



GOVERNMENT OF TELANGANA
DEPARTMENT OF HORTICULTURE

CENTER OF EXCELLENCE FOR MANGO & EXOTIC CROPS,
GARIMELLAPADU, BHADRADRI KOTHAGUDEM DIST.

NOTICE - OPEN TENDER

for

- A) Naturally Ventilated Green House – 4 nos.**
- B) Shade net house – 1 no.**
- C) Hi-tech Poly house with FAN & PAD system for blue berry – 1 no.**
- D) Water harvesting structure (Farm Pond) – 1 no.**
- E) RO Unit – 1 no.**
- F) Laying of internal pipeline system for inter-connection of borewells & for RO unit – 1 no.**
- G) Drip Automation with sensor based (Israel model) & Drip Irrigation – 1 no.**

Website: <https://horticulture.tg.nic.in>

Contact: 8977714519, 8977714536

E-MAIL: midh-horti@telangana.gov.in

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TENDER SCHEDULE DETAILS
(During working days)

Tender calling date	24.03.2026
Tender application fee (Non-refundable)	Rs.5,000/- by way of Demand Draft drawn in favour of Director of Horticulture-MIDH/SHM, TS, Hyderabad , payable at Hyderabad.
Earnest Money Deposit (EMD) (Refundable)	By way of Demand Draft of Rs.4.63 lakhs in favour of Director of Horticulture-MIDH/SHM, TS, Hyderabad , payable at Hyderabad.
Tender Application Sale Starting Date	24.03.2026, from 11:00 AM to 4:00 PM
Tender Application Submission Starting Date	24.03.2026 from 11:00 AM to 4:00 PM
Tender Application Sale Closing Date	31.03.2026 by 1:00 PM
Tender Application submission Closing Date	31.03.2026 by 3:00 PM
Opening of Tenders	31.03.2026 by 3:30 PM in the O/o. DoH, TG, Public Gardens, Hyderabad
Contact person	Joint Director of Horticulture (MIDH), O/o. DoH, TG, Public Gardens, Hyderabad Contact No: 8977714519
Reference No	MIDH/SHM/435/ 2025
Website	https://horticulture.tg.nic.in

(APPLICATION FORM)

(3 pages of application form to be enclosed to Technical Bid)

Date:

To
The Mission Director /
Director of Horticulture,
Department of Horticulture,
Public Gardens, Nampally, Hyderabad.
E-mail: midh-horti@telangana.gov.in

Dear Madam,

Sub: Horti. Dept. – MIDH - Tender for **A)** Naturally Ventilated Green House **B)** Shade net house **C)** Hi-tech Poly house with FAN & PAD system for blue berry **D)** Water harvesting structure (Farm Pond) **E)** R.O. Unit **F)** Laying of internal pipeline system for inter-connection of borewells & RO unit **G)** Drip Automation with sensor based (Israel model) & Drip Irrigation – Req. - Reg.

Name and details of Applicant and its representative authorized to file:	
Full Name	
Designation	
Name of Organization	
GST No.	
PAN No.	
Address	
Phone No.	
Fax	
Mobile	
Email	
Website	

Current nature of work:
(Not exceeding four lines)

Last 3 (three) year's Turnover of the Applicant

FY 2022-23 :

FY 2023-24 :

FY 2024-25 :

Net Worth of the Applicant

(Computed from the latest Audited Balance Sheet)

2024-25:

Application fee (to be enclosed)

in Rs.5,000/-

in words Rupees Five Thousand only

Drawee Bank

Demand Draft No. Date:

Note: Clearly indicate item of works

Cheques not accepted

EMD (to be enclosed)

in Rs. 4.63 Lakhs

in words Rupees Four Lakhs Sixty Three Thousand only

Drawee Bank

Demand Draft No. Date:

Note: Cheques not accepted

Note:

- a) Applicants shall attach copies experience certificates. The bidder should attach copy of experience work order confirming execution of similar nature of work of erection of Polyhouses, Hi-tech Poly Houses with FAN & PAD, Shade Net Houses, establishment of Center of Excellence for Horticulture crops etc.
- b) GST/ Pan Card /IT returns / Audited Balance Sheets etc., whichever applicable.
- c) The applicants are requested to submit the separate sealed tender duly indicating technical bid and financial bid separately.

I/We declare that the information furnished herein above is true.

Signature:

Full Name:

Organization:

Address:

Office Seal:

Date:

TERMS AND CONDITIONS

The Application for the Open tenders (Turnkey basis) should reach in between **24.03.2026 to 31.03.2026 in the O/o. Director of Horticulture, MIDH section, TG, Hyd as per the specified time indicated.**

1. Application fee **Rs.5,000/- (Non-refundable)** has to be paid in the form of DD in favour of **Director of Horticulture-MIDH/SHM, TS, Hyderabad**
2. EMD has to be paid in the form of **DD** in favour of **Director of Horticulture-MIDH/SHM, TS, Hyderabad** for which (Rs.4.63 lakhs) EMD is 2.5% on tender amount. Cheques are not accepted.
3. Only valid Authorized Signatory application issued by Department for participation of tender. Tenders without E.M.D shall be rejected.
4. The EMD of the successful bidder shall be retained and refunded only after satisfactory completion of work.
5. The E.M.D of unsuccessful bidder shall be refunded after finalization of the tender by the successful bidder / bidders.
6. The tenders in sealed covers both Technical bid and Financial bids to be submitted in the tender box only by the participating bidders along with Demand Draft for EMD amount which is to be enclosed with technical bid.
7. Applications duly signed by the applicants shall only be considered. Incomplete tender applications shall be summarily rejected.
8. The applicant should write their firm / agency name & details on the top of both sealed covers of Technical bid and Financial bid. The tenderer should sign on each paper and affix the seal.
9. Tender application of any individual is not transferable.
10. Successful firm shall not assign or transfer his contract or any part of it to any other agency.
11. Firms / Individuals / Agencies having a minimum (3) years experience are eligible for participation.
12. Invitation of tenders shall not confer any right to the tenderers to insist for work orders.
13. After opening of the bid offer, if it is found that the highest rate quoted is not satisfactory and not acceptable, the Department shall have the right to call for negotiations and fix up the rates of all above mentioned items, within the terms and conditions of tender.
14. It would be deemed that the bidder have made a complete and careful study of this tender document. Any violation of the above terms and conditions will be seriously dealt with.
15. The Department is not responsible for the loss /theft damages due to any calamities.
16. The Department of Horticulture shall have the right to terminate the tender

by giving (30) days notice in violation of any prescribed conditions and non-performance.

17. The applicant need to apply all works with single tender on Turnkey basis.
18. All the successful bidders should complete the work within 90 days from the date of orders as per the technical specifications approved for the purpose.
19. On placement and acceptance of purchase order, if the supplier does not perform his obligation as per the order, such supplier will be black listed and Department of Horticulture reserves all rights to make alternative arrangements to procure them from any short-listed source and the difference of cost paid, if any will be recovered from the defaulting supplier through appropriate action.
20. In the event of any supplies /material failing to confirm to the specifications of quality parameters, The Director of Horticulture have the right to reject them out rightly and the payment to the stocks liquidated shall be withheld.
21. The quantity notified is only tentative and may increase or decrease as per the requirement.
22. The Director of Horticulture or his/her nominee reserves the right to accept, reject or cancel the tenders at any time without assigning any reasons thereof.
23. All disputes and differences that arise are subject to the Jurisdiction of the Courts at Hyderabad only.
24. The decision of the Director of Horticulture will be final and bidding to accept, reject and cancel the tender no further correspondence will be entertained.
25. The successful Tenderer has to submit Security Deposit of 2.5% of Tender Value on acceptance of Tender within 10 days of the work order. The tenderer can submit the Security Deposit either in the form of Demand Draft or Bank guarantee.

I have read and understood all the terms and conditions laid down in the Tender document and abide to them.

Signature:

Designation:

Full Name of Firm/Individual/Agency:

Organization:

Address:

Office Seal:

Date:

**Works to be taken up for Establishment of Center of Excellence at
Garimellapadu Farm, Bhadradri Kothagudem District, Telangana.**

(Information for Financial Bid)

Sl. No.	Description of individual component	Unit	Quantity (in sqmts)	Rate (in Rs.)	Amount (in Rs.) (rounded)
1.	Naturally Ventilated Green House for Mango & Avocado Nursery & Root stock 1584 sqmts x 4 nos.=4752 sqmts	4	6,336	1000	63,36,000
2.	Poly Net House / Shade Net for hardening 2080 Sqmts.	1	2,080	710	14,77,000
3.	Water harvesting structure / Farm Pond 35mtr x 35 mtr x 3 mtr (3675 cubic mtrs)	1	3,675	80	2,94,000
4.	Hi-tech Polyhouse with automated FAN & PAD system & sensor-based operation and also with weather parameters for Blue berry (38.5 mt x 32 mt = 1232 sqmtrs)	1	1232	3717	45,79,000
5.	Drip Automation with sensor based (Israel model) & Drip Irrigation (22,45,470+6,61,163+3,59,032 = 32,65,665)	1	6 acres		32,65,000
6.	Reverse Osmosis Treatment Plant of required capacity. - 6,000 ltr /hr	1		Quotation Lumpsum	17,50,000
7.	Laying of Internal pipeline system for inter-connecting borewells & for RO Unit etc.	1		Lumpsum	8,00,000
Total					1,85,01,000

All works togetherly single tender only for estimate of Rs.1,85,01,000/-

1. Technical specifications for Naturally Ventilated Poly House as per MIDH guidelines to be followed proportionately for all sizes of NVPH / NVGH.

