## MINUTES OF THE PRE-BID MEETING

## PROCUREMENT OF HIGH EFFICIENCY IRRIGATION SYSTEM (HEIS) FOR ORCHARDS UNDER PROJECT "CLIMATE RESILIENCE THROUGH HORTICULTURAL INTERVENTIONS IN KHYBER PAKHTUNKHWA" ON 26/03/2024

The Pre-Bid Meeting for the procurement of Procurement of High Efficiency Irrigation System (HEIS) for Orchard sunder the project "Climate Resilience through Horticultural Interventions in Khyber Pakhtunkhwa" held on 26<sup>th</sup> March 2024 at 11:00 hours under the chair of the Project Director, Climate Resilience through Horticultural Interventions in Khyber Pakhtunkhwa in his office.

The meeting was started with the recitation of the Holy Quran.

All the terms/conditions of the tender bidding documents were discussed as per procurement procedures/protocols with the contractors. The chair along with the members and firm's representative unanimously agreed to revise the following amendments in bid solicitation documents as per bidder question, details are as below.

Amendments in accordance with Section-I Instruction to Bidders, B. Contents of Request for Bid Document, 7. Clarification of Bidding Documents and 8. Amendment of Bidding Documents of the Request for Bidding Documents (RFB).

The original RFB documents remain in full force and effect, except as modified by Amendments/addendum, which will be made part of the RFB. The bidders shall take these amendments into consideration when preparing and submitting its Bids.

The procurement committee members agreed to notify the amendments on websites. Firms will submit their bidding documents as per the following amendments which are applicable to the part of RFB referenced above.

S. No.	Reference	Pre-Bid RFB	Revised/Post Pre-Bid RFB							
1	Section-VII-	List of Goods and Delivery	The firms will provide the Acres cost separately or							
	1&2	Schedule. Per Acre cost of	following format as per Price S	Schedule						
		Drip Irrigation System 1-5	Acres	Cost PKR Rs.						
		acres.	One Acre							
			Two Acres							
			Three Acres							
			Four Acres							
			Five Acres							
			Total							
			The firm will be selected on th	e lowest total cost						
			basis and fulfill the required cr	iteria of RFB.						
			BOQ for each category is attached as Annexure-							
2	Section-VII-3	Drawings of HEIS	Acre wise (Tentative) Layout of	of High Efficiency						
			Irrigation System (HIES) is att	ached as Annexure-B						

## 1. Amendments

#### 2. Clarifications

S. No.	Reference	Pre-Bid RFB	Revised/Post Pre-Bid RFB
1	ITB-19.1	Clarification on Bid Security	2% bid security in the form of CDR or Bank guarantee as per quoted financial bid/amount of 01 Acre.
2	ITB-34.5 & Section – IV Price Schedule & GCC 16.1 & 17.	Clarification applicable Taxes.	<ul> <li>All Government applicable taxes will be deducted at source at the time of billing accordingly i.e.,</li> <li>Income Tax,</li> <li>Sales Tax,</li> <li>Stamp Duty,</li> <li>Disability Tax,</li> <li>Service Tax,</li> <li>Any other tax if applicable.</li> </ul>

#### A) Question/Answers:

Keeping the questions/answers of the contractors/other participants in view, the following decisions were made.

- 1. No compromise will be made on the quality and quantity of HEIS.
- 2. The product/material will be supplied to the farmer doorstep free from any damage. Otherwise, the same will be returned to the firm owner at their own expense.
- 3. The bid document shall be one primary/original copy and two carbon copy.
- 4. Firm registration certificate, CDR/Bank Guaranty, Bank Statement/audit statement will be evaluated and traced accordingly.
- 5. The supply/demand of High Efficiency Irrigation System (HEIS) package (set) & its allied material etc. may be increased, decreased, or altered subject to the availability of funds or other constraints.

The meeting ended with a vote of thanks from and to the Chair.

