Make GE/ABB) 1 No. Auxiliary Contact 2NO+2NC (Make GE/ABB) 1 No. Capacitor Trip Unit. (Make Chint) 9 Sets 11KV insulator full fitting arrangement Bus Bar.(Make Jeorjordan) 1 Set Control and CT's terminal Block. (Make Kelmson) 126 Cft 10/12 SWG Powder Painted 01- Cubical Size 7.2"x3x6' Each 90 Kg 630A Electrolytic copper bus bar for main & link size as per wapda stander 40 Nos. 1-1/2" fiber glass insulator for bus bar mounting. 1 L/S Wiring, wiring cables, Thimbels, Sleeves, Cable Tray or other wiring Accessories. complete in all respect, as per satisfaction of the Engineer incharge.	Each	1.00			-
4		Transformer (Oil Type) Supply at site, installation, testing and commissioning of new step down Distribution transformer pad mounted oil type manufactured according to BSS-171, IEC-76 or VDE-0532/NTDC-WAPDA relevent standards and specifications and consisting of the under mentioned items.					
		Filling device, drain plug, oil level indicator, lifting hooks, bi-directional roller wheels, H.V. & L.V. porcelain bushings, off load tap changer, 2 earthing terminals, conservator and silica gel breather, thermometer pocket with digital thermometer, imported double float buckholz relay to be connected with VCB Input of Consumer panel, pressure relief vent, digital thermometer with alarm & trip contacts, rated Voltage 11000 / 415 / 230 Volts, suitable for an ambient temperature of 50°C, impedance 6% or as specified by IEC, system earth: Delta-Y, neutral solidly earthed (DYN- II), transformer oil, I.P - 54. The transformer shall be suitable for loading of 100% continuous maximum rating with "ONAN" cooling without exceeding the thermal limit. all necessary accessories / materials, including submission of technical data sheet, complete in all respects and as approved by the Engineer.					
	Appendix-C Electrical Works Page 4	3000 KVA Transformer Including cost of Foundation	Each	1.00			-
5		Horizontal Thrust Boring					
	Appendix-C Electrical Works Page 5	Provision of horizontal thrust boring at road crossing including UPVC 6" dia pipe (C-Class), back filling and compaction for H.T / L.T cables and crossing where road crossing sleeves are not available as per site requirement and approval of the Consultant . * subject to actual site work	M	33.00			-
6		H.T cables					
		Supply at work, laying, testing and commissioning of following H.T cables, laying directly in the sand layer, in already excavated trenches or through duct and/ or PVC pipe (already provided), including cable binding ties as per specifications, standards, and drawings and to the of the Consultant . Make Pakistan Cables, Newage Cables or eqv.					
	Appendix-C Electrical Works Page 6	185 MM ² AL/XLPE/AWA/PVC 15 KV 3X single core aluminium cable	M	600.00			-
7		HT terminations kits					
		Supply at work, installation testing & commissioning of following HT terminations kits, Raychem /3-M/Cellpack for cables laid under works in above item , including cable glands and miscellaneous material and installations as per requirements specifications and standards and to the approval of the Consultant .					
	Appendix-C Electrical Works Page 7	70 MM ² AL/XLPE/AWA/PVC 15 KV single core aluminium cable	Each	18.00			-
8		Cable Markers					
	Appendix-C Electrical Works Page 8	Supply at works & installation of HT & LT cable markers (concrete) as per specifications, drawing and approval of the Consultant .	Each	70.00			-
9		3000 KVA GEN. SET					
		Supply at site, installation, testing and commissioning at designated location, connection of cables, testing and commissioning of water cooled NEW diesel generating sets suitable for operation at 50cC and 90% relative humidity manufactured by any one of the manufacturers as specified in annexure "A" assembled in accordance with their provided drawings / manuals and consisting of painted welded steel bed plate frame work to accommodate engine alternator complete with electronic governor to give regulation to BS: 514 class A1, balanced flywheel, water jacket heaters energized by the in coming main supply, heavy duty starting batteries, battery charger, set of spare oil/fuel filters engine panel with oil pressure and water temperature gauge, pressure and water temperature gauge, (Electrical), alternator electronic voltage regulator, radio interference suppressors, electronic tachometer frequency meter voltmeter with selector switch, Ammeter with selector switch, hour runs meter, KWH meter, KW (total and per phase) KVA total and per phase.					
		Power factor (Ave, total and per phase. KVAR (total) KVAR hour % of rated load, emergency stop push button, radiator, with water level switch, suitable for 400 / 230 volts, 50 cycles/second, at 1500 rpm, for 3 phase 4 wire system, including cost of all necessary material / accessories, daily fuel tank and conforming to technical specifications mentioned below.					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 22: EXTERNAL ELECTRIFICATION							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	Appendix-C Electrical Works Page 9	3000 KVA Gen Set, Included cost of ATS Panel ,Sound Attenuated Canopy and Foundations.	Each	1.00			-
10		Earthing System					
	Appendix-C Electrical Works Page 10	Providing and installation of Earthing Veractor Cone / Spike Size 2" thick, 12" long as shown in drawings or ¾" dia & 10 ft long copper rod as earth electrode 100 ft or upto the water level, below ground level including cost of boring and lowering the rod (100ft / upto the water level) down, complete with clamp, test point copper plate 18" x 2.5" x 0.5" and 2x70mm2 stranded copper conductor from rod to ground surface in 2" dia G.I.pipe (EL Class) with watering cap, Mani-hole with cover as per detail shown in drawings. all earth work should be done according to the advise of electrical consultant.	Each	20.00			-
11		AMR METER					
	Appendix-C Electrical Works Page 11	Supply, installation testing and commissioning of AMR Meter as per WAPDA Specification complete in all respect and to the approval of the Consultant .	Each	1.00			-
12		AMR METER					
	Appendix-C Electrical Works Page 12	Supply, installation testing and commissioning of Energy Meter as per WAPDA Specification complete in all respect and to the approval of the Consultant .	Each	2.00			-
13		Main Panel Board / MCC PANEL:					
		Supply of MPB made of sheet steel 12 SWG, totally enclosed, indoor free Standing design including all auxiliaries, internal wiring from Mcbcs terminating on cable terminals blocks, Including provision of Cable Glands + Cable Lugs according to Sizes of Cables , designation labels of all incoming and outgoing feeders as shown on the drawings, earthing bar, neutral bar, suitable for system voltage 415 V, 50 Hz, 3 phase, neutral and earthing busbars made of 99.8% electrolytic copper of under mentioned capacities. Body of MPB shall be degreased and de-rusted having one coat of antirust paint with further 2 coats of powder paint of approved colour and shall be equipped as mentioned below, including cost of all necessary materials complete in all respects and accordance with the latest BS codes and conforming to single line diagram. Rated current of Main & Neutral Bus Bar rated at 50 degree centigrade All Breakers to be installed shall be of one make only and not mixture of two manufacturers. Make MG. (Made in France), Mitsubishi and Terasaki (Made in Japan/Spain) ABB, Legrand, GE/AEG (Made in Italy). Rated Ics not less than 35 KA for incoming outgoing Breakers and for busbar installed in the Panel. Front & Rear open able doors. Shop drawings shall be submitted by the manufacturer for Approval to consultant before starting Fabrication of all Main Panel Board , Sub Main Panel Board Motor Control Centre and Light, Power Distribution Boards.					
		Including cost of Brass cable glades for incoming and outgoing cables.					
13.1	Appendix-C Electrical Works Page 13	Main Panel Board / MCC PANEL: : Conforming to same constructional specifications as per item No. 2 mentioned above but equipped with the following: As shown in SLD.	Each	1.00			-
13.2		SYNCHRONIZING PANEL / ATS PANEL					
	Appendix-C Electrical Works Page 14	Conforming to same constructional specifications as per item No. 2 mentioned above but equipped with the following: As shown in SLD.	Each	1.00			-
13.3		P.F.I. PLANT					
		Supply, installation & commissioning of sheet metal clad totally enclosed free standing, front excess Power factor improvement plant to be installed with Main LT Switch Board, fabricated from 12 SWG M.S. sheet steel & doors from 14 SWG M.S. sheet steel with electrostatic paint of approved color, 415 volts, 3 phase, 50Hz, power factor improvement plant of automatically / manually controlled, complete with air contactors, HRC fuses for short circuit protection.					
		On/Off push buttons, On/Off indication light, PFI relay, make Nokian for switching in & out out the capacitors in . control fuses, auto/manual selector switch, 415 volts 3 phase delta connected capacitors make Gruppo Energia/Nokian and ON/OFF indicating lamps.					
	Appendix-C Electrical Works Page 15	800 KVAR, Complete in all respect as per single line diagram.	Each	1.00			-
13.4	Appendix-C Electrical Works Page 16	DB1-GF & DB2-GF: Conforming to same constructional specifications as per item No. 2 mentioned above but equipped with the following: As shown in SLD.	Each	2.00			-
13.5	Appendix-C Electrical Works Page 17	DB-GEN. ROOM, DB-CHORINE BULDING,DB-SAND FILTER,DB-OPERATOR QUARTER,DB-ADMIN BULDING,DB-ELECT. ROOM, DB-WORKSHOP, DB-GUARD: Conforming to same constructional specifications as per item No. 2 mentioned above but equipped with the following: As shown in SLD.	Each	7.00			-
13.7	Appendix-C Electrical Works Page 39	DB-VALVES & GATES: Conforming to same constructional specifications as per item No. 2 mentioned above but equipped with the following: As shown in SLD.	Each	4.00			-
14		STREET LIGHT CONTROL PANEL					
	Appendix-C Electrical Works Page 18	Supply ,installation testing & commissioning of Road Light Control Panel 16 SWG sheet steel construction with IP 43 protection class, canopy, door, locking arrangement with MCCB magnetic contactor relay, Photo cell, control switches and monitoring switches etc including provision of brick masonry foundation with PCC 3" Thick top pad, as per drawing, and approval of the consultant/the Engineer Detail is as under. Manufactured by any one of the manufacturers Siemens, PEL, TechnoBuild Engineering.					
		Incoming					
		1-100 A MCCB TP RC:16KA					
		outgoing					

