PQD

Expression of Interest [EOI] Document for Pre-Qualification of Supply and Services Companies/ Firms/ AoPs/ Sole Proprietors/ Joint Venture(s) for Installation of High Efficiency Irrigation Systems (HEISs)

Under ADP-Funded Project

"Transformation of Agriculture in Thal"

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DISCLAIMER

This Expression of Interest (EOI) Document is provided to the recipient solely for use in preparing and submitting applications for pre-qualification of Supply and Services Companies/ Firms/ AoPs/ Sole Proprietors/ JV(s) for installation of High efficiency Irrigation Systems (HEISs) under the ADP-funded Project titled **"Transformation of Agriculture in Thal"** and to carry out the Assignment as further detailed in this EOI Document. This EOI Document is being issued by the Director General Agriculture (Water Management) Punjab, Lahore (hereinafter referred as the "Agriculture Department" where relevant the term includes its employees, personnel, affiliated entities, consultants, advisors, agents and contractors etc.), solely for the use of the Applicant(s) interested in the Assignments enumerated hereunder. Unless expressly specified otherwise, all capitalized terms used herein shall bear the meaning as ascribed in this EOI Document.

This EOI is not an agreement and is neither an offer nor invitation by the Agriculture Department to the prospective Applicant(s) or any other person. The purpose of this EOI is to provide interested parties with information that may be useful to them in the formulation of their application for qualification pursuant to this EOI (the "Application"). This EOI includes statements, which reflect various assumptions and assessments arrived at by the Agriculture Department in relation to the said Project. Such assumptions, assessments and statements do not purport to contain all the information that each Applicant(s) may require. This EOI may not be appropriate for all persons, and it is not possible for the Agriculture Department, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this EOI. The assumptions, assessments, statements and information contained in this EOI may not be complete, accurate, adequate or correct. Each Applicant should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this EOI and obtain independent advice from appropriate sources.

Information provided in this EOI to the Applicant(s) is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Agriculture Department accepts no responsibility of the accuracy or otherwise for any interpretation or opinion on law expressed herein.

The evaluation criteria have been laid down for the purpose of short-listing of the Applicant(s). The Agriculture Department or its affiliated entities including its consultants, advisors, employees, personnel, agents, make no representation or warranty and shall have no liability to any person, including any Applicant, under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this EOI or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the EOI or in any other Document made available to a person in connection with the tendering process for the Assignment(s) or for any other written or oral communication transmitted to the recipient in the course of the recipient's evaluation and any assessment, assumption, statement or information contained therein or deemed to form part of this EOI or arising in any way with pre-qualification of Applicant(s) for participation in the further process.

The EOI submitted by any Applicant shall be upon the full understanding and agreement of any and all terms of this EOI Document and such submission shall be deemed as an acceptance to all the terms and conditions stated in this EOI Document. Any EOI submitted by any Applicant shall be construed based on the understanding that the Applicant has done a complete and careful examination of this EOI Document and has independently verified all the information received from the Agriculture Department.

This EOI Document shall neither constitute a solicitation to invest, or otherwise participate, in the Assignment, nor shall it constitute a guarantee or commitment of any manner on the part of The Agriculture Department that the Assignment will be awarded. The Agriculture Department reserves its right, in its full discretion, to modify the EOI Document and/or the Assignment at any stage during the process to the fullest extent permitted by law, and shall not be liable to reimburse or compensate the applicant for any costs, taxes, expenses or damages incurred by the Applicant in such an event. Similarly, the Agriculture Department reserves the right, in its full discretion, to cancel the EOI Document and/or Assignment at any stage of the procurement process and shall not be liable to reimburse or compensate the Applicant for any costs, taxes, expenses or damages incurred by the Applicant(s) in such an event.

SECTION-I

INTRODUCTION

DEFINITIONS

In this document, the following terms shall be interpreted as defined bellow:

Procuring Agency:	Water Management Wing of the Agriculture Department, Government of the Punjab, Lahore.
Applicant:	Means any Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture that is eligible, has the expertise and ability to undertake the Assignment as per the requirements of this PQD Document and has not been blacklisted/ debarred by any public sector organization or department anywhere.
Assignment/Scope of Work:	Means the work to be undertaken and services to be provided by the Applicant in accordance with this PQD Document upon being selected as a successful applicant after the pre-qualification process, to be conducted post-shortlisting.
Due Date:	The date mentioned in advertisement as deadline for submission of EOI application.
EOI:	Expression of Interest to be submitted by the Applicants through **Punjab e-Procurement System (eP) only** containing the information as set out and required under this PQD Document.
Power of Attorney:	The Power of Attorney to be provided by the Applicant(s) in the form appended to this PQD Document.
RFP:	Request for Proposals
Signatory of Application:	Means the Applicant or any person duly authorized by the Applicant through Power of Attorney placed at **Annexure-III** to sign the application for EOI on his behalf.

1. PROJECT BRIEF

The project titled “Transformation of Agriculture in Thal” has been approved by the PDWP at a total cost of PKR 7,986.385 million for its implementation for three years (2026-27 to 2028-29) in Thal region including Bhakkar, Layyah, Mianwali, Jhang, Muzaffargarh and Kot Addu districts. The project is completely in line with the Punjab Government’s overall policy of agricultural transformation, water conservation, crop diversification, rural development, private sector engagement, and job creation in rural areas.

2. OBJECTIVES

The key objective of the proposed project is “to bring uncultivated area under irrigated agriculture through land and water resources development and promotion of high value agriculture in Thal”.

The main objectives of the project are given hereunder:

i) To enhance agricultural productivity in the Thal region through modern farming techniques, and promotion of high-value crops suited to arid conditions.

ii) To improve water availability and efficiency through adoption of efficient irrigation technologies.

iii) To increase gram productivity in the Thal region through provision of subsidized farm machinery and improved cultivation practices.

iv) To enhance farmers' income and livelihoods through diversification into high-value agriculture, value addition, and improved market linkages.

3. KEY COMPONENTS (WATER MANAGEMENT WING)

The project envisages:

i) Development of 500 Irrigation Schemes

ii) Installation of Solar Coupled Drip Irrigation Systems on 10,000 acres

iii) Installation of Solar Powered Sprinkler Irrigation Systems on 1,000 acres

iv) Construction of 500 Water Storage Ponds

v) Provision of Citrus/ Lemon Plants on 10,000 acres

4. SCOPE OF WORK FOR HEISs

The project envisages installation of HEIS on **11,000 acres** in Thal region i.e., **Solar coupled Drip Irrigation Systems on 10,000 acres and Solar Powered Sprinkler Irrigation Systems on 1,000 acres**.

5. PROJECT LOCATION

The project will be implemented in Thal region including Bhakkar, Layyah, Mianwali, Jhang, Muzaffargarh and Kot Addu districts.

6. GESTATION PERIOD

Three years (2026-27 to 2028-29)

7. IMPLEMENTATION MODALITIES

7.1 INSTALLATION OF HIGH EFFICIENCY IRRIGATION SYSTEMS (HEISs)

The modernization of farm operations has taken place in every agricultural operation all over the World, and Pakistan can remain no exception. The farmers are using traditional irrigation practices for so many years due to non-availability of modern irrigation technologies, lack of knowledge, and necessary services. Drip, bubbler, sprinkler, impact sprinkler, portable/semi-portable sprinklers, rain-gun, center pivot etc. are together called as high efficiency irrigation systems (HEISs) are reformatory technologies introduced in Punjab at farmers' fields to bring a paradigm shift in crop production. In drip or trickle irrigation, water is provided directly to individual plants by means of small emitters in the form of droplets. Similarly, bubbler irrigation is very

similar to trickle irrigation except that the water is delivered to the plants through a bubbler mounted on small spikes. In rain-gun irrigation systems, water is pumped at high pressure through a piped system and sprayed over the entire cultivated field.

7.2 Drip Irrigation System

Among all high efficiency irrigation systems, drip irrigation (also called as trickle/micro irrigation) is the most efficient technology that makes highly effective use of water, fertilizers, and nutrients. Its main principle is to apply water and other inputs slowly, regularly, and frequently as close to the plant roots as possible according to plants requirement through emitters installed on plastic pipes laid out in the field. Regular and timely availability of nutrients throughout the plant growth period as per exact requirements and maintenance of favorable soil moisture conditions to maximize crop productivity. It enables right air, water, and nutrients mix in the plant root zone. Drip irrigation technology is best suited for orchards and high value row crops such as cotton, maize, sugarcane, vegetables, etc. It has become the most valued innovation, which optimizes use of water and fertilizers by enhancing irrigation efficiency as much as 95% as compared to other irrigation methods.

7.3 Sprinkler Irrigation System

The sprinkler system is the overhead irrigation whereby water is sprayed on the soil/crop somewhat like rain. A typical sprinkling unit comprises of an electric or diesel pumping unit, a portable or buried main pipeline with hydrants at predetermined intervals, and one or more sprinkler units attached to hydrants or hoses. Sprinkler systems are classified into various types on the basis of their spray pattern and mobility/portability (a) Raingun (b) Reel System.