#### **Annexure-A**

**BoQ for Drip Irrigation system of 1 Acre** 

	Description	Model	Brand	Unit	Quantity	PKR Price
Α	u PVC Pipe					
1	UPVC Pipe with collar (2"), 12-Bar Class D	BSS 3505	ISO Certified	Meter	70	
2	UPVC Pipe with collar (1 1/2"), 12-Bar Class D	BSS 3505 & PSI 3051	ISO Certified	Meter	80	
3	PVC Ball Valve 2"	Erra/Hydroplast	ISO Certified	Number	1.00	
4	PVC Elbow 2" (90)	Schedule-40	ISO Certified	Number	1	
5	PVC Elbow 1 1/2" (90)	Schedule-40	ISO Certified	Number	4	
6	PVC Reducing Bush 2"x1 1/2"	Schedule-40	ISO Certified	Number	1	
7	PVC Equal Tee 2"	Schedule-40	ISO Certified	Number	1	
8	PVC Equal Tee 1 1/2"	Schedule-40	ISO Certified	Number	2	
9	PVC Flush Valve 1 1/ 2"	Schedule-40	ISO Certified	Number	1	
B	Emitting Assembly	•				
1	Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness' (Dual)	FTR01604N	ISO/Imported	Meter	1428	
2	GTO with Rubber 16mm	845	ISO/Imported	Number	40	
3	End Capes 16 mm	813/ Double Eye	ISO/Imported	Number	40	
4	Connectors 16mm	841	ISO/Imported	Number	60	
5	Equal Tee 16mm	829	ISO/Imported	Number	2	
6	Disc Filter 2"	YHF/THF	ISO/Imported	Number	1	
7	Hydro cyclone/Sand Media Filter 15- 20 m3/hr.	ISO 9912/25 M3/Hr.	ISO/Imported	Number	1	
8	Venturi Kit for Fertigation 1"	Injector1"	ISO/Imported	Number	1	
9	Drum for Fertigation	150L/PVC UV Resistant	ISO/Imported	Number	1	
10	Air Relief Valve 1"	AR1"	ISO/Imported	Number	1	
11	Drippers 8 LPH PC- (4/Plant)	PC	ISO/Imported	Number	480	
С	Other Charges					
1	Excavation & Backfilling Charges		NA	Feet	240	
2	PVC Solution 1/2 Kg Pack	1/2KG-Royal	ISO	Number	1	
3		al (A+B+C) (Rs.)				
4	Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)			25%		
Cos	t for Drip Irrigation System (1-Acre)	1	PKR	2		
	t for Drip Irrigation System (per acre)		PKR			

#### Note: (Applicable on 1–5-acre HEIS)

- Total Numbers of fruit Orchards are 200 acres and the above packages (Set) of High Efficiency Irrigation System (HEIS) will be supplied, installed, and commissioned on each orchard of 1 to 5 acres preferably.
- The supply/demand of High Efficiency Irrigation System (HEIS) package (set) & its allied material etc., may be increased, decreased, or altered subject to the availability of funds or other constraints.
- The Firm will provide one year free after sale services without charging any cost.
- As primary filtration, Media Gravel filter will be used for water pond and Hydrocylone in case of connection from Tube well.
- Provision of Energy Source (Electric/Solar or any other) will be farmer's responsibility.
- Provision of sufficient water source in shape of Pond/Tubewell/Stream and Dug well etc., will be farmer's responsibility along with Motor Pump of required head and flow rate, if required.
- The HEIS designed for average spacing of 20x20 feet row to row and plant to plant spacing.
- Project name and their logo/monogram should be labelled on all set of HEIS System/Products.
- All aforesaid package (set) of HEIS & its allied material etc. should be acceptable to the Department and the selection/choice of the department shall be final.
- Bidder should justify the specification with appropriate lab test reports/certifications from the principle manufacturer will be provided