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
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KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 22: EXTERNAL ELECTRIFICATION							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		10-30A MCB TP RC:6KA	Each	1.00			-
15		POLE BASE CONNECTION BOXES					
	Appendix-C Electrical Works Page 19	Supply , Installation, testing and commissioning of Pole Base Connection Boxes complete comprising 2-NO.circuit breakers (MCB 6A),connectors, nut & bolts etc; as per drawings, specification, complete in all respects and to the approval of the Consultant/The Engineer: Make TechnoBuild Engineering, PEL, Siemens.					
		a. Connection Box	Each	18.00			-
16		LT CABLES					
		Supply, Laying, testing and commissioning of LT Copper Conductor Cable, PVC insulated, PVC sheathed 660/1100 volt grade cable, armoured with G.I. wire 16 SWG, laid directly in the already excavated as per item B-1, including 2" UPVC pipe at road crossing with provision of warning tape as per drawings, specifications and approval of the consultant/the Engineer, Make Pakistan Cables, Newage Cables, Fast Cables or eqv.					
16.1	Appendix-C Electrical Works Page 20	150 mm2 4-core cable,	M	890.00			-
16.2	Appendix-C Electrical Works Page 21	120 mm2 1-core cable,	M	5,920.00			-
16.3	Appendix-C Electrical Works Page 22	120 mm2 4-core cable,	M	260.00			-
16.3	Appendix-C Electrical Works Page 23	50 mm2 4-core cable,	M	390.00			-
16.4	Appendix-C Electrical Works Page 24	35 mm2 4-core cable,	M	760.00			-
16.5	Appendix-C Electrical Works Page 25	25 mm2 4-core cable,	M	1,260.00			-
16.6	Appendix-C Electrical Works Page 26	16 mm2 4-core cable,	M	100.00			-
16.6	Appendix-C Electrical Works Page 27	10 mm2 4-core cable,	M	1,295.00			-
16.7	Appendix-C Electrical Works Page 28	6 mm2 4-core cable,	M	4,052.00			-
16.7	Appendix-C Electrical Works Page 29	16 mm2 2-core cable,	M	540.00			-
16.7	Appendix-C Electrical Works Page 30	10 mm2 2-core cable,	M	1,576.00			-
16.7	Appendix-C Electrical Works Page 31	6 mm2 2-core cable,	M	1,576.00			-
16.9	Appendix-C Electrical Works Page 32	4 mm2 2-core cable, From LT Main Panel Board to CONVEYER, FINE SCREENS, PUMP ROOM, SUMP PUMP, & PENSTOCKS.	M	36,400.00			-
ii		Circuit Protective Conductor (CPC)					
16.10	Appendix-C Electrical Works Page 33	1 CORE 70mm sq	M	14,140.00			-
16.10	Appendix-C Electrical Works Page 34	1 CORE 50mm sq	M	390.00			-
16.10	Appendix-C Electrical Works Page 35	1 CORE 25mm sq	M	390.00			-
16.11	Appendix-C Electrical Works Page 36	1 CORE 10mm sq	M	2,120.00			-
16.12	Appendix-C Electrical Works Page 37	1 CORE 4mm sq	M	4,052.00			-
17		BUS TIE DUCT					
		Supply at site, fabrication and installation of Following TP+N+E. Bus Tie Duct Strict Compliance As Per IEC 61439-1, 2 & 6. Standard IP55 protection degree [EN60529], Pogliano brand Insulated Busbar Systems (ITALY). Complete in all respect, as approved by the Electrical Engineer.					
	Appendix-C Electrical Works Page 38	Copper Contact Aluminium Busway, 4000A, 3P+N+E, IP55	M	100.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
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KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 22: EXTERNAL ELECTRIFICATION							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
18		PROVISION OF WAPDA CONNECTION					
	As Per WAPDA rates 2020	Design, approval from WAPDA, execution, testing and commissioning of 11 kV (single / composite arrangement on poles) overhead network for the Treatment Plant and associated works shall be included in the Contractor's scope of work. Contractor shall be responsible for complete site survey and design of HT feeder / network from the source 132/11 kV grid station(s) upto project premises / sites. The feeder extension from Grid Station for distribution transformers at the project premises/sites comprising of HT Alum ACSR Osprey conductors, 36 ft Steel Structure Poles, Cross arms, insulators, connecting hardware, terminations / jumpers, anti-climbing devices, danger sign, foundations, earthing etc. complete in all respect as per WAPDA prevailing rules and regulations. Including Cost of Security Deposit to WAPDA on the name of Client.	Job/ PS	1.00	36,046,411.52	-	36,046,411.52
19		ENHANCEMENT OF 132/11.5 KV GIS GRID STATION					
		Design, approval, supply, installation, testing commissioning of Enhancement of 132/11.5 KV GIS Grid Station including cost of 132/11.5 KV, 20/26 MVA Power Transformer 50Hz, 10% Impedance, Vector Group Dyn11, On Load Tap Changer Aux:Panel (Extended Creepage Bushing) and required Termination Connectors, (Including Dehydration of Transformer Oil), 120 KV Metal Oxide (Gapless) Surge Arrester with Surge Counter and Terminal connectors for 600 mm Sq Aluminum Conductor Including Steel supporting structure (Extended Creepage Porcelain Insulator), 145 KV -XLPE S/C, Copper Conductor, 800 Sqmm Power Cable, 145KV -Cable Bushing with structure & Terminal Connector, 132KV -Out Door Type Termination Kit for 145 KV -XLPE S/C, Copper Conductor, 800 Sqmm Power Cable, 132KV -GIS Termination(Plug-in-Type)for 145 KV -XLPE S/C, Copper Conductor, 800 Sqmm Power Cable, 12 KV Extended Creepage Surge Arrestors with surge counter and Terminal Connectors, complete 132 KV Steel Gantries & Hardware, complete 132 KV Control & Protection System, complete 132 KV Substation General Items, 15 KV XLPE Power Cables and terminations and control cables, Earthing Material Substation Grounding System for 132 kV Switch yard and Control house Building, 12 KV METAL CLAD (VCB-Type) Switchgear Panels, Battery Bank And Battery Charger and including all the items either explain in this description or not but necessary to complete this job, complete in all respect as approved by the Engineer Incharge and as per WAPDA/NTDC (updated) Specifications. NOTE: This is provisional item and if the load is available in the existing Grid Station this item will not be required. Otherwise contractor will bear Grid sharing charges including transmission charges complete in all respects for dedicated feeder for WTP Mingora	Job/ PS	1.00	133,975,681.00	-	133,975,681.00
SUB TOTAL OF ELECTRICAL WORKS							

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 23: ROAD WORKS

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS (Internal Roads)	-
2	CIVIL WORKS (External Roads)	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT
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KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND
SCADA:
LOT 1: WATER TREATMENT PLANT
BILL OF QUANTITIES

BILL NO. 23: ROAD WORKS

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS (INTERNAL ROAD)							
Earthwork for Maintain the Grading Plan							
1	03-01-b	Earth excavation undressed upto single throw of kassi phaorah or shove etc : in ordinary soil,	M3	1,938.00			-
2	03-29-b	Compaction of earth with power road roller 90% max. mod. AASHTO dry density	M3	865.45			-
3	CH:3 item 03-20-a P-12	Transportation of earth all types beyond 250 m and upto 500 m.	M3	1,072.55			-
4	CH:3 item 03-20-b P-12	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	1,072.55			-
5	CH:3 item 03-20-c P-12	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	1,072.55			-
6	CH:3 item 03-20-d P-12	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	1,072.55			-
Parking Shed							
1	10-49-a	Providing and Fixing Precast Concrete 7000 psi TUFF Tiles 50mm thick over bed of 2" thick sand & 4" thick brick ballast/stone ballast complete.	M2	200.00			-
2	16-73-b	Providing and fixing kerb stone (12"x14"x6") in cement sand mortar 1:3 in center media or round about as specified.	M	192.00			-
3	13-19	Paint on Concrete work (Kerb stone, Barrier)	M2	69.12			-
4	25-58-c	Providing and fixing of parking shed consisting of fiber glass Sheet, tubular pipe frame (heavy) quality and circular columns excluding cost of foundation.	M2	200.00			-

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SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 23: ROAD WORKS

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
5	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	0.67			-
		Earthwork and Allied Activities					
1	03-60	Clearance of site by cutting, removing all shrubs, trees, upto 6 inches (152 mm) girth, etc. and taking out their entire roots and filling the hollows with earth complete with dressing, consolidating and watering the filling including stacking the serviceable materials and disposal of useless material as directed,	M2	13,651.00			-
2	03-65	Compaction of Natural Ground	M2	13,651.00			-
3	03-70-a	Formation of Embankment from Roadway Excavation in Rock Material requiring blasting and compaction Modified AASHTO 95% of embankment by power roller.	M3	3,309.49			-
4	03-70-b	Formation of Embankment from Roadway Excavation in Rock Material requiring blasting and compaction Modified AASHTO 95% of embankment by power roller.	M3	3,309.49			-
5	03-70-c	Formation of Embankment from Borrow Excavation in Common Material including compaction Modified AASHTO 90% by power roller.	M3	5,482.76			-
		Sub Base, Base Course & Surfacing					
6	16-04-b	Granular Sub Base Using Crushed Stone Aggregate	M3	1,598.12			-
7	16-05-b	Water Bound Macadam Base Course	M3	2,130.83			-
8	16-06	Providing and Laying road edging of 3" wide & 9" deep brick on end, complete	M	2,536.70			-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND <u>SCADA:</u>							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 23: ROAD WORKS							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
9	16-10-c	Triple bitumenous Surface Treatment	M2	319.62			-
		Ancillary Works					
10	10-49-a	Providing and Fixing Precast Concrete 7000 psi TUFF Tiles over bed of 2" thick sand & 4" thick brick ballast comp	M2	464.68			-
11	16-73-a	Providing and fixing kerb stone (12"x18"x6") in cement sand mortar 1:3 in center media or round about as specified.	M	500.00			-
12	16-76-a	Pavement marking in reflective chlorinated rubber paint with glass beads for line 15 cm width.	M	3,042.60			-
13	16-25-a-02	Supply and Fixing aluminium alloy road studs as per specs Large, strip 146x30mm, 171 beads: Uni-direction	Each	328.00			-
14	16-20-a	Traffic Road Sign Cat 1	Each	20.00			-
15	16-20-c	Traffic Road Signs Category 3a	Each	2.00			-
		LANDSCAPING					
1	NS-1	Development and maitinance (for 6 month) of Landscaping including sweet soil replacement (with unsuitable soil at site) leveling, dressing, fertilizers to all planted plnts (The plants and trees should be suitable for enviroment of Project area) and truff works complete in all respect as per directed by the Engineer.	LS / PS	1.00	1,000,000.00		1,000,000.00
SUB Total of civil works (Internal Road)							