7.4 Implementation Procedure for Installation of HEISs

i. An advertisement will be flashed in print/electronic media at provincial/ district level at the start of financial year for invitation of the applications from the farmers, if required.

ii. Interested farmers will submit their applications online through the designated portal or manually, for installation of solar coupled drip irrigation systems/ solar coupled sprinkler irrigation systems on their land within the prescribed timeline, along with the requisite documents. The applications will be scrutinized by the following scrutiny committee through the online portal or manually, to determine eligibility.

    a. Deputy Director Agriculture (OFWM)

b. All Assistant Directors Agriculture (OFWM) in the district
c. Representative of Field Wing of Agriculture Department

iii. If the number of eligible applications received exceeds the allocated district quota, beneficiaries will be selected through digital balloting. In case the number of eligible applications is within the allocated district quota, solar coupled drip irrigation systems/ solar coupled sprinkler irrigation systems will be installed on the land of all eligible farmers;

iv. To achieve the district-wise targets of solar coupled drip irrigation systems, in case the number of eligible applications received within the prescribed timeline is less than the allocated district quota, the online portal will remain open throughout the year for receiving applications from eligible farmers, without requiring fresh advertisement, until the district quota is fully achieved.

v. The allotment letter will be issued to the successful farmers for installation of solar coupled drip irrigation systems/ solar coupled sprinkler irrigation systems. The eligible applicants will be advised to approach the pre-qualified SSC of HEISs of their own choice for survey, design, and cost estimation of the selected system;

vi. The selected SSC will survey the site, prepare design and bill of quantity (BOQ) as per departmental approved standards & specifications and the rates approved by the Pre-Qualification Committee (PQC) or any other designated committee under other OFWM development projects and submit the same to the DDA (OFWM) who will forward the same to the Consultants' Field Engineer for review and approval. The drip irrigation system/ sprinkler system may be installed on direct suction/ water storage pond depending on the available water source.

vii. The farmer, after approval of design and cost estimates, will be advised by the concerned DDA (OFWM) to deposit his/her entire share in the form of pay order/bank draft in favour of selected SSC or evidence of in-kind contribution by the farmer, which will be submitted to DGA (WM) Punjab/ DDA (OFWM), for issuance of work order.

viii. Farmer may be given option to contribute "In Kind Material" towards his share by providing material as per approved standards and specification. In this case, farmer will purchase new material according to standards and specifications approved under development projects and will get the same verified by Field Engineer of Consultants;

ix. After receipt of in-kind/ cash farmer share and on certification by the Consultants, DGA(WM) Punjab/ DDA (OFWM) will issue the work order and advise the concerned SSC to supply the drip/solar system equipment/material at site within prescribed time limit, which will be verified by the Consultants for quality and quantity vis-à-vis approved standards & specifications;

x. On receipt of satisfactory report from the Consultants received through DGA(WM) Punjab/ DDA (OFWM) concerned will make 50% payment (1st instalment) of total cost to SSC alongwith advice to install the drip irrigation system/ sprinkler irrigation system. In case of 100% material is not shifted at site, the Consultants will recommend 50% of the verified cost of material, provided that the verified material cost is not less than 80% of total material cost. After material verification, the concerned SSC shall complete the system installation at site within timeframe specified in the work order. In case of delay in installation, late delivery charges will be imposed on SSCs. However, in case of any delay in completion of HEIS system commissioning within the specified time due to unavoidable circumstances. The DGA(WM) Punjab/ DDA (OFWM) may extend the completion period as per proposed recommendations of the farmer/ SSCs/ DDA(OFWM);

xi. On completion of installation, the SSC will report to concerned DDA (OFWM) and Consultants for commissioning verification of installed system. The Field Engineer of the Consultants will verify drip/sprinkler system installation as per design & cost estimates, while concerned farmer will provide his satisfaction. The DGA(WM)/ DDA (OFWM) Punjab concerned will pay 45% (2nd instalment) after retaining 5% of total system cost. The Consultants shall ensure that irrigation & fertigation schedules, log book and O&M manual in local language/Urdu have been provided to farmer; and, training regarding system operation and maintenance imparted to the farmer/ operator in coordination with concerned DDA (OFWM) by the SSC;

xii. The SSCs will provide follow-up support service as per provisions of the agreements;

xiii. The DGA(WM) Punjab/ DDA (OFWM) concerned will pay remaining 5% cost (3rd instalment) or against the Bank guarantee of equal amount, which will be released after two years on provision of satisfactory follow up support services by the SSCs during two years, which will be verified by the concerned DDA

(OFWM) and the Consultants or any other designated committee for the purpose;

xiv. All works will be executed under a tripartite agreement signed by Department, SSC, and the participating farmer;

xv. The SSC/ district/ tehsil OFWM staff will provide technical support to the farmers for the operation, maintenance, and troubleshooting of installed system as well as provide agronomic support regarding cropping geometry, fertigation, weed management, disease/pest control etc. under high efficiency irrigation environment.

xvi. In case of any dispute, the matter will be referred to the following Dispute Resolution Committee (DRC) whose decision will be final and would be binding on all stakeholders and not challengeable in any court of law.

a. Director Agriculture (OFWM) concerned
b. Deputy Director Agriculture (OFWM) concerned
c. Field Engineer Consultants
d. Representative of SSCs

xvii. After two years of backup support services from SSCs, the beneficiary farmer is solely responsible for operation & maintenance, theft of parts, natural calamity etc of HEIS site.

xviii. If deemed necessary, the PSC may revise the district-wise targets based on demand and make necessary modifications to the implementation arrangements of this component to ensure its smooth execution.

7.5 Cost Sharing

It is planned to demonstrate solar-coupled High Efficiency Irrigation Systems (HEIS) in the project area to promote the cultivation of high-value crops, including orchards, vegetables, and other cash crops, based on site-specific requirements. Keeping in view the socio-economic conditions and financial capacity of the farming community, a 70:30 cost-sharing mechanism will be adopted, whereby the government will provide 70% of the total system cost, while the farmer will contribute the remaining 30%. This cost-sharing mechanism will apply to both components of the system, i.e., the drip irrigation system and the solar system.

8. Expression of Interest for Prequalification of Supply and Services company for the installation of HEIS:

i. Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture has a registered office in Punjab/ Pakistan and a dedicated website for the purpose.

ii. Registration of Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture as a legal entity with relevant authority/ forum (Registrar of firms, SECP, etc.)

iii. Enlistment/ registration in the name of Firm/ AoP/ Supply Company/ Sole Proprietor/ Joint Venture as supplier/ manufacturer/ importer with concerned agencies (Valid/ active NTN, STN, PRA registration or enlistment certificate).

iv. Must not be involved in any type of Tax Evasion (Income Tax & GST Returns of the last three years must be provided).

v. Must be in business for the last three years with a minimum average turnover of Rs. 25 million per year.

vi. Must have experience of completing similar assignments on at least 150 acres during the last three (03) years by the date of EOI closing, with an average of 50 acres/ year. (Attach list of projects with location, type of system installed and cost incurred and furnish any additional documents to support relevant experience of firm(s). In case of local manufacturers, instead of HEIS installation experience, the local manufacturer may submit the proof of manufacturing and sale/ supply of at least 150 acres of HEIS products.

vii. Must have available inventory of HEIS equipment of standards & specifications approved by the Punjab Agriculture Department to install the systems on at least 50 acres.

viii. Willing to hire a mix of professional staff including minimum five Agricultural Engineers, three Agricultural Experts including Agronomist, Horticulturist, Soil Scientist and five Diploma Engineers (Affidavit will be submitted).

ix. Must provide an affidavit confirming that: (a) Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture have never been blacklisted by any government local or foreign department (if ever blacklisted, then provide the case history and current status of the firm regarding this decision; (b) All the information provided by the applicant firm is correct; (c) the firm will provide compatible HEIS equipment as per approved standards & specifications along with import documents; (d) the Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture will deploy staff as per project requirements/ directions of the Client and avail relevant staff for mandatory training organized by Agriculture Department on standards and procedures within three months of the pre-qualification and before getting any contract. The pre-qualification will be nullified in case of non-compliance.

x. The Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture undertake to performing Performance Assessment Tests (test on uniformity of irrigation for HEIS) for commissioning of the equipment provided/ installed. The test will be performed by the SSC under the oversight of the consultants/ project team and of the beneficiary as per departmental standards/requirements.

xi. The Firm/ AoP/ Sole Proprietor/ Supply Company/ Joint Venture will undertake to comply with the Environmental and Social Management Framework (ESMF)

of the project available at https://ofwm.agripunjab.gov.pk/system/files/priat ESMF.pdf.

xii. EOI security amounting to Rs. 500,000/- (refundable) in the form of CDR/ Demand Draft.

xiii. In case of incomplete information/ non-verification of information, application will be rejected.

xiv. Interested supply Firms/ AoPs/ Sole Proprietors/ Supply Companies/ JV(s) registered on Punjab e-Procurement System (eP), meeting the above mentioned criteria, mentioned in Pre-Qualification Document (PQD) as a prerequisite may download the PQD from websites https://ofwm-agripunjab.punjab.gov.pk/, www.ppra.punjab.gov.pk and Punjab e-Procurement System (eP) portal https://ep.punjab.gov.pk/auth/login free of cost.

xv. The Expression of Interest, prepared in accordance with instructions in the Prequalification Document (PQD), must be submitted through Punjab e-Procurement System (eP) only on or before 16-11-2026 at 02:30 PM. EOIs received later than the specified time and date shall not be entertained for any reason(s) whatsoever.

xvi. The EOIs will be publicly opened by the Pre-qualification Committee (PQC) in the Committee Room of Agriculture Department, 2nd Floor, New P&D Tower, 2 - Bank Road, Lahore on the same date at 03:00 PM online through the Punjab e-Procurement System (eP).

xvii. Firms/ AoPs/ Sole Proprietors/ Supply Companies/ JV(s) already prequalified with Water Management wing of the Agriculture Department must need to apply afresh for prequalification under this project.