A       u PVC Pipe       U PVC Pipe       U PVC Pipe with collar (2"), 12-Bar Class D       BSS 3505       ISO Certified       Meter       90         2       UPVC Pipe with collar (1 1/2"), 12-BSS 3505 & PS (3051       ISO Certified       Meter       110         3       PVC Ball Valve 2"       Erra/Hydroplast       ISO Certified       Number       2.00         4       PVC Elbow 2" (90)       Schedule-40       ISO Certified       Number       2         5       PVC Elbow 1/2" (90)       Schedule-40       ISO Certified       Number       2         6       PVC Equal Tee 2"       Schedule-40       ISO Certified       Number       2         7       PVC Equal Tee 1/2"       Schedule-40       ISO Certified       Number       2         8       PVC Flush Valve 1 1/2"       Schedule-40       ISO Certified       Number       2         8       Emitting Assembly       Emitting Assembly       Emitting Assembly       1       Dripline Plain 16 mm (OD) PN-4       ISO/Imported       Meter       2800         1       Dripline Plain 16 mm       845       ISO/Imported       Number       50         3       End Capes 16 mm       842       ISO/Imported       Number       10         4       Connec		BoQ for Drip In	rigation syst	em of 2 Acre	es 🛛		
UPVC Pipe with collar (2"), 12-Bar (Lass DBSS 3505ISO CertifiedMeter902UPVC Pipe with collar (1 1/2"), 12- Bar Class DBSS 3505 & PSI 3051ISO CertifiedNumber2.003PVC Bill Valve 2"Erra/HydroplastISO CertifiedNumber2.004PVC Elbow 1' (2'')Schedule-40ISO CertifiedNumber2.005PVC Elbow 1' (2'')Schedule-40ISO CertifiedNumber26PVC Reducing Bush 2"x1 1/2"Schedule-40ISO CertifiedNumber27PVC Equal Tee 2"Schedule-40ISO CertifiedNumber28PVC Equal Tee 1 1/2"Schedule-40ISO CertifiedNumber29PVC Flush Valve 1 1/2"Schedule-40ISO CertifiedNumber21Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness (Dual)FTR01604NISO/ImportedMeter28002GTO with Rubber 16mm845ISO/ImportedNumber503End Capes 16 mm841ISO/ImportedNumber46Disc Filter 2"YHF/THFISO/ImportedNumber17Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO 9912/25 M3/Hr.ISO/ImportedNumber18Venturi Kit for Fertigation 1"Injector1"ISO/ImportedNumber19Drum for Fertigation 1"Injector1"ISO/ImportedNumber11Dripers 8 LPH PC - (4/Plant)PC </th <th></th> <th>Description</th> <th>Model</th> <th>Brand</th> <th>Unit</th> <th>Quantity</th> <th>PKR Price</th>		Description	Model	Brand	Unit	Quantity	PKR Price
1Class DBSS 3505BSC CertifiedMeter902UPVC Pipe with collar (1 1/2'), 12- Bar Class DBSS 3505 & PSI 3051ISO CertifiedNumber1103PVC Ball Valve 2"Erra/HydroplastISO CertifiedNumber24PVC Elbow 11/2" (90)Schedule-40ISO CertifiedNumber25PVC Edual Tee 2"Schedule-40ISO CertifiedNumber27PVC Reducing Bush 2"x1 1/2"Schedule-40ISO CertifiedNumber28PVC Reducing Bush 2"x1 1/2"Schedule-40ISO CertifiedNumber29PVC Flush Valve 11/2"Schedule-40ISO CertifiedNumber29PVC Flush Valve 11/2"Schedule-40ISO CertifiedNumber29PVC Flush Valve 11/2"Schedule-40ISO CertifiedNumber21Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness (Dual)FTR01604NISO/ImportedNumber502GTO with Rubber 16mm845ISO/ImportedNumber503End Capes 16 mm813/ Double EyeISO/ImportedNumber46Disc Filter 2"YHF/THFISO/ImportedNumber17Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO/30/ImportedNumber17Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO/ImportedNumber19Drum for Fertigation 1"Injector1"ISO/ImportedNumber1	Α	-		•			
$1^2$ Bar Class DPSI 3051Meter1103PVC Ball Valve 2"Erra/HydroplastISO CertifiedNumber2.004PVC Elbow 2" (90)Schedule-40ISO CertifiedNumber25PVC Elbow 11/2" (90)Schedule-40ISO CertifiedNumber86PVC Reducing Bush 2"x1 1/2"Schedule-40ISO CertifiedNumber27PVC Equal Tee 2"Schedule-40ISO CertifiedNumber28PVC Equal Tee 11/2"Schedule-40ISO CertifiedNumber49PVC Flush Valve 1 1/ 2"Schedule-40ISO CertifiedNumber29Emitting Assembly	1		BSS 3505	ISO Certified	Meter	90	
1DescriptionEntropy TrueISO CertifiedNumber25PVC Elbow 1 1/2" (90)Schedule-40ISO CertifiedNumber86PVC Reducing Bush 2"x1 1/2"Schedule-40ISO CertifiedNumber27PVC Equal Tee 2"Schedule-40ISO CertifiedNumber28PVC Equal Tee 11/2"Schedule-40ISO CertifiedNumber29PVC Flush Valve 1 1/2"Schedule-40ISO CertifiedNumber21Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness (Dual)FTR01604NISO/ImportedMeter28002GTO with Rubber 16mm845ISO/ImportedNumber50503End Capes 16 mm813/ Double EyeISO/ImportedNumber705Equal Tee 16mm829ISO/ImportedNumber16Disc Filter 2"YHF/THFISO/ImportedNumber17Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO 9912/25 M3/Hr.ISO/ImportedNumber18Venturi Kit for Fertigation 1"Injector1"ISO/ImportedNumber19Drum for Fertigation 1"ISOL/PVC UV ResistantISO/ImportedNumber21Dripper 8 LPH PC- (4/Plant)PCISO/ImportedNumber21Dripper 8 LPH PC- (4/Plant)PCISO/ImportedNumber23Sub-Total (A+B+C) (Rs.)ISONumber23Survey, De	2			ISO Certified	Meter	110	
5       PVC Elbow 1 1/2" (90)       Schedule-40       ISO Certified       Number       8         6       PVC Reducing Bush 2"x1 1/2"       Schedule-40       ISO Certified       Number       2         7       PVC Equal Tee 2"       Schedule-40       ISO Certified       Number       2         8       PVC Equal Tee 11/2"       Schedule-40       ISO Certified       Number       2         9       PVC Flush Valve 11/2"       Schedule-40       ISO Certified       Number       2         9       PVC Flush Valve 11/2"       Schedule-40       ISO Certified       Number       2         9       PVC Flush Valve 11/2"       Schedule-40       ISO Certified       Number       2         9       PVC Flush Valve 11/2"       Schedule-40       ISO Certified       Number       2         9       PVC Flush Valve 11/2"       Schedule-40       ISO Certified       Number       2         1       Dripine Plain 16 mm (OD) PN-4       FTR01604N       ISO/Imported       Number       50         2       GTO with Rubber 16mm       845       ISO/Imported       Number       70         3       End Capes 16 mm       813' Double       ISO/Imported       Number       1         6	3	PVC Ball Valve 2"	Erra/Hydroplast	ISO Certified	Number	2.00	