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 23: ROAD WORKS

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS (EXTERNAL ROAD)					
		Earthwork and Allied Activities					
1	03-60	Clearance of site by cutting, removing all shrubs, trees, upto 6 inches (152 mm) girth, etc. and taking out their entire roots and filling the hollows with earth complete with dressing, consolidating and watering the filling including stacking the serviceable materials and disposal of useless material as directed,	M2	4,950.00			-
2	03-65	Compaction of Natural Ground	M2	4,950.00			-
3	03-70-a	Formation of Embankment from Roadway Excavation in Rock Material requiring blasting and compaction Modified AASHTO 95% of embankment by power roller.	M3	4,950.00			-
4	03-70-b	Formation of Embankment from Roadway Excavation in Rock Material requiring blasting and compaction Modified AASHTO 95% of embankment by power roller.	M3	4,950.00			-
		Sub Base, Base Course & Surfacing					
5	16-04-b	Granular Sub Base Using Crushed Stone Aggregate	M3	754.34			-
6	16-05-b	Water Bound Macadam Base Course	M3	754.34			-
7	16-09-a	Bitumenous Prime Coat	M2	4,950.00			-
8	16-14-a	Asphaltic Base Course (Asphalt Batch Plant Hot Mixed) (2" inch thick) (ABC)	M3	247.50			-
9	16-09-b	Bitumenous Tack Coat	M2	4,950.00			-
10	16-14-b	Asphaltic Wearing Course (Asphalt Batch Plant Hot Mixed) (1½" inch thick) (Wearing Course)	M3	198.00			-

		Ancillary Works					
11	16-73-a	Providing and fixing kerb stone (12"x18"x6") in cement sand mortar 1:3 in center media or round about as specified.	M	500.00			-
12	16-76-a	Pavement marking in reflective chlorinated rubber paint with glass beads for line 15 cm width.	M	275.00			-
13	16-25-a-01	Supply and Fixing aluminium alloy road studs as per specs Large, strip 146x30mm, 171 beads: Uni-direction	Each	100.00			-
14	16-20-a	Traffic Road Sign Cat 1	Each	5.00			-
15	16-20-c	Traffic Road Signs Category 3a	Each	5.00			-
		Sub total of civil work (External Road)					-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 23A: Operation & maintenance of entire WTP & Client staff training

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	Operation & maintenance of entire WTP & Client staff training	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 23A: Operation & maintenance of entire WTP & Client staff training

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Operation & maintenance of entire WTP & Client staff training					
1		Operation and maintenance of entire WTP including provision of staff as specified for operation and maintenance of plant training of the client's staff about the operation of the plant	Month	3.00			-
SUB Total of O&M							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 24: STORM WATER DRAINAGE SYSTEM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA						
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT						
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT						
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:						
LOT 1: WATER TREATMENT PLANT						
BILL OF QUANTITIES						
BILL NO. 24: STORM WATER DRAINAGE SYSTEM						
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount		
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words
CIVIL WORKS						
Earth Work						
1	03-67-b-i	Structural Excavation In Hard Rock Material by mechanical means requiring blasting	M3	660.05		-
2	03-67-b-ii	Structural Excavation In Medium Rock Material	M3	1,980.15		-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	1,320.10		-
Plain and Reinforcement Concrete						
4	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	193.27		-
5	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	M3	103.54		-
6	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	419.33		-
7	06-07-d-01	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c cost of all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1:2)	M3	563.34		-
8	06-25-j	Providing and fixing ribbed polyvinyle chloride (PVC) water stops 8" (203 mm) wide in vertical (Walls/Columns) or horizontal (Floors/Slabs) expansion joints including cutting and jointing etc. complete in all floors .	M	2,635.50		-
Steel Reinforcement						
9	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	108.16		-
10	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	1,320.10		-
11	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	1,320.10		-
12	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	1,320.10		-
13	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	1,320.10		-
SUB TOTAL OF CIVIL WORKS						-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 25: EXTERNAL SEWERAGE SYSTEM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 25: EXTERNAL SEWERAGE SYSTEM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
CIVIL WORKS							
1	03-49-b	Excavation in open cut for sewers & manholes except shingle, gravel & rock : 2m to 5m	M3	247.50			-
2	03-51	Excavation of trench in all kinds of soils except cutting in rock for pilelines upto 1.5m depth	M3	540.00			-
3	07-30	Supplying and filling sand under floor or plugging in wells	M3	60.00			-
4	24-30-a-05	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) Din-8074/Din-8075/ISO-4427 in trenches, complete in all respects except excavation. (90 mm dia) PN-8	M	250.00			-
5	24-30-g-08	Providing and installing HDPE bend 90mm dia	Each	8.00			-
6	24-30-f-08	Providing and installing HDPE Tee 90mm dia	Each	10.00			-
7	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	M3	148.50			-
8	06-02	Dry rammed shingle brick ballast or stone ballast 1.5" to 2" guage	M3	47.85			-
9	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8) (septic Tank)	M3	20.50			-
10	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	1.09			-
11	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	5.47			-
12	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.94			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 25: EXTERNAL SEWERAGE SYSTEM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
13	14-37-b	Supply and Fixing cast iron (CI) manhole cover with frame etc (Heavy Type) of approved quality complete: 18" (455 mm) dia	Each	3.00			-
14	23-01-c	Providing and laying R.C.C. pipe, moulded with cement concrete 1:1-1/2:3, with spigot, socket or collar joint, etc. including cost of reinforcement, conforming to B.S. 5911: Part-I, 1981 Class "L" including carriage, lowering in trenches to correct alignment and grade, jointing, cutting pipe where necessary, finishing and testing, etc. complete: 9" dia:	M	150.00			-
15	23-11	Soakage Pit (6'dia x 15' deep) complete	Each	1.00			-
16	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	148.50			-
17	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	148.50			-
18	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	148.50			-
19	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	148.50			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 25: EXTERNAL SEWERAGE SYSTEM

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
20	06-07-d-05	MANHOLES					
	06-07-d-05	Providing manhole size 24" x 18" (inside dimensions) as per approved design and specifications complete for 4" to 12" dia pipes upto 4 ft. (1.2 m) depth with 16" dia. Concrete Cover fixed in 4" thick RCC 1:2:4 slab (with 5 lbs per Cu.ft. or 80 kg/M3 of steel), burnt brick masonry walls 9" (225 mm) thick set in 1:3 cement sand mortar, 6" thick 1:3:6 cement concrete in foundation, 4" av. thickness 1:2:4 cement concrete in benching and 1/2" (13mm) thick cement sand plaster in 1:3 to all inside wall surfaces, channels and benching including making requisite number of main and branch channels but excluding the cost of excavation, back filling and disposal of excavated stuff.	Each	6.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 26: FLOOD PROTECTION (EMBANKMENT)

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
TOTAL AMOUNT		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 26: FLOOD PROTECTION (EMBANKMENT)

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	CIVIL WORKS						
1	03-70-c	Formation of Embankment from Borrow Excavation in Common Material including compaction Modified AASHTO 90% by power roller.	M3	45,210.00			-
2	03-48+03-29-a	Supplying clean and screened river or pit sand within 150m including removal of loose earth or overburden including Compaction of earth with power road roller 95% to 100% max. mod. AASHTO dry density	M3	8,220.00			-
3	19-28-a	Providing and Laying stone pitching for top layer only : On slope	M3	9,479.51			-
	19-15-a-01	Supply & dump at site, without boat, including handling within 100m: boulders	M3	8,220.00			-
4	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	41,100.00			-
5	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	41,100.00			-
6	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	41,100.00			-
7	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	41,100.00			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 27: SCADA SYSTEM