NVPH / NVGH

S. No	Item	Max permissible Cost	Area proposed	Estimated Unit cost for proposed area
1	Naturally Ventilated Poly house (Tubular)	Rs. 1000/Sq. m (>1008 Sqm up to 4000 Sq. m)	4@1584 sq.mts = 6336 sq.mts	Rs:63,36,000/-

**** Products with BIS standards only are accepted.**

Items	Description / specifications
Product	Naturally ventilated greenhouse/ Poly house
Size	4000 sq.mts
Orientation	Preferably North South gutter direction
Width of each bay	8 meters
Distance between consecutive column pipes	4.0 m

Items	Description / specifications		
Ridge (Central) height	Area (m ²)	Plane land (m)	Hilly area (m)
	4000	6.5-7.5	7 to 7.5
Ridge vent	1.0-1.2 m vertical height and 1.3 to 1.5m slanting height; roof ventilator shall be provided in slanting position.		
Gutter height	4.0 - 4.5mt from 1000sq.mt onwards from the ground level (based on area of green house and climatic conditions)		
Gutter slope	1.25-2%		
Longitudinal slope	0-2%		
Gutter material	2 mm thick and 450 mm width GI Sheet with perimeter of 450 mm and with industrial press, 100% leakage proof of galvanized sheet minimum of 275 GSM (grams per sq.mt.) Zinc coating.		
Structural design	Gothic shape with roof and side ventilation. The structure is designed to be enough to with stand wind speed minimum 120 km / hour. It is to provide provision for opening one port at either side for entry of small tractor / power tiller for inter cultural practices.		
Structure	Complete structure made of hot dip galvanized steel tubular pipes with a minimum of 360 GSM (with Zinc coated on continuous procedure to meet the quality requirements or equivalent section confirming). BIS standards having wall thickness 2mm; structural member shall be joined with fasteners (HOT Dip Galvanized nuts and bolts) Properly.		
Columns	76mm OD, 2mm thick. Hot Dip 360GSM GI.		
Trusses of 8 m long preferably without joints for better load bearing.	Bottom cord 60mm OD, 2mm thick, 8 mt. long, Hot Dip 360 GSM GI.		
Trusses member/ Arch's	50mm OD with 2mm thickness. Bracing 33mm OD with 2.0mm thickness G.I. Pipe Structural members to be fitted in plated nuts, bolts and washers without welding. (33 mm bracing to increase the strength and to with stand vertical and horizontal pressures.)		
Stay/ Hockey pipes	60mm OD with 2mm thickness, fixed in the ground without any joints and weldisng at a distance of 2.5 m.		
Purline	48 mm OD with 2.0mm thickness at ridge gutter arch and 42/43 OD with 2.0 mm thickness for 2 nd purline.		
Purline member and other	43 mm,2mm thickness		
Horizontal bracings	42mm OD with 2mm thickness horizontal bracing 2 No's shall provide each bay in both sides.		
Cross Bracing	Every 3 rd column top to 2 nd column bottom of both sides shall be connected 42mm OD with 2mm thickness GI pipe		

Items	Description / specifications
	to ground the wind load. (In vegetable Poly houses to take the weight of the crop and transfer the wind pressure cross bracings are essential).
Bottom to pillar Bracing	33mm OD with 2mm thickness 1.2m long bracing to be fixed from pillar to bottom.
Foundations	Insert GI Pipes of minimum 76mm OD 3mm thickness with 1mm tapered top 1ft. or more to have foundation depth of not less than 100cm or more depth depending upon soil type and prevailing wind condition, grouted with cement concrete mixture of 1:2:3 using telescopic insertion of column. (or) GI Pipes of minimum 60 mm OD & 3mm thickness (@4.20 kg/m)
Fasteners	All nuts and bolts shall be of high tensile strength and HOT dip galvanized.
Entrance room Indoor (not required upto 560 sq.mt. from 1000sq. mts it is required.)	One entrance room of size 3x3x2.5 mts. (LxWxH) need to be provided and covered with Poly carbonate UV stabilized transparent with sliding arrangement. Outer hinge door of size 1.5m width and 2.5m height and sliding type.
Cladding material (Poly film)	UV stabilized 200 micron 5 layers co-extruded anti drip/mist, anti-dust, diffused/ IR blocking (sulphur resistant for Rose) having minimum 85% level of light transmittance.
Fixing of cladding materials	All ends/ joints of plastic film need to be fixed with two-way aluminium (220grams/RM) / GI with 0.6 mm thickness profiles with suitable locking arrangements along with curtain top. Fixing of cladding material shall be done between 11.00 AM to 3.00 PM
Spring insert	Zig zag spring high carbon steel with spring action wire, galvanized of 2-3 mm diameter shall be inserted to fix shade net/ Polyfilm/ insect proof net into aluminium / GI profile.
Curtains and insect screens (mono x mono is nylon fibre, inter locked, woven mesh, more life)	i) UV stabilized 200 micron 5 layers co-extruded transparent plastic film shall be provided as curtains on all sides having manual operated crank mechanism. ii) 40 mesh (115 to 120gsm) nylon /shade insect proof nets (UV stabilized), of 4.5 mts height above all four sides upto gutter height (crop specific). iii) 50% Mono x Mono shade net of 125 GSM, shall be fixed at side ventilators below the curtains. Rollup side GI pipes with uniform thickness throughout the side length of GH are suggested to ensure smooth functioning of the curtain.
Shade net	UV stabilized mono x mono 50 % (115 to 120gsm) shading net has to be provided horizontally at gutter height, below the UV sheet – inside the greenhouse with manually

Items	Description / specifications
	operated mechanism for expanding and retracting. The area covered by shade net shall be equal to the net cultivable area of green house without sagging.
Side apron	UV stabilized HDPE woven fabric, not less than 200 GSM thick for a height of 60cm and 40 cm buried below ground vertically and 20cm horizontally. (HDPE woven fabric of 200 GSM shall have more stability and with stand the pressure of upward as well as horizontal wind better than the polythene film)
Erection of Trellies	For cultivation of Capsicum, Tomato and Cucumber, GI wire of 80 GSM of 4 mm (8guage) along the gable & 2.5 mm (12 guage) along the gutter with 16 lines per gable to be fixed over the beds in horizontal/ vertical direction.
Rain water harvesting	Provision of PVC pipe of min 5" diameter with the lateral and ground support pipe with bend shall be made, from gutter to ground for collecting rain water from the roof top. Drainage gutter and end caps to be provided.

* Hard surface path of 1 mt. wide is to be provided to facilitate the movement in the poly house

MI Component

Indicative Quantity of Material of Drip/Fogging System in Polyhouse/ Net House (as per the crop requirements)

**** Products with BIS standards only are accepted.**

Sl. No.	Description of Items	Unit
A	Drip System	
1	Main and Sub-main Line PVC 63 mm x 4 kg/cm ²	Meter
2	Main Line PVC 75 mm x 4 kg/cm ²	Meter
3	16mm LLDPE Lateral line CL-2	Meter
4	Inline 16mm PCND, 1.3 to 2.4LPH @ 20-40 cm CL2	Meter
5	Ball Valve 63 mm (Moulded Seal, Plain)	Nos.
6	Ball Valve 75 mm (Moulded Seal, Plain)	Nos.
7	Sub-main Flush Valve 40mm	Nos.
8	Sub-main Line for Flushing 40 mm X 6 kg	Meter
B	Fogging Machine	
1	Main and Sub-main Line PVC 50 mm x 6 kg/cm ²	Meter
2	Main and Sub-main Line PVC 63 mm x 6 kg/cm ²	Meter
3	16mm LLDPE Lateral line	Meter
4	4-way Fogger Assembly with HP LPD	Nos.

Sl. No.	Description of Items	Unit
5	Ball Valve 50mm (Teflon Seal, Plain)	Nos.
6	Ball Valve 63mm (Teflon Seal, Plain)	Nos.
7	Sub-main Flush Valve 40mm	Nos.
8	GI Wire 2mm thick	Meter
9	Sub-main Line for Flushing 40 mm X 6 kg	Meter
C	Filtration Unit	Nos.
1	Disc filter 25 m3/hr	Nos.
2	Disc filter 40 m3/hr	Nos.
3	Sand filter 10 m3/hr	Nos.
4	Sand filter 25m3/hr	Nos.
5	Sand filter 40 m3/hr	Nos.
6	Manifold GI + GMV	Nos.
7	Ventury Assembly Complete	Nos.
8	Air Release Valve Assembly 1"	Nos.

Note: The list above under MI component is tentative. However, the actual material to be used at site may vary as per structural design requirement and this shall be binding to the firm.

General Conditions of Erection

1. 22 tons of material (steel) shall be used for 1 Acre area.
2. No pipes shall be found welded. The bottom horizontal of 8 m length shall be prepared by placing one feet section of lesser size. (in side & clamping it properly).
3. The apron plastic shall be buried in the ground at least 50 cm from ground level.
4. The curtain pipe shall be cut near the door in case door is placed at the center of the side wall. The wall of poly house having more length, at center of the wall a complete plastic without side curtain, insect net etc. shall be fixed with separate profile and springs so that it can be removed as and when tractor operation is required in the poly-house.
5. Supplier shall ensure checking of poly-house construction materials for specifications by department representatives after supply of materials at site.
6. If fixtures found rusted the structure shall be considered incomplete.

7. In case of top poly-film fitted to the arches, if the length of top is more than 30 m, then the top plastic to be fitted to arch at every 24 m length by using profile and zig zag spring to avoid flapping of top plastic during winds.
8. Fixing of top poly-sheet shall be fixed with profile and spring in the center of gutter length.
9. Self-drilling screw in profile shall not be more than 30 cm apart
10. While installing the multilayer film, first insure that respective layers are facing the right direction as shown on film (e.g. inside out)
11. Provide a sample of one sqm size of poly-film, thermal net etc. having manufacturer's identification mark along with batch no.
12. Film shall be tensioned tightly enough so that there shall not be flapping during windy days.
13. The structural design shall be sound enough to withstand wind velocity as per Telangana State conditions.
14. The companies shall get structural design verified from the structural engineer.
15. Regarding material used under MI component the firm shall use BIS mark material. The system shall run smoothly and there shall be no leakage.
16. Department shall arrange the water source, electricity and booster pump to operate the MI system.
17. The overall structure shall perform satisfactory in all respects.

2. Technical specifications for Shade Net House as per MIDH guidelines to be followed proportionately for all sizes of Shade net house.