6       PVC Reducing Bush 2"x1 1/2"       Schedule-40       ISO Certified       Number       2         7       PVC Equal Tee 1"       Schedule-40       ISO Certified       Number       2         8       PVC Equal Tee 1 1/2"       Schedule-40       ISO Certified       Number       4         9       PVC Flush Valve 1 1/2"       Schedule-40       ISO Certified       Number       4         9       PVC Flush Valve 1 1/2"       Schedule-40       ISO Certified       Number       4         9       PVC Flush Valve 1 1/2"       Schedule-40       ISO Certified       Number       4         9       PVC Flush Valve 1 1/2"       Schedule-40       ISO Certified       Number       2         8       Emitting Assembly        Toripline Plain 16 mm (OD) PN-4       iSO /Imported       Number       50         2       GTO with Rubber 16mm       845       ISO/Imported       Number       50         3       End Capes 16 mm       813/ Double Eye       ISO/Imported       Number       70         5       Equal Tee 16mm       829       ISO/Imported       Number       1         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7	4	PVC Elbow 2" (90)	Schedule-40	ISO Certified	Number	2	
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Image: Second	6	PVC Reducing Bush 2"x1 1/2"	Schedule-40	ISO Certified	Number	2	
9       PVC Flush Valve 1 1/2"       Schedule-40       ISO Certified       Number       2         B       Emitting Assembly       ISO / Imported       Number       2         1       Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness (Dual)       FTR01604N       ISO/Imported       Meter       2800         2       GTO with Rubber 16mm       845       ISO/Imported       Number       50         3       End Capes 16 mm       813/ Double Eye       ISO/Imported       Number       50         4       Connectors 16mm       841       ISO/Imported       Number       70         5       Equal Tee 16mm       829       ISO/Imported       Number       1         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7       Hydro cyclone/Sand Media Filter 15- 20 m3/hr.       ISO 9912/25 M3/Hr.       ISO/Imported       Number       1         8       Venturi Kit for Fertigation 1"       Injector1"       ISO/Imported       Number       1         9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       2         1       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972	7	PVC Equal Tee 2"	Schedule-40	ISO Certified	Number	2	
B       Emitting Assembly       FTR01604N       ISO/Imported       Meter       2800         1       Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness (Dual)       FTR01604N       ISO/Imported       Meter       2800         2       GTO with Rubber 16mm       845       ISO/Imported       Number       50         3       End Capes 16 mm       813/ Double Eye       ISO/Imported       Number       50         4       Connectors 16mm       841       ISO/Imported       Number       70         5       Equal Tee 16mm       829       ISO/Imported       Number       1         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7       Hydro cyclone/Sand Media Filter 15- 20 m3/hr.       ISO/Imported       Number       1         8       Venturi Kit for Fertigation 1"       Injector1"       ISO/Imported       Number       1         9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       2         1       Orippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         C       Other Charges       NA       Feet       480       2         2       PVC Solution 1/2	8	PVC Equal Tee 1 1/2"	Schedule-40	ISO Certified	Number	4	
1       Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness (Dual)       FTR01604N       ISO/Imported       Meter       2800         2       GTO with Rubber 16mm       845       ISO/Imported       Number       50         3       End Capes 16 mm       813/ Double Eye       ISO/Imported       Number       50         4       Connectors 16mm       841       ISO/Imported       Number       70         5       Equal Tee 16mm       829       ISO/Imported       Number       4         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7       Hydro cyclone/Sand Media Filter 15- 20 m3/hr.       ISO/Imported       Number       1         8       Venturi Kit for Fertigation 1"       Injector1"       ISO/Imported       Number       1         9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       1         1       Air Relief Valve 1"       AR1"       ISO/Imported       Number       2         1       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         C       Other Charges       NA       Feet       480       2         2       PVC Solution 1/2 Kg Pa	9	PVC Flush Valve 1 1/2"	Schedule-40	ISO Certified	Number	2	
1       with 1.2 mm wall thickness (Dual)       PTR01804N       ISO/Imported       Meter       2800         2       GTO with Rubber 16mm       845       ISO/Imported       Number       50         3       End Capes 16 mm       813/ Double Eye       ISO/Imported       Number       50         4       Connectors 16mm       841       ISO/Imported       Number       70         5       Equal Tee 16mm       829       ISO/Imported       Number       4         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7       Hydro cyclone/Sand Media Filter 15- 20 m3/hr.       ISO 9912/25 M3/Hr.       ISO/Imported       Number       1         8       Venturi Kit for Fertigation 1"       Injector1"       ISO/Imported       Number       1         9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       1         1       Air Relief Valve 1"       AR1"       ISO/Imported       Number       2         1       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         C       Other Charges       NA       Feet       480       2         2       PVC Solution 1/2 Kg	B	Emitting Assembly		·			
3       End Capes 16 mm       813/ Double Eye       ISO/Imported       Number       50         4       Connectors 16mm       841       ISO/Imported       Number       70         5       Equal Tee 16mm       829       ISO/Imported       Number       4         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7       Hydro cyclone/Sand Media Filter 15- 20 m3/hr.       ISO 9912/25 M3/Hr.       ISO/Imported       Number       1         8       Venturi Kit for Fertigation 1"       Injector1"       ISO/Imported       Number       1         9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       1         1       Air Relief Valve 1"       AR1"       ISO/Imported       Number       2         1       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         C       Other Charges       I       ISO       Number       2         1       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         2       Other Charges       I       ISO       Number       2       2         3       Survey, Design, Installation and	1		FTR01604N	ISO/Imported	Meter	2800	