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	INSTRUMENTATION AND CONTROL EQUIPMENT	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
3	ELECTRICAL WORKS	-
TOTAL AMOUNT RS		-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	CIVIL WORKS						
1	03-67-b-ii	Structural Excavation in Common Material by mechanical means	M3	105.80			-
2	07-30	Supplying and filling sand under floor or plugging in wells	M3	38.28			-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	52.90			-
4	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	16.50			-
5	06-07-d-01	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c cost of all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1:2)	M3	25.83			-
6	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	25.83			-
7	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	21.24			-
8	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	139.98			-
9	07-05-a-03	1st class brick work in ground floor Cement, sand mortar 1:4	M3	34.94			-
10	11-08-b	Cement plaster 1:3 upto 20' height 1/2" thick	M2	174.72			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
11	11-21-a-03	Distemping New surface : Three coats	M2	174.72			-
12	11-18-b	Cement pointing struck joints, on walls, upto 20' height : Ratio 1:3	M2	174.72			-
13	11-10-a	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:2)	M2	174.72			-
14	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	M2	46.00			-
15	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	M2	46.00			-
16	09-01	First class tile roofing including earth, mud plaster, gobri leeping, cement plaster etc complete	M2	104.16			-
17	09-13	2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft	M2	104.16			-
18	06-28	Providing and laying polythene sheet 0.005" thick (0.05mm 500gauge) under cement concete.	M2	104.16			-
19	25-39-a-02	Providing and fixing steel windows with openable glazed pannels, using beam section for frame 1-1/2" x 1" x 5/8" x 1/8", z-section for leaves 3/4" x 1" x 3/4" x 1/8", T- section sashes 1"x1"x1/8" glass panes, wooden screed for glazing embded over a thin layer of putty duly screwed with leaves, brass fittings holdfast, duly painted, complete in all respects, including all cost of material and labour etc. as per approved design and as directed by the engineer - in -charge Glass pane 2.5mm thick	M2	14.40			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
20	25-45-b	Supplying and Fixing 18 SWG MS Sheet Gate with angle iron frame (2"x2"x3/16") with side window, lock, painting etc	M2	14.40			-
21	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	52.90			-
22	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	52.90			-
23	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	52.90			-
24	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	52.90			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Sludge Pumps					
		Providing, installing, testing and commissioning Sludge Pumps (end-suction, non-clogging/solids-handling, screw type, Min Free Passage Size: 15-50 mm), of internationally reputed approved make, complete with pump, 3-phase induction motor (4-pole, Efficiency class IE3), spacer coupling, support base/frame, pressure gauges (on suction and discharge sides), mechanical seal, temperature & vibration monitoring devices, automatic liquid level-controlled switching device (ultrasonic sensor type), motor control unit (MCU, in painted metallic box, complete with auto star-delta starter and all the required control, relay, monitoring and protection devices)and electrical & control cables (between motor and MCU), with pump impeller, shaft & sleeve to be of stainless steel of approved grade, including all jointing, fixing & installation accessories, vibration-control accessories, initial lubricant charge, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Sludge Feeding Pump (Max Concentration: 5 %) Capacity: 15m ³ /h, Head: 20 m	No	4.00			-
2.00	NS-2	Flow Meter					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installing, testing and commissioning Water Flow Meter (Electromagnetic type, Range: 0 to 2000 m ³ /h, Accuracy: ± 0.5%, PN 16, Max Water Temperature: 40°C) on pipeline (HDPE, DN 150), of internationally reputed approved make, complete with meter, relays, on-site LCD display unit (with adjustable backlight and contrast) & its mounting arrangement (in stainless steel, Grade 316), display unit cabinet (painted metallic box with glazed front door), all the necessary provisions, instruments and accessories for integration with SCADA and power supply, including all jointing, fixing & installation accessories, all painting & coatings and a complete set of special tools, test equipment & essential spare parts, complete in all respects, in accordance with the Contract	No	4.00			-
3.00	NS-3	DUCTILE IRON PIPE (DI PIPE)					
		Providing at site, laying, cutting, fixing, jointing, testing and commissioning Ductile iron Pipe class-K12 conforming to specifications (ISO2531 and BS 4772) and relevant ANSI/AWWA standards with all accessories, Nut, Bolts, washers, jointing material and lubricants complete in all respect as per drawings and specifications.					
		DI Pipe 150mm	m	30.00			-
4.00	NS-4	Providing at site, laying, cutting, fixing, jointing, testing and commissioning Ductile iron (cast on flange) specials (such as bend, tee, cross collar, reducer, tail piece, flanged spigot, cap, flanged socket, taper, angle branch, plug etc) class-K12 conforming to specifications (ISO2531 and BS 4772) and relevant ANSI/AWWA standards with all accessories, Nut, Bolts, washers, jointing material and lubricants complete in all respect as per drawings and specifications.					
a)		Bend 90°					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		150 mm	No	16.00			-
b)		DI TEE					
		150mm x 150mm	No	6.00			-
c)		DI REDUCER					
		150mm	No	4.00			-
5.00	NS-5	(CI) Check Valves (150mm)					
		Providing, installing and testing cast iron (CI) Check Valves (Swing type, Flanged, BS 5153, PN 10) on pipelines, of internationally reputed approved make, including gaskets, steel nuts & bolts and other jointing accessories, with all the exposed ferrous surfaces to be epoxy coated, complete in all respects, in accordance with the Contract, as follows:	No	8.00			-
6	NS-6	SLUICE VALVE (150mm)					
		Sluice Valves with all accessories complete in all respect for various pipe sizes as shown on the drawings	No	8.00			-
SUB TOTAL OF MECHANICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		ELECTRICAL WORKS					
A.01		Light Circuits					
		Supply, installation and commissioning of light circuit wiring, to be wired with 4x2.5mm sq. (1P+1N+1UPS+1PE) PVC insulated 300/500 V grade wire make Pakistan Cable, Newage, AGE Cables, Golden Star, in and including cost of 1" dia. heavy duty PVC conduit make Beta, Popular recessed in walls, Roof slab, or on surface or above false ceiling or as required as per site conditions, all PVC conduit accessories, pull boxes, steel pull wires, complete in all respects. Each circuit shall have independent PE.					
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	146.34			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	73.17			-
A.02		1-Light Point Controlled By One Switch					
		Wiring of one light point controlled by one switch and wired with 3x1.5 mm sq. (P+N+PE) PVC insulated wires 300/500 V. grade make Pakistan Cable, Newage Pioneer Cables,, in and including cost of 3/4" dia. heavy duty PVC conduit make Beta, Popular installed on RCC slab, above false ceiling, recessed in wall, columns slabs or above light carrier all PVC conduit accessories, 3" high PVC junction boxes, pull boxes, steel pull wires, PVC flexible conduit from ceiling junction box to light fixture flush type plate switches, including cost of back boxes and switches of 10 Amps.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	256.10			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	170.73			-
A.03		Point -Point Wiring					
		Same as per item No. A.02 but Loop wiring of a light point from first light point on same switch circuit, complete in all respects.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	268.30			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	178.87			-
A.04		Gang Light Control Switches					
	15-127-b	Supply at site, installation, testing and commissioning of Two gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	4.00			-
	15-127-c	Supply at site, installation, testing and commissioning of Three gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	2.00			-
	15-127-f	Supply at site, installation, testing and commissioning of Six gang light control switches 10 Amps, 250Volts one way, including appropriate size concealed MS, powder coated back box, complete in all respects.	Each	4.00			-
A.05		Exhaust Fan Point					
		Same as Item No. A.02 mentioned above but wiring of exhaust fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	54.88			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	36.59			-
A.06		Ceiling Fan Point					
		Same as Item No. A.02 mentioned above but wiring of Ceiling fan point including cost of 10 Amp switch with M.S box 16 SWG with earth terminal.					
	15-05-a	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 3/0.029" 1/2" i/d	M	82.32			-
	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	M	54.88			-
A.07		1-3 pin switch & plug combined recessed type :10/15 Amp					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Supply and wiring of one 3 pin switch & plug combined recessed type :10/15 Amp outlet point from distribution board with single core 2x4mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling, all conduits accessories, junction boxes, pull boxes etc. 2.5mm2 cable as PC excluding cost of 3 pin 13 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	109.76			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	73.17			-
A.08		Loop-Loop- 3 pin switch & plug combined recessed type :10/15 Amp					
		Same as item No.A.12 above but loop wiring of 3 pin switch & plug combined recessed type :10/15 Amp outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	146.34			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	97.56			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	195.12			-
	15-20-b	Supply and Erection 3 pin switch & plug combined recessed type :10/15 Amp	Each	14.00			-
A.09		Loop-Loop- 5 Amps Switch Socket					
		Same as item No.A.12 above but loop wiring of 5A power socket outlet with 2x4mm2(P+N) & 1x2.5mm2 as CPC from point to point excluding cost of one 15A 3 pin switch socket outlets with make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel boards recessed in walls /columns.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	256.10			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	170.73			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	341.47			-
	15-20-a	Supply and Erection 3 pin switch & plug combined recessed type : 5 Amp	Each	14.00			-
A.10		1-20 Amps Switch Socket					
		Supply and wiring of one 3pin 20 Amps Power plug socket outlet point from distribution board with single core 2x6mm2(P+N) PVC insulated 300/500 volt grade cable in & including PVC conduit recessed in walls/R.C.C. slab, or installed on surface of Ceiling including all conduits accessories, junction boxes, pull boxes etc. 4mm2 cable as PC including cost of 3 pin 20 Amps switch & socket out let make CLIPSAL / MK / Legrand / ABB or approved equivalent installed on & including 16 SWG sheet steel board recessed in walls complete in all respects and as per specifications & drawings.					
	15-05-d	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.036"	M	73.18			-
	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	M	48.79			-
	15-02-b-03	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 1" i/d	M	97.57			-
	15-81	Supply and Fixing 20 Amp power plug	Each	4.00			-
A.11		Fitting and Fixtures.					
		Supply at site, installation, testing and commissioning of the following indoor incandescent/LED light fittings, complete with brass lamp holders, fixing accessories, earthing terminal, drivery circuitry make as specified or by any one of the manufacturers mentioned in Annexure-"A", complete in all respects.					
i)	15-36-j-12	Supply, installation, connecting, testing & commissioning of 10W LED Down Light Fixture suitable for 1300 lm, as per instruction of Engineer, surface mounted circular shape or equivalent.	Nos.	12.00			-
iii)	15-36-i-15	Supply, installation, testing and commissioning of recessed Dawn Light of best quality with CFL (13-17 watt) Energy saver and with Glass Reflector	Nos.	24.00			-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

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				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
iii)	15-36-k-03	Supply, installation, connecting, testing and commissioning of Wall mounted Bulkhead light fixtures with LED retrofit lamp 540 Lumens output, complete in all respects	Nos.	8.00			-
A.12		Exhaust Fans					
a)	15-69-b	Supply and Erection best quality exhaust fan complete with shutter & regulator : 16"sweep	Nos.	4.00			-
A.13		Ceiling Fan					
	15-127-m	Supply at site, installation, testing and commissioning of Fan Dimmer with switch/ MS, powder coated back box with all associated accessories, complete in all respects.	Nos.	4.00			-
	26-01-l-01	Supply and Erection of AC Energy Efficient Ceiling Fans 56 inch, 50 W	Nos.	8.00			-
A.14		Wall Bracket Fan					
	15-68-e	Supply, installation, testing & commissioning of Direct axial Wall Bracket fan	Nos.	2.00			-
A.15		PVC Conduit					
		Supply at site of PVC conduit heavy duty to be concealed in RCC slabs, walls, floor, columns above false ceiling or as required as per site conditions including cost of all PVC conduit accessories, steel pull wires, complete in all respects.					
i)	15-02-b-08	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 4" i/d	M	18.30			-
A.16		Distribution Board					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 28: BELT FILTER PRESS SLUDGE PUMPING STATION