Applicants supply Firms/ AoPs/ Sole Proprietors/ Supply Companies/ JV(s) registered on Punjab e-Procurement System (eP) are requested to provide only relevant and complete information specific to the proposed assignment and avoid submitting generic promotional literature. Any misinformation, false and forged statements will lead to disqualification and any other action as per applicable laws. The department reserves the right to withdraw this EoI at any time and interested Firms/ AoPs/ Sole Proprietors/ Supply Companies/ JV(s) are responsible for all costs incurred arising from or in relation to this request.

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SECTION-II

INSTRUCTIONS TO APPLICANTS

Instructions to applicant

Fraud & Corruption

i. The prequalification agency requires that the applicant observes the highest standard of ethics in relation to submission of EOI for short listing and further document required thereafter.
ii. The prequalification agency will reject the proposal for short listing if it determines that the applicant has directly through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question and will declare the applicant ineligible, either indefinitely or for a stated period of time.
iii. Any misinformation, forged/ fake documents/ statements etc. will lead to disqualification at short listing stage in addition to any other action as per law.

Eligibility

Undertaking on judicial paper that the firm/ company is not insolvent, not blacklisted and not involved in litigation or arbitration with any provisional or federal Government Department in Pakistan, any agency of United Nations, world Bank, Asian Development Bank etc. In case the Firm/ Company were involved in any litigation or arbitration process, proof of dispute resolution along with history for last three years in accordance with **Annexure-I** would be required.

The Applicant or any of its Members firm, declared Insolvent/ blacklisted/ declared by any public sector organization or department in Pakistan shall be ineligible for short listing.

Language

Language of EOI and subsequent document of all processes and correspondence shall be English.

EOI Advertisement

The EOI advertisement shall form an integral part of the EOI document.

Clarification in relation to EOI Document

i. An applicant requiring any clarification in relation to the EOI document shall contact the prequalification agency in writing at the address indicated in this EOI document.
ii. The prequalification agency will respond in writing to any request for clarification provided that such request is received no later than five (05) days prior to the deadline / due date for submission of EOI.

Amendments in EOI documents

i. At any time prior to the deadline for submission of EOI, the prequalification agency may amend the EOI document by issuing an addendum.
ii. Any addendum issued shall be part of EOI document
iii. To give applicant reasonable time to take an addendum into account in preparing their applications, the prequalification agency may, at its discretion, extend the deadline for the submission of applications.
iv. No objection shall be entertained regarding the terms & conditions of EOI document after deadline for submission of EOI.

Change in information provided to Pre-qualification agency

The Applicant shall immediately report to the Pre-Qualification Agency in writing any change in the information provided in its EOI. The determination of whether the change is material shall be in Pre-Qualification Agency's sole and exclusive discretion and any material change could also lead to disqualification of such Applicant. Any failure to report change by the Applicant shall constitute grounds for disqualification.

Cost of Application

i. The Applicant shall bear all costs associated with the preparation and submission of EOI. The Pre-Qualification Agency will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the short-listing process.
ii. The Pre-Qualification Agency will not be responsible for any costs or expenses incurred by the Applicant in connection with visits to any office or site for the preparation or delivery of proposals.
iii. The Pre-Qualification Agency shall be under no obligation to return any EOI or supporting materials submitted by the Applicant.

Documents Establishing the Eligibility of Applicant

To establish its eligibility, the Applicants shall fulfil all eligibility requirements set out in this document supported by verifiable documentary evidences. Applications without complete supporting documentary evidence, as required under this EOI, shall be considered non-responsive and shall be rejected.

Documents Establishing the Qualifications of Applicant

To establish its qualifications, the Applicant shall provide the information requested in the corresponding sheets, evaluation criteria etc. in the form of verifiable documentary evidence.

Signing the Applicant

1. The Applicant shall prepare and submit the EOI as described in this document. The EOI shall be signed by a person duly authorized on behalf of the Applicant through Power of Attorney.
2. Original written Power of Attorney authorizing the signatory of the Application to act for and on behalf of the Applicant shall be attached with the application according to the Annexure-III.
3. Every page and every form of EOI shall be signed and stamped by the Signatory of the Application.

Sealing and Identification of application

The Applicant shall enclose ONE Original and ONE COPY of its EOI in a sealed envelope that shall:

i. Bear the name and address of the Applicant.

ii. Be addressed to the Director General Agriculture (WM) Punjab, Lahore for "Transformation of Agriculture in Thal", Installation of HEIS. Agriculture House, 1st Floor, 21-Davis Road, Lahore. Pakistan.
iii. Bear the specific identification of this short-listing process indicated in the EOI Document and shall be clearly marked.
iv. Each EOI shall be in English language accompanied by all the supporting documents in same language.
v. If any original supporting document is not in English, a certified translation of the same in English shall be provided by the Applicant.
vi. Applicants are also required to state, in their proposals, the name, title, phone & fax numbers, e-mails, and addresses of their Primary Contact and Secondary Contact, through whom all communications shall be directed until the procurement process has been completed or terminated.
vii. The Pre-Qualification Agency will accept no responsibility for not processing any envelope that was not identified as required.

Opening of Application

The Pre-Qualification Agency shall open (all) application(s) on the time & date indicated in EOI advertisement.

Confidentiality

Information relating to the evaluation of Applications, and recommendation for short-listing, shall not be disclosed to the Applicants or any other person not officially concerned with such process until the notification of short-listing is made to all Applicants.

Clarification of Applicants

i. To assist in the evaluation of applications, The Pre-Qualification Agency may, at its discretion, ask any Applicant for a clarification of its application which shall be submitted within a stated reasonable period of time.
ii. Any request for clarification and all clarifications shall be in writing.
iii. If an Applicant does not provide clarifications of the information requested by the deadline, the application shall be evaluated based on the information and documents available at the time of evaluation of the application. Failing to provide requisite information may lead to rejection / disqualification of application.

Responsiveness of Applicant

All applications not responsive to the requirements of the EOI Documents shall be rejected.

Notification of Short-Listing

The purpose of this EOI Document / Advertisement is to pre-qualify firms. The Pre-Qualification Agency shall promptly notify each Applicant about its short listing or otherwise after completing the process / procedure of short-listing.

Interpretation & Final Determination

The interpretation and final determination of any matter relating to the EOI Document, all enclosed documents, sections, compliance documents etc. as well as any additional or supplementary information required by the Pre-Qualification Agency will be at Pre-Qualification Agency's sole discretion which shall be final and binding on the Applicants.

Use of Information

Permission for disclosure of information submitted by an Applicant as part of the EOI would not be required by the Pre-Qualification Agency, its governing bodies/departments, its consultants, advisors and personnel for the purpose of evaluation of application and short-listing.

Conflict of Interest

The Pre-Qualification Agency may confirm the status of the Applicant for the sake of conflict of interest before completion of the short-listing process. For this purpose, the Applicant shall be required to provide this information in specific terms and any misrepresentation shall be made a ground for rejection. Applicants shall note that in case of their selection, any such links, if detected during the course of their contract, would be reported by the Pre-Qualification Agency to PPRA / other relevant authority for cancellation of its registration/license leading to their blacklisting.

Governing

The governing laws for the scheme and the contract thereto shall be laws of Pakistan (where Federal laws are applicable) and laws of Punjab (where provincial laws are applicable). The Rules may be downloaded from the Punjab Procurement Regulatory Authority ("PPRA") website www.ppra.punjab.gov.pk Moreover, the entire EOI Document shall be construed in the light of these Rules.

SECTION-III

EVALUATION CRITERIA FOR SELECTION / PREQUALIFICATION OF FIRMS/ AOPs/ SOLE PROPRIETORS/ SUPPLY COMPANIES/ JV(s) FOR SUPPLY AND SERVICES OF HIGH EFFICIENCY IRRIGATION SYSTEM (HEIS) TO FARMERS

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
1.	Firm/ AoP/ Sole Proprietor/ Supply Company/JV has a registered office in Punjab/ Pakistan and a dedicated website for the purpose.	Rental Deed Agreement / Fard Malkiyat and Website Link/ Address.	
2.	Registration of Firm/ AoP/ Sole Proprietor/ Supply Company/ JV as a legal entity with relevant authority/ forum as applicable (Registrar of firms, SECP, etc.).	**For Companies:** i. Copies of certificate of registration with SECP, ii. Form 28 and 29 for companies **For Firms/AoPs:** i. Certificate of registration with Registrar of firms/ Form C **For Sole proprietors:** i. Evidence of registration with FBR **Note:** In case of JV, above mentioned documents for each JV partner (i.e. company/firm/Sole proprietor) will be provided. JV agreement would require to be registered with FBR/Registrar of Firm/SECP/Relevant Legal forum and must be submitted with EOI.	
3.	Enlistment/ registration in the name of Firm/ AoP/ Supply Company/ Sole Proprietor/ JV as supplier/ manufacturer/ importer with concerned agencies (Valid/ active NTN, STN, PRA registration or enlistment certificate).	Valid/ active NTN, STN, PRA registration in the name of Firm/ AoP/ Sole Proprietor/ Supply Company/ JV. **Note:** In case of JV, above	

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
		mentioned documents for each JV partner (i.e. company/firm/Sole proprietor) will be provided.	
4.	Must not be involved in any type of Tax Evasion. (Income Tax & GST Returns of the last three years must be provided).	Complete Returns of Income Tax (last 3 Years) & GST for the last 03 years (36 Months) (F.Y. 2022-23, 2023-24 & 2024-25)	
5.	Must be in business for the last three years with a minimum average turnover of Rs. 25 Million per year.	Annual Turnover reports of last three years (F.Y. 2022-23, 2023-24 & 2024-25)	
6.	Must have experience of completing similar assignments on at least 150 acres during the last three (03) years by the date of EOI closing, with an average of 50 acres/ year.	• List of completed projects with client name, address, Location (Latitude; Longitude), system type, size/ scope, cost, period, year of installation components, and share/role, workorder/ contracts etc (specimen attached) • Any additional documents to support relevant experience • In case of local manufacturers, List of manufacturing and sale/ supply of at least 150 acres of HEIS products, client detail etc.	
7.	Must have available inventory of HEIS equipment of standards & specifications (https://ofwm.agripunjab.gov.pk/system/files/B1HEIS-	Physical Verification/Proof/ Documents with pictorial evidence.	