3End Capes 16 mmEyeISO/ImportedNumber504Connectors 16mm841ISO/ImportedNumber705Equal Tee 16mm829ISO/ImportedNumber46Disc Filter 2"YHF/THFISO/ImportedNumber17Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO 9912/25 M3/Hr.ISO/ImportedNumber18Venturi Kit for Fertigation 1"Injector1"ISO/ImportedNumber19Drum for Fertigation150L/PVC UV ResistantISO/ImportedNumber11Air Relief Valve 1"AR1"ISO/ImportedNumber21Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber9721Excavation & Backfilling ChargesNAFeet4802PVC Solution 1/2 Kg Pack1/2KG-RoyalISONumber23Sub-Total (A+B+C) (Rs.)25%25%25%Cost for Drip Irrigation System (2-Acre)PKRV25%	2	GTO with Rubber 16mm	845	ISO/Imported	Number	50	
5       Equal Tee 16mm       829       ISO/Imported       Number       4         6       Disc Filter 2"       YHF/THF       ISO/Imported       Number       1         7       Hydro cyclone/Sand Media Filter 15- 20 m3/hr.       ISO 9912/25 M3/Hr.       ISO/Imported       Number       1         8       Venturi Kit for Fertigation 1"       Injector1"       ISO/Imported       Number       1         9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       1         1       Air Relief Valve 1"       AR1"       ISO/Imported       Number       2         1       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         C       Other Charges       NA       Feet       480         2       PVC Solution 1/2 Kg Pack       1/2KG-Royal       ISO       Number       2         3       Sub-Total (A+B+C) (Rs.)       Survey, Design, Installation and Transportation for Drip Irrigation       25%       25%         4       Transportation for Drip Irrigation System (Rs.)       PKR       PKR       1	3	End Capes 16 mm		ISO/Imported	Number	50	
6Disc Filter 2"YHF/THFISO/ImportedNumber17Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO 9912/25 M3/Hr.ISO/ImportedNumber18Venturi Kit for Fertigation 1"Injector1"ISO/ImportedNumber19Drum for Fertigation150L/PVC UV ResistantISO/ImportedNumber11Air Relief Valve 1"AR1"ISO/ImportedNumber21Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber9721Excavation & Backfilling ChargesNAFeet4802PVC Solution 1/2 Kg Pack1/2KG-RoyalISONumber23Sub-Total (A+B+C) (Rs.)25%25%25%4Survey, Design, Installation and System (Rs.)PKR1	4	Connectors 16mm	841	ISO/Imported	Number	70	
7Hydro cyclone/Sand Media Filter 15- 20 m3/hr.ISO 9912/25 M3/Hr.ISO/ImportedNumber18Venturi Kit for Fertigation 1"Injector1"ISO/ImportedNumber19Drum for Fertigation150L/PVC UV ResistantISO/ImportedNumber11Air Relief Valve 1"AR1"ISO/ImportedNumber21Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber972COther ChargesVerturi (A+B+C) (Rs.)Number23Sub-Total (A+B+C) (Rs.)Survey, Design, Installation and Transportation for Drip Irrigation25%4Survey, Design, Installation and System (Rs.)PKRVertice	5	Equal Tee 16mm	829	ISO/Imported	Number	4	
720 m3/hr.M3/Hr.ISO/ImportedNumber18Venturi Kit for Fertigation 1"Injector1"ISO/ImportedNumber19Drum for Fertigation150L/PVC UV ResistantISO/ImportedNumber11Air Relief Valve 1"AR1"ISO/ImportedNumber21Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber972COther ChargesVertex and the second	6	Disc Filter 2"	YHF/THF	ISO/Imported	Number	1	
9       Drum for Fertigation       150L/PVC UV Resistant       ISO/Imported       Number       1         1       0       Air Relief Valve 1"       AR1"       ISO/Imported       Number       2         1       0       Drippers 8 LPH PC- (4/Plant)       PC       ISO/Imported       Number       972         C       Other Charges           972         1       Excavation & Backfilling Charges       NA       Feet       480         2       PVC Solution 1/2 Kg Pack       1/2KG-Royal       ISO       Number       2         3       Sub-Total (A+B+C) (Rs.)         2       25%         4       Survey, Design, Installation and Transportation for Drip Irrigation System (2-Acre)       PKR        25%	7			ISO/Imported	Number	1	
9Drum for FertigationResistantISO/ImportedNumber110Air Relief Valve 1"AR1"ISO/ImportedNumber210Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber972COther ChargesVISO/ImportedNumber9721Excavation & Backfilling ChargesNAFeet4802PVC Solution 1/2 Kg Pack1/2KG-RoyalISONumber23Sub-Total (A+B+C) (Rs.)VSurvey, Design, Installation and Transportation for Drip Irrigation25%25%Cost for Drip Irrigation System (2-Acre)PKRVVV	8	Venturi Kit for Fertigation 1"	Injector1"	ISO/Imported	Number	1	
0Air Relief Valve I"ARI"ISO/ImportedNumber21Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber972COther ChargesISO/ImportedNumber9721Excavation & Backfilling ChargesNAFeet4802PVC Solution 1/2 Kg Pack1/2KG-RoyalISONumber23Sub-Total (A+B+C) (Rs.)ISOSumber24Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)25%25%100Cost for Drip Irrigation System (2-Acre)PKRISO/ImportedPKR	9	Drum for Fertigation		ISO/Imported	Number	1	
1Drippers 8 LPH PC- (4/Plant)PCISO/ImportedNumber9/2COther ChargesNAFeet4801Excavation & Backfilling ChargesNAFeet4802PVC Solution 1/2 Kg Pack1/2KG-RoyalISONumber23Sub-Total (A+B+C) (Rs.)Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)25%25%Cost for Drip Irrigation System (2-Acre)PKR		Air Relief Valve 1"	AR1"	ISO/Imported	Number	2	
1       Excavation & Backfilling Charges       NA       Feet       480         2       PVC Solution 1/2 Kg Pack       1/2KG-Royal       ISO       Number       2         3       Sub-Total (A+B+C) (Rs.)       5       5       5       5         4       Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)       25%       25%       5         Cost for Drip Irrigation System (2-Acre)       PKR       5       5       5	1		РС	ISO/Imported	Number	972	
2       PVC Solution 1/2 Kg Pack       1/2KG-Royal       ISO       Number       2         3       Sub-Total (A+B+C) (Rs.)       5       5       5         4       Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)       25%       25%         Cost for Drip Irrigation System (2-Acre)       PKR       6	С	-	Γ	1		1	
3       Sub-Total (A+B+C) (Rs.)         4       Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)         Cost for Drip Irrigation System (2-Acre)       PKR	1	Excavation & Backfilling Charges				480	
4     Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)     25%       Cost for Drip Irrigation System (2-Acre)     PKR				ISO	Number	2	
4       Transportation for Drip Irrigation System (Rs.)       25%         Cost for Drip Irrigation System (2-Acre)       PKR	3		al (A+B+C) (Rs.)	1			
Cost for Drip Irrigation System (2-Acre)     PKR	4	Transportation for Drip Irrigation			25%		
Cost for Drin Invigation System (non 2010) DKD	Cos			PKR			
Cost for Drip infigation System (per acre)	Cos	st for Drip Irrigation System (per acre)		PKR			