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Fabrication, supply at site, installation, testing, commissioning and connections of wires / cables of Distribution Boards "Light / Power" concealed / open type to be installed as and where shown on drawing, made of MS sheet 16 SWG degreased and derusted, zinc phosphated, finished with electro-static powder coating of 50 micron thickness in approved colour, DB housing to comply with protection class IP-44 with hinged door, flexible earthing strap lockable handle, catcher, earthing bar, neutral strip, internal wiring from MCBs terminating on cable terminal blocks, including cost of all necessary materials complete in all respects. DBs shall be manufactured by any one of the manufacturers as mentioned in List.					
	15-162-j	Supply, Installation, connecting, testing & commissioning of wall mounted DBLP-G1, DBLP-F1, Distribution Boards, complete with all metering with indication lamps complete in all respects, as per SLD.	Each	2.00			-
A.17		<u>Non-maintained Emergency Lighting</u>					
	Appendix ' c' Page No-5	Supply, installation and connections of Self Test Maintained With ISO 7010 Legend Set 7 Watt Colour Temperature 6000K ,235 Lumens on main supply and 150 Lumens on battery, Avg. Rated Life (Hrs) 30000 hr, IP65 rating with hanging arrangment on wall or ceiling as required complete in all respect as approved by the engineer incharge make Delpro (uk) or eqv.	Nos.	1.00			-
SUB TOTAL OF ELECTRICAL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

SUMMARY OF BILL NO. 29: BELT FILTER PRESS UNIT

BILL NO.	DESCRIPTION OF WORK	Amount (PKR)
1	CIVIL WORKS	-
2	MECHANICAL WORKS	-
TOTAL AMOUNT		-

GOVERNMENT OF KHYBER PAKHTUNKHWA							
KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT							
LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT							
KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:							
LOT 1: WATER TREATMENT PLANT							
BILL OF QUANTITIES							
BILL NO. 29: BELT FILTER PRESS UNIT							
Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		CIVIL WORKS					
1	03-67-b-i	Structural Excavation In Hard Rock Material by mechanical means requiring blasting	M3	105.95			-
2	03-67-b-ii	Structural Excavation In Medium Rock Material	M3	317.86			-
3	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	M3	296.67			-
4	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	M3	1.20			-
5	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	M3	35.67			-
6	06-07-b-01	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-06. (1:1:2)	M3	45.29			-
7	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	100 Kg	104.35			-
8	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	M3	296.67			-
9	03-20-b	Transportation of earth all types for every 100m extra lead beyond 500m upto 1.5 km.	M3	296.67			-
10	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	M3	296.67			-
11	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	M3	296.67			-
SUB TOTAL OF CIVIL WORKS							-

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 29: BELT FILTER PRESS UNIT

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		MECHANICAL WORKS					
1	NS-1	Filtration Unit					
		Providing, installation, testing & commissioning Belt Press Filter , in stainless steel AISI 316L construction and including the control installation for the belt tracking, tensioning and washing systems complete in all respects as per drawings and specifications.	No.	4.00			-
		Capacity: 15 m3/h, Inflow Solid Content: 2-5%, Dry Solid Content: 15 - 20%					
2	NS-2	Conical Mixers					
		Providing, installation, testing & commissioning of conical mixers, design & construction in stainless steel AISI 316 construction for the continuous and homogeneous sludge-polymer mixing. Designed to install at the sludge feeding pump outlet, complete in all respects as per drawings and specifications.	No.	4.00			-
3	NS-3	Control Panel					
		Providing, installation, testing & commissioning control panel to operate the belt press and quoted/included auxiliaries of the belt press and related equipment. The control panel includes the described components and is complete in all respects as per drawings and specifications.	No.	4.00			-
4	NS-4	Belt Washing Pumps					

GOVERNMENT OF KHYBER PAKHTUNKHWA

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECT

LOCAL GOVERNMENT, ELECTIONS AND RURAL DEVELOPMENT DEPARTMENT

KPCIP-CW-04: MINGORA GREATER WATER SUPPLY SCHEME INCLUDING NEW WATER TREATMENT PLANT (WTP), INTAKE STRUCTURE, TRANSMISSION, AND DISTRIBUTION SYSTEMS AND SCADA:

LOT 1: WATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 29: BELT FILTER PRESS UNIT

Item No.	REF. Nos CH/Item	Description of Items	Unit	Quantities, Unit Rate and Amount			
				Qty	Unit Rate (PKR)	Unit Rate (Rs) in Words	Amount (PKR)
		Providing, installation, testing & commissioning Belt Washing Pumps (high pressure, vertical-shaft, non-clogging/solids-handling, submersible, centrifugal type), of internationally reputed approved make, complete with pump, motor (4-pole), automatic liquid level-controlled switching device (ultrasonic sensor type) and starter, with pump impeller, shaft & sleeve to be of stainless steel of approved grade, suitable for the belt press and belt thickener washing process, 7.5 kW operation power at 10 bar pressure, including all jointing, fixing & installation accessories, all painting & coatings; and a complete set of special tools, test equipment & spare parts, complete in all respects, in accordance with the Contract, as follows:					
		Pumps Capacity:20m3/hr	No	4.00			-
SUB TOTAL OF MECHANICAL WORKS							-

ANNEXURE-IV

Bid Security Bank Guarantee

*[Bank's name, and address of issuing branch or office]*¹

Beneficiary: *[Name and address of the Employer]*

Date:

Bid Security No.:

We have been informed that *[name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated *[please specify]* (hereinafter called "the Bid") for the execution of *[name of contract]* under Invitation for Bids No. *[please specify]* ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we *[name of bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in words]* *[amount in figures]* upon receipt by us of your first demand in writing accompanied by a written statement that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder

- (a) has withdrawn its Bid during the period of validity specified by the Bidder in the Letters of Technical and Price Bid; or
- (b) does not accept corrected errors in accordance with the Instructions to Bidders (hereinafter "ITB"); or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, fails to execute the Contract Agreement, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB, or (iii) fails or refuses to furnish a domestic preference security, if required.

This guarantee will expire (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful Bidder, or (ii) 28 days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.²

[Authorized signature(s) and bank's seal (where appropriate)]

¹ All italicized text is for use in preparing this form and shall be deleted from the final document.

² Or 758 as applicable.

ANNEXURE-V

Bid-Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a bid for an alternative]*

To: *[insert complete name of the Employer]*

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the Borrower for the period of time of *[insert number of years as indicated in ITB 19.2 of the BDS]*, starting on the date that we receive a notification from the Employer, if we are in breach of our obligation(s) under the bid conditions, because we

- (a) have withdrawn our Bid during the period of bid validity specified in the Letters of Technical and Price Bid; or
- (b) do not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter “the ITB”); or
- (c) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract, if required; or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB; or (iii) fail or refuse to furnish a domestic preference security, if required.

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) 28 days after the expiration of our Bid.

Signed: *[insert signature of person whose name and capacity are shown]*

In the capacity of *[insert legal capacity of person signing the Bid-Securing Declaration]*

Name: *[insert complete name of person signing the Bid-Securing Declaration]*

Duly authorized to sign the bid for and on behalf of *[insert complete name of the Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Corporate Seal *[where appropriate]*

ANNEXURE-VI

Tables of Adjustment Data

Table A - Local Currency

**Mingora Greater Water Supply Scheme including New Water Treatment Plant (WTP),
Intake Structure, Transmission, and Distribution Systems and SCADA:
Lot-1: Water Treatment Plant**