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
	POD.pdf) approved by the Punjab Agriculture Department to install the systems on at least 50 acres		
8.	Willing to hire a mix of professional staff including minimum five Agricultural Engineers, three Agricultural Experts including Agronomist, Horticulturist, Soil Scientist and five Diploma Engineers	Stamp Paper /Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	
9.	Must provide an affidavit confirming that: (a) Firm/ AoP/ Sole Proprietor/ Supply Company/ JV have never been blacklisted by any government local or foreign department. (if ever blacklisted, then provide the case history and current status of the firm regarding this decision) (b) All the information provided by the applicant firm is correct; (c) the firm will provide compatible HEIS equipment as per approved standards & specifications along with import documents; (d) the Firm/ AoP/ Sole Proprietor/ Supply Company/ JV will deploy staff as per project requirements/ directions of the Client and avail relevant staff for mandatory training organized by Agriculture Department on standards and procedures within three months of the pre-qualification and before	Stamp Paper/ Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
	getting any contract. The pre-qualification will be nullified in case of non-compliance.		
10.	The Firm/ AoP/ Sole Proprietor/ Supply Company/ JV undertake to performing performance assessment tests (test on uniformity of irrigation for HEIS) for commissioning of the equipment provided/ installed. The test will be performed by the SSC under the oversight of the consultants/ project team and of the beneficiary as per departmental standards/requirements.	Stamp Paper /Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	
11.	The Firm/ AoP/ Sole Proprietor/ Supply Company/ JV undertake to comply with the Environmental and Social Management Framework (ESMF) of the project available at https://ofwm.agripunjab.gov.pk/system/files/priat ESMF.pdf	Stamp Paper /Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	
12.	EOI security amounting to Rs. 500,000/- (refundable) in the form of CDR/ Demand Draft.	CDR/Bank Draft	

Note: In case of Joint Venture all correspondence and financial transactions will be made to Lead Firm.

9. MAJOR ROLE OF SUPPLY AND SERVICE COMPANIES (SSCs)

i) Carry out field surveys using the latest tools
ii) Prepare designs in accordance with accepted Standards & Specifications
iii) Prepare cost estimates/ bill of quantities

iv) Install HEIS irrigation systems at farmers' fields
v) Provide post-installation engineering and agronomic backup support services for at least two years

INFORMATION FORM

Name of Applicant:_____ Firm/Company:_____

Applicant as Supply and Service Company _____

a. **Address:**

b. **Telephone No(s):**

c. **Fax Number:**

d. **E-mail Address:**

e. **Preferred mode of correspondence: Mobile No.:**

Information Form

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
1.	Firm/ AoP/ Sole Proprietor/ Supply Company/JV has a registered office in Punjab/ Pakistan and a dedicated website for the purpose.	Rental Deed Agreement / Fard Malkiyat and Website Link/ Address.	
2.	Registration of Firm/ AoP/ Sole Proprietor/ Supply Company/ JV as a legal entity with relevant authority/ forum as applicable (Registrar of firms, SECP, etc.).	**For Companies:** iii. Copies of certificate of registration with SECP, iv. Form 28 and 29 for companies **For Firms/AoPs:** ii. Certificate of registration with Registrar of firms/ Form C **For Sole proprietors:** ii. Evidence of registration with FBR **Note:** In case of JV, above mentioned documents for each JV partner (i.e. company/firm/Sole proprietor) will be	

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		provided. JV agreement would require to be registered with FBR/Registrar of Firm/SECP/Relevant Legal forum and must be submitted with EOI.	
3.	Enlistment/ registration in the name of Firm/ AoP/ Supply Company/ Sole Proprietor/ JV as supplier/ manufacturer/ importer with concerned agencies (Valid/ active NTN, STN, PRA registration or enlistment certificate).	Valid/ active NTN, STN, PRA registration in the name of Firm/ AoP/ Sole Proprietor/ Supply Company/ JV. **Note:** In case of JV, above mentioned documents for each JV partner (i.e. company/firm/Sole proprietor) will be provided.	
4.	Must not be involved in any type of Tax Evasion. (Income Tax & GST Returns of the last three years must be provided).	Complete Returns of Income Tax (last 3 Years) & GST for the last 03 years (36 Months) (F.Y. 2022-23, 2023-24 & 2024-25)	
5.	Must be in business for the last three years with a minimum average turnover of Rs. 25 Million per year.	Annual Turnover reports of last three years (F.Y. 2022-23, 2023-24 & 2024-25)	

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
6.	Must have experience of completing similar assignments on at least 150 acres during the last three (03) years by the date of EOI closing, with an average of 50 acres/ year.	• List of completed projects with client name, address, Location (Latitude; Longitude), system type, size/ scope, cost, period, year of installation components, and share/role, workorder/ contracts etc (specimen attached) • Any additional documents to support relevant experience • In case of local manufacturers, List of manufacturing and sale/ supply of at least 150 acres of HEIS products, client detail etc.	
7.	Must have available inventory of HEIS equipment of standards & specifications (https://ofwm.agripunjab.gov.pk/system/files/B1HEIS-POD.pdf) approved by the Punjab Agriculture Department to install the systems on at least 50 acres	Physical Verification/Proof/ Documents with pictorial evidence.	
8.	Willing to hire a mix of professional staff including minimum five Agricultural Engineers, three Agricultural Experts including Agronomist, Horticulturist, Soil Scientist and five Diploma Engineers	Stamp Paper /Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	
9.	Must provide an affidavit confirming that: (a) Firm/ AoP/ Sole Proprietor/	Stamp Paper/ Affidavit duly signed and stamped by Firm/AoP/Sole	

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
	Supply Company/ JV have never been blacklisted by any government local or foreign department. (if ever blacklisted, then provide the case history and current status of the firm regarding this decision) (b) All the information provided by the applicant firm is correct; (c) the firm will provide compatible HEIS equipment as per approved standards & specifications along with import documents; (d) the Firm/ AoP/ Sole Proprietor/ Supply Company/ JV will deploy staff as per project requirements/ directions of the Client and avail relevant staff for mandatory training organized by Agriculture Department on standards and procedures within three months of the pre-qualification and before getting any contract. The pre-qualification will be nullified in case of non-compliance.	Proprietor/ Supply Company/ JV	
10.	The Firm/ AoP/ Sole Proprietor/ Supply Company/ JV undertake to performing performance assessment tests (test on uniformity of irrigation for HEIS) for commissioning of the equipment provided/ installed. The test will be performed by the SSC under the oversight of the	Stamp Paper /Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	

Sr. No.	Description/ EOI Clause	Source of Verification/ Mandatory Documents	Specify detail of the relevant document and attach Evidence duly signed & stamped.
	consultants/ project team and of the beneficiary as per departmental standards/requirements.		
11.	The Firm/ AoP/ Sole Proprietor/ Supply Company/ JV undertake to comply with the Environmental and Social Management Framework (ESMF) of the project available at https://ofwm.agripunjab.gov.pk/system/files/priat ESMF.pdf	Stamp Paper /Affidavit duly signed and stamped by Firm/AoP/Sole Proprietor/ Supply Company/ JV	
12.	EOI security amounting to Rs. 500,000/- (refundable) in the form of CDR/ Demand Draft.	CDR/Bank Draft	

Directorate General Agriculture (Water Management) Punjab
21-Agha Khan Soyyum (Davis) Road, Lahore, Pakistan
Tel: +92-42-99200703 Fax: +92-42-99200702
Email: pipipwm@gmail.com

EXPRESSION OF INTEREST (EOI)

FOR

PREQUALIFICATION FOR SUPPLY & SERVICES OF HIGH EFFICIENCY IRRIGATION SYSTEMS (HEISS)

UNDER

"TRANSFORMATION OF AGRICULTURE IN THAL"

To

Director General Agriculture (WM) Punjab,
Agriculture House, Davis Road, Lahore.

Subject: **EXPRESSION OF INTEREST (EOI) FOR SUPPLY AND SERVICES COMPANY OF HEIS SYSTEM TO THE FARMERS**

Dear Sir,

This is in response to your EOI advertisement published in the daily newspaper _____ on [_____/____/ 2026] inviting expression of interest for Pre-qualifying Supply and Services Companies/ Firms/ AoPs/ Sole Proprietors/ JV(s) for Installation of HEISs under the Project titled "**Transformation of Agriculture in Thal"**. We hereby submit our expression of interest to supply HEIS systems.

We have attached all the requisite information according to the given formats. The information furnished by us in this expression of interest is correct to the best of our knowledge and belief. We understand that you will evaluate our application to decide whether or not we are eligible and shortlisted to proceed further in the process.

We shall remain obliged.

Dated: / /2026

Sincerely yours,

…….

