



BAIF INSTITUTE FOR SUSTAINABLE LIVELIHOODS AND DEVELOPMENT

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Odisha – 768006

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INVITATION FOR QUOTATION

To

Date: 27/09/2021

Dear Sir / Madam,

Sub.: **INVITATION FOR QUOTATION FOR** “Solar water pumping system”.

You are invited to submit your most competitive quotation for the following product:

Brief description of the product	Specifications & quantity	Quantity	Delivery and Installation period	Location
Solar water pumping system 0.5 hp	As per attached Annexures 1-12	10 Nos.	20 days from date of issue of PO	District Balangir, Block Deogaon

Detailed Description of the Product: As above

1. Quoted Price:

- The offer shall be for full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.
- The party shall quote for goods / services in the format of quotation attached.
- All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
- The rates quoted by the party shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- Delivery and transportation at party's cost.
- The prices shall be quoted in Indian Rupees only.

- Each party must submit only one **SEALED** quotation. Party shall not contact other parties in matters relating to this quotation.

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3. Validity of Quotation

The quotation shall remain valid for a period not less than 30 days after the deadline fixed for submission of quotations.

4. Eligibility criteria

- a. The party submitting the offer should have annual turnover of not less than Rs. 15 lacs & cumulative solar pumping installation of 20 hp in last 2 years.

5. Evaluation of Quotations

- a. BAIF will evaluate and compare the quotations determined to be substantially responsive i.e., which are properly signed, and conform to the terms & conditions and specifications.
- b. The evaluation would be done for all the goods / services put together or separately as feasible. The items for which no rates have been quoted would be treated as zero and the total amount would be computed accordingly.
- c. List of similar works undertaken with details of clients etc. if any should be provided.
- d. Contract will be awarded to the responsive party/ies based on technical cum commercial grounds.

6. Award of contract

- a. The contract will be awarded to the party/ies whose quotation has been determined to be substantially responsive and technical specifications and commercial terms suit best to requirement. BAIF, prior to the expiration of the quotation validity period, will notify the party/ies whose quotation is accepted for the award of contract. The terms of the accepted offer shall be incorporated in the Purchase Order or Work Order. Quotations shall include GST & PAN numbers.
 - b. Notwithstanding the above, BAIF reserves the right to accept or reject any quotation and to cancel the procurement process and reject all quotations at any time prior to the award of the contract.
 - c. Rate contract can be entered into for subsequent procurement. Order may be given partially & in multiple slabs.
7. Normal commercial guarantee / warranty shall be applicable to the supplied goods.
8. Payment terms: 20% advance along with PO / WO. Rest after successful installation, commissioning & testing.
9. Queries pertaining to specifications and scope, if any, may be clarified by contacting the undersigned during office hours.
10. You are requested to provide your offer **on or before 10th October, 2021** in the name of **BAIF, Odisha** only at the above address. Superscribe subject on envelope.
11. We look forward to receiving your quotations and thank you for your interest in this project

BAIF Institute for Sustainable Livelihoods and Development

Regional Director

Solar water pumping system

Odisha



Annexure 1

Description of quantities

Deogaon, Balangir (0.5 hp system x 10 nos.)

No	Description	Unit	Qty.
1	Supply, installation, commissioning & testing of solar water pumping system Supply of single phase 0.5 hp open well submersible pump including solar PCU (VFD inverter), PV modules with mounting structure with civil works, earthing system, lightning protection, protection system, AC & DC cable, cable laying in high density PVC pipe including trench excavation, combiner boxes, SPD, MC-4 connectors, MCB, solar fuse, pipe till GL etc. complete in all respect and as per site condition data provided in Annexure 2 & specifications provided in Annexure 4 & Annexure 5	Nos.	10

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Annexure 2

Site condition & input data

Deogaon, Balangir (0.5 hp system x 10 nos)

Project category	:	Renewable energy, solar
Project summary	:	Solar water pumping system
Type of plant	:	Stand alone
Location	:	Dahimal, Jhinkarmal, Rogudipali, Dumerjor, Block-Deogaon, Dist. Balangir
Land	:	Flat
Irradiation details considered	:	Yes
Type of PV module mounting structure	:	Fixed or rotating conforming to material specifications as given.
Type of PV modules considered for the offer	:	Poly-crystalline
System capacity pump / solar system	:	0.5 hp / 0.5 kW
Inverter capacity	:	Refer technical specification
Water consumption (liters / day)	:	11,000 (approx.) (considering 6 hours / day) (0.54 LPS)
Pipe length (m)	:	25 to 100 (approx.) varying site-wise
Pipe size (mm)	:	50
Total head (m)	:	7 to 15 varying site-wise
Calculated pump capacity (hp)	:	0.5

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Annexure 3

List of equipment

Sr. No.	Description
1	Solar PV VFD inverter
2	Solar PV module
3	Combiner box DC
4	Fuse DC
5	SPD DC (Surge Protection Device)
6	DC Disconnect Switch
7	DC cable
8	Combiner box AC
9	Fuse AC
10	SPD AC (Surge Protection Device)
11	MCB AC
12	MC - 4 connector
13	AC cable
14	Solar PV module mounting structure
15	Structure hardware system including separate covered AC & DC junction / combiner boxes placed away from mounting structure as given in drawing
16	Earthing system
17	Lightning arrester system
18	Solar pump – Open well submersible pump

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Annexure 4

Technical specifications: Pump

Deogaon, Balangir (0.5 hp system x 10 nos)

No.	Particular	Details / Range	Unit	Remarks
1	Type of application	Water lifting–Irrigation		
	Type of pump	Open well submersible		
	Required discharge	1900	lph	
	Total head	7 to 15	m	Varying site-wise in the given range
	Allowed liquid temperature	Atmosphere		
	System pressure (Max.)	4 to 6	kg	
	Main power supply	230 V, 50 Hz, single phase	V	
	Efficiency	More than 60%		
2	Pump			
	Pump head	Vendor Needs to Specify		
	Pump base	Vendor Needs to Specify		
	Impeller	Vendor Needs to Specify		
	Chamber	Vendor Needs to Specify		
	Shaft	Vendor Needs to Specify		
	Shaft seal	SiC/Carbon		
	Rubber parts	EPDM		
3	Motor			
	Efficiency class	IE