S. No.	Item	Max permissible Cost	Proposed area	Estimated Unit cost for proposed area
1	Shade Net House	Rs.710/Sq.m	2080sq.mts	Rs.14,77,000/-

Shade net House (Top Flat)

Sl. No.	Particulars	Description
1	Area in sqm	1000 to 4000 sqm
2	Length of structure	As per design
3	Width of the structure	As per design
4	Grid	4 m x 6 m
5	Straight Corridors	Maximum 2 m all sides for area calculation

**Structural parts (GI Pipes) Shade net House
(Products with BIS standards only are accepted):**

GRID Size:6mx4m			Shade Net Height from GL -4m		
S.no	Particulars	PIPE SIZE OD in mm	NOMINAL DIA	Unit wt (kg/m)	LENGTH (m)
1	Foundations for Balcony pipes	48mm/3mm thickness	1.5"	3.5	1.2
2	Foundations for Outer Columns	48mm/3mm thickness	1.5"	3.5	1
3	Foundations for Inner Columns	48mm/3mm thickness	1.5"	3.5	0.75
4	Main (All) Columns	60mm/2mm thickness	2"	2.9	4
5	Truss Pipe (Along the gable)	48mm/3mm thickness	1.5"	2.3	6
6	Purlin Pipe (Across the gable)	48mm/3mm thickness	1.5"	2.3	4
7	Corridor/Balcony Pipe	60mm/2mm thickness	2"	2.9	4.8
8	Horizontal Member in Corridor	33mm/2mm/thickness	1.5"	1.6	1.2
9	Knee bracing at all columns	33mm/2mm/thickness	1.5"	1.6	1.2
2.5 m wide corridors for 4m height shall be provided on all four sides					

- Lengths upto 200mm may vary from fabricator to fabricator based on their clamping/joint mechanism/design.

Other parts of the structure Shade net House:

Sl. No.	Particulars	Specifications
1	Clamps	Should be made from minimum 2.5mm thickness MS sheets and hot dip galvanized. The clamps shall resist 400 hours of salt spray test.
2	Bolts, Nuts and Washers	High tensile bolts, nuts and washers with a minimum size of 3/8" or M10 and Zinc Plated to White or Yellow color. This hardware shall resist 150 hours of salt spray test.
3	Galvalume profiles	These profiles made of GI sheet strip of minimum 0.6mm thickness and coated with Aluminum alloy and should have the provision to run two springs.
4	Zig - Zag Springs	The springs shall be made of high tensile steel wire with a minimum diameter of 2.5 mm and coated with Zinc /PP/HDPE materials.
5	Insect Proof Net	UV stabilized insect proof net (preferable in white color) made of HDPE monofilament fabric to the size of 40 mesh/50 mesh having a minimum weight of 105 GSM.
6	Shade Net - Tape Type	UV Stabilized shade net made of tape type yarn from HDPE virgin raw materials. Preferably white color shade net with 50% shade shall be used for cultivation purpose and Green /Black color shall be used for Nursery applications. The 50% shade net should be of minimum 90 GSM
7	Shade Net - Monofilament type	UV stabilized shade net made of monofilament yarn from HDPE virgin raw material. Preferably white Color Shade net with 50% shade shall be used for cultivation purposes and Green/ Black color shall be used for Nursery applications. The shade net with minimum 115 to 125 GSM should be used in shade net structural applications.
8	Human Entry	The Human entry should be free from the main structural members and foundations. The human entry should be fixed within the balcony area with independent foundations. The human entry shall have a double door entry system with a minimum cubicle size of 4m(L)x 3m(W) x 2m(H). The cubicle shall be made of independent structural members with two doors and covered with insect proof net/ Apron materials. The doors shall not have any gaps or vents, and preferably fitted with air sealing materials.
9	Tractor entry	The tractor entry should be free from the main structural members and foundations. The tractor entry should have a minimum size of 2.7 width and 2.7 heigh with independent structural members. The entry shall have a collapsible door system covered with insect proof net. Air sealing materials shall be used in door system.
Entry Room (2 door of 2m x 2m Aluminum and poly carbonate mix)		

Sl. No	Description	Specification
1	Entry room size	4 m x 4 m, 4 m x 3 m, 3 m x 3 m
2	No of doors	02 (inner door may be of frame stitched with 40 mesh insect net of minimum 50 cm overlapping)
3	Door size	1.2 m x 2 m; Door of GI square pipe
4	Frame of door (ISA four sides to cover the gap below the door)	Galvanized
5	Half part of door (Downside)	Aluminum sheet
6	Upper half part of door	Poly carbonate sheet 5 mm thick
7	Flooring	Bricks flooring with plaster 15 mm thick

MI Component

Indicative Quantity of Material of Drip/Fogging System in Poly house/Net House

Sl. No.	Description of Items	Unit	Size of Poly House(sqm)			
			500	1008	2080	4000
A	Drip System					
1	Main and Submain Line PVC 63 mm x 4 kg/cm ²	Meter	36	48	70	110
2	Main Line PVC 75 mm x 4 kg/cm ²	Meter	0	0	0	60
3	16mm LLDPE Lateral line CL-2	Meter	60	70	130	200
4	Inline 16mm, 1.3 to 2.4LPH @ 20-40 cm CL2	Meter	260	500	2000	4000
5	Ball Valve 63 mm (Moulded Seal, Plain)	Nos.	2	2	2	2
6	Ball Valve 75 mm (Moulded Seal, Plain)	Nos.	0	0	0	1
7	Submain Flush Valve 40mm	Nos.	2	2	2	2
8	Submain Line for Flusing 40 mm X 6 kg	Meter	30	40	60	110
B	Fogging Machine					
1	Main and Sub-main Line PVC 50 mm x 6 kg/cm ²	Meter	36	42	70	110
2	Main and Sub-main Line PVC 63 mm x 6 kg/cm ²	Meter	0	0	210	60
3	16mm LLDPE Lateral line	Meter	250	450	900	1900

Sl. No.	Description of Items	Unit	Size of Poly House(sqm)			
			500	1008	2080	4000
4	4-way Fogger Assembly with HP LPD	Nos.	82	125	280	585
5	Ball Valve 50mm (Teflon Seal, Plain)	Nos.	2	1	1	0
6	Ball Valve 63mm (Teflon Seal, Plain)	Nos.	0	0	0	1
7	Submain Flush Valve 40mm	Nos.	2	2	2	2
8	GI Wire 2mm thick	Meter	200	350	800	1400
9	Submain Line for Flusing 40 mm X 6 kg	Meter	36	42	60	110
C	Filteration Unit					
1	Disc filter 25 m3/hr	Nos.	0	0	0	1
2	Disc filter 40 m3/hr	Nos.	1	1	0	0
3	Sand filter 10 m3/hr	Nos.	1	1	0	0
4	Sand filter 25m3/hr	Nos.	0	0	1	0
5	Sand filter 40 m3/hr	Nos.	0	0	0	1
6	Manifold GI + GMV	Nos.	1	1	1	1
7	Ventury Assembly Complete	Nos.	1	1	1	1
8	Air Release Valve Assembly 1"	Nos.	1	1	1	1

Note:

1. The list above under MI component is tentative. However, the actual material to be used at site may vary as per structural design requirement and this will be binding to the firm.
2. The width of insect nets rolls available is 3.6 meter or more. The stitching below 3.0 meter is not permitted. Above 3.0 m, if needed, the double stitching shall be done with machine using UV stabilized thread.

3. Technical specifications for Water harvesting structure (Farm Pond) as per MIDH guidelines to be followed proportionately

S. No.	Particulars	Specifications	Observations	Total Cost (Rs) in terms of earth work done
1	2	3	4	5
1	Pond Excavation	Measurements: Top: L1XB1 mts: Bottom: L2XB2 mts, depth		
2	Capacity in Cu Mts	$(L1 \times B1) + (L2 \times B2) \times$ Depth 2		
3	Cost of Sheet/RCC Lining	Geomembrane/HDPE sheet of 500 microns (Area x rate) m x m		
4	Smoothing of surfaces	No. of Mandays x rate		
5	Sheet fixing charges / RCC Lining	No. of Mondays x rate		
6	Sub Total			
7	Fencing	Cost of link mesh (wt x rate)		
		No. of granite poles (No x rate)		
		Labour Charges (No. of Mandays)		
	Sub Total			
	Grand Total			

CREATION OF WATER RESOURCES (FARM PONDS)

Objective: Farm ponds are the man made tanks constructed for storage of water in the farmers' field during rainy season from canals, bore wells etc., and to provide life saving irrigation to the crops or orchards during peak / critical stages of summer to save the plants from drying up.

These are constructed by excavating the soil and depositing the earth on the banks to form bund. The HDPE geo-membrane sheet is laid in the excavated pond to arrest seepage and infiltration losses.

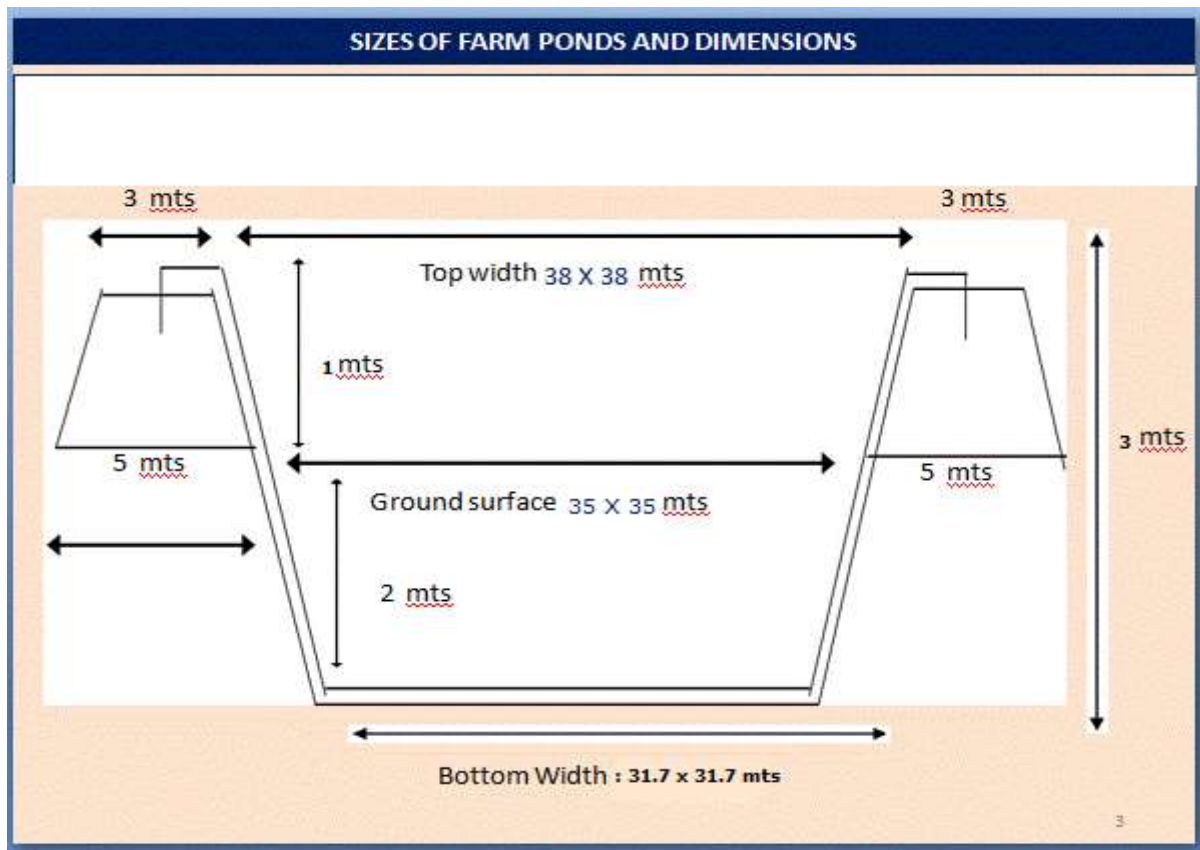
Different sizes of Farm ponds:

1. 10mx10mx3m
2. 15mx15mx3m
3. 20mx20mx3m

4. 30mx30mx3m
5. 35mx35mx3m
6. 21mx21mx4m
7. 27mx27mx4m
8. 35mx35mx4m

The details of specifications & subsidy of different sizes of Farm Ponds are as follows:

1) 35X35X3m



1. Bottom width 31.7 X 31.7 m
2. Width at ground level 35 X 35 m
3. Top width 38 X 38 m
4. Bund above Ground level 1m
5. Depth below Ground level 2m
6. Bund width at top 3m
7. Slope inside 1:1
8. Slope outside 1.5: 1
9. Volume = 36,75,000 liters

Calculation:

$$\begin{aligned} \text{Volume} &= \frac{\text{Bottom Area} + \text{Top Area}}{2} \times \text{Total Depth of the pond} \\ &= \frac{38 \times 38 + 31.7 \times 31.7}{2} \times 3 \\ &= 3675 \text{ cubic mtrs} \end{aligned}$$

- One cubic meter = 1000 liters of water
- Hence, the total volume of the farm pond i.e., 35 x 35 x 3 m = 3675 cubic mt. = 36,75,000 Ltrs
- The cost & quantity particulars pertaining to excavation and laying of sheet of the size of 3675 x Rs.80/- = Rs.2.94 lakhs farm pond are as follows:

Sl. No.	Estimated Quantity	Description of work	Unit	Rate incl. of Tax (in Rs.)	Total Amount In Rs.
1		Earth work excavation in ordinary and hard gravelly soils/loose soils etc. depositing on the bank within an initial lead and lift etc., complete with Trimming slopes and embankment of 3.0 mtrs height sanctioning banking with watering and tempering and consolidation with stone roller – 2 tones or cattle treading etc., complete	One Cubic Meter	70.00	80 x 3675 = 2,94,000/-
2		Supplying reinforced HDPE 500 microns Geomembrane polythene sheet including incidental and operational charges etc., and fixing of i.e. laying joining of reinforced HDPE 500 microns Polythene film sheet including incidental and operational charges etc. of BIS standards (IS: 15351 / IS: 10889 / IS:2508)	One Cubic Meter	90.00	

A) Preparation of pit:

- Mark out the outer corner of the selected field using pegs
- Measure the bottom dimension of the pond by calculating depth and slope ratio. It appears in center of the outer corner of the selected site and marked it excavation process.
- Excavate marked area first up to desired depth.
- After that, excavate rest area in inclined manner from one edge of bottom to top of the outer edge of same side and repeat the same for next three sides.
- Spread the excavated soil in the depressions for leveling and also on edges to make bunds of desired height from ground level.
- Level the excavated pond in order to suppress the angular projection
- Cut soil must be sealed or compacted unless the site is dug into a tight, clay formation so that film could be saved from puncture caused by these projections.
- After compaction, the whole area of pond should be treated with 4% atrazine (Weedicide solution) so that the plastic film could be saved from puncture caused by root infestation.
- After that all surface of pond should be smoothed properly.
- Excavate a trench of one cubic feet size on top of the bund at distance of 0.75-1.0 m from the inner edge of the pond for anchoring the HDPE film.

B) HDPE (high density poly-ethylene, with carbon Black)

This lining material shall be UV light resistant and one of the best available to last many years (generally 100 plus). It is used in lining under gasoline storage tanks, public dumps, toxic settling ponds, aquaculture ponds, etc. It can be heat-welded together. A minimum of 0.5 mm (500 micron) film is best suited for regular ponds.

C) Laying of Geo Membrane sheet:

For laying of HDPE films minimum of 0.5mm (500 micron) film are best suited for lasting of film and the following procedure are taken into consideration:

- Choose the film as per BIS /ISI mark (IS: 15351 / IS: 10889 / IS:2508)
- Use minimum of 500 micron black HDPE film
- Calculate the film requirement for dugout pond and cut it accordingly
- Measure and cut the film as per calculation.
- HDPE films manufactured into panels of standard widths.

Therefore, convert the film into a single sheet as desired either mechanically by heat-sealing machine like Hot Air fusion welding machine or manually (by overlapping 15 cm of the edge of two sheet and scrubbed lightly using emery paper or sand paper (120 grade) using bitumen/Synthetic Rubber adhesive No -998 made by fevicol so that it fit exactly to fit into the pond.

- Monitor the film in sunlight for searching/puncture hole if any, sealed the hole with bitumen/adhesive or by heat-sealing procedure.
- The ends of the film at the surface have to be firmly buried in a trench at the bank of the pond to avoid sagging in of the film.
- Care should be taken to avoid the wrinkles and film must be pleated at the corner.

D) Pointing over the film

To protect the film from damage pointing over the laid film is required. Generally locally available material / easily available material to be used

- Over laying works can be done in many ways but most suitable and economic ways are one of them is overlaying brick alone completely on all four sides, bunds and bottom of the lined tank. Secondly construct a brick work frame of size 2' x 2' and place mortar of cement and soil (1:8) inside the frame.
- Install water inlet and outlet pipes duly fixing them in brick masonry post over laid plastic film and to measure the discharge of water from the tanks, a 'V'- notch weir can be constructed.
- Drainage channel all along the border of the field is formed according to the gradient/slope.
- Live grass/ Turf is established on the bunds of the pond to prevent soil erosion.

1. The Head office will release the funds to the concerned District Officer through online after report received from the DHSO with his/her recommendation for release of payment.
2. A Display board (Iron) of size 2'x2' ft containing the following information in Telugu should be placed near the farm pond.



Department of Horticulture
Mission for Integrated development of Horticulture
(MIDH)

4. Technical specifications for Hi-tech Polyhouse with FAN & PAD system as per MIDH guidelines to be followed proportionately (Products with BIS standards only are accepted)

Advantages of Insect Net Fixed All Round Poly House:

- All round the poly house to control humidity in most demanding time.

Structural Materials:

The materials used for the manufacture of the structural elements have an elastic minimum limit of 275N/mm². The types of steel used are the following ones: IS: 800-2007 General Construction in steel – code of practice

Nuts And Other Metallic Parts:

This budget includes all the elements required to join and watertight the components such as fittings, clamps, screws, and nuts plated against corrosion according to IS: 1364: 2002 (Part 2) and 8.8 quality standards according to UNE-EN ISO 898-1:200 “Mechanical characteristics of fixing elements made of carbon steels and alloy steels. Chapter 1: Bolt and screws”

Galvanized:

All the metallic profiles and tubing are galvanized with a 275 gr/m² zinc coating protection and 60-micron thickness by a continuous procedure to meet the quality requirements according to IS:1239 and IS:4736 – 1968/ISO 65-1973, standards.

STRUCTURE–

Pillar & Spans:

Ø76 mm. x 2 mm thick tube with 4.0 meters gutter height (A PVC lid is included on each pillar to protect hermetically), established in every 4 m in external lines and every 4 m in internal lines.

Foundation:

Pillars to be put on the pre-foundation hole in the bottom position with a corrugated bar inside. Nearly dried concrete M-25

Span:

Ø 60 mm. tubes with gothic design Distance between spans 4 meters.

Profiles and Ridge Tubing:

Galva Aluminum Profile with Zig Zag Springs

1 line of 35 x 32 mm side profile for plastic film. 1 line of 35 x 32 mm front profile for plastic film.

1. Ridge tubing of Ø 48 mm. tube profile for plastic film located on the ridge of the bay without mooring on the ridge.

Crop Support Bar:

Ø 60 mm x 2 mm Thick Crop Support Bar, Spans of Ø 48 mm. tube with 2 mm Thick,

GOTHIC design, the distance between spans is 4 meters. Tubing ensemble spaced every 4 m. formed by f 42 mm. 2.0 mm thick and 5 reinforcements of Ø32 mm, that ensure maximum strengthened stability to the span-crop support ensemble.

Doors:

2 Front door of 2.0 m x 2.4 m. Polycarbonate doors with sliding arrangement, and Ante room

Purlins:

Ø48/ Ø42/ Ø32 mm. 2mm thick tubes with gothic design Distance between spans 4 meters.

Pillar Head:

Pillar Head element that joins the pillars, spans, gutters and crop support bars. It is constructed on a single 2 mm. thick piece of hot galvanized steel.

COVERINGS –**Roof, Sides and Front:**

200 microns co-extruded 7-layer clear Polyethylene film, fixing is made with a Galva Aluminum profile with Zigzag Spring, it is easy to install and is very resistant even in the most demanding conditions.

EXHAUST FANS:

The fan is designed to renew air in the greenhouse. The fan and venture housing is made of resistant rolled sheet steel. The center drum and V- shaped pulley are made of cast aluminum. The automatic shutters, made of high-resistance pressed and galvanized, prevent dust from entering. The propeller is statically and dynamically balanced to produce low noise and vibration levels. It is available in pre-painted galvanized steel or stainless steel. It is equipped with a class A motor, whose main feature is the efficiency and low energy achieved. It is available to work at 230v 1Ph or 230/415 3Ph at 50 or 60Hz

This system considers:

3 FANS IN EACH BAY OF GREENHOUSE,

Characteristics

Galvanized fan EM 50 /1.5HP 380/3PH/50 Hz Located along one side of the greenhouse Mesh + shutters: stainless steel blade.