To be attached:

i. Power of Attorney (for signatory of Application)
ii. Affidavit for Correctness of Information
iii. History of Litigation
iv. Affidavit for Experience/ Hiring of Staff/ Compatibility of HEIS Equipment/ Depolyment and Training of Staff.
v. Compliance with Environmental Guidelines/ Framework of Environmental Protection Agency.

ANNEXURE-I

[To be printed on a PKR 1200/- stamp paper]

LITIGATION HISTORY

NAME: *( )*

Year	Award FOR or AGAINST Applicant	Name of Client, Cause of litigation and matter in dispute	Disputed amount (Current value in Pakistani Rs.)

Note:

i. Attach Affidavit on non-judicial stamp paper that non-performance of a contract did not occur within the last ten years based on information on all settled disputes or litigation.

ii. Applicants should provide information on any history of litigation or arbitration resulting from contracts executed in the last 03 years or currently under execution.

ANNEXURE-II

AFFIDAVIT FOR CORRECTNESS OF INFORMATION

[To be printed on a PKR 1200/- stamp paper]

Name: *( )*

I. I, the undersigned, do hereby certify that all the statements made in the EOI and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by Pre-Qualification Agency for provision/ installation of HEIS systems to the farmers in all project districts under the Transformation of Agriculture in Thal, at any time, if deems it necessary.

II. The undersigned hereby authorize and request the bank, person, firm or corporation to furnish any additional information requested by the Pre-Qualification Agency deemed necessary to verify this statement regarding my (our) competence and general reputation. Firm is not insolvent, not blacklisted and not involved in litigation or arbitration with any of provincial or Federal Government Department of Pakistan, any Agency of United nations, World Bank and Asian Development Bank.

III. The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Pre- Qualification Agency.

Signed by an authorized representative

Title of Officer:

Name of Firm:

Date:

POWER OF ATTORNEY

(For Signatory of Application)

[To be printed on a PKR 1200/- stamp paper]

KNOW ALL MEN BY THESE PRESENTS THAT by this Power of Attorney (**"Power of Attorney"**), (**M/S** _____) having its registered office at [_____], do hereby nominate, appoint and authorize (Mr._____), having CNIC No (_____) hereinafter referred to as the **"Signatory of Application"**, to do in our name and on our behalf the following:

Sign and submit to Project Director or its authorized nominee, the EOI of pre-qualification for provisions of HEIS systems to successful farmers under the Transformation of Agriculture in Thal, in response to the EOI advertisement dated [ ] issued by the Pre-Qualification Agency and all other documents and instruments required to submit the EOI.

i. Execute all such contracts, deeds, documents and instruments as may be considered necessary and expedient in relation to the foregoing.
ii. Do and carry out all other actions as may be required by the Pre-Qualification Agency in connection with the EOI process as a whole.
iii. To immediately notify the Pre-Qualification Agency in writing of any impending or actual revocation as well as any change in the terms of this Power of Attorney**.**
iv. To do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our EOI in response to the above referred tenders including signing and submission of all documents, instruments and deeds (including correcting any deficiencies or mistakes therein), attending any meetings called by the Pre-Qualification Agency and providing information/responses to the Pre-Qualification Agency in all matters in connection with our EOI.

We, *[.],* do hereby ratify and confirm whatsoever the Signatory of Application shall do by virtue of these presents and further agree that whatever the Signatory of Application shall do or cause to be done pursuant to this Power of Attorney shall be binding on us.

Furthermore, each provision of this Power of Attorney is severable and distinct from the others. The invalidity, illegality or unenforceability of any one or more provisions of this Power of Attorney at any time shall not in any way affect or impair the validity, legality and enforceability of the remaining provisions hereof.

IN WITNESS WHEREOF, we have executed this **POWER OF ATTORNEY** as of [_____]

FOR: [INSERT NAME OF APPLICANT FIRM] FOR SIGNATORY OF THE APPLICATION (Attorney)

Signature: _____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____
CNIC: _____	CNIC: _____

WITNESSES:

1……..	2……
NAME:……	**NAME**:……
ADDRESS:	ADDRESS:
CNIC:	CNIC:

Notes:

a) Single Applicant Firm; To be executed by:
i. Partners in case of a Partnership Firm; or
ii. Chairman Board of Directors in case of a Company.

b) In the case of a Pakistani Executor or Attorney, a copy of his/her Computerized National Identity Card ("CNIC") should be attached with the Power of Attorney. In the case of a non-Pakistani Executor or Attorney, a copy of his/her passport should be attached.

c) The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.

d) Also, wherever required, the applicant should submit for verification the extract of the charter documents and documents such as a resolution/power of attorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the applicant.

e) For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Pakistani Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. Once the original Power of Attorney has been brought into Pakistan, adhesive stamps are to be affixed on the same.

…….

AS NOTARIZED BY THE NOTARY PUBLIC

ANNEXURE-IV

AFFIDAVIT FOR COMPLIANCE WITH ENVIRONMENTAL GUIDELINES/ FRAMEWORK OF ENVIRONMENTAL PROTECTION AGENCY

[To be printed on a PKR 1200/- stamp paper]

Name: *( )*

I, the undersigned, do hereby certify that I am/ my firm/ Company/ JV is in HEIS Business, and I am/my firm/ Company undertakes to comply with Environmental Guidelines/ Framework of Environmental Protection Agency (EPA) and compliance to environmental standards.

Signed by an authorized representative

Title of Officer:

Name of Firm:

Date:

ANNEXURE-V

AFFIDAVIT FOR EXPERIENCE/ HIRING OF STAFF/ COMPATIBILITY OF HEIS EQUIPMENT/ DEPOLYMENT AND TRAINING OF STAFF

[To be printed on a PKR 1200/- stamp paper]

Name: *( )*

1. I, the undersigned, do hereby certify that I am/ my Firm/ AoP/ Sole Proprietor/ Supply Company/ JV is providing/Installing HEIS systems to the farmers since last ____ years and I fulfill all the eligibility criteria mentioned in the EOI.
2. I, the undersigned, do hereby certify that I am/ my Firm/ AoP/ Sole Proprietor/ Supply Company/ JV will ensure hiring of a mix professional staff including minimum five agricultural Engineers, three Agricultural Experts including Agronomist, Horticulturist, Soil Scientist and five diploma Engineers as mentioned in eligibility criteria of the EOI.
3. I, the undersigned, do hereby certify that I am/ my Firm/ AoP/ Sole Proprietor/ Supply Company/ JV will provide compatible HIES equipment/ material as per approved departmental standards & specifications along with import documents.
4. I, the undersigned, do hereby certify that I am/ my Firm/ AoP/ Sole Proprietor/ Supply Company/ JV will deploy staff as per project requirements/ directions of the client and avail relevant staff for mandatory training organized by the department on standards and procedures (if required).

Signed by an authorized representative

Title of Officer:

Name of Firm:

Date:

ANNEXURE-VI

SPECIMEN OF EXPERIENCE LIST

[To be printed on Letter Head]

Sr. No.	Name of Project/ Client/ Farmer	Address/ Location with Latitude & Longitude	CNIC #	Contact # & E-mail	System Type (HEIS) and Size (acres)	Scope/ Cost	Period (Year of Installation)	Remarks (Workorder/ Contract to be attached)

- *Any additional documents to support relevant experience*

Signed by an authorized representative

Title of Officer:

Name of Firm:

Date:

STANDARD AND SPECIFICATIONS OF HEIS SYSTEM

(Annex-I)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

Sr. No.	Items	Features	Specifications
1	Submersible Pump Set	Origin	Local/Imported
		Material	Pump = Stainless Steel 304/316 Motor = Cast Iron / Stainless Steel 304/316
		Performance Standard /Manufacturing Standards	ISO 9906, IEC 60034 or equivalent
		Quality/ Environment Certifications	ISO-9001/ ISO-14001 or equivalent, TM Reg
		Quality Assurance	Third Party inspection / Testing report
		Rated RPM	2900 ± 5%
		Pump Efficiency	>65%
		Discharge	As per system design
		Head	As per system design
		Rated Voltage	380-440 V
		Frequency	50 Hz, 60 Hz
		Phase	Three
		Ingress Protection	IP-68
		Marking	Specification plate or LASER marking bearing unique Sr. No., Brand, Model, Power Rating & other key features
		Cooling Method	Water Cooled
		Warranty	Two years (Free of cost)

(Annex-II)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

2	Centrifugal Pump	Origin	Local/Imported
		Material	Cast Iron, Bronze, Stainless Steel
		Performance Standard /Manufacturing Standards	ISO-9906 or equivalent
		Quality/ Environment Certifications	ISO- 9001/ISO-14001 or equivalent
		Quality Assurance	Third Party inspection / Testing report
		Rated RPM	2900 ± 5%
		Efficiency	≥ 60%
		Marking	Specification plate bearing unique Sr. No., Brand, Model, & other key features
		Discharge	As per system design
		Head	As per system design
		Warranty	Two years (Free of cost)

(Annex-III)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

3	**Electric Motor**	Origin	Local/Imported
		Performance Standard /Manufacturing Standards	IEC-60034 or equivalent
		Quality/ Environment Certifications	ISO-9001/14001 or equivalent
		Rated RPM	2900 ± 5%
		Efficiency Class	IE2 and above
		Insulation Class	F
		Rated Voltage	380-440 V
		Frequency	50 Hz, 60 Hz
		Power Supply	Three Phase
		Ingress Protection	IP-55 or above
		Cooling Method	Fan cooled
		Marking	Specification plate bearing unique Sr. No., Brand, Model, Power Rating & other key features
		Motor Mounting Position	Horizontal Foot Mounted
		Warranty	Two years (Free of cost)

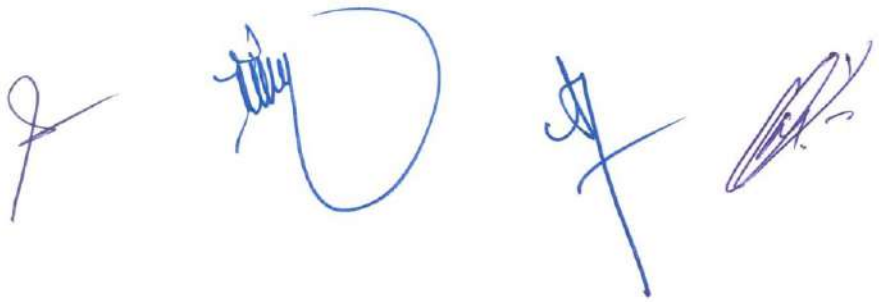
Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

4	**Monoblock Pump Set**	(Same as Sr. No. 02 and 03) Monoblock Pump set is combination of centrifugal pump at Sr. No. 02 and Electric Motor at Sr. No. 03. Relevant specifications shall also apply to Monoblock pump set, metallic base plate preferably CI with provision of holes for fastening with ground shall be included.

