Department of Horticulture
Himachal Pradesh, Shimla- 171002

Director of Horticulture, Himachal Pradesh on behalf of Government of Himachal Pradesh invites e-Tender in two cover system for the under mentioned goods from the eligible and approved Manufacturer for the empanelment.

The detail of specifications of greenhouse structures to be provided to the farmers are as given below:

Description of Goods	Delivery location	Bid document cost (Rs.)	Earnest Money Deposit (Rs.)
Naturally Ventilated Polyhouses	Whole state	2000/-	50,000/-

1. During the year 2020-21, the Department of Horticulture, Himachal Pradesh desires to empanel the firms for construction / installation / fabrication of greenhouse structures in farmers' fields across all districts of Himachal Pradesh. The firms are required to carry out the work in the farmers field as per the recommended specification(s). The beneficiary farmer is at liberty to choose empaneled firm of his choice for construction / installation / fabrication of greenhouse structures. The Departmental officers of the respective areas will physically inspect the material before the release of subsidy.

2. Availability of bid document and Mode of submission:- The bid document is available online and bid should be submitted online on website http://hptender.gov.in. The bidder would be required to register in website which is free of cost. For submission of the bids, the bidder requires Digital Signature Certificate (DSC) from one of the authorized certifying Authorities (CA)" Aspiring bidders who have not obtained the user ID and pass word for participating in e-tendering in the Director of Horticulture, Himachal Pradesh, Shimla-2, may obtain the same from the website http://hptender.gov.in. Digital signature is mandatory to participate in the E- tendering. Bidder already possessing the digital signature issued from authorized CA can use the same in the tender.

3. Date of online publication: -**12.06.2020**

4. Document Download start and end date: - **13.06.2020 to 03.07.2020**

5. Bid submission start and end date: - **16.06.2020 to 03.07.2020 till 1:00PM**.

6. Physical submission of EMD and cost of tender Document: - **03.07.2020 till 1:00PM**.

7. Date of Technical Bid opening will be **03.07.2020 2:00PM**, evaluation of technical bid opening and financial bid opening will be done accordingly.

8. Submission of Original Document: - The bidders are required to submit (a) original demand draft towards the cost of bid document i.e. Rs 2,000 and (b) Original bid security/Earnest Money Deposit (EMD) i.e. Rs 50000/- in shape of DD or FDR duly pledged in favor of, The Director of Horticulture, Himachal Pradesh, Navbahar, Shimla-2, failing which the bids will be declared nonresponsive. Any bidder/tenderer withdraws his bid / tender during the period of bid validity or makes any modification in the terms of conditions of the bid, his earnest money shall be forfeited.

9. Tender details: - The tender documents shall be uploaded in two covers.
   i) Cover-1: - Shall contain scanned copies of all technical document/eligibility information.
   ii) Cover-2: - Shall contain "BOQ/Financial Bids" where contractor will quote his offer for all item

10. Bid opening detail: - The bid shall be opened in the office of the Director of Horticulture, Himachal Pradesh, Shimla-2 by the authorized officer. In their interest the tenderers are advised to be present along with original documents at the time of opening of tender. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on next working day at the same time and venue.

11. Other detail can be seen in the bidding documents. The officer inviting tender shall not be held liable for any delay due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates. The employer shall not be liable for any information not received by the bidders. It is the bidder's responsibility to verify the website for latest information related to the tender.

(Dr. M.M. Sharma)
Director of Horticulture
Himachal Pradesh
Ph.: 0177-2842390
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Document for

Identification, Selection & Empanelment of Service Providers for Greenhouse Fabrication in Himachal Pradesh under Himachal Pushp Kranti Yojna (HPKY) funded by NABARD under RIDF- XXV Programme 2019-20

Implementing Agency

DEPARTMENT OF HORTICULTURE
HIMACHAL PRADESH

Introduction & Back ground of the Project

The Government of Himachal Pradesh is promoting farming inside modern greenhouses called polyhouses to improve the earning potential of farmers in the State, especially during the harsh winters. The economy of the hill State is highly dependent on agriculture, apart from hydroelectric power and tourism. But most of its farmers have small land holdings on hill slopes, and need to augment their incomes. It is difficult to grow anything outdoors in the harsh Himalayan winters. So the government is now promoting polyhouse farming, especially for production of cut flowers (floriculture). Adoption of horticulture, both by small and marginal farmers has brought prosperity in many regions of the State endowed with a wide variety of agro-climatic conditions & enjoys an enviable position in the horticulture map of the country. In spite of its great importance, it is facing a lot of constraints like photo stress, moisture stress, temperature stress, weed growth, deficiencies in soil nutrients, excessive wind velocities and atmospheric carbon-dioxide. Most of these are climatic factors or directly related to them. Many of these constraints have been alleviated or lessened by adopting protected cultivation or controlled environment. The overall objective of protected cultivation is to modify the natural environment by practices or structures to achieve optimal productivity of crops, by enhancing yield, improving quality, extending the effective harvest period and expanding production areas.

Lack of water is the single most important environmental impediment to the plant growth. By far the most intensive and ancient means of protected cultivation is irrigation. By irrigation the crop production has been extended to drought prone areas that were otherwise non-productive. The high agricultural use of water is increasingly under challenge from other competitive options such as energy generators, municipalities, low efficiency for agricultural use.

Drip irrigation systems are frequently an important component in the other structures designed for the protected cultivation. Protected cultivation has now been extended far beyond the realm of the irrigation and water management and at present the focus is now on the structures/ designs and technologies coupled with drip irrigation.

Protected cultivation can reduce the amount of water and chemicals used in production of high value flower crops compared to open field conditions. The comparative advantages are:

- Year round production.
- Crop production with high productivity under unfavorable climatic conditions.
- Multiple cropping on the same piece of land is possible.
- Production of high quality and healthy seedlings of vegetables for transplanting in open field supporting early crop, strong and resistant crop stands.
- Use of protected vegetable cultivation can increase production as well as productivity per unit of land, water, energy and labour. It supports the production of high quality and clean products.
- It makes vertical cultivation of vegetables possible using technologies like hydroponics, aeroponic etc. and use of vertical beds for production.
- Controlled environmental conditions are created for early raising of nurseries, off-season production of vegetables, their seed production and protecting the valuable germplasm.
- Management and control of insect-pests, diseases and weeds is easier.
- Quality of the produce is superior because of isolated and controlled conditions.