# **BoQ for Drip Irrigation system of 2 Acres**

# Note: (Applicable on 1–5-acre HEIS)

	BOQ for Drip 1 Description	Description Model Brand						
A	u PVC Pipe				_			
1	UPVC Pipe with collar (2"), 12-Bar Class D	ass D 150 C						
2	UPVC Pipe with collar (1 1/2"), 12- Bar Class D	BSS 3505 & PSI 3051	ISO Certified	Meter	160			
3	PVC Ball Valve 2"	Erra/Hydroplast	ISO Certified	Number	2.00			
4	PVC Elbow 2" (90)	Schedule-40	ISO Certified	Number	2			
5	PVC Elbow 1 1/2" (90)	Schedule-40	ISO Certified	Number	8			
6	PVC Reducing Bush 2"x1 1/2"	Schedule-40	ISO Certified	Number	2			
7	PVC Equal Tee 2"	Schedule-40	ISO Certified	Number	2			
8	PVC Equal Tee 1 1/2"	Schedule-40	ISO Certified	Number	4			
9	PVC Flush Valve 1 1/2"	Schedule-40	ISO Certified	Number	2			
В	Emitting Assembly							
1	Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness' (Dual)	FTR01604N	ISO/Imported	Meter	4100			
2	GTO with Rubber 16mm	845	ISO/Imported	Number	60			
3	End Capes 16 mm	813/ Double Eye	ISO/Imported	Number	60			
4	Connectors 16mm	841	ISO/Imported	Number	80			
5	Equal Tee 16mm	829	ISO/Imported	Number	6			
6	Disc Filter 2"	YHF/THF	ISO/Imported	Number	1			
7	Hydro cyclone/Sand Media Filter 15- 20 m3/hr.	ISO 9912/25 M3/Hr.	ISO/Imported	Number	1			
8	Venturi Kit for Fertigation 1"	Injector1"	ISO/Imported	Number	1			
9	Drum for Fertigation	150L/PVC UV Resistant	ISO/Imported	Number	1			
10	Air Relief Valve 1"	AR1"	ISO/Imported	Number	2			
11	Drippers 8 LPH PC- (4/Plant)	PC	ISO/Imported	Number	1400			
С	Other Charges							
1	Excavation & Backfilling Charges		NA	Feet	720			
2	PVC Solution 1/2 Kg Pack	1/2KG-Royal	ISO	Number	3			
3		tal (A+B+C) (Rs.)		•				
4	Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)			25%				
Cos	t for Drip Irrigation System (3-Acre)		PKR					
Cos	t for Drip Irrigation System (per acre)		PKR					