48,000 m³/hr (18,000 CFM) Air delivery

CELLULOSED COOLING PAD SYSTEM

It is a complete water supply and drainage system for wetting evaporative cooling pad walls. The system has been specially designed to ensure even wetting of the evaporative cooling pad, continuous water recirculation and mechanical stabilization of the pad wall. The pressurized water is supplied at the top of the evaporative cooling pad via a distribution header. The distribution header has small calibrated holes orientated upwards. This design feature prevents the clogging and thus ensures efficient water distribution over the entire wall. Due to modular design, the system is easy to assemble and maintain. A unique removable cooling pad retaining plate allows for easy access to the evaporative cooling pads for replacement or servicing from either side. It is easy to clean the holes in the distribution header manually in case of clogging. The header is accessed simply by lifting the lid.

Main features:

Designed to meet dusty and high U.V. radiation environment conditions The design of the upper gutter drain holes avoids any clogging up Low maintenance. The gutter is designed to have pads replaced without dismantling the whole system. 8.0 m long of gutter system for the wet panels (upper and lower parts) with sides closing of the gutter system.

1. Submersible Pumps of 1.0 HP – Water tanks – Filters for circulation – Humidification panels: units (38.4 M) - Panel dimension: 1800mm high, 600mm wide and 150mm thick

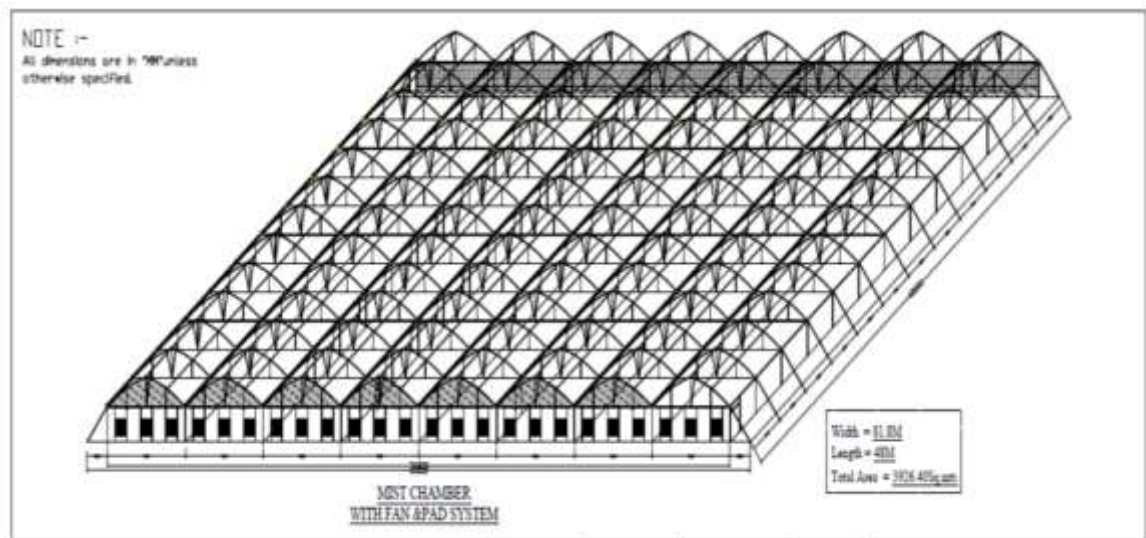
Miscellaneous items:

1. Water tanks 500 Ltr of polymer tank will be provided and for circulation of Cooling pad Water.

Fully Automation:

- a) Photoperiodic simulator microprocessor with timer pulse revivification facility
- b) Microprocessor system with temperature control with digital display control analogue
- c) Microprocessor monitored humidity controller with digital display analogue Automation with microprocessor type which can control inside climate conditions.

OBJECT: Supply of Environmental Controlled House with Fan & Pad System including Civil Works on Turn Key Basis of 1,232+5.0 Balcony M².



Note: Figure is for representational purpose only



GENERAL CHARACTERISTICS/House

- Grid Size: (8.0 M x 4 M) Bay width : 9.6 m
- Span Width : 4 m No of bays
- No of Spans 4
- Bay Length : 32 M
- Total Area : 1,232 M² (Excluding Balconies)
- Balcony : 2.5+2.5
- Gutter height : 4.0 m
- Ridge height : 5.500 m.
- Type of pillar : Ø 76. OD
- Standard crop support bar every 4 m. in side bays and in central bays.
Number of side exterior doors 2, with Ante Room :

Doors : 2 front doors of 2.4 M x 2 M. with Ante Room

Front covering : 200 microns, co-extruded 7-layer poly-ethylene film

fixed Side covering : 200 microns, co-extruded 7-layer poly-ethylene film

fixed. Roof covering : 200 microns, co-extruded 7-layer poly-ethylene film

Technical Standards:

IS: 14462:1997 – Recommendations for the layout, design, and construction of the Greenhouse structures

Standards &Calculation:

Our greenhouses meet the INDIAN Standard IS: 14462:1997 "Recommendations for the layout, design & construction of the Green House structures", IS:

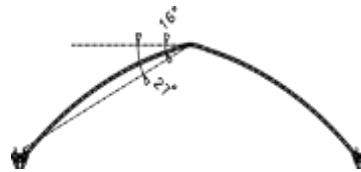
14485:1998 – Recommendations for Heating, Ventilating and Cooling of Green Houses, this standard specifies the loads and the combinations to be considered to calculate the greenhouse structure. The structure has been designed with a structure analysis program STARD PRO. The Indian standard IS 15827:2009 – Polycarbonate for Green House Specifications. “Stability standards for the construction of multi-span greenhouses with flexible plastic coverings” has also been considered.

Advantages Of Gothic Type Greenhouses:

The gothic type greenhouse enables a greater inside air volume a better climate control, (as it helps to reach lower peaks of temperature, and therefore a more stable temperature inside the greenhouse.

Higher sun radiation yields higher crop production.

The span (27°) reduces the risk of the fall of drops of condensation on the culture. It is easy to assemble as the span-crop support bar can be pre-assembled on the ground.



Advantages of Insect Net Fixed All Round Poly House:

- All round the poly house to control humidity in most demanding time.

Structural Materials:

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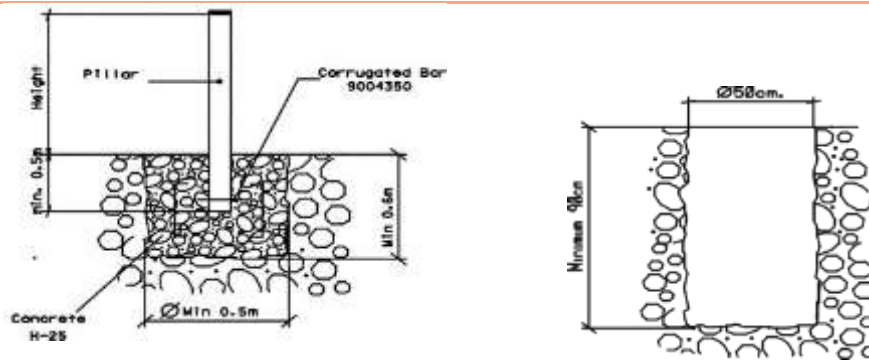
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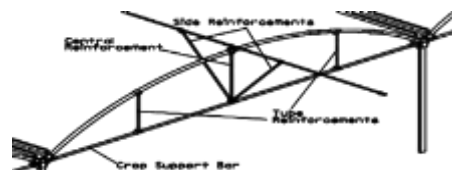
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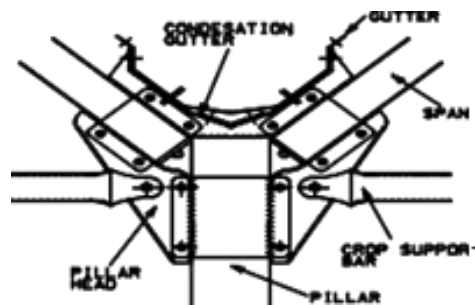
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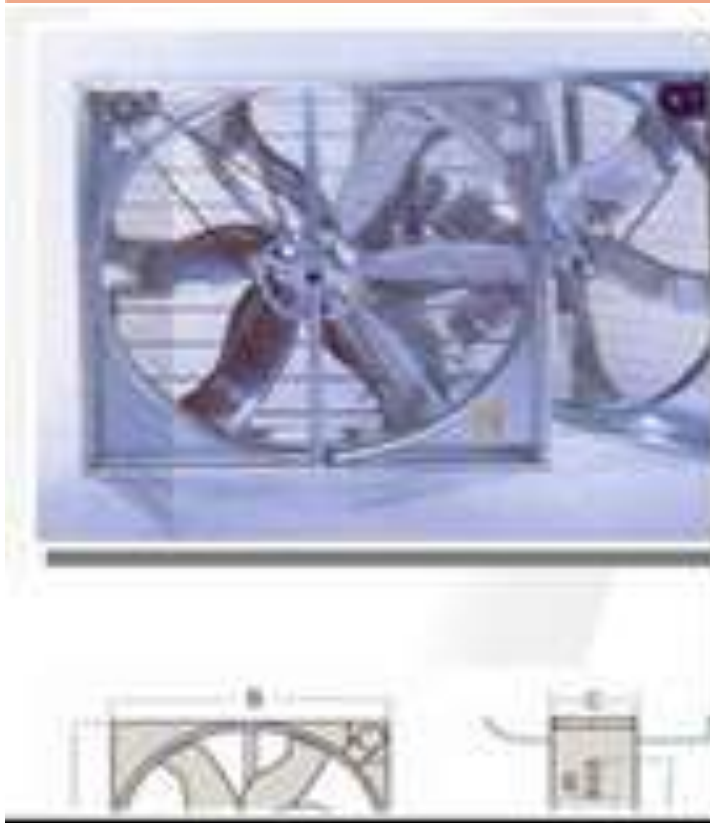
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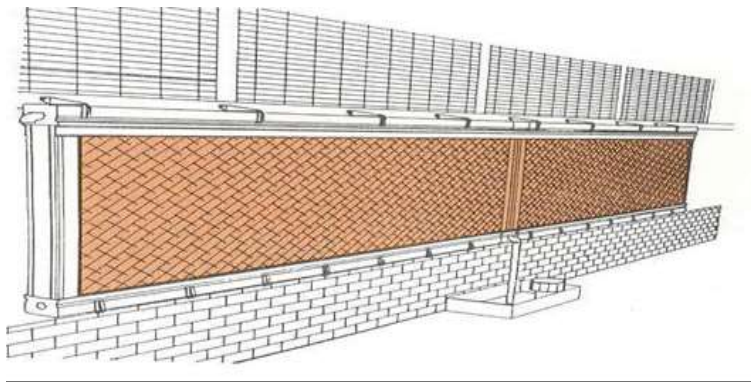
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- 1 Submersible Pumps of 1.0 HP – Water tanks – Filters for circulation
– Humidification panels: units (38.4 M) - Panel dimension: 1800mm high, 600mm wide and 150mm thick



Miscellaneous items:

- 2 Water tanks 500 Ltr of polymer tank will be provided and for circulation of Cooling pad Water.