- Polyhouses/Protected cultivation is the only method/technology available for the production of the high value cut flowers in the State.
- Income per unit area is increased significantly.
- The schemes will be implemented in cluster mode covering minimum 5000sqm area in one cluster benefitting 8-10 farmers.

Major Components and General Specification of a Greenhouse Structure

Sr. No.	Major components	Detail
1.	Roof	Transparent cover of a green house
2.	Gable	Transparent wall of a green house
3.	Cladding material	Transparent material mounted on the walls and roof of a green house.
4.	Flexible cladding material	Cladding material with such a degree of flexibility that any deformation of the structure will not result in damage to it, example Plastic film.
5.	Gutter	Collects and drains rain water and snow. It is placed at an elevated level between two spans.
6.	Column	Vertical structure member carrying the structure
7.	Purlin	The member which connects cladding supporting bars to the columns.
8.	Ridge	Highest horizontal section in top of the roof
9.	Girder	Horizontal structure member, connecting columns on gutter height.
10.	Bracings	To support the structure against wind
11.	Arches/Rafters/Trusse	Members supporting covering materials.
12.	Foundation pipe	Connection between the structure and ground
13.	Span width	Center to Center distance of the gutters in Multiplan polyhouses
14.	Greenhouse length	Dimension of the greenhouse in the direction of gable
15.	Greenhouse width	Dimension of the greenhouse in the direction of the gutter

Need for Firming up Technical Standards of Greenhouse

Depending upon various factors viz. location, crop, budget, size, requirements etc. variable specification of various components involved in construction of greenhouse/net house are being used. There are numerous cases of failure of poly/green house/ net house structures due to use of sub-standard material or non-compliance of minimum technical requirement needed for setting up such structure resulting into heavy loss to the beneficiary. This necessitates the need of framing up of minimum technical standards for various types of polyhouse/net house with the help of various Stake holders. The Bureau of Indian Standards (BIS) has also formulated the following standards with respect to polyhouse/greenhouse.

(i) IS 14462-1997 - Recommendation for layout, design and construction of green house.
(ii) IS 15827-2019- Plastics films for green house.

A. Technical Standards of Naturally Ventilated Polyhouse

Various greenhouse models have been deliberated under this scheme for various climatic regions of the state. These are indicative model and size may vary as actual filed condition.

The detail of different models is given below**:**

1. Model-1 Specifications foe Naturally ventilated Polyhouse (504 m^2)

1 Total Height of NVPH - 6 m to 7 m (Normally 6.5 m)

2. Height of Gutter - 4 m to 4.5 m (Normally 4.5 m)
3. Height of Top Vent- 1 m (or 109'» area of covered area whichever is higher)
4. Bay Size- 8 m x 4 m
5. Corridors - Maximum 2 m all sides for area calculation.

Tubular Frame Components			
Sr. No.	**Part name**	**Specifications**	**Decription**
1.	Main Column	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	6 m to 7 m length
2.	Small column along gable	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	4m to 5m length
3.	Small Column along gutter	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	4 m to 5 m length
4.	Foundation Stub	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	1.2 m to 1.4 m
5.	Corridor along gable	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	As per design requirement
6.	Corridor along gutter	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	As per design requirement
7.	Small bottom chord along gable	60 mm OD & 2.9 mm chick (@ 4.08 kg per meter)	4m
8.	Big Bottom chord	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	8 m
9.	End Purlin	48 mm OD & 2.9 mm thick (@ 3.23 kg per meter)	
10.	First top purlin	48 mm OD & 2.9 mm thick (@ 3.23 kg per meter)	Top vent

11.	Second top purlin	48 mm OD & 29 mm thick (@ 3.23 kg per meter)	Top vent
12.	4 m gutter purlin	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	Support to gutter
13.	6 m gutter purlin	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	Last pipe towards slope
14.	Curtain runner	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
15.	Horizontal member	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
16.	Long arc at end	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
17.	Long arc	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
18.	Small arc	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
19.	Knee Bracing and Small Inclined strut	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	
20.	Big Inclined strut	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	
21.	Top chord runner in last bay	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	At both ends
22.	Cross Bracing	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	At all top corners
23.	Curtain pipe	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	Max length 40 m
24.	Curtain pipe handle	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
25.	Flap Control Pipe	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
26.	Vent Stay	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
27.	Flap control system	UV stabilized Nylon rope/ Colorless plastic rope/ UV stabilized Nylon tape	8 mm dia

Fixtures and Accessories			
Sr. No.	**Part name**	**Specifications**	**Description**

1.	Angle Bracket	ISA 40 X 40 X 3	
2.	Full angle Cleat	ISA 40 X 40 X 3	
3.	Half angle Cleat	ISA 40 X 40 X 3	
4.	Flat Patti 25/5mm	25 MM X 5 MM	
5.	Full Clamp	76 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
6.	Half Clamp	76 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
7.	Full Clamp	60 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
8.	Half Clamp	60 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
9.	Full Clamp	43 ID 40 mm Width & 2.6 mm thick	Galvanized/Zinc plated
10.	Half Clamp	43 ID 40 mm Width & 2.6 mm thick	Galvanized/Zinc plated
11.	T-Fixtures	33 mm OD & 2.6 mm thick	Galvanized/Zinc plated
12.	L-Fixtures	33 mm OD & 2.6 mm thick	Galvanized/Zinc plated
13.	Curtain Clamp	42 mm Width	Galvanized/Zinc plated
14.	Universal Joint	20 mm sq. bar	
15.	Stud Cover	21 mm OD & 2.0 mm thick	Galvanized/Zinc plated
16.	Curtain Pipe Insert	21 mm OD at 2.0 mm thick	Galvanized/Zinc plated
17.	Self-Trapping Screw	20 mm length	Galvanized
18.	Bitumen Washer	1 mm thick	
19.	Spring Insert	2.3 mm dia.	
20.	Spring Insert	2.3 mm dia.	