(Annex-V)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

5	Control Panel	Origin	Local
		Material	Powder coated/painted metal Box, Minimum Gauge 16
		Size	Minimum 10" x 12"
		Ingress Protection	IP-32 or above
		Electrical Protection	Over Voltage/ Under Voltage/ Phase Failure/ Dry run
		Breaker	Compatible with System
		Switch Gear / Control Gear	Magnetic Contactors, Circuit Breaker, Over Load Relay,
		Accessories	Volt Meter, Amp Meter, Indications Lights (ON/OFF, Trip)



Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

6	**Diesel Engines**	Origin	Local
		Engine Mounting Position	Horizontal
		Construction	Diesel Engine with metallic frame, including fly wheel, fuel tank etc.
		Standard	ISO 9001
		Rated RPM	≥1400
		No. of Cylinder	Single
		Engine Type	Four Stroke
		Cooling System	Water Cooled
		Starting Mechanism	Self Start
		Power Rating/Hp	As per site design
		Warranty	Two years (Free of cost)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

7	**uPVC Pipe & Fittings** Accessories	Origin	Local/Imported
		Material	UPVC (Un-plasticized Poly Vinyl Chloride)
		A-Manufacturing Standards	*BSS-3505 / PS-3051 or equivalent*
		Dimensions/Sizes	01" - 06"
		Pressure Rating/Class	B(*6-Bar*), C(*9-Bar*), D(*12-Bar*), E(*15-Bar*)
		Fittings	Schedule-80 or equivalent
		B-Manufacturing Standards	*ISO-4422 or equivalent*
		Dimensions/Sizes	40 mm - 160mm
		Pressure Rating/Class	PN-5, PN-6
		Fittings	Compatible with Standard Mini PN-8
		C-Manufacturing Standards	*DIN-8062 or equivalent*
		Dimensions/Sizes	40 mm - 160mm
		Pressure Rating/Class	PN-6
		Fittings	Compatible with Standard Mini PN-8
		D-Manufacturing Standards	*ASTM-D2241 or equivalent*
		Dimensions/Sizes	1.0"-6.0"
		Pressure Rating/Class	SDR-32.5 (8.6 bar), SDR-41.0 (6.9 bar),SDR-64 (4.3 bar)
		Fittings	Schedule-80 for pipe pressure rating ≥ 06 bar Schedule 40 for pipe pressure rating < 06 bar or equivalent
		Specific Gravity (gm/cc)	1.44±0.02
		Marking	The manufacturers' identification as a clear text or Logo, No. and Date of standard, The letter PVC-U, Pressure Classification, Nominal Size, Batch identification

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

8	**HDPE Pipe & Fittings Accessories**	Origin	Local/Imported
		Material	High Density Polyethylene (HDPE)
		Manufacturing Standards	ISO-4427/ DIN-8074 or Equivalent
		Density (g/cc)	≥0.941
		Marking	Manufacturer's identification, Material designation, ISO/DIN number, PN or SDR value , Material, Outside diameter, Wall thickness, Date of manufacturing etc.
		Pressure Rating	PE-100 (PN-10), PE-80 (PN-6, PN-8)
		Fittings	PE compression fittings, butt fusion, Minimum PN-10 pressure rating .
		PE Quick Connect Pipe & fittings	Quick Connect PE Pipes for shall be minimum PN-4 with compatible fittings (latch). Technical Specification of HDPE shall also be applied.

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

9	Galvanized Iron (GI) Pipe	Origin	Local
		Material	Galvanized Iron (GI)
		Grade	Minimum Light (L2)
		Manufacturing Standards	BS-EN 10255-2004 or equivalent
		Quality Management	ISO-9001
		Nominal Sizes	1/2 " to 6 "
		Marking	GI Pipe shall have legible marking within 1.0 m interval of one end of tube with the manufacturer mark/symbol, No. of Standard, Size, Series/Type/Wall Thickness

(Annex-X)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

10	Plain Dripline & Fittings Accessories	Origin	Local/ Imported
		Material	Low density Polyethylene (LDPE)/ Linear Low density Polyethylene (LLDPE).
			Fittings: Plastic/ PE
		Features	UV Resistant, Resistant to fertilizers and other chemicals commonly employed in agricultural irrigation
		Sizes (mm)	Pipe size: 12, 16, 20, 25 Wall thickness: 0.8 to 2.5
		Performance / Manufacturing Standards	ISO-8779, ISO-9261or Equivalent (Only for Imported)
		Density (g/cc)	0.91-0.94
		Carbon content	2.0-2.5%
		Environmental stress cracking resistance	No Crack
		Quality Assurance	Third party test report from reputable institute and data sheet regarding compliance of performance standards
		Marking	Name of the manufacturer or registered trademark, Wall thickness, Diameter, Standard
		Warranty	The working life (warranty) period shall be minimum of five (5) years after installation.

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

11	**Integrated Dripline & Fittings**	Origin	Local/ Imported
		Material	Low density Polyethylene (LDPE)/ Linear Low density Polyethylene (LLDPE). Fittings: Plastic/ PE
		Features	UV Resistant, Resistant to fertilizers and other chemicals commonly employed in agricultural irrigation
		Performance / Manufacturing Standards	ISO-8779, ISO-9261 or Equivalent (Only for Imported)
		Emitter Spacing	20-60 cm (The spacing of the emitting in the integrated drip lines shall not deviate by more than 5.0 % from the spacing declared by the manufacturer.)
		Flow Rate	2.0-4.0 LPH
		Sizes (mm)	Pipe size: 12, 16, 20, Wall thickness: 0.6 to 1.2
		Density (g/cc)	0.91-0.940
		Carbon content	2.0-2.5%
		Environmental stress cracking resistance	No Crack
		Quality Assurance	Third party test report and data sheet regarding compliance of performance standards
		Marking	Name of the manufacturer or registered trademark, Wall thickness, Diameter, Standard
		Warranty	The working life (warranty) period shall be 05 years after installation.

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

12	**Drippers, Bubbler**	Origin	Local/ Imported
		Material	Plastic/PE.
		Features	UV Resistant. Resistant to fertilizers and other chemicals commonly employed in agricultural irrigation
		Manufacturing Standards	ISO-9260/9261 or Equivalent (Only for Imported)
		Quality Management	ISO-9001/ISO-14001 (Only for Imported)
		Type	Pressure compensating (PC) , Non-Pressure Compensating (NPC), Drippers/Bubblers
		Flow Rate	4-24 LPH, 0-300 LPH
		Flow Rate Variation	Dripper with low CV shall be used preferably not exceeding 5.0%.
		Marking	Name of the manufacturer or registered trademark, Nominal flow rate (in liters per hour),/ Color coding as per their literature
		Warranty	The working life (warranty) period of drippers shall be minimum of five (5) years after installation.

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

13	Disc Filter	Origin	Local/ Imported
		Material	Plastic/PE/ Powder coated Metallic
		Safety	UV/ Corrosion Resistant , Resistant to chemical & environmental conditions.
		Manufacturing Standards	ISO- 9912 or Equivalent (Only for Imported)
		Quality Management	ISO-9001/ISO-14001 (Only for Imported)
		Quality Assurance	Third party test report and data sheet
		Filtration Capacity	Minimum 120 mesh
		Pressure Rating	≥PN-6
		Inlet Size	1.5" to 4"
		Marking	Filter housing shall be marked with name of manufacturer and of registered trademark, model identification, nominal size, nominal pressure and arrow indicating the direction of flow.
		Warranty	Two years (Free of cost)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

14	**Sand Media Filter**	Origin	Local/ Imported
		Material	Filters shall made of non-toxic material (Metallic),Preferably Powder coated/galvanized Iron.
		Performance Standard /Manufacturing Standards	ISO-9912 or Equivalent (Only for Imported)
		Quality/ Environment assurance certificates	ISO-9001 (Only for Imported)
		Safety	Corrosion Resistant, Chemical Resistant
		Quality Assurance	Third party test report and data sheet.
		Pressure Rating	≥PN-6
		Inlet Size	1.5″ to 4″
		Marking	Filter housing shall be marked with name of manufacturer and of registered trademark, model identification, nominal size, nominal pressure and arrow indicating the direction of flow.
		Warranty	Two years (Free of cost)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