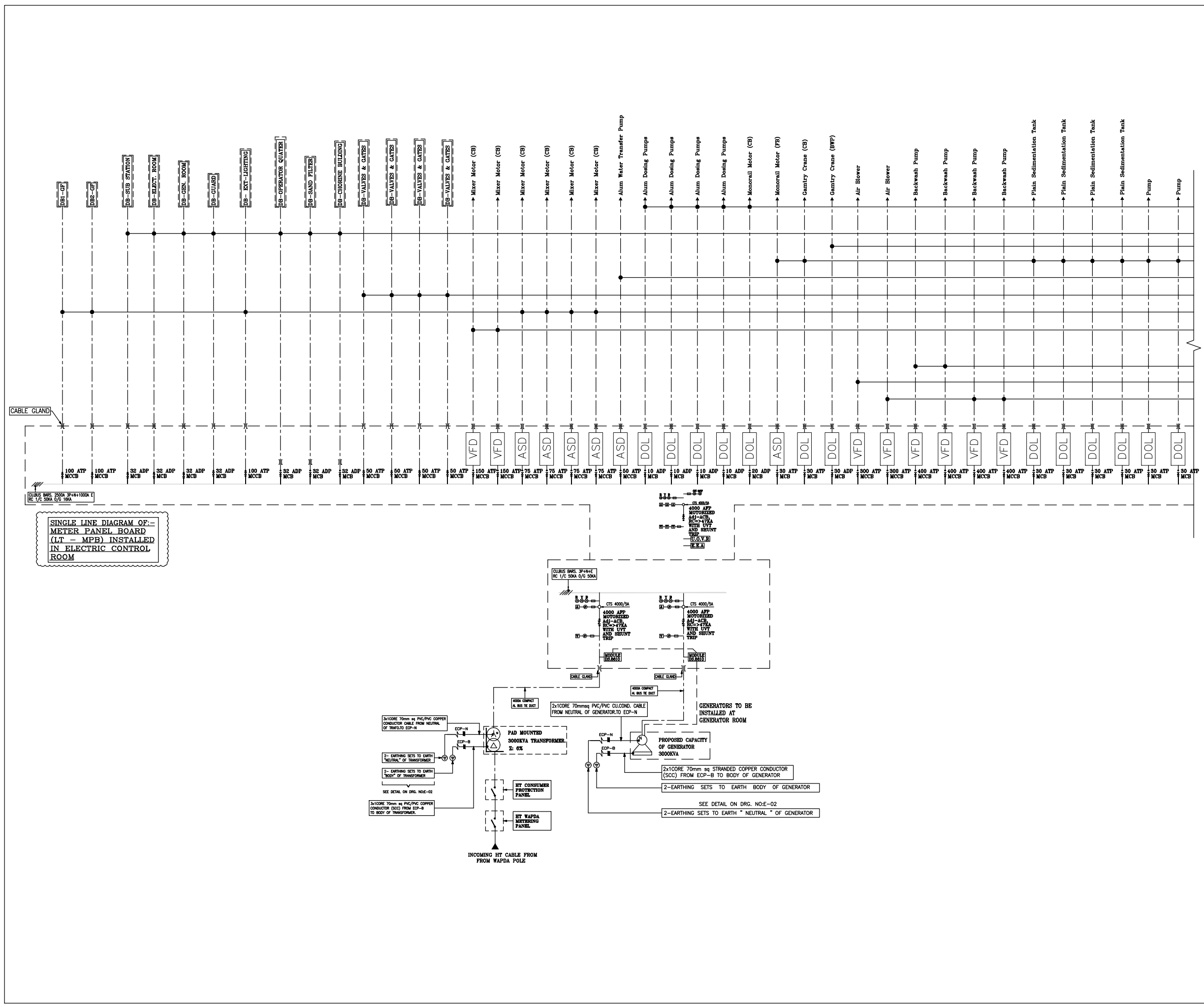
S#	Description	Unit	Weightages	Applicable Index
1	2	3	4	5
(i)	Fixed Portion	-	0.33	-
(ii)	High Speed Diesel	Litres	--to be proposed by bidder-- (Acceptable range 0.14-0.16)	Pakistan State Oil
(iii)	Labour Unskilled	Day (Per Day)	--to be proposed by bidder-- (Acceptable range 0.09-0.11)	Monthly Statistical Bulletin of Pakistan published by Federal Bureau of Statistics
(iv)	Cement (Ordinary Portland Cement)	Metric Ton	--to be proposed by bidder-- (Acceptable range 0.08-0.10)	Monthly Statistical Bulletin of Pakistan published by Federal Bureau of Statistics
(v)	Iron Bar (M.S. Bar)	Metric Ton	--to be proposed by bidder-- (Acceptable range 0.23-0.25)	Monthly Statistical Bulletin of Pakistan published by Federal Bureau of Statistics unless the required item are not included in such case, rates may be acquired form the following Steel Mills. <ul style="list-style-type: none"> ➤ Pakistan Steel Mill ➤ FF Steel Mill ➤ Ittehad Steel Mill
(vi)	Pipes (HDPE)	Meters	--to be proposed by bidder-- (Acceptable range 0.04-0.06)	Monthly Statistical Bulletin of Pakistan published by Federal Bureau of Statistics unless the required item are not included in such case, rates may be acquired form the following sources. <ul style="list-style-type: none"> ➤ Dadex Pipes ➤ International Industries Limited (IIL) ➤ Alpha Pipe Industries
(vii)	Cables	Meters	--to be proposed by bidder-- (Acceptable range 0.03-0.05)	Monthly Statistical Bulletin of Pakistan published by Federal Bureau of Statistics unless the required item are not included in such case, rates may be acquired form the following Sources. <ul style="list-style-type: none"> ➤ Pakistan Cable ➤ Allied Cables ➤ Fast Cables ➤ Pioneer Cable Pvt Ltd
	Total		1.000 [Sum of (ii), (iii) (iv) (v) (vi) and (vii) shall not increase 0.67]	

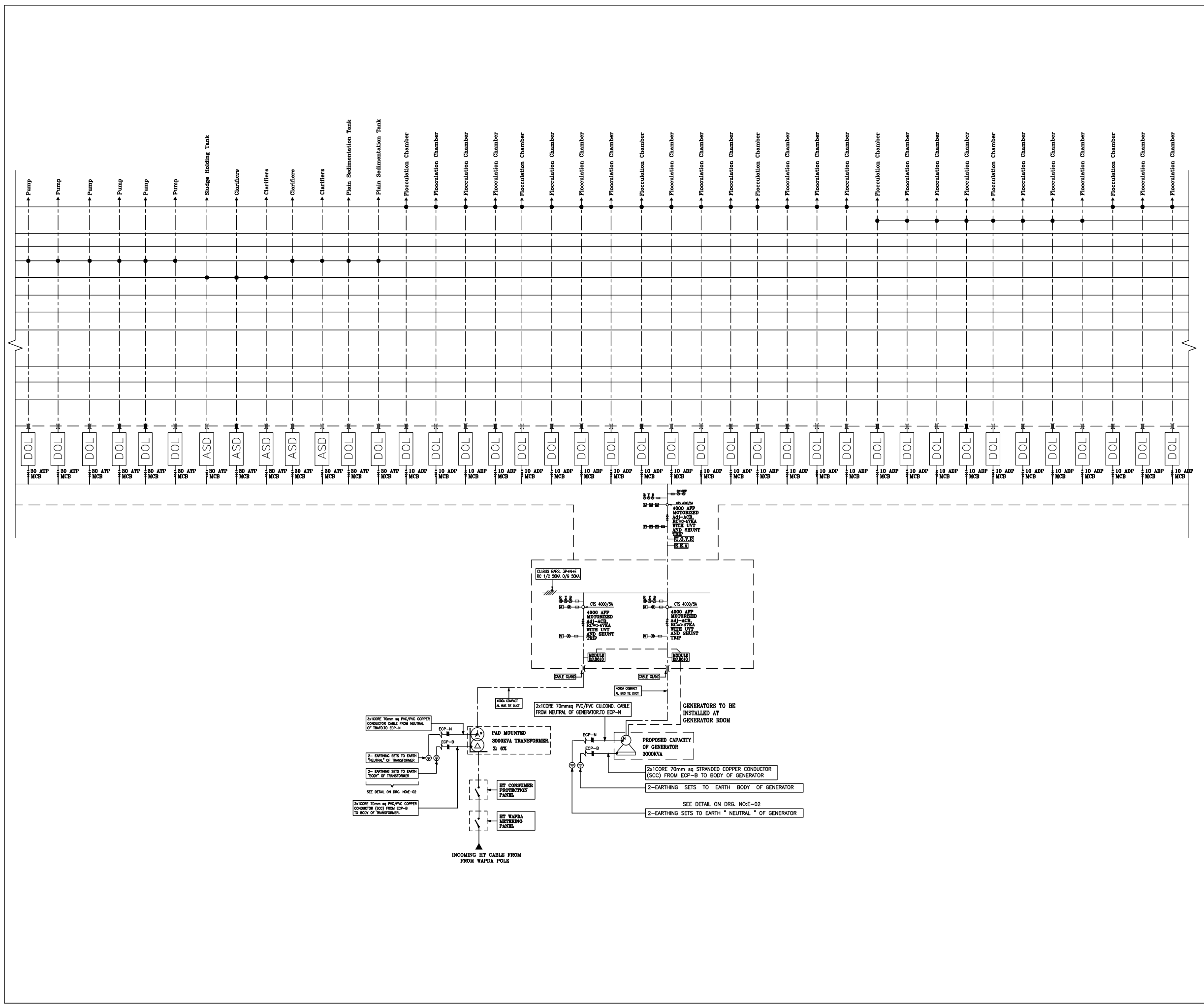
Note:

1. Base prices of Specified Materials shall be as of actually prevailing on the base date notified by the Engineer with the approval of the Employer after the award of works. As per GCC 1.1.3.1, "Base Date" means the date 28 days prior to the deadline for bid submission".
2. The basic prices are meant to be ex-factory prices and inclusive of all kinds of taxes and duties that can be levied at source.
3. Adjustment of increase / decrease shall only be admissible for the materials (elements representing relevant category) listed above.
4. Value of work done for escalation purpose shall be value of permanent works (Excluding Bill for General Items & Provisional Sums).
5. All Amounts in Pak Rupees only.
6. If weightages proposed by the bidder exceed the limit/acceptable range specified above, it shall not be a cause of bid rejection; however, the coefficients will be finalized before contract award after justification by bidder.

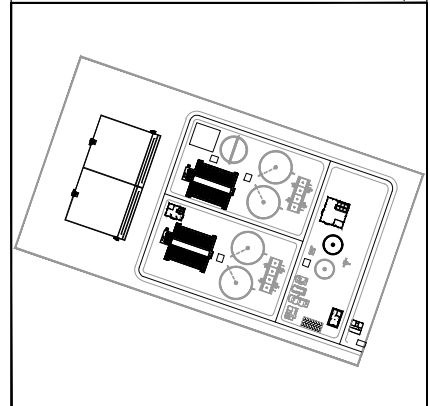
ANNEXURE-VII

CAD Ref: D:\0000-Projects\1-Treatment Plants\0000-Updated Tender Dwg (22-11-2021)\03-Mingora Tender Dwg\3-Electrical Mingora Final\7623 to 27-SLD Mingora Revised Dwg 18-04-2023.dwg Plot Layout : Layout1





KEY PLAN



NOTES
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.