	(Platting)		
21.	M 10 X 125	10 mm dia.	Galvanized
22.	M 10 x 125	10 mm dia.	Galvanized/Zinc plated
23.	M 10 X 100	10 mm dia.	Galvanized/Zinc plated
24.	M 10 X 90	10 mm dia.	Galvanized/Zinc plated
25.	M 10 X 40	10 mm dia.	Galvanized/Zinc plated
26.	M 10 Nuts	10 mm dia.	Galvanized/Zinc plated
27.	M 10 washers	10 mm dia.	Galvanized/Zinc plated
28.	M 8 X 200	8 mm dia.	Galvanized/Zinc plated
29.	M 8 X 90	8 mm dia.	Galvanized/Zinc plated
30.	M 8 X 65	8 mm dia.	Galvanized/Zinc plated
31.	M 8 Nuts	8 mm dia.	Galvanized/Zinc plated
32.	M 8 washers	8 mm dia.	Galvanized/Zinc plated
33.	M 6 X 75	6 mm dia.	Galvanized/Zinc plated
34.	M 6 X 20	6 mm dia.	Galvanized/Zinc plated
35.	M 6 Nuts	6 mm dia.	Galvanized/Zinc plated
36.	M 6 washers	6 mm dia.	Galvanized/Zinc

			plated
37.	GI wire 3 mm trellis wire	3 mm dia.	
38.	GI wire 4 m m trellis supporting wire	4 mm dia.	
39.	Pulley with clamp HDPE/ MS	40 mm dia.	Galvanized
40.	Rings stainless steel	20 mm dia.	

Entry Room (2door Of 1.2m X 2m Aluminum And Poly Carbonate Mix)		
Sr.No.	**Description**	**Specification**
1.	Entry Room Size	4m X 4m, 4m X 3m, 3m X 3m
2.	No. of doors	02(inner door may be of frame stitched with 40 mesh insect net minimum 50cm (IS 16513:2016) overlapping
3.	Door size	1.2m X2m: Door of wire gauge angle framed
4.	Frame of Door (ISA four sides to cover the gap below the door)	Galvanized
5.	Half part of Door (Downwards)	Aluminum sheet
6.	Upper half part of the door	Poly carbonate sheet of 5 mm thick
7.	Flooring	50mm PCC flooreing 75 mm thick sub base
8.	Foot wash basin	2feet X 3feet X 0.5 feet depth near outer door inside entry room.

Profile and Gutter			
Sr. No.	**Part name**	**Specifications**	**Descriptions**

1.	Profile	Aluminum profile OR GI Profile	200 to 220 gr per running m 300 gr per running m
2.	Gutter, 1-1.5% slope, max. gutter length 40m.	Plastic drainage sheet (Single piece)	UV stabilized 1.4 mm thick and 600mm wide
		GP drainage sheet 1.2 mm supported by gutter purlins (Single piece, if supported on arch)	500 mm wide
		GP drainage sheet 2 mm (if supported on column)	500 mm wide
3.	Zigzag spring insert	High carbon steel wire for repeated action, 2.3 mm dia	GI spring over 2 inch strip of new poly film over the main plastic in profile. (25% over lapping)

Cladding		
Sr.No.	**Description**	**Specification**
1.	Plastic films for greenhouses- Specifications (IS15827:2019)	**Fixed properties** - 200 micron **Optional property** - IR Reflective Cooling, Anti sulphur for the crops where sulphur consumption is high. For ex - rose cultivation (As per farmer choice)

Nets		
Sr. No.	**Part Name**	**Description**
1.	40/50 mesh insect net to all four sides of curtains which shall depend on types of pre- valence of insect pests	As per (IS 16513: 2016) 2.5-3 m width (height) (for vegetables & flowers) minimum 25 % of floor area
o r	40/50/75 per cent shade nets to all four sides of curtains which shall depend on types of pre- valence of insect pests	As per (IS 16008; Part I & Part 2), 2.5-3m width (height) (for flowers only) minimum 25% of floor area
2.	50 % Thermal screen (On top underneath polythene)	Motorized for > 2000 sq.m size, with power back-up and manually operation system.

3.	35% shade net/30 mesh insect net	As per (IS 16008: 2016 part - I & Part -2 (lS16513: 2016) to be fixed at top vent

Specific Requirements

Sr No	Particulars	Description
1	Gutter slope	The slope to the gutter side must be between 1.0 to 1.5%. If the gutter length is more than 40 m, then the slope should be preferable given to both sides to avoid damages/leakages.
2	Gable side slope	0 to 1.0%.
3	Top Vent	To be supported by curtain pipe and handle so that it can be opened or closed as per requirement. The guard pipe to be provided at the ends to support curtain pipes along with nylon ropes of 8.0 mm dia. as flap control system.
4	Foundations	Civil work for grouting up to 1 m depth of columns and hockey with cement concrete 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)/ Grout & brick flooring with cement mortar 1:3 (1 cement : 3 fine sand) in Centre for foot path of 1 m width having depth 15 cm for pathways.
5	Bottom apron	UV stabilized woven polythene 160 GSM and a height of 1 m above ground and 50 cm buried below ground (Total width 1.5 m)
6	Side wall curtain	Insect net 40/50 mesh (IS 16513: 2016) fixed and polythene movable fitted to curtain pipe with plastic/GI clamps and supported by crossed UV stabilized Nylon rope/ Colourless plastic rope/ UV stabilized Nylon tape of 8.0 mm dia. as flap control system
7	Orientation	The polyhouse gutters should be preferably installed in North - South direction. All the vents should preferably face to East direction and the last vent of eastern direction to face to West direction.
8	Irrigation facility	Drip Irrigation system with fogging/misting arrangements including head unit
9	Fabrication and construction charges	

2. Model-2 Specifications for Naturally ventilated polyhouse (1008 m^2)

Specification for NVPH:

1. Total Height of *(* NVPH - 6 m to 7 m (Normally 6.S m)
2. Height of Gutter - 4 m to 4.5 m (Normally 4.5 m)
3. Height of Top Vent- 1 m (or 10% area of covered area whichever is higher)
4. Bay Size- 8 m x 4 m
5. Corridors - Maximum 2 m all sides for area calculation.