Fully Automation:

- a) Photoperiodic simulator microprocessor with timer pulse revivification facility
- b) Microprocessor system with temperature control with digital display control analogue
- c) Microprocessor monitored humidity controller with digital display analogue Automation with microprocessor type which can control inside climate conditions.

Estimation for 1232 sqmtrs Hi-tech polyhouse with FAN & PAD system					
S. No	Description	Qty	Unit	Rate/ Unit ₹	Total Amount ₹
1	Round Tube G I Structure with Ø76/Ø60/Ø48/Ø42/Ø32/Ø26/Ø21	(9.6x4)=38. 4 x 32 (8x4) = (excluding Balconies)	M ²	3,150.00	3,880,800.00
2	200 microns Polyethylene Film on Top and All Round buried under ground				
3	Galva aluminium Profile with zig zag spring for locking Film				
4	Poly carbonate Door -2 No				
5	50% Mono x Mono Shade net on Top (Inside the GH)				
6	PVC pipes for drainage connections from GH.				
7	Humidification Panels (1800x600x100/150mm)				
8	Aluminium Gutter for Cooling Pad System Top & Bottom				
9	50/36" Exhaust Fans (10No's)				
10	Cellulosed Pad Cooling (38.4RM)				
11	Photoperiodic simulator microprocessor with timer pulse revivification facility				
12	Microprocessor System with temperaire control with digital display control analogue				
13	Microprocessor monitored humidity controller with digital display analogue				
14	Automation with microporcessor type which can control inside climate conditions				
15	4 way foggers 30 LPH, spacing in 3m x 3m placed at Upside down of to maintain required humidity @ 3.5 kg/cm ² - 50 No's				
16	Electrical Wire and Installation Inside Only, out side not Our scope Main Power Distribution Pannel Box to be provided at Anteroom by Buyer, not our scope.				
17	Air Circulation Fans (8 No's)				
18	Errection for Environmental Controlled House (INCLUDED)				
19	Civil Works inside EC House PCC flooring with drainage (INCLUDED)				
20	Benching System (NOT INCLUDED)				
21	Transport (INCLUDED)				
TOTAL					3,880,800.00
GST					18% 698,544.00
(In Words : IN ₹ Fourty Five Lakhs Seventy Nine Thousands Three Hundred Fourty Four Only)				GRAND TOTAL	4,579,344. 00

Payment Terms:

100% along with confirmed order

Offer Validity:

This quotation is valid for the next 4 weeks.

Delivery Time:

8 weeks from the date of Confirmed Order

Included:**• Transport**

- **Civil:** Any civil works required for construction of greenhouse including

• Foundation

- Irrigation
- Water tanks for Pad Cooling System only
- Trenching and backfilling for irrigation as well as film burying all around the poly house

Not Included:

- Electric power installation for the greenhouse
- Land Levelling, Land Movement
- Water connection up to the Green House
- Any other material not indicated in this quotation

Terms & Conditions:

- Upon the arrival of material, the buyer is responsible for unloading and storing the material in a clean place along with verifying the specifics of the received material according to the Delivery Challan.
- The firm is not responsible for any loss/theft/damage to the material, once it is received by the buyer.
- Once the material is handed over to the buyer, the firm is not responsible for any kind of damage to the system due to weather/manhandling/God's act.
- Any sort of replacement/repair works will be chargeable.

Jurisdiction

Any dispute arising out OR touching this Order shall be subject to the jurisdiction of Courts/Tribunals in Hyderabad/Secunderabad and no other place.

5. Technical specifications for Drip Automation & Drip Irrigation guidelines to be followed as per TGMIP (Products with BIS standards only are accepted) Name of the Firm / Agency: _____

S NO	CAT NO	PARTICULARS	UNIT	QTY	RATE (RS)	AMOUNT (RS)	Price Type
(A) HEAD UNIT							
	00425-000955	ARKAL 3" TWIN LITE FILTER 120 MESH-IND	EA	2	6,179.96	12,359.92	TGMIP
	00425-051051	GF ST.4" (3"X2) WITH PPBV-IND	EA	1	70,648.00	70,648.00	Non TGMIP
	77540-003350	PRESSURE GAUGE 250 GLZ 8 BAR 1/4" BSP	EA	8	198.35	1,586.80	TGMIP
	00430-001120	PP BOB COCK 1/4"-IND	EA	8	83.43	667.44	TGMIP
	77540-005160	SWING CHECK VALVE 4"	EA	2	3,416.00	6,832.00	Non TGMIP
	00410-004100	NON RETURN VALVE 2" THREADED-IND	EA	2	1,694.00	3,388.00	Non TGMIP
	70040-067780	IN/OUT MNF 4" F/GF 3"X2 NOS W/O VALVE	EA	2	6,100.00	12,200.00	Non TGMIP
		1 4" Manifold with 1 Inlet & 4 Outlet	EA	2	50,000.00	1,00,000.00	Non TGMIP
						SUB TOTAL(A)	2,07,682.16
(B) SAFETY DIVICES							
	32600-006004	NAVd PP KINT 1" BSP PN10	EA	9	1,170.00	10,530.00	Non TGMIP
	71600-012800	S100CI 2" A BSP QRV MPG 2W C	EA	1	20,382.00	20,382.00	Non TGMIP
						SUB TOTAL(B)	30,912.00
(C) DRIP MANIFOLD							
	21500-001400	PCJ 8.0L/H2.11GPH BRB3	EA	3000	3.45	10,350.00	TGMIP
						SUB TOTAL(C)	10,350.00
(D) DRIP ACCESSORIES							
	40590-031020	PE IRR. 16/2.5/1.2MM 400M CL-II IND	EA	4400	9.47	41,668.00	TGMIP
	00430-006400	RUBBER GROMMET OD DIA 16"ID 10.7 MM	EA	400	1.86	744.00	TGMIP
	32500-013250	BARB START 16 IND	EA	400	1.72	688.00	TGMIP
	32500-060345	BARB COUPLING 16 PA BRN IN	EA	400	1.78	712.00	TGMIP
	32500-012990	BARB END LINE PLUG 16-17 IND	EA	400	1.59	636.00	TGMIP
						SUB TOTAL(D)	44,448.00
(E) PVC MANIFOLD MAIN							
	00435-001425	PVC PIPE 110MM -04KG/CM2-NETAFIM BRAND	M	498	255.69	1,27,333.62	TGMIP
	00435-001345	PVC PIPE 90MM -04KG/CM2-NETAFIM BRAND	M	126	168.95	21,287.70	TGMIP
	00435-001285	PVC PIPE 75MM -04KG/CM2-NETAFIM BRAND	M	240	118.78	28,507.20	TGMIP
	00435-001250	PVC PIPE 63MM -06KG/CM2-NETAFIM BRAND	M	24	131.80	3,163.20	Non TGMIP
						SUB TOTAL(E)	1,80,291.72
(F) PVC MANIFOLD SUBMAIN							
	00435-001225	PVC PIPE 63MM -04KG/CM2-NETAFIM BRAND	M	402	84.47	33,956.94	TGMIP
						SUB TOTAL(F)	33,956.94
(G) VALVES							
	00410-005160	BUTTERFLY VALVE LEVER OPER. 4" LP-IND	EA	2	2,665.00	5,330.00	Non TGMIP
	00405-001350	PP BALL VALVE 2.0"(63MM) PLAIN-IND	EA	6	576.96	3,461.76	TGMIP
	00410-003200	PVC FLUSH VALVE 63MM-IND	EA	6	80.97	485.82	TGMIP
						SUB TOTAL(G)	9,277.58
						TOTAL DRIP MATERIAL - (A+B+C+D+E+F+G)	5,16,918.40
						GST 5% ON DRIP MATERIAL	25,845.92 TGMIP
			AC	6.00	7500	45,000.00	Non TGMIP
			AC	6.00	7500	45,000.00	Non TGMIP
						TRANSPORTATION CHARGES - 2% (III)	10,338.37 Non TGMIP
						TOTAL OTHERS - (I + II + III)	1,00,338.37
						GST 18% ON INSTALLATION CHARGES, PVC FITTINGS & ACCESSORIES, TRANSPORTATION CHARGES	18,060.91 Non TGMIP
						GRAND TOTAL	6,61,163.59