ABBREVIATIONS:
 RCC REINFORCED CEMENT CONCRETE
 PCC PLAIN CEMENT CONCRETE
 GL GROUND LEVEL

Revision	Drawn	Checked	Approved	Date	Description
TA	AAK	AA	UB	APR-23	TENDER
TA	--	--	--	MAY-21	TENDER

CLIENT

KHYBER PAKHTUNKHWA CITIES IMPROVEMENT PROJECTS
 GOVERNMENT OF KHYBER PAKHTUNKHWA

CONSULTANT: JOINT VENTURE OF

CREATIVE ENGINEERING CONSULTANTS
 CREATIVE HOUSE PHASE-3
 CHOWK, HAYATABAD PESHAWAR
 PAKISTAN Tel: +91 5841553

MINCONSULT
 MINCONSULT SDN BHD (58835-P)
 LOT 6, JALAN 51A/223, 46100
 PETALING JAYA, SELANGOR, MALAYSIA

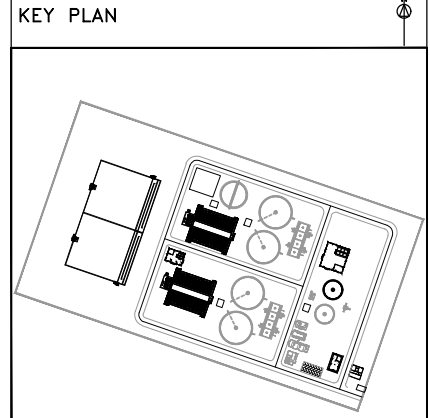
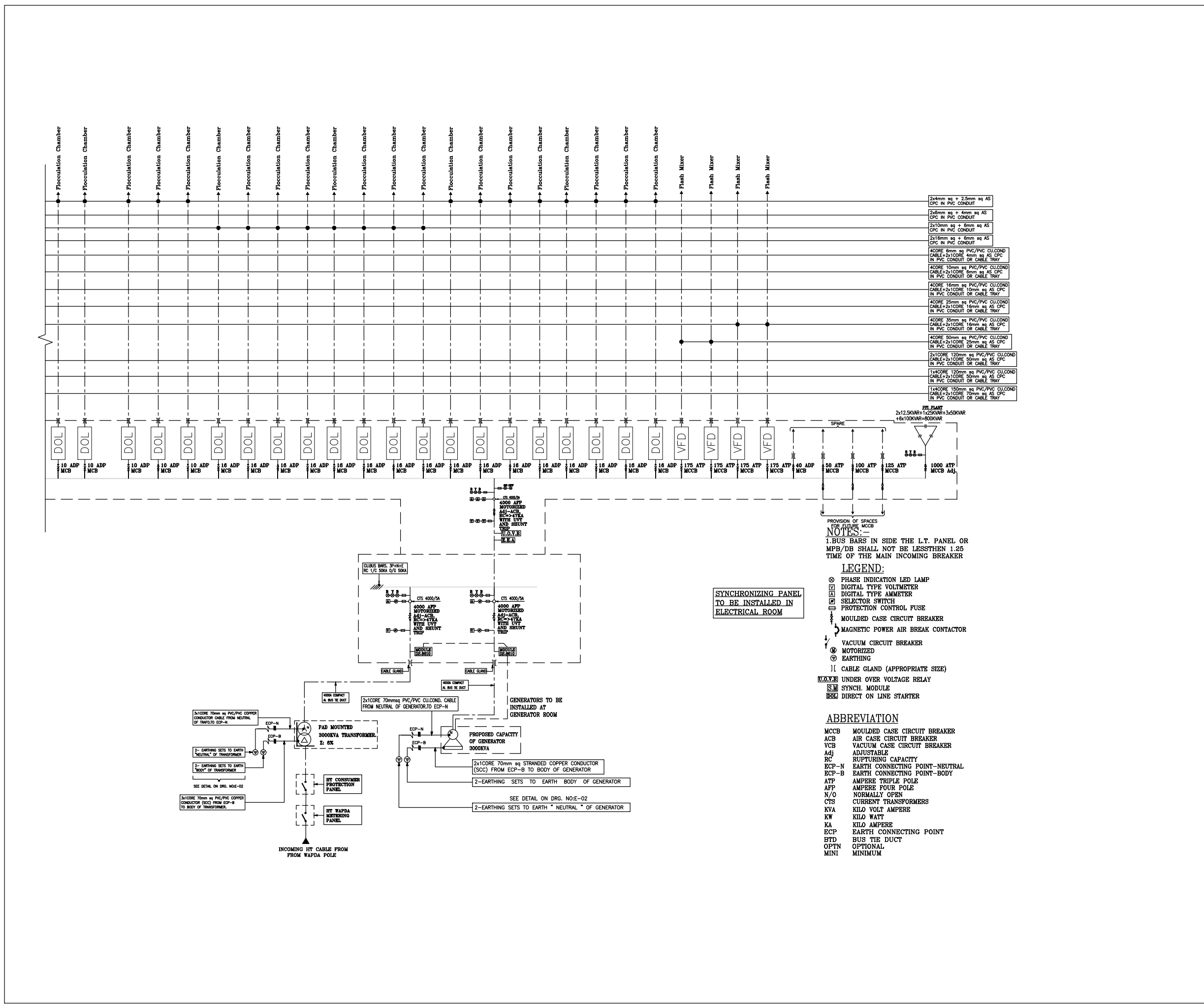
PROJECT
**WATER TREATMENT PLANT
 MINGORA
 (30 MGD)**

DRAWING

SINGLE LINE DIAGRAM

DRAWING No. (SHEET 2 OF 3) Revision
CEC-WTP-MIN-7624 | TA

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 CAD filename: Plot scale: 1:2 @ A3



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TA	--	--	--	MAY-21	TENDER
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GOVERNMENT OF KHYBER PAKHTUNKHWA

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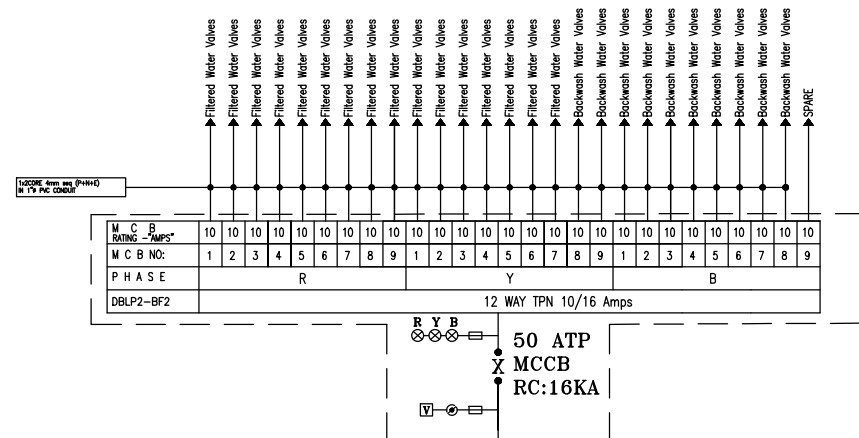
CREATIVE ENGINEERING CONSULTANTS
CREATIVE HOUSE PHASE-3
CHOWK, HAYATABAD PESHAWAR LOT 6, JALAN 51A/223, 46100
PAKISTAN Tel: +91 5841553

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MINCONSULT SDN BHD (58835-P)
PETALING JAYA, SELANGOR, MALAYSIA

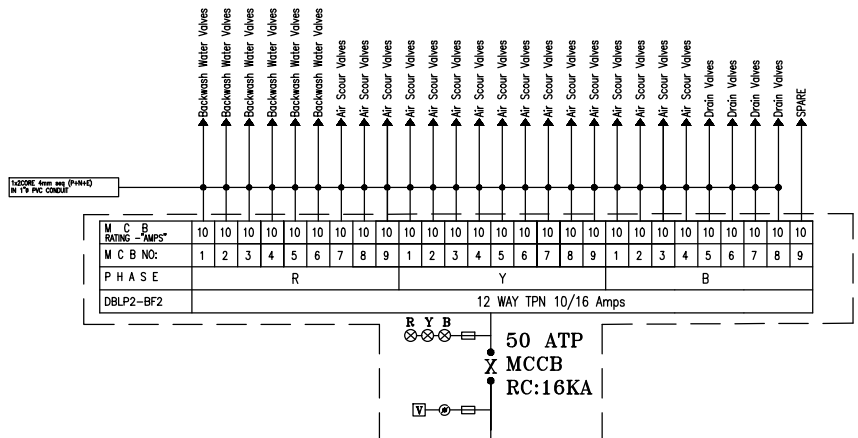
PROJECT
WATER TREATMENT PLANT
MINGORA
(30 MGD)

DRAWING

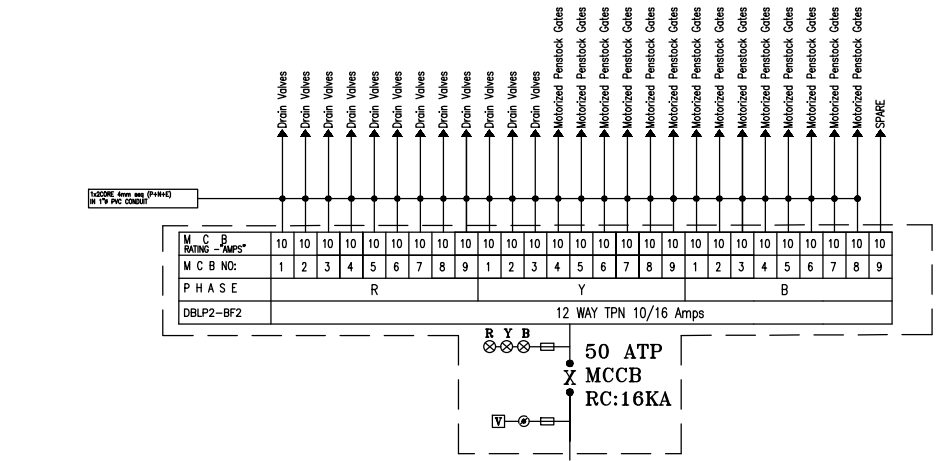
SINGLE LINE DIAGRAM



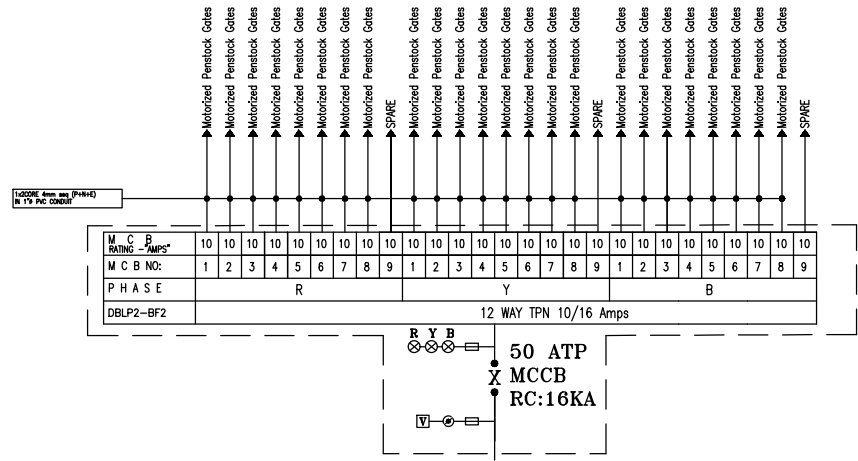
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DISTRIBUTION BOARD FOR VALVES
& GATES