# **BoQ for Drip Irrigation system of 3 Acres**

## Note: (Applicable on 1–5-acre HEIS)

Α	Description	Niodol				
Α	-	Model	Brand	Unit	Quantity	PKR Price
	u PVC Pipe	[			1	
1	UPVC Pipe with collar (2"), 12-Bar Class D	BSS 3505	ISO Certified	Meter	140	
2	UPVC Pipe with collar (1 1/2"), 12- Bar Class D	BSS 3505 & PSI 3051	ISO Certified	Meter	200	
3	PVC Ball Valve 2"	Erra/Hydroplast	ISO Certified	Number	3.00	
4	PVC Elbow 2" (90)	Schedule-40	ISO Certified	Number	3	
5	PVC Elbow 1 1/2" (90)	Schedule-40	ISO Certified	Number	12	
6	PVC Reducing Bush 2"x1 1/2"	Schedule-40	ISO Certified	Number	3	
7	PVC Equal Tee 2"	Schedule-40	ISO Certified	Number	3	
8	PVC Equal Tee 1 1/2"	Schedule-40	ISO Certified	Number	5	
9	PVC Flush Valve 1 1/2"	Schedule-40	ISO Certified	Number	3	
В	Emitting Assembly					
1	Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness' (Dual)	FTR01604N	ISO/Imported	Meter	5500	
2	GTO with Rubber 16mm	845	ISO/Imported	Number	70	
3	End Capes 16 mm	813/ Double Eye	ISO/Imported	Number	70	
4	Connectors 16mm	841	ISO/Imported	Number	90	
5	Equal Tee 16mm	829	ISO/Imported	Number	8	
6	Disc Filter 2"	YHF/THF	ISO/Imported	Number	1	
7	Hydro cyclone/Sand Media Filter 15-20 m3/hr.	ISO 9912/25 M3/Hr.	ISO/Imported	Number	1	
8	Venturi Kit for Fertigation 1"	Injector1"	ISO/Imported	Number	1	
9	Drum for Fertigation	150L/PVC UV Resistant	ISO/Imported	Number	1	
10	Air Relief Valve 1"	AR1"	ISO/Imported	Number	3	
11	Drippers 8 LPH PC- (4/Plant)	PC	ISO/Imported	Number	1850	
С	Other Charges					
1	Excavation & Backfilling Charges		NA	Feet	960	
2	PVC Solution 1/2 Kg Pack	1/2KG-Royal	ISO	Number	4	
3	Si	ub-Total (A+B+C)	(Rs.)			
4	Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)			25%		
Cos	t for Drip Irrigation System (4-Acre)			PKR		
Cos	t for Drip Irrigation System (per acro	e)		PKR		

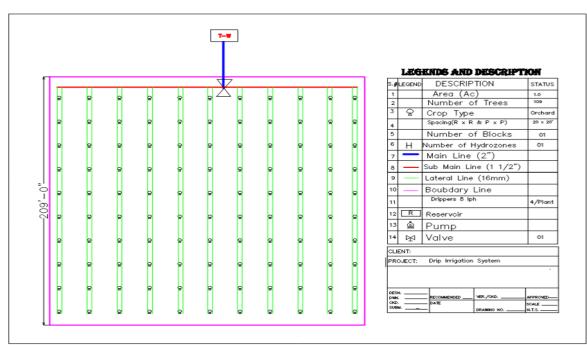
# **BoQ for Drip Irrigation system of 4 Acres**