S NO	CAT NO	PARTICULARS	UNIT	QTY	RATE (RS)	AMOUNT (RS)	Price Type
(A) HEAD UNIT							
	70640-004517	ARKAL 2" DUAL LITE FILTER 120 MESH-IND	EA	2	5,096.23	10,192.46	TGMIP
	00425-050959	GF ST. 3"-50M3/HR(2"X2) W/PPBV-IND	EA	1	41,228.00	41,228.00	Non TGMIP
	77540-003350	PRESSURE GAUGE 250 GLZ 8 BAR 1/4" BSP	EA	3	198.35	595.05	TGMIP
	00430-001120	PP BOB COCK 1/4"-IND	EA	3	83.43	250.29	TGMIP
	77540-005160	SWING CHECK VALVE 3"	EA	2	2,425.00	4,850.00	Non TGMIP
	70040-067640	IN/OUT MNF 3" F/GF 2"X2 NOS W/O VALVE	EA	2	4,511.00	9,022.00	Non TGMIP
		1 3" Manifold with 1 Inlet & 4 Outlet	EA	1	30,000.00	30,000.00	Non TGMIP
		SUB TOTAL(A)				96,137.80	
(B) SAFETY DIVICES							
	32600-006004	NAVd PP KINT 1" BSP PN10	EA	6	1,170.00	7,020.00	Non TGMIP
	71600-012800	S100CI 2" A BSP QRV MPG 2W C	EA	1	20,382.00	20,382.00	Non TGMIP
		SUB TOTAL(B)				27,402.00	
(C) DRIP MANIFOLD							
	64000-020300	GYR LR MIC STUB 040L/H HEAD ONLY	EA	600	24.40	14,640.00	Non TGMIP
		SUB TOTAL(C)				14,640.00	
(D) DRIP ACCESSORIES							
	40590-031020	PE IRR. 16/2.5/1.2MM 400M CL-II IND	EA	4400	9.47	41,668.00	TGMIP
	00430-006400	RUBBER GROMMET OD DIA 16*ID 10.7 MM	EA	100	1.86	186.00	TGMIP
	32500-013250	BARB START 16 IND	EA	100	1.72	172.00	TGMIP
	32500-060345	BARB COUPLING 16 PA BRN IN	EA	100	1.78	178.00	TGMIP
	32500-012990	BARB END LINE PLUG 16-17 IND	EA	700	1.59	1,113.00	TGMIP
	32500-011280	BARB T 16 IND	EA	600	3.92	2,352.00	Non TGMIP
	63000-001900	MIC CONN. BARB/FEMALE	EA	600	2.53	1,518.00	Non TGMIP
	63520-006000	BARB/BARB CONNECTOR	EA	600	2.24	1,344.00	Non TGMIP
	76300-001250	PVC TUBE 4*7	EA	600	6.15	3,690.00	Non TGMIP
		SUB TOTAL(D)				52,221.00	
(E) PVC MANIFOLD MAIN							
	00435-001345	PVC PIPE 90MM -04KG/CM2-NETAFIM BRAND	M	150	168.95	25,342.50	TGMIP
	00435-001285	PVC PIPE 75MM -04KG/CM2-NETAFIM BRAND	M	300	118.78	35,634.00	TGMIP
		SUB TOTAL(E)				60,976.50	
(F) PVC MANIFOLD SUBMAIN							
	00435-001225	PVC PIPE 63MM -04KG/CM2-NETAFIM BRAND	M	324	84.47	27,368.28	TGMIP
		SUB TOTAL(F)				27,368.28	
(G) VALVES							
	00410-005150	BUTTERFLY VALVE LEVER OPER. 3" LP-IND	EA	2	2,120.00	4,240.00	Non TGMIP
	00405-001350	PP BALL VALVE 2.0"(63MM) PLAIN-IND	EA	3	576.96	1,730.88	TGMIP
	00410-003200	PVC FLUSH VALVE 63MM-IND	EA	3	80.97	242.91	TGMIP
		SUB TOTAL(G)				6,213.79	
		TOTAL DRIP MATERIAL - (A+B+C+D+E+F+G)				2,84,959.37	
		GST 5% ON DRIP MATERIAL				14,247.97	TGMIP
		INSTALLATION CHARGES (I)	AC	3.00	7500	22,500.00	Non TGMIP
		PVC FITTINGS & ACCESSORIES (II)	AC	3.00	7500	22,500.00	Non TGMIP
		TRANSPORTATION CHARGES - 2% (III)				5,699.19	Non TGMIP
		TOTAL OTHERS - (I + II + III)				50,699.19	
		GST 18% ON INSTALLATION CHARGES, PVC FITTINGS & ACCESSORIES, TRANSPORTATION CHARGES				9,125.85	Non TGMIP
		GRAND TOTAL				3,59,032.38	

Cat No.	Particulars	Unit	QTY	Unit Price	Amount (Rs)
CONTROLLER					
1	GS-MAX-DISP-220V-6DO-12DI	EA	1	361111.11	3,61,111.11
2	GS-MAX 16 DO-573 RELAY WITH ADAPTOR	EA	1	20444.44	20,444.44
3	GS-MAX 8 DO-572 TRIAC WITH ADAPTOR	EA	1	19777.78	19,777.78
4	GS-MAX 4 AI-561 WITH ADAPTOR	EA	1	20444.44	20,444.44
5	INSPECTION & SUPERVISION	EA	1	22000.00	22,000.00
6	SUBSCRIPTION PLAN FOR 3 YEARS (AFTER 1 YEAR @ RS 20,000 PER YEAR)	EA	2	22000.00	44,000.00
7	DFS SERVICE -AMC-IND FOR 3 YEARS (After 1 year @ Rs 15,000 per year per unit)	EA	2	16500.00	33,000.00
TOTAL (A)					5,20,777.78
DOSING MACHINE (5 Channels of each 400 LPH)					
8	F5PL-3E40-50H1X220MTX55-WOC	EA	1	461444.44	4,61,444.44
9	FSA-CH-DUAL-400L/H-B50HZ-EPDM-PVC600	EA	1	67462.22	67,462.22
10	S90PVC 110 H GLUE PSV PPG 3W S	EA	1	26421.11	26,421.11
11	ALUMINUM STAND FOR NMC CONTROLLER -IND	EA	1	6382.22	6,382.22
EC & PH					
12	EC PH Kit Wall Mount 24 V MONITOR&SENSOR	EA	1	86057.78	86,057.78
13	FSP-PL/MS ECPH MANIFOLD	EA	1	5245.56	5,245.56
WATER METER & FERTILIZER METER					
14	WM WSTSB BYO 4" BS EV 100L MID	EA	1	44964.44	44,964.44
15	ARAD FERT SF 1/2" BSP EV 1L	EA	4	9616.67	38,466.67
GRAVEL FILTER BACKWASH					
16	D 51P PL G 2"2 BFV BSP 3WNC AQAC	EA	3	16362.22	49,086.67
17	IN/OUT MNF 4" F/GF 2"X3 NOS W/O VALVE	EA	2	9164.44	18,328.89
18	BUTTERFLY VALVE LEVER OPER. 4" LP-IND	EA	1	2961.11	2,961.11
IRRIGATION FIELD VALVES					
19	S90PVC 110 H GLUE ELE AQAC 3WNC LP	EA	7	18528.89	1,29,702.22
20	BERMAD 1/8 CHECK VALVE ASSY GRAY	EA	7	787.78	5,514.44
21	BERMAD CONT.TUBE TEE CON.POL. 8"8"8FT98	EA	7	93.00	651.00
22	TUBE PE 8MM NO-STRIPE 100M	EA	0.2	1628.89	325.78
WEATHER STATION					
23	DAVIS WEATHER Station Full Pack	EA	1	97041.22	97,041.22
OTHER ACCESSORIES					
24	ARKAL 3/4" FILTER 120MESH RED	EA	4	1366.67	5,466.67
25	NMC power line protector 230Volt	EA	1	7368.89	7,368.89
26	BLOWER AGITATOR -EMMF 210 MP 270 MV 220	EA	1	61593.33	61,593.33
27	NAVd PP COMB 2" BSP PH10	EA	2	6181.11	12,362.22
TOTAL (B)					11,26,846.89
LOCAL PURCHASE ITEMS-SUPPLY & BILLING BY DEALER TO CLIENT OR DIRECT PURCHASED BY CLIENT (Approx.)					
1	SERVO STABILIZER 1KVA-1 PHASE ISOLATION (INPUT 150 TO 300V & OUTPUT OF 230VOLT)	EA	1	21000.00	21,000.00
2	FERTILIZER TANKS 1000 LIT & IT'S FITTINGS	EA	4	16000.00	64,000.00
3	ELECTRICAL CABLES 1.0 SQ MM- 1 CORE	M	800	18.00	14,400.00
4	ELECTRICAL CABLES FOR PUMPS/BLOWER	M	150	150.00	22,500.00
5	PVC PIPE AS A CONDUIT PIPE FOR ELECTRICAL CABLES	M	90	50.00	4,500.00
6	ELECTRICAL CONTOL PANEL	EA	1	125000.00	1,25,000.00
7	POWER BACKUP (UPS)	EA	1	24000.00	24,000.00
8	OTHER ACCESSORIES	EA	1	30000.00	30,000.00
9	INTERNET CONNECTIVITY (SIMLAN) - Client's Scope	EA	1	0.00	-
10	Lightening Arrestor - Client's Scope	EA	1	0.00	-
TOTAL (C)					3,05,400.00
Installation Charges		Lump sum	1	35000.00	35,000.00
Freight Charges		2%	1	1953024.67	39,060.49
GST @5% on Total B (If ordered with Drip, else 18% will be applicable)		5%	1	1126846.89	56,342.34
GST @18% on Total A + Total C + Installation + Freight		18%	1	900238.27	1,62,042.89
GRAND TOTAL					22,45,470.38

PRICES OF THIS PROPOSAL IS VALID FOR ONE WEEK ONLY

THIS IS APPROX. QUOTATION, ACTUAL QUOTATION WILL VARY BASED ON FINAL DESIGN & FIELD CONDITION

ALL TYPE OF CIVIL WORK LIKE EXCAVATION, PLATFORM, ELECTRIC SUPPLY BOARDS etc. WILL BE IN CLIENTS SCOPE OF WORK

IRRIGATION ROOM FOR DOSING MACHINE & COTROLLER TO BE CONSTRUCTED BY CLIENTS, AS PER THE STANDARD DESIGN

ALL THE ABOVE MENTIONED LOCAL PURCHASE ITEMS NEEDS TO BE PROVIDED BY CLIENTS, OR OUR DEALER WILL SUPPLY AND BILL TO CLIENT