Tubular Frame Components			
Sr. No.	**Part nam e**	**Specification**	**Description**
1.	Main Column	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	6 m to 7 m length
2.	Small column along gable	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	4m to 5m length
3.	Small Column along gutter	76 mm ODB 2.9 mm thick (@ 5.24 kg per meter)	4 m to 5 m length
4.	Foundation Stub	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	1.2 m to 1.4 m
5.	Corridor along gable	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	As per design requirement
6.	Corridor along gutter	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	As per design requirement
7.	Small bottom chord along gable	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	4 m
8.	Big Bottom chord	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	8 *m*
9.	End Purlin	48 mm OD & 2.9 mm thick (@ 3.23 kg per meter)	
10.	First top purlin	48 mm OD & 2.9 mm thick (@ 3.23 kg per meter)	Top vent
11.	Second top purlin	48 mm OD & 29 mm thick (@ 3.23 *kg* per meter)	Top vent
12.	4 m gutter purlin	43 mm OD & 2.6 mm thick (@2.54 kg per meter)	Support to gutter
13.	6 m gutter purlin	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	Last pipe towards slope

14.	Curtain runner	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
15.	Horizontal member	43 *mm OD* & 2.6 mm thick (@ 2.54 kg per meter)	
16.	Long arc at end	43 mm OD 8t 2.6 mm thick (@ 2.54 kg per meter)	
17.	Long arc	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
18.	Small arc	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
19.	Knee Bracing and Small Inclined strut	33 mm ODB 2.6 mm thick (@ 1.98 kg per meter)	
20.	Big Inclined strut	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	
21.	Top chord runner in last bay	33 mm OD k 2.6 mm thick (1.98 kg per meter)	At both ends
22.	Cross Bracing	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	At all top corners
23.	Curtain pipe	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	Max length 40 m
24.	Curtain pipe handle	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
25.	Flap Control Pipe	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
26.	Vent Stay	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
27.	Flap control system	UV stabilized Nylon rope/ Colourless plastic rope/ UV stabilized Nylon tape	8 mm dia

Fixtures and Accessories			
Sr.No.	**Part name**	**Specification**	**Description**
1.	Angle Bracket	ISA 40 X 40 X 3	
2.	Full angle Cleat	ISA 40 X 40 X 3	
3.	Half angle Cleat	ISA 40 X 40 X 3	
4.	Flat Patti 25/5mm	25 MM X 5 MM	
5.	Full Clamp	76 ID 40 mm Width & 2.9 mm thick	Galvanized/ Zinc plated
6.	Half Clamp	76 ID 40 mm Width & 2.9 mm	Galvanized/Zinc

		thick	plated
7.	Full Clamp	60 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
8.	Half Clamp	60 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
9.	Full Clamp	43 ID 40 mm Width & 2.6 mm thick	Galvanized/Zinc plated
10.	Half Clamp	43 ID 40 mm Width & 2.6 mm thick	Galvanized/Zinc plated
11.	I - fixtures	33 mm OD & 2.6 mm thick	Galvanized/Zinc plated
12.	L- Fixtures	33 mm OD & 2.6 mm thick	Galvanized/Zinc plated
13.	Curtain Clamp	42 mm Width	Galvanized/Zinc plated
14.	Universal Joint	20 mm sq. bar	
15.	Stud Cover	21 mm OD & 2.0 mm thick	Galvanized/Zinc plated
16.	Curtain Pipe Insert	21 mm OD & 2.0 mm thick	Galvanized/Zinc plated
17.	Self-Trapping Screw	20 mm length	Galvanized
18.	Bitumen Washer	3 mm thick	
19.	Spring Insert	2.3 mm dia.	
20.	Spring Insert (Platting)	2.3 mm dia.	
21.	M 10 X 125	10 mm dia.	Galvanized
22.	M 10 x 125	10 mm dia.	Galvanized/Zinc plated
23.	M 10 X 100	10 mm dia.	Galvanized/Zinc plated
24.	M 10 X 90	10 mm dia.	Galvanized/Zinc plated
25.	M 10 X 40	10 mm dia.	Galvanized/Zinc plated
26.	M 10 Nuts	10 mm dia.	Galvanized/Zinc plated
27.	M 10 washers	10 mm dia.	Galvanized/Zinc plated
28.	M 8 X 200	8 mm dia.	Galvanized/Zinc plated
29.	M 8 X 90	8 mm dia.	Galvanized/Zinc plated
30.	M 8 X 65	8 mm dia.	Galvanized/Zinc plated
31.	M 8 Nuts	8 mm dia.	Galvanized/Zinc plated
32.	M 8 washers	8 mm dia.	Galvanized/Zinc plateo
33.	M 6 X 75	6 mm dia.	Galvanized,/Zinc plated
34.	M 6 X 20	6 mm dia.	Galvanized/Zinc plated

35.	M 6 Nuts	6 mm dia.	Galvanized/Zinc plated
36.	M 6 washers	6 mm dia.	Galvanized/Zinc plated
37.	GI Wire 3 mm trellis wire	3 mm dia.	
38.	GI Wire 4 mm trellis supporting wire	4 mm dia.	
39.	Pulley with clamp HDPE/ MS	40 mm dia.	Galvanized
40.	Rings stainless steel	20 mm dia.	

Entry Room (2 door of 1.2 m X 2m Aluminum and Poly carbonate mix)		
Sr. No.	**Description**	**Specifications**
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 (IS 16513:2016) of minimum 50 cm overlapping)
3.	Door size	1.2 m x 2 m; Door of wire gauge angle framed
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 75mm thick
7.	Flooring	50 mm PCC flooring over 75 mm thick sub base
8.	Foot wash basin	2 feet x 3 feet x 0.5 feet depth near outer door inside entry room

Profile and Gutter			
Sr. No.	**Part Name**	**Specification**	**Description**
1.	Profile	Aluminum profile OR GI Profile	200 to 220 gr per running m 300 gr per running m

2.	Gutter, 1-1.59« slope, max. gutted length 40 m.	UV stabilized HDPE Virgin Plastic drainage sheet (Single piece)	UV stabilized 1.4 mm thick and 600 mm wide
		GP drainagesheet1.2 mm supported by gutter purlins (Single piece, if supported on arch)	500 mm wide
		GP drainage sheet 2 mm (if supported on column)	500 mm wide
3.	Zigzag spring insert	High carbon steel wire for repeated action. 2.3 mm dia	GI spring over 2 inch strip of new polyfilm over the main plastic in profile. (25% over lappinq)