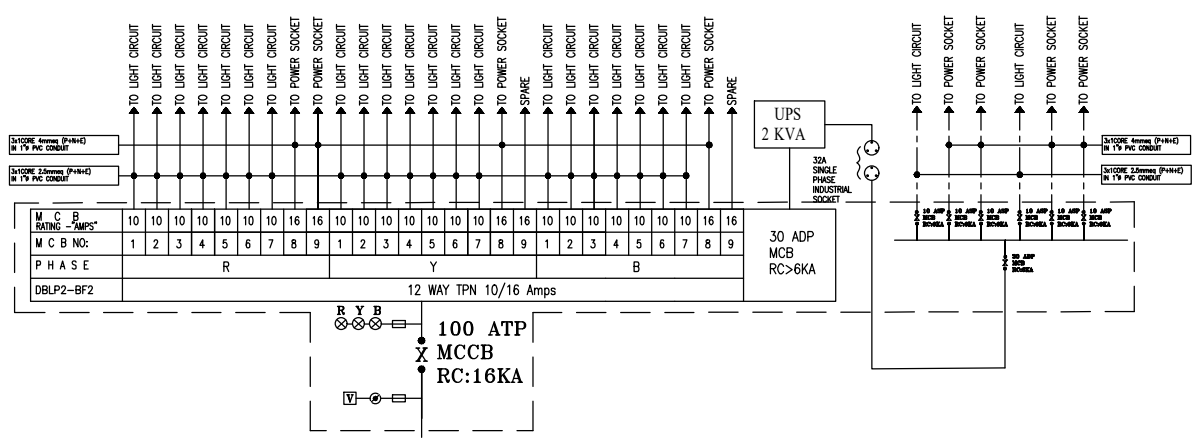
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DISTRIBUTION BOARD FOR VALVES
& GATES



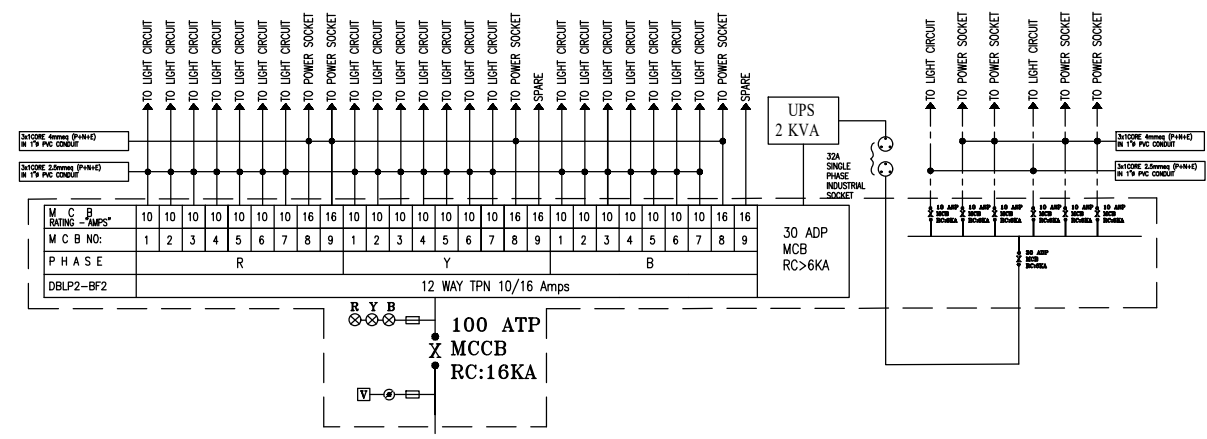
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DISTRIBUTION BOARD FOR VALVES
& GATES



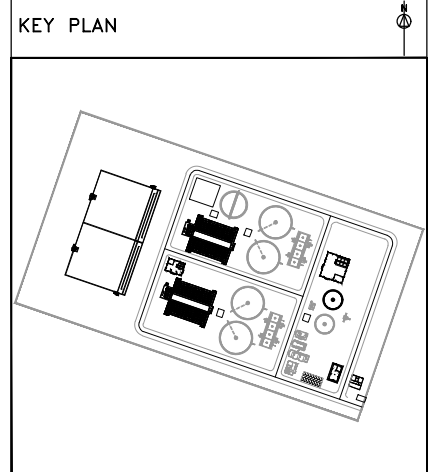
SINGLE LINE DIAGRAM OF:-
DISTRIBUTION BOARD FOR VALVES
& GATES



SINGLE LINE DIAGRAM OF:-
DISTRIBUTION BOARD ADMIN
BLOCK (DB1-GF)



SINGLE LINE DIAGRAM OF:-
DISTRIBUTION BOARD ADMIN
BLOCK (DB1-FF)



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PROJECT

**WATER TREATMENT PLANT
MINGORA
(30 MGD)**

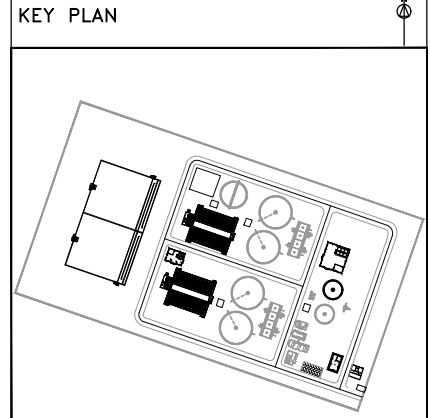
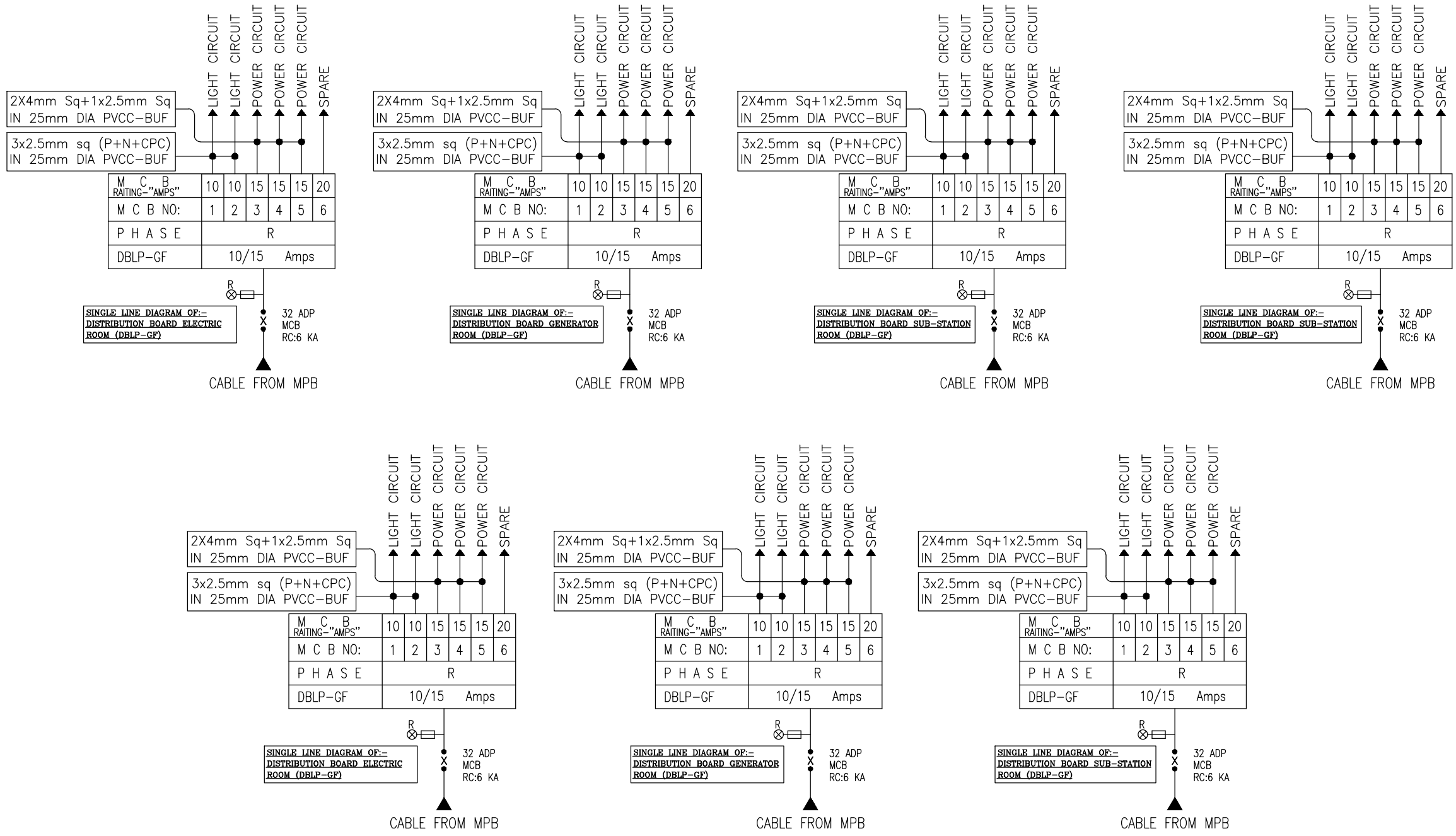
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SINGLE LINE DIAGRAM

DRAWING No. **CEC-WTP-MIN-7626** Revision **TA**

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CAD filename: Plot scale: 1:2 @ A3



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PROJECT
 WATER TREATMENT PLANT
 MINGORA
 (30 MGD)

DRAWING

SINGLE LINE DIAGRAM

Drawing No.	Revision
CEC-WTP-MIN-7627	TA
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CAD filename:	Plot scale:1:2 @ A3