## Note: (Applicable on 1–5-acre HEIS)

		p Irrigation sys			Quantity	PKR Price			
	Description								
Α	u PVC Pipe		•		1				
1	UPVC Pipe with collar (2"), 12- Bar Class D	BSS 3505	ISO Certified	Meter	140				
2	UPVC Pipe with collar (1 1/2"), 12-Bar Class D	BSS 3505 & PSI 3051	ISO Certified	Meter	250				
3	PVC Ball Valve 2"	Erra/Hydroplast	ISO Certified	Number	4.00				
4	PVC Elbow 2" (90)	Schedule-40	ISO Certified	Number	4				
5	PVC Elbow 1 1/2" (90)	Schedule-40	ISO Certified	Number	16				
6	PVC Reducing Bush 2"x1 1/2"	Schedule-40	ISO Certified	Number	4				
7	PVC Equal Tee 2"	Schedule-40	ISO Certified	Number	4				
8	PVC Equal Tee 1 1/2"	Schedule-40	ISO Certified	Number	6				
9	PVC Flush Valve 1 1/2"	Schedule-40	ISO Certified	Number	4				
В	Emitting Assembly								
1	Dripline Plain 16 mm (OD) PN-4 with 1.2 mm wall thickness' (Dual)	FTR01604N	ISO/Imported	Meter	6800				
2	GTO with Rubber 16mm	845	ISO/Imported	Number	75				
3	End Capes 16 mm	813/ Double Eye	ISO/Imported	Number	75				
4	Connectors 16mm	841	ISO/Imported	Number	95				
5	Equal Tee 16mm	829	ISO/Imported	Number	10				
6	Disc Filter 2"	YHF/THF	ISO/Imported	Number	1				
7	Hydro cyclone/Sand Media Filter 15-20 m3/hr.	ISO 9912/25 M3/Hr.	ISO/Imported	Number	1				
8	Venturi Kit for Fertigation 1"	Injector1"	ISO/Imported	Number	1				
9	Drum for Fertigation	150L/PVC UV Resistant	ISO/Imported	Number	1				
1 0	Air Relief Valve 1"	AR1"	ISO/Imported	Number	4				
1 1	Drippers 8 LPH PC- (4/Plant)	РС	ISO/Imported	Number	2300				
С	Other Charges								
1	Excavation & Backfilling Charges		NA	Feet	1200				
2	PVC Solution 1/2 Kg Pack	1/2KG-Royal	ISO	Number	5				
3		Total (A+B+C) (Rs.)							
4	Survey, Design, Installation and Transportation for Drip Irrigation System (Rs.)			25%					
Co	st for Drip Irrigation System (5-Acr	re)	PKI	κ –					
Co	st for Drip Irrigation System (per a	cre)	PKI	κ					

# **BoQ for Drip Irrigation system of 5 Acres**

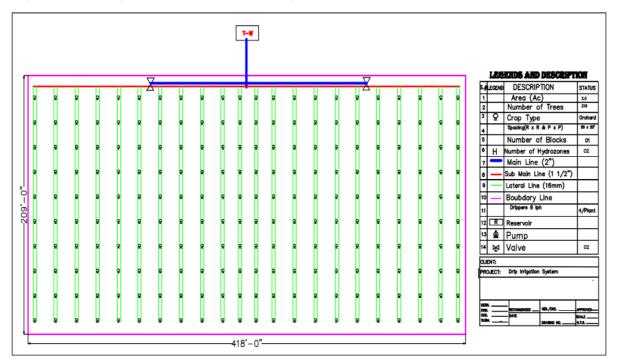
## Note: (Applicable on 1–5-acre HEIS)

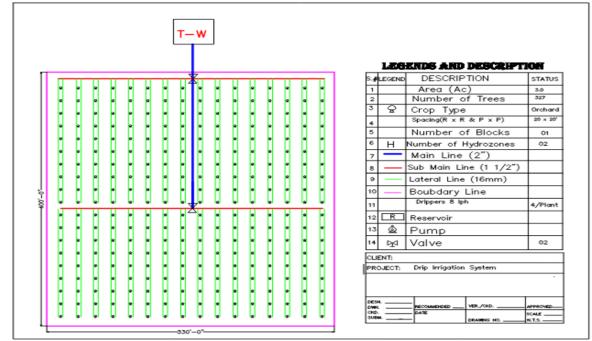


## **Drawings and Designs (Tentative)**

Typical Layout of Drip Irrigation on 01-acre Orchard

Typical Layout of Drip Irrigation on 02-acre Orchard

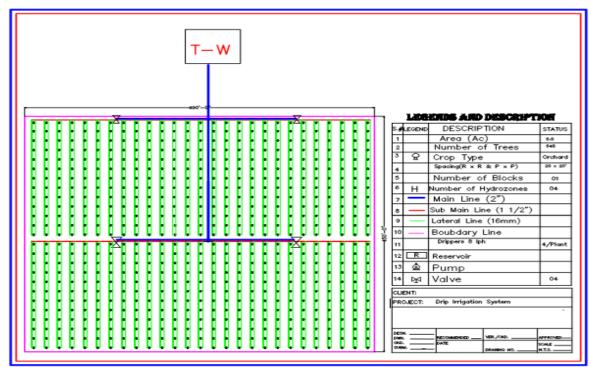




Typical Layout of Drip Irrigation on 03-acre Orchard

Typical Layout of Drip Irrigation on 04-acre Orchard

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Typical Layout of Drip Irrigation on 5-acre Orchard