Cladding Material		
Sr No.	**Description**	**Specification**
1.	Plastic films for greenhouses-Specifications (IS 15827:2019)	Fixed properties - 200 micron Optional property - IR Reflective Cooling, Anti sulphur for the crops where sulphur consumption is high. For ex - rose cultivation (As per farmer choice)

Nets		
Sr No	**Part Name**	**Description**
1.	40/50 mesh insect net to all four sides of curtains which shall depend on types of pre-valence of insect pests	As per (IS 16513: 2016) 2.5-3 m width (height)(for vegetables & flowers) minimum 25 9» of floor area
or	40/50/75 per cent shade nets to all four sides of curtains which shall depend on types of pre-valence of insect pests	As per (lS 16008; Part 1 & Part 2), 2.5 m width (height) (for flowers only) minimum 25 % of floor area.
2.	50% Thermal screen (On top underneath plastic film)	Motorized for > 2000 sq.m size, with power back-up and manually operation system
3.	35% shade net/30 mesh insect net	As per (IS 16513: 2016) to be fixed at top vent

Specific Requirements

Sr No.	Particulars	Description
1.	Gutter slope	The slope to the gutter side must be between 1.0 to 1.5%. If the gutter length is more than 40 m, then the slope should be preferable given to both sides to avoid damages/leakages.
2.	Gable side slope	0 to 1.0 %
3.	Top Vent	To be supported by curtain pipe and handle so that it can be opened or closed as per requirement. The guard pipe to be provided at the ends to support curtain pipes along with nylon ropes of 8.0 mm dia. as flap control system.
4.	Foundations	Civil work for grouting upto 1 m depth of columns and hockey with cement concrete 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)/ Grout & brick flooring with cement mortar 1:3 (!cement : 3 fine sand) in centre for foot path of 1 m width having depth 15 cm for pathways.
5.	Bottom apron	UV stabilized woven polythene 160 GSM and a height of 1 m above ground and S0 cm buried below ground (Total width 1.5 m)
6.	Side wall curtain	Insect net 40/50 mesh (IS 16513: 2016) fixed and polythene movable fitted to curtain pipe with plastic/GI clamps and supported by crossed UV stabilized Nylon rope/ Colourless plastic rope/ UV stabilized Nylon tape of 8.0 mm dia. as flap control system
7.	Orientation	The polyhouse gutters should be preferably installed in North - South direction. All the vents should preferably face to East direction and the last vent of eastern direction to face to West direction.
8.	Irrigation Facility	Drip Irrigation system with logging/misting arrangements including head unit
9.	Fabrication & Construction charges	

3. Model-3 Specifications for Naturally ventilated polyhouse (2180 m’)

1. Total Height of NVPH - 6 m to 7 m (Normally 6.5 m)
2. Height of Gutter - 4 m to 4.5 m (Normally 4.5 m)
3. Height of Top Vent- 1 m (or 10% area of covered area whichever is higher)
4. Bay Size- 8 m x 4 m
5. Corridors - Maximum 2 m all sides for area calculation.

Tubular Frame Components			
Sr. No.	**Part name**	**Specification**	**Description**
1.	Main Column	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	6 m to 7 m length
2.	Small column along gable	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	4m to 5m length
3.	Small Column along gutter	76 mm OD & 2.9 mm thick (@ 5.24 kg per meter)	4m to 5mlength
4.	Foundation Stub	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	1.2 m to 1.4 m
5.	Corridor along gable	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	As per design requirement
6.	Corridor along gutter	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	As per design requirement
7.	Small bottom chord along gable	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	4 m
8.	Big Bottom chord	60 mm OD & 2.9 mm thick (@ 4.08 kg per meter)	8 m
9.	End Purlin	48 mm OD & 2,9 mm thick (@ 3.23 kg per meter)	
10.	First top purlin	48 mm OD & 2,9 mm thick (@ 3.23 kg per meter)	Top vent
11.	Second top purlin	48 mm OD & 29 mm thick (@ 3.23 kg per meter)	Top vent
12.	4 m gutter purlin	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	Support to gutter
13.	6 m gutter purlin	43 mm OD & 2.6 mm thick (@ 2.S4 kg per meter)	Last pipe towards slope
14.	Curtain runner	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
15.	Horizontal member	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
16.	Long arc at end	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
17.	Long arc	43 mm OD & 2.6 mm thick (@ 2.54 kg per meter)	
18.	Small arc	43 mm OD & 2.6 mm thick	

		(@ 2.54 kg per meter)	
19.	Knee Bracing and Small Inclined strut	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	
20.	BI9 inclined strut	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	
21.	Top chord runner in last bay	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	At both ends
22.	Cross Bracing	33 mm OD & 2.6 mm thick (@ 1.98 kg per meter)	At all top corners
23.	Curtain pipe	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	Max length 40 m
24.	Curtain pipe handle	27 mm OO 8t 2.3 mm thick (@ 1.38 kg per meter)	
25.	Flap Control Pipe	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
26.	Vent Stay	27 mm OD & 2.3 mm thick (@ 1.38 kg per meter)	
27.	Flap control system	UV stabilized Nylon rope/ Colourless plastic rope/ UV stabilized Nylon tape	8 mm dia

Fixtures and Accessories			
Sr. No.	**Part Name**	**Specification**	**Description**
1.	Angle Bracket	ISA 40 X 40 X 3	
2.	Full angle Cleat	ISA 40 X 40 X 3	
3.	Half angle Cleat	ISA 40 X 40 X 3	
4.	Flat Patti 25/5mm	2S MM X 5 MM	
5.	Full Clamp	76 ID 40 mm Width & 2.9 mm thick	Galvanized/ Zinc plated
6.	Half Clamp	76 ID 40 mm Width a 2.9 mm thick	Galvanized/Zinc plated
7.	Full Clamp	60 1D 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
8.	Half Clamp	60 ID 40 mm Width & 2.9 mm thick	Galvanized/Zinc plated
9.	Full Clamp	43 ID 40 mm Width & 2.6 mm thick	Galvanized/Zinc plated
10.	Half Clamp	43 ID 40 mm Width & 2.6 mm thick	Galvanized/Zinc plated