CLIENT NEEDS TO PROVIDE FULLY AUTOMATIC STAR DELTA STARTER FOR ALL THE PUMPS THAT NEEDS TO BE OPERATED BY CONTROLLER

CLIENT NEEDS TO PROVIDE PROPER ELECTRICAL POWER SUPPLY FOR THE SYSTEM WORKING

LEAD TIME FOR MATERIAL SUPPLY WILL BE 90 WORKING DAYS FROM DATE OF PAYMENT RECEIVED

THE FARMER & DEALER HAS TO SIGN THE EULA & GDPR DOCUMENTS AS PER GDPR NORMS

CLIENT HAS TO PAY SUBSCRIPTION & AMC CHARGES AFTER 1 YEAR

6. Reverse Osmosis Plant (6,000 lph)

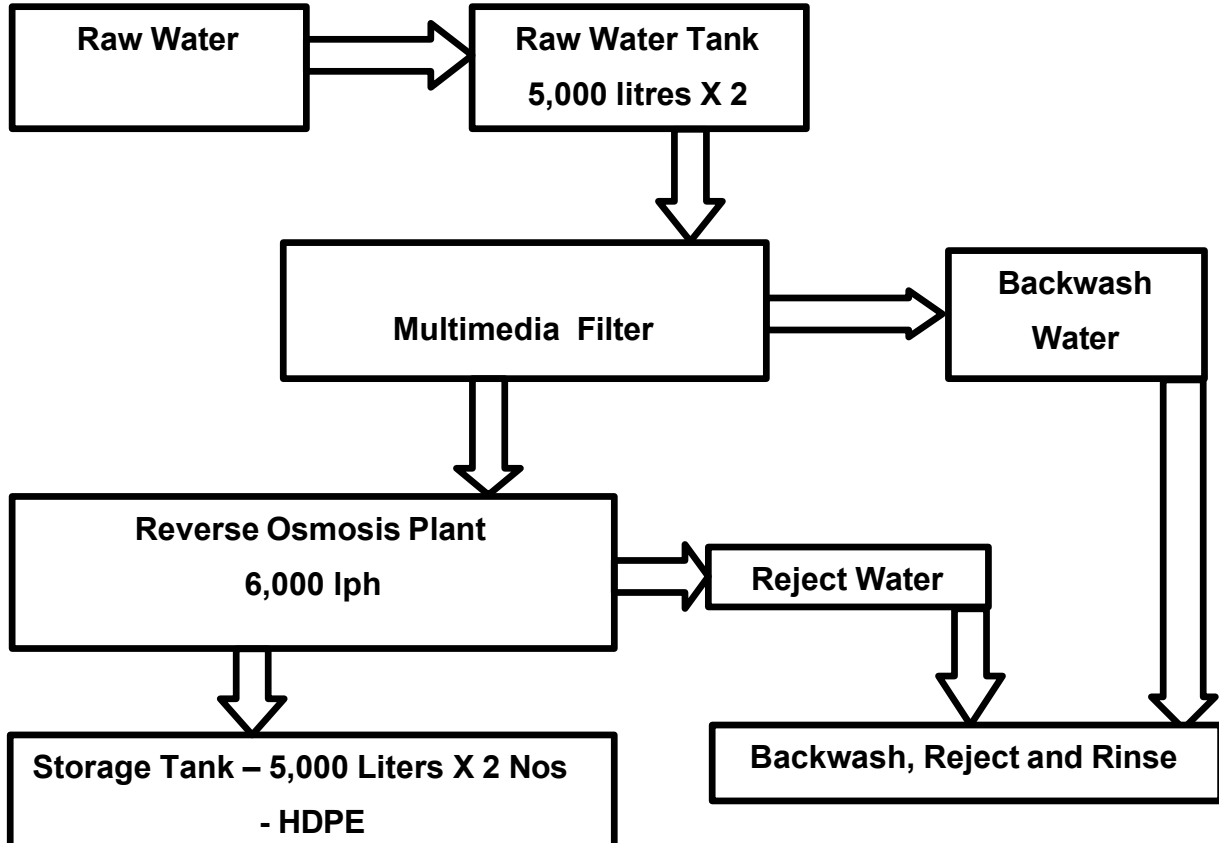
1. Design Basis - Requirement:

Sizing: 6,000 lph

Water Characteristics Considered and Achieved:

Parameter	Units of measurement	Raw Water	RO Outlet
Flow	M ³	8.4 M ³ /hour	6.0 M ³ /hour
pH	-	7.6	6.5 – 8.5
COD	mg / l	< 10	< 01
TDS	Ppm	< 1000	< 40
Hardness	Ppm	< 400	< 10
Silica	mg / l	< 10	< 01
Colour	-	Clear	Clear

2. Proposed Block Diagram



3. Equipment Warranty

From date of establishment 12 months guarantee of the equipment.

4. Scope of Supply - Reverse Osmosis Stage - I with Capacity – 3,000 lph

i) Raw water pump

S. No	Description	Specification
1	Numbers offered	02 (1 No for Feed and 1 No for Flushing)
2	Type	Monoblock
3	Service flow	12/6 m ³ /hr
4	Head	25 m
5	Make	CRI/ Adelino equivalent
Materials		
1	Pump housing	Cast iron/ SS 304
2	Impeller	Bronze/ SS 304
Electrical data		
1	Rated power	2.00/ 0.75 KW
2	Rated voltage	440/220 Volts
3	Rated current	4/8 Amps
4	Rated speed	3,000 RPM

Note: The above pump is selected in order to ensure a high flow rate during backwash for more effective and quick cleaning.

ii) Multi Media Filter

S. No	Description	Specification	
1	Nos offered	01	
2	MOC	FRP	
3	Size	Dia	400 mm
		Height	1625 mm
4	Filter media	Multi grade quartz sand	
	Quantity	310 Liters	
5	Operating flow	Min	03 m ³ /hr
		Max	12 m ³ /hr
6	Operating pressure	Min	1.5 kgs/cm ²
		Max	10 kgs/cm ²
7	Make/ model	Pentair 1665	
Multiport valve			
1	Nos offered	01	
2	MOC	PP	
3	Size	40 NB	
4	Type	Side mounted Automatic	
Piping			
1	MOC	CPVC	
2	Size	40 NB	

iii) Micron Cartridge Filter

S. No	Description	Specification
1	Nos offered	06
2	MOC of housing	PP
3	Cartridge rating	10 & 5 Micron
4	No. of cartridges	06
5	Service flow	5 m ³ /hr X 6 Nos
6	Cartridge size/type	20" Jumbo /Wound
7	Make	Enorme/ Big Blue

iv) High pressure Pump

S. No	Description	Specification
1	Nos offered	01 Vertical Multistage
2	Service flow	16.0 m ³ /hr
3	Head	120 m
4	Make	LEO / Adelino
5	Model	15 H.P
Materials		
1	Impeller	SS 304
Electrical data		
1	Rated power	11 KW @ 440 Volts
2	Rated current	15 AMPS
3	Rated speed	3000 rpm

v) R.O. Block

S. No	Description	Specification
1	Nos offered	01
2	Product flow rate	6,000 lph
3	Feed flow rate	8,400 lph
4	Design	72% recovery
5	Stages	1
Membranes		
1	Nos/ Size	6/ 8" dia x 40" length
2	Make	Blueberry/Hydramem/Equivalent
3	Active surface area	400 sq ft
4	MOC	Composite poly amide
Pressure Tubes		
1	Arrays/nos	2
2	Size	8" dia x 120" length (2 Nos)
3	MOC	FRP – UKL
4	Max pressure	17 kg /cm ²
1	MOC	SS 202
2	Make	Falken

Note: This is a design developed avoiding pressure drops in as far as possible. Membranes with active surface area of 400 sq ft are selected. The membranes have thicker mid spacers reducing the chances of fouling.

vi) Piping

Raw water line		
MOC	Size	Quantity
CPVC	40 NB	As required
Product water line		
MOC	Size	Quantity
CPVC	40 NB	As required
High pressure line		
MOC	Size	Quantity
SS 304	40 NB	As required

vii) Accessories

S. No	Description	Size	MOC	Make
1	1 Nos solenoid – Flushing	40 NB	Stainless steel	Aira
2	1 Nos NRV - Recirculation	25 NB	SS/ brass	Flowcon
3	1 Nos ball valve –Reject	25 NB	Stainless steel	Flowcon
4	1 Nos ball valve -Recycle	25 NB	Stainless steel	Flowcon
5	3 Line Pressure Display	90 X 90	PP	Blue Waters
6	1 No Dosing Pumps	6 lph	Diaphragm Type, with Digital Display/Controll	E- Dose NEO

Note: The flush solenoid situated at the outlet of the membrane opens every time the plant starts and during natural shutdowns. This ensures lower levels of TDS in the membranes during shut down periods and flushing out the same after the water digests the accumulated salts on the membrane surface area. This enhances the life of membranes.

viii) Flow Indicator

Type	Digital
Sensors	02 nos
MOC	Acrylic
Range	0-16000
Make	Aster

Note: The above are provided for the Product, Reject and Recirculation lines.

ix) Pressure Display

Make	Blue Waters
Display	1. Low pressure 2. High pressure 3. Reject Pressure
M.O.C	SS
Range	0.5 -2.5 bar for suction & 0.5 – 17.0 bar for discharge
Location	HP pump- suction & discharge

Note: This is provided to prevent the High Pressure pump from running dry or at lower pressures than prescribed and to prevent High Pressure build up over and above the prescribed pressures.

x) Control Panel (1 No)

Pump circuitry		
S. No	Description	Type
1	Feed pump	VFD – Danfoss with PID Controller
2	High pressure pump	
3	Flush Pump	
Inputs		
1	Pressure sensors	Pressure Transmitters

2	Level switch	Permeate tank
3	Level switch	Raw water tank
4	Dosing Level Switch	Dosing tank
5	Feed pressure switch	Programmable range
6	High pressure switch	Programmable range
7	TDS sensor	Programmable range

Note: This is the CPU of the system monitoring all input devices, switches and devices and controls all the attached pumps and devices attached to it. It is a programmable Logic Controller with all contactors, relays, delays and timers as support devices. The screen is a tell-tale display of the current operating status of the plant and the errors or faults if any due to abnormal levels, pressures or TDS/Conductivity values.

5. Civil Unit List

To provide the necessary GA drawings.

6. List of Terminal Points

S. No	Description	Terminal Points	Pressure (bar)
1.	Raw Water	At the inlet of the Raw Water tank	By gravity
2.	Reject water outlet	At the outlet of the system	-
3.	Power	At the incoming of system	-

Supply of plant is limited with the scope of supply only. The unit will act as a stand-alone unit.

7. Exclusions

8. Mechanical & civil:

- All civil works and Foundations for all equipment of the system proposed.
- All piping, piping supports, outside our battery limits.
- All consumables except first fill.

- Related statutory and regulatory requirements.
- Skilled & Unskilled labour required for trial run & commissioning.
- Anything else not specifically mentioned in the offer shall be in client scope.

S. No.	Particulars	UoM	Qty	Rate	Amount
1	Fully Automatic R.O Plant (6.0 M ³ per hour) with Pre-Filtration with 3 VFD`s	Nos	1	₹ 13,10,000	₹ 13,10,000
2	Raw Water Tank HDPE - 5 m ³	Nos	2	₹ 30,000	₹ 60,000
3	Filtered Water Tank HDPE - 5m ³	Nos	1	₹ 30,000	₹ 30,000
4	Automatic chemical dilution system	Set	1	₹ 28,000	₹ 28,000
5	Installation	LS	1	₹ 30,000	₹ 30,000
6	Transportation	LS	1	₹ 25,000	₹ 25,000
7	Sub-Total				₹ 14,83,000
GST				18%	₹ 2,66,940
Total					₹ 17,49,940

7. Laying of Internal pipeline system for inter-connecting borewells & for RO Unit etc.

Estimated Amount : Rs.8.00 lakhs (Lumpsum)
 Work as per the actuals in the field :