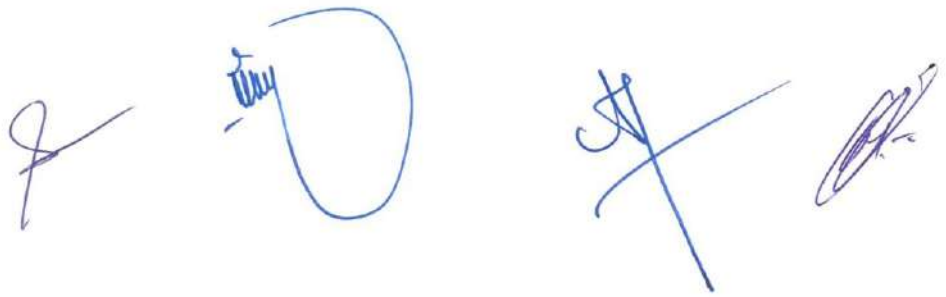
15	**Hydrocyclone Filter**	Origin	Local/ Imported
		Material	Filters shall made of non-toxic material (Metallic),Preferably Powder coasted/galvanized Iron.
		Manufacturing Standards	ISO-9912 or Equivalent (Only for Imported)
		Quality Management	ISO-9001 (Only for Imported)
		Quality Assurance	Third party test report and data sheet.
		Safety	Corrosion Resistant , Chemical Resistant
		Pressure Rating	≥PN-6
		Inlet Size	1.5" to 4"
		Marking	Filter housing shall be marked with name of manufacturer and of registered trademark, model identification, nominal size, nominal pressure and arrow indicating the direction of flow. direction of flow.
		Warranty	Two years (Free of cost)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

16	Fertilizer Tanks	Origin	Local/ Imported
		Material	Mild steel/Galvanized Iron
		Quality Management	ISO-9001, ISO 14001 (Only for Imported)
		Quality Assurance	Third party test report and data sheet
		Safety	Corrosion Resistant , Chemical Resistant, resistant to the environmental conditions and withstand hydrostatic pressure
		Capacity (Liter)	30-150
		Marking	Fertilizer tanks shall be marked with name of manufacturer and of registered trademark, model identification, nominal size, and nominal pressure.
		Warranty	Two years (Free of cost)

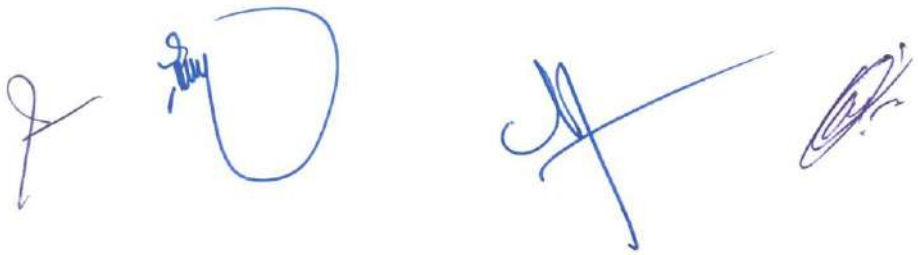
Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

17	**Venturi Assembly**	Origin	Local/ Imported
		Material	PE/Polypropylene (PP)/PVC
		Quality Management	ISO-9001, ISO 14001
		Safety	Chemical resistant, UV resistant
		Connection Type	NPT/BSP
		Working Pressure/Pressure Rating	PN-8
		Marking	Name of manufacturer and/or registered trademark, model identification, nominal size, etc.



Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

18	Pressure Gauge	Origin	Imported
		Material	Stainless Steel, Glycerin filled
		Manufacturing Standard	BS EN 837 or Equivalent
		Size (Dial)	Mini 2.0 inches
		Ingress Protection	IP-65 or above
		Pressure Scale	up to 10 bars
		Connection Type	NPT/BSP



(Annex-XIX)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

19	**Rain Gun**	Origin	Local/ Imported
		Material	Metallic/PE
		Feature	UV Resistant
		Size	I-Radius of throw ≤28 m at 3.0 bar pressure @ 18mm nozzle (*Small Vol.*) II-Radius of throw >28 m and < 35 m at 3.0 bar pressure @ 18mm nozzle (*Medium Vol.*) III-Radius of throw ≥ 35 m at 3.0 bar pressure @ 18mm nozzle (*Big Vol.*)
		Working Pressure	2-6 bar
		Flow Rate	up to 75 m^3/hr
		Radius of throw	20-50 m
		Feature	The rain-gun shall have up to 28 degree trajectory angle. It shall be either full circle and/or adjustable for part circle settings.
		Connection Type	National Pipe Thread (NPT)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

20	Impact Sprinkler	Origin	Local/ Imported
		Material	Brass/Plastic/PE
		Feature	Corrosion/UV Resistant
		Inlet Size	1/2", 3/4", 1"
		Working Pressure	2-6 Bar
		Radius of throw	upto 20 m
		Feature	Trajectory angle up to 30 degree. The sprinkler shall either full circle and/or part circle settings.
		Connection Type:	National Pipe Thread (NPT)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

21	Rain Gun Hydrants	Origin	Local
		Material:	Galvanized Iron (GI),uPVC pipes
		Nominal Sizes	1.5", 2.0", 3.0" (Diameters)
		Manufacturing Standard	Minimum L2 Grade material correspond to BS-1387 or equivalent ,uPVC pipes, Mini Class-C, as per BS-3505/PS-3051
		Parts	Hydrant shall comprise of riser pipes (uPVC pipe properly connected to GI pipe using appropriate sized fittings), quick coupling for fixing rain gun and flow control valve (as per specified drawing)
		Control Valve	Gate Valve/Handle Valve (Brass/stainless steel, Mini PN-16) size as per requirement with quick coupling arrangement.
		Foundation (Civil Work)	Concrete foundation (1:2:4) as per construction drawings (Base= 24" x 24" x 12") & (Base= 12" x 12" x 9") for big volume and medium/small volume rain guns shall be constructed respectively. Similarly, column pipe (GI) shall be covered with proper concreting either in circular/ square shape up to 2.5 ft shall be constructed with dimension 12" and 9" for big volume and medium/small volume rain guns respectively. Column shall be minimum 1.0ft above the ground level.

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

22	Sprinkler Riser	Origin	Local
		Material:	Galvanized Iron (GI)/ UPVC
		Nominal Sizes	1/2", 3/4", 1"
		Manufacturing Standard	Minimum 1.2 Grade material correspond to BS-1387 or equivalent
		Parts	Rises shall comprise of saddle clamp and GI pipe. Hydrants for portable sprinkler may also include quick coupling arrangement
		Foundation (Civil Work)	Base of the hydrant shall be properly compacted/concreted to avoid vibrations as per site conditions.

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

23	Pressure Release Valve (PRV)	Origin	Local/ Imported
		Material:	Bronze/Stainless Steel
		Pressure rating	16 bar
		Control Pressure range	up to 6.0 bar (adjustable)
		Connection Type	Flange/NPT



Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

24	**Non-Return Valves (NRV)**	Origin	Local/Imported
		Material	CI/Bronze/Brass
		Pressure Rating	≥16 PN
		Connection	NPT/BSP

(Annex-XXV)

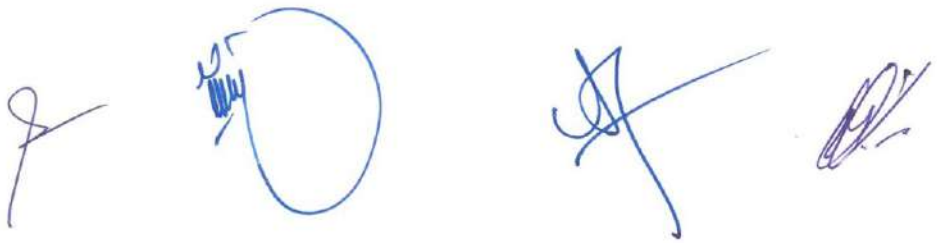
Standards & Specification Equipment and Material of Air Release Valve (HEIS)

25	Air Release Valve (ARV)	Origin	Local/Imported
		Material	Mild Steel/ Stainless Steel/ Plastic/PE
		Pressure Rating	≥ 16 PN
		Connection	NPT/BSP



Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

26	Flow Control Valves	Origin	Local/Imported
		Type	Ball Valve , Gate Valve, Handle valve, Flush Valve ,Butterfly Valve
		Material	PVC/ Bronze/ Brass/ SS/PE
		Pressure Rating	SCH-80/ PN-16
		Connection	NPT/BSP



(Annex-XXVII)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

27	Water Meter	Origin	Local/ Imported
		Material	Metallic Cast Iron/ MS
		Pressure Loss	≤ 3.0 m
		Connection type	Flanged End
		ISO Certified / Equivalent	BS-5728/ ISO-4064 or equivalent

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

28	Head Unit	Head control unit comprises of GI pipe and threaded/flanged fittings to connect pump delivery side (filters, water meter, pressure gauges, fertigation system, air release valves, pressure relief valve and bypass assembly) to mainline pipe. Head control unit shall be constructed on brick plastered/concrete platform of appropriate size as per system size or component. Typical sizes of head unit plate form shall be 13ft x 3.5ft x 2.5 ft for drip and 5.0ft x 3.0 ft x 2.5 ft for sprinkler respectively . Plate form should be constructed minimum 1.0 ft above ground level. All GI pipes and fittings shall be properly painted. The size of GI pipe and fittings shall be (approximately 2 to 4 inches) depending on the scheme size . GI pipe used for head unit should not be less than minimum L2 grade. Typical construction/schematic drawings are annexed .