11.	T-Fixtures	33 mm OD & 2.6 mm thick	Galvanized/Zinc plated
12.	L-Fixtures	33 mm OD & 2.6 mm thick	Galvanized/Zinc plated
13.	Curtain Clamp	42 mm width	Galvanized/Zinc plated
14.	Universal Joint	20 mm sq. bar	
15.	Stud Cover	21 mm OD & 2.0 mm thick	Galvanized/Zinc plated
16.	Curtain Pipe Insert	21 mm OD & 2.0 mm thick	Galvanized/Zinc plated
17.	Self-Trapping Screw	20 mm length	Galvanized
18.	Bitumen Washer	3 mm thick	
19.	Spring Insert	2.3 mm dia.	
20.	Spring Insert (platting)	2.3 mm dia.	
21.	M 10 X 125	JO mm dia.	Galvanized
22.	M 10 x L25	JO mm dia.	Galvanized/Zinc plated
23.	M 10 X 100	IO mm dia.	Galvanized/Zinc plated
24.	M 10 X 90	LO *mm* dia.	Galvanized/Zinc plated
25.	M 10 X 40	LO mm dia.	Galvanized/Zinc plated
26.	M 10 Nuts	10 mm dia.	Galvanized/Zinc plated
27.	M 10 washers	10 mm dia.	Galvanized/Zinc plated
28.	M 8 X 200	8 mm dia.	Galvanized/Zinc plated
29.	M 8 X 90	8 mm dia.	Galvanized/Zinc plated
30.	M 8 X 65	8 *mm* dia.	Galvanized/Zinc plated
31.	M 8 Nuts	8 mm dia.	Galvanized/Zinc plated
32.	M B washers	8 mm dia.	Galvanized/Z nc plated
33.	M 6 X 75	6 mm dia.	Galvanized/Zinc plated
34.	M 6 X 20	6 mm dia.	Galvanized/Zinc plated
35.	M 6 Nuts	6 mm dia.	Galvanized/Zinc plated
36.	M 6 washers	6 mm dia.	Galvanized/Zinc plated
37.	GI Wire 3 mm trellis wire	3 mm dia.	
38.	GI Wire 4 mm trellis supporting wire	4 mm dia.	
39.	Pulley with clamp HDPE/ MS	40 mm dia.	Galvanized
40.	Rings stainless steel	20 mm dia.	

Entry Room (2 door of 1.2m x 2m Aluminum and poly carbonate

mlx)		
Sr. 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 (IS 16S13: 2016) of minimum 50 cm overlapping)
3.	Door size	1.2 m x 2 m; Door of wire gauge angle framed
4.	Frame of door (ISA four sides to cover the 9• p 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.	Flooring9	50 mm PCC flooring over 75 mm thick sub base
8.	Foot wash basin	2 feet x 3 feet x 0.5 feet depth near outer door inside entry room

Profile and Gutter			
Sr. No.	**Part Name**	**Specification**	**Description**
1.	Profile	aluminum profile OR GI Profile	200 to 220 gr per running m 300 gr per running m
2.	Gutter	HDPE Plastic drainage sheet {Single piece)	UV stabilized 1.2 -1. 4mm thick and 600 mm wide
		GP drainage sheet 1.2 mm supported by gutter purlins (Single piece, if supported on arch)	500 mm wide
		GP drainage sheet 2mm (if supported on column)	500 mm wide
3.	Zigzag spring insert	High carbon steel wire for repeated action, 2.3 mm dia	GI spring over 2 inch strip of new poly film over the main plastic in profile. (259 over lapping)

Cladding Material		
Sr. No.	**Descriptio n**	**Specification**

1.	Plastic films for greenhouses- Specifications (IS 15827:2019)	Fixed properties - 200 micron Poly film should be UV stabilized and should have more than 70% transmittance during first two years and net less than 65% during entire life of the poly films. Optional property - IR Reflective Cooling, Anti sulphur for the crops where sulphur consumption is high. For ex - rose cultivation (As per farmer choice)

Nets		
Sr No	**Part Name**	**Description**
1.	40/50 mesh insect net to all four sides of curtains which shall depend on types of pre- valence of insect pests	As per (IS 16513: 2016) 2.S -3 m width (height) (for vegetables & flowers) minimum 25 % of floor area
2.	40/50/75 per cent shade nets to all four sides of curtains which shall depend on types of pre- valence of insect pests	As per (lS 16008; Part L & Part 2), 2.5 m width (height) (for flowers only) minimum 25 % of floor area
3.	50 %Thermal screen (On top underneath polythene)	Motorized for > 2000 sq.m size, with power back-up and manually operation system
4.	35% shade net/30 mesh insect net	As per CS 16513: 2016) to be fixed at top vent

Specific Requirements

Sr. No.	**Particulars**	**Description**
1.	Gutter slope	The Slope to the gutter side must be between 1.0 to 1.5%. If the gutter Length is more than 40 m, then the slope should be preferable given to both sides to avoid damages/leakages.
2.	Gable side slope	0 to 1.96
3.	Top Vent	To be supported by curtain pipe and handle so that it can be opened or closed as per requirement. The guard pipe to be provided at the ends to support curtain pipes along with nylon ropes of 8.0 mm dia. as flap control system.

4.	Foundations	Civil work for grouting upto 1 m depth of columns and hockey with cement concrete 1:3.6 (1 cement : 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)/ Grout & brick flooring with cement mortar1:3 {1cement : 3 fine sand) in Centre for foot path of 1 m width having depth US cm for pathways.
5.	Bottom apron	UV stabilized woven polythene 160 GSM and a height of 1 m above ground and 50 cm buried below ground (Total width 1.5 m)
6.	Side wall curtain	Insect net 40/50 mesh (IS 16513: 2016) fixed and polythene movable fitted to curtain pipe with plastic/GI clamps and supported by crossed UV stabilized Nylon rope/ colorless plastic rope/ UV stabilized Nylon tape of 8 0 mm dia. as flap control system.
7.	Orientation	The polyhouse gutters should be preferably installed in North - South direction. All the vents should preferably face to East direction and the last vent of eastern direction to face to West direction.
8.	Irrigation and facility	Drip irrigation system with fogging/misting arrangements including head unit
9.	Fabrication & Construction charges	

Crop –wise recommendations of minimum properties of polythene sheet

1. **Roses**: 200micron thick. UV stablised, Anti-sulphur, UV blocking, anti-dust, with cooling effect, light diffusion should (upto 75%) but it should not be less than 50%.
2. **Gerbera, Anthurium and Orchids**: 200 micron thick, UV Stabilized, anti-dust with cooling effect, light diffusion should maximum (upto 75%) but should not less than 50%
3. **Carnation**: 200 micron thick, clear UV stabilized, anti-dust, anti-drip, polythene should be IR protected.

