Technical Specifications

S. No.	Component	Description
1	Solar PV Modules	➢ Peak power per module shall be ≥100 Wp ➢ Power Tolerance on Name plate power (W or %) at STC shall be 0 to 5 W or 0 to 5% or only positive tolerance ➢ Product Workmanship Warranty shall be >= 10 years ➢ The proposed solar PV module must be PIT and RST certified complying to NEPQA from RETS ➢ All PV modules offered for the project shall be of same type, same model, same power rating and same manufacturer
2	Pump and Controller	➢ Combined Efficiency (motor+pump) shall be >=60% ➢ Pump Performance Curves i.e. Flow Vs Input Pump Power shall be provided at designed Head for the Project ➢ Protection: The pump must have thermal protection against overload, reverse polarity and temperatu ➢ Dry run and Protection: The pump or pump set must have provision of stopping operation under Dry running or insufficient energy supply ➢ Sand and Silt protection: The pump must have protection against sand and silt ➢ Warranty on the motor and pump shall be >=2 years ➢ Material: The pump must be manufactured with non-corrosive materials. ➢ Rotors and impellers must be made of stainless steel ➢ The pump or pump set must have control circuit with MPPT facility ➢ The company to provide IEC/International test certificates for performance measurement of PV irrigation system.
3	Mounting Structure/ Frame	➢ Mounting Structure must be designed such that it is installed to have solar PV array towards due south around local altitude at 30 degree with horizontal space ➢ Mounting shall be manufactured with aluminium or stainless steel angles and channels; spray galvanized or hot deep galvanised ➢ Mounting structure shall be non-corrosive to be fixed on ground ➢ Mounting Structure and Foundation designs shall consider all the static and dynamic loads and suitable for site conditions ➢ The support frame structure should be able to resist at least 20 years of the outdoor exposure without suffering significant damage or corrosion ➢ The Mounting structure shall have necessary clearance between ground level and bottom edge of PV modules (i. e. > 0.5m) ➢ Fastners to be used for fixing structure shall be non-corrosive and compatible with materials with which it is being fixed
4	Earthing and Protection (● Lightening Arrestor ● Surge Protector ● Earthing Grounding)	➢ The solar PV plant structure shall be grounded properly using adequate number of earthing kits. All metal casing of the system shall be thoroughly grounded to ensure safety of the solar PV system. ➢ The solar PV system shall be provided with lightning and over voltage protection ➢ The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the system ➢ Fuses should be provided to protect against short circuit conditions ➢ Full protection against open circuit, accidental short circuit & reverse polarity should be provided
5	Cable	➢ As required following NS/IS standard ➢ Cables shall be PVC insulated cables and UV resistant, suitable for outdoor installations, complying with relevant Nepalese Standard ➢ Maximum Voltage Drop between PV Modules and Pump shall be <=3%