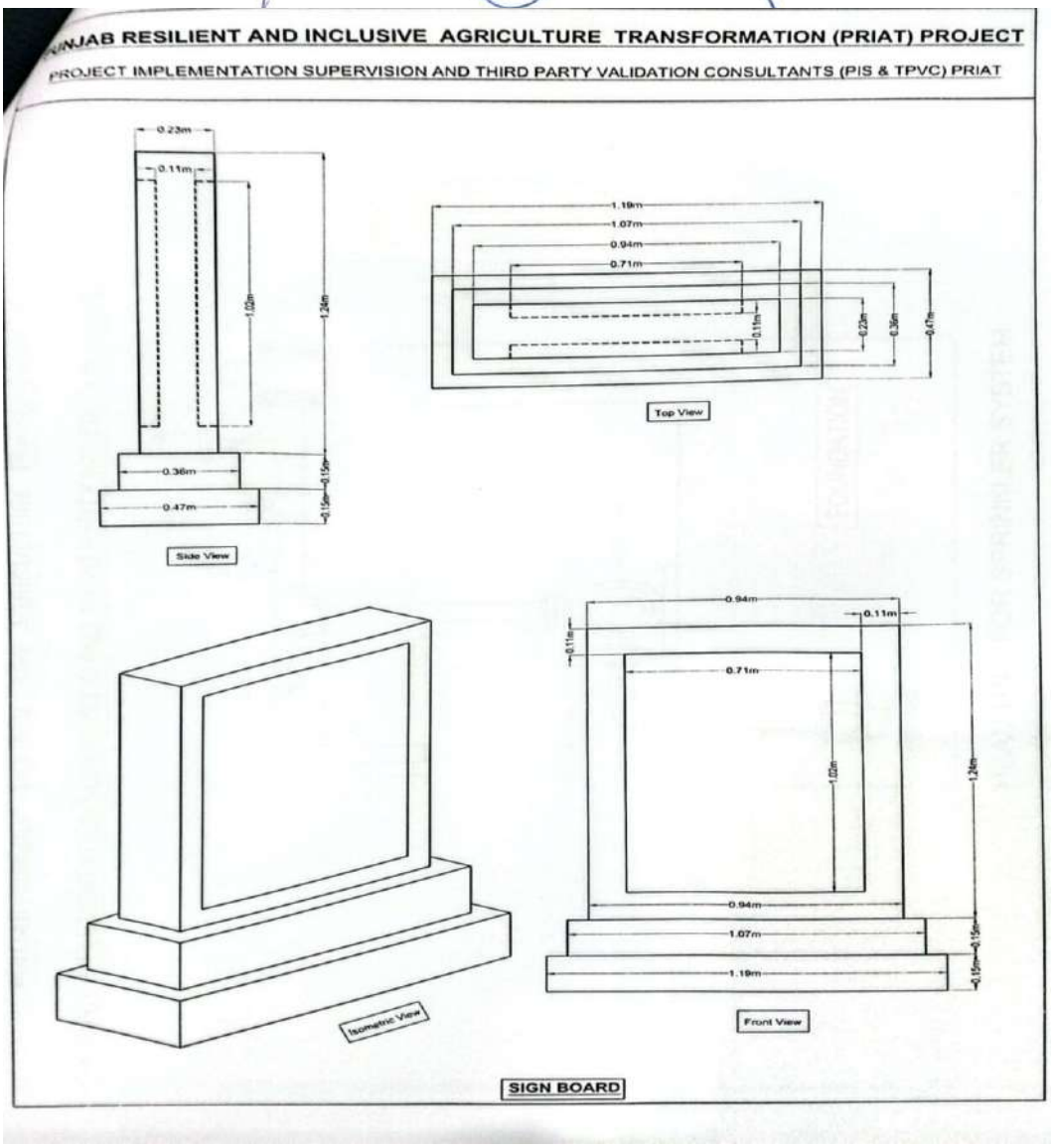
Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

29	Trenching & Back Earth Filling	uPVC pipes shall be installed below the ground level to avoid physical damage and degradation due to environmental impacts. Trenching shall be excavated either using mechanical means or manual labor in proper geometry. The width of trench shall be sufficient to provide favourable working environment for the plumbing works. Depth of trench should be such that moving agricultural machinery shall not damage the pipeline. Excavation of trenches shall not be less than 2.5 ft depth and 1.5 ft width (or higher as per site condition) from ground level, including trimming, dressing sides, levelling the beds of trenches to correct grade and cutting pits for joints, etc. Tranches shall be properly back filled using earth material free from stone/shaped edges material at site after successful test run of the irrigation system.

(Annex-XXX)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

30	Sign Board	Sign board shall be constructed at appropriate location (preferably at the main road) with brick masonry. Typical drawing of sign board is annexed.



(Annex-XXXI)

Standards & Specification Equipment and Material of High Efficiency Irrigation System (HEIS)

(REVALIDATION)

Sr. No.	Item	Feature	Specification
1.	Electronic Solenoid Valves	Material	Plastic/Metallic/PE/PVC
		Pressure Rating	Upto 250 PSI
		Temperature Rating	Min 125°F
		Electrically Actuated Operation	9-24V (AC/DC)
2.	Irrigation Controllers	Origin	Local Imported
		Material	Plastic/Metallic/PE
		Mounting Type	Indoor/Outdoor
		Stations Type	Fixed/Expandable
		Connection wire type	Multi Wire/ Two Wire/ Two Wire Cloud Supported
		Sensor Input	(Rain, Moisture, ET, Flow or Equivalent) Enabled
3.	Irrigation Controller Sensor	Origin	Local/ Imported
		Material	Plastic/Metallic
		Sensor Type	RAIN, MOISTURE, ETO, Flow, Pressure or any equivalent
4.	GI / Brass / PE (Pipe and Fittings, Valve, NRV	Origin	Local/ Imported
		Material	Plastic/Metallic
		Pressure Rating	min. PN 16/ Sch. 80
		Grades	L2, Light Grade
		ISO Certified / Equivalent	ISO 1387:1985/ equivalent
5.	Hose Real (Rain gun / Spray Boom)	Origin	Imported
		Rolling Drum	Rolling Drum with 360° Rotation Mechanism and Pipe Rolling Slits Powder Painted
		Trolley and Base Frame with Wheels	Metallic Hot dip Galvanized with inflatable large size tyres.
		Retracting Mechanism	Hydraulic/Electronic with speed control gears and Speedometer
		Hose Pipe	ISO Certified PE80-100 HDPE Min PN 8
		Rain gun / Spray Boom	As per Sprinkler Raingun Specifications/swiveling foldable and height adjustable Boom Arms.
6.	Central Pivot /	Linear Move / Non-Towable Center Pivot Drive unit complete in all respect including pumping unit, pipe network and all other	

Sr. No.	Item	Feature	Specification
	Linear Move	allied components i.e., control panel chemigation / fertigation equipment etc. The linear Move/ Center pivot shall be either standard low high	
		Origin	Imported
		Structure Assembly / Pipes / Overhang	Shall be manufactured using galvanized material as per EN ISO-1461/ASTM-123/equivalent standard, Minimum pipe thickness 2.8mm. Structure shall be high tensile and shear stress bearing capacity with reinforced truss legs/rods and crossties.
		Connectivity	Flexible joint connection with least pressure loss for levelled and slopy terrain.
		Panel Control	standard pivot control function forward, reverse, dry and wet run, alignment, end gun control (optional) with human and electrical safety.
		Tower Box	Imported ISO-9001, IP-65 with limit switches for tower/span alignment, safety and respective drive operation.
		Gear Box	Imported ISO-9001, patented high strength steel with forged steel warm to work under any condition with gear ratio 1:50 to 1:52.
		Gear Motor	Imported ISO-9001, patented high strength motors with provision reliability and irrigation duty with min efficiency of 90% with standard motors with gear ratio 2 1:20.
		Filter	Adequate filtration must be provided to avoid plugging of sprinkler nozzles.
		Types	Imported high traction tyres for heavy duty work in field with standard size along-with imported hot dipped galvanized rims as per manufacturers recommendations

Sr. No.	Item	Feature	Specification
		Sprinklers	Imported, ISO-11545/equivalent patented rotating non-impact sprinklers, having a spacing and height above the crop canopy that provides a system DU of better than 0.80 (as verified in the field using the designated catch can test). Pre-set pressure regulators and weight shall be provided on each drop as per manufacture's recommendation. Sprinklers directly mounted to the top of the pivot are unacceptable. The sprinklers must be connected to the drop tubes in a manner that they are not tilted
		Drop Hose	Premium grade reinforced UV resistant material
7.	Nursery Foggers & Misters with Hanging Assembly	Origin	Local/Imported
		Material	Plastic/ Metallic
		Type	Single, two-way, four-way
		Performance Tolerance standard/ Manufacturing Standards	ISO (8026, 15886,9001)/ Equivalent
8.	Sprinklers on a rectangular Grid (Either solid set or moveable, but stationary while operating)	Origin	Local/Imported
		Material	Plastic/ Metallic
		Type	Full circle/part circle, must be of rotating type
		Performance Tolerance standard/ Manufacturing Standards	ISO (8026, 7749, 15886,9001)/ Equivalent
		Maximum Spacing between sprinklers along the lateral lines	80% of the sprinkler radius of the throw
		Maximum Spacing between lateral pipelines	105% of the sprinkler radius of the throw
		Allowable pressure difference between sprinklers throughout a field	Less than 15 % of the average sprinkler pressure
		Average Sprinkler Pressure	Must match documented manufacturer recommendation for the desired flow rate and spacing, to achieve an excellent overlap uniformity
		Height of Sprinkler above crop canopy	Minimum of 0.5 Clarence