Scope of work

The greenhouse fabrication firms/ agencies/ service providers are required to do the work of greenhouse construction and fabrication as per the recommended specifications including micro irrigation systems i.e. drip and fogger assembly. As per the guidelines of HPKY, the beneficiary farmer is at liberty to choose any firm of his choice for getting the greenhouse constructed. The Departmental officers of the respective areas will visit the proposed site before the construction and will recommend the design and orientation of the greenhouse.

General Conditions of Erection of the Greenhouse

- The Service Provider will start the construction work of greenhouse and will supply the material as per the specifications laid down for that particular type of greenhouse.
- Service Provider can obtain the list of sanctioned/approved cases of greenhouses from the concerned Dy. Director of Horticulture/ Subject Matter Specialist(Hort.). However, the beneficiary farmer will have the liberty to get the work completed from any of the empaneled agency of his choice.
- The Service Provider will complete the construction work within the time period specified by the concerned Dy. Director of Horticulture/Subject Matter Specialist(Hort.).
- The Service Provider will take a trial run of all the structure including micro irrigation systems and then only handover the structure to the farmer.
- The Service Provider must mandatorily handover an "operational manual of functioning of the greenhouse systems" to the farmer and obtain a satisfactory certificate from the farmer.
- Green house structural design should be sound enough to withstand wind speed of 130 km/hr.
- The companies may be asked to get their design verified from the structural engineer because the proposed design is based on the functional requirement and field experience.
- The firm should guarantee for free maintenance/damage to the structural material for two year.
- The firm should be able to construct the entire greenhouse within not more than 8 weeks of the issue of work order.

Final Decision Making Authority

Director of Horticulture, Himachal Pradesh reserves the right to accept or reject any or all bids (Document for Technical Eligibility) application at any point of time without assigning any reason or incurring any liability to the application.

Technical Document (tender) fees

A complete set of the Empanelment Document downloadable free of cost from the website http://www.hpagrisnet.gov.in/hpagris/Horticulture/ and Rs. 2000/- non-refundable fees shall be paid in the form of Demand Draft in favour of Director of Horticulture, Himachal Pradesh, payable at Shimla on the submission of the Document.

Bids Terms and Conditions:

1. The service provider will furnish a warranty on the material/ components/equipment's of greenhouse constructed for a period of five years from the date of completion of the project.
2. The service provider will provide the on-site post installation repair and maintenance services to the farmer for a period of at least two years.
3. The service provider will replace any component damaged during the warranty period due to any manufacturing defects.
4. If any instrument or component gets broken or damaged during the fabrication of the greenhouse, same will be replaced by the service provider before handing over the structure to the farmer.

5. The rate quoted should be inclusive of all taxes like GST or any other charges as may be applicable.
6. Technical Bids shall be opened/evaluated by the Technical Committee constituted by the head of the department.
7. Financial Bid only of the technically qualified offers shall be opened for further evaluation.
8. The bids received after the due date and time specified for their receipt shall not be considered and will be rejected summarily.
9. The bidders whose bid is accepted will be notified for empanelment.
10. The manufacturer will make the supplies to farmer through their dealers. The manufacturer shall have to provide the list of authorized dealers/supplier within a month after empanelment.
11. The bidder shall quote into two cover system i.e. Technical and financial as under: -

Qualifying Criteria for Technical bids:-

1. The Bidder will have to qualify technically based on the eligibility criteria. The documents to be submitted showing fulfillment of eligibility criteria are given in Annexure-1 & Annexure-2.
2. The manufacturer should be a Public sector undertaking/ Public/ Private Entrepreneurs/ Agencies/ MSME (proof to be enclosed as per Annexure-3).
3. **The bidder should have its own manufacturing/fabrication/assembling facilities in the State of Himachal Pradesh or he should give an undertaking that they will establish such facility in the State within one month after being empanelment and the bidders should inform in writing the Director of Horticulture, Himachal Pradesh about compliance of the same within one month.**
4. The bidders should be in the business of greenhouse manufacturing / fabrication / supply, installation and maintenance for a minimum of two years period.
5. The bidders should have minimum fabrication experience of 10,000 sqm polyhouses in Himachal Pradesh or 1.00 Crore annual turnover for the last 2 years. The fabricator should have the technical background to support the farmers in production and will give a presentation for about 5-10min regarding his technical expertise and proper maintenance of polyhouses before empanelment committee. The bidder should also provide the list of polyhouses established in the farrmers field (10,000sqm) (As proof)
6. The bidder has to be profitable and should not have incurred losses in the last 2 consecutive financial years (2018-19 & 2019-20) Certified copies of Trading Account, P&L and Balance Sheet by CA may be attached.
7. The firm should not be blacklisted by any Central Govt./ State Govt./ PSU/ Govt. Bodies (Certificate signed by the Authorized signatory).
8. The bidders should have supplied to Government sector/Public Sector Undertaking/Semi-Government Organization/ private sector and meeting major specifications parameters and functioning satisfactory in India for the last 2 years (Attach proof).
9. The firm should be prompt in offering After Sales Service, resolving complaints and replacement, if required. (Certificate in this regard to be enclosed).
10. Copy of the PAN No./GST No./ Service tax registration must be submitted/
11. The bidder has to submit ITRs for three preceding years.

Financial Bid: -

1. The contract shall for the full quantity as described.
2. All duties, taxes and other levies payable shall be included in the total price.
3. GST in connection with the sale shall be shown separately.
4. The prices quoted should be in Indian Rupees.
5. The rate quoted shall remain valid upto **31st March,2023** which can be extended on mutual consent.
6. The rates offered by a service provider should be uniform throughout the State.
7. Prices must be offered on the prescribed enclosed Performa/Format.
8. The manufacturer should quote model-wise rates.
9. Bidders shall not contact other bidders in matter relating to this quotation.

The validity of quotation: -

The quotation shall remain valid for a period not less than 90 days after the dead line specified for submission.

Evaluation of bids:-

The committee constituted by the Head of Department will evaluate and compare the bids determined to be substantially responsive: -

Technical Bid:- Technical bid will be opened in respect of those bidders who have uploaded the bids as per the eligibility as mentioned. Tenders shall be scrutinized and evaluated by the technical committee of experts with reference to parameters and specifications prescribed in the Tender Evaluated Document. During the bid opening, the tender opening committee will check the salient technical features of the tenderers like detailed description of the material offered by the tenderers, specifications as mentioned and other documents as specified. The technical committee can ask for any clarification/ document/ demonstration during the technical evaluation.

Financial bid/Price tender/BOQ:- It shall contain financial bid/BOQ uploaded in.xlsor.xlsx format which will be available for bidders on website **https://hptenders.gov.in**. The financial bid/BOQ will not be accepted in physical form. At the time opening of tenders, financial Bid/ BOQ will be opened only of those bidders who qualifies Technical bids.

Empanelment: -

1. The Employer will empanel the bidder whose bid has been determined to be substantially responsive and who has offered the lowest evaluated quotation price and who meets the specified qualification criteria.
2. The Department reserves the rights to empanel other firms at the rate at par with L-1 which has been declared substantially responsive otherwise.
4. Notwithstanding the above, the committee reserves the right to accept or reject any

quotations and to cancel the bidding process and reject all the bids at any time prior to award of contract.

5. The bidder whose bid is accepted will be notified for the empanelment by the Department prior to the expiration of the bid validity period.
6. **Performance Security**: - Within 15 days of receiving letter of acceptance, the successful bidder shall deliver to the Director of Horticulture, the performance security (either a bank guarantee or a FDR pledged in favour of the Director of Horticulture, Himachal Pradesh, Shimla-2) for an amount of Rs. 5 Lakhs. The performance security shall be valid up to warranty and guaranty period to the best of satisfaction of the Department.
7. Failure of successful bidder to furnish performance security shall constitute sufficient grounds for annulment of empanelment
8. Decision of the committee will be final & the same cannot be challenged at any forum thereafter.
9. In event of any dispute, the matter shall be referred to the next higher authority. In this case, the next higher authority shall be Secretary, Horticulture, Govt. of HP, whose decision in the matter shall be final and binding on both the parties.
10. Only the Courts of Law in Shimla, H.P. shall have jurisdiction over any disputes.
11. The manufacturer shall have to provide warranty/ guarantee of five Year on their product. If any wear and tear occurs during the warranty period otherwise than miss handling by the farmer, the firm shall have to replace it's without any charges.

Director of Horticulture
Himachal Pradesh
Ph: 0177 2842390
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Email-horticul-hp@nic.in

Annexure-1

Company Profile

Sr. No.	Particular	Detail
1	Name of Organization	
2	Nature of the Organization	
a.	In case of Public/Pvt. Ltd.(Certified copy of Certificate of incorporation for companies & Memorandum and Articles of Associations)	
b.	In case of Proprietorship (Registration certificate, Factory registration, DIC industrial registration)	
c.	In case of society (Certified copy of registration deed with objects of constitution of society)	
d.	In case of Corporation (Authenticated copy of the parent statute)	
3	Head Office Address - with Phone/Fax No., email IDs	
4	Address of regional/zonal offices in H.P.	
5	Name and contact detail of the Authorized Person	
6	Any other details in support of your office	
7	PAN/TIN/CST-GST (attached attested copy)	
8	List of authorized persons of the company and their qualifications	
9	Year of establishment of the company	
10	Any other, relevant information	

Annexure- 2

Checklist for fulfilment of eligibility criteria

Sr. No.	Criteria	Documents/Detail required	Documentar proo attached(Y/N
1.	Minimum 02 (two) years of experience in the field of green house in supply, installation and maintenance.	Certificate of incorporation, Business commencement certificate, works to be demonstrated by Contract/ Agreement/ work Order from clients showing clearly 2 years of experience	
2.	The bidders should have minimum fabrication experience of 10,000 sqm polyhouses in Himachal Pradesh or 1.00 Crore annual turnover for the last 2 years.	The bidder should also provide the list of polyhouses established in farmers field. (As proof)	
3.	Minimum Annual Turnover for each year in the last two financial years	i) Chartered Accountant certificate showing Minimum Annual Turnover of the agency in last 2 years clearly indicating the Turnover from construction activity of Greenhouse/net house/poly house.	
4.	The service provider should have its own manufacturing/ fabrication/ assembling facility within the State of Himachal Pradesh OR the service provider should give an undertaking that they will establish such facility in the State within one month after being empaneled.	Factory registration, DIC registration, list of machines and equipment available with company. OR UNDERTAKING	

Bill of Quantity (BOQ)

Sr. No.	Description of Work	Unit	Model-1 (504sqm)	Model-II (1008sqm)	Model-III (2180sqm)
1.	Rate as per specification	In Figure(Rs)			
		In Words(Rs)			
2 .	GST to be shown separately	In Figure(Rs)			
		In Words(Rs)			
3.	Any other taxes/ duties	In Figure(Rs)			
		In Words(Rs)			
Total Cost					

Annexure-3

1. All MSEs notified as per GFR 2017 Clause no.1.10.4 and as notified below shall be exempted from payment of Tender Document Fee and Bid Security / Earnest Money Deposit. For claiming this exemption, MSE must, along with their offer, provide proof their being registered as MSE (indicating the terminal validity date of their registration) for the item tendered, with any agency mentioned in the notification of Ministry of MSME, indicated below: -
   (a) District Industries Centres;
   (b) Khadi & Village Industries Commission;
   (c) Khadi & Village Industries Board;
   (d) Coir Board;
   (e) National Small Industries Corporation;
   (f) Directorate of Handicraft & Handloom;
   (g) Udyog Aadhar Memorandum issued by Ministry of MSE; or
   (h) Any other body specified by the Ministry of MSME.
2. For planning the above exemption for start-ups, a valid certificate of start-up recognized by 'Department of Industrial Policy and Promotion (DIPP)' along with Business Eligibility Certificate or any other Document issued by Govt./ recognized institute is required in support of product/ service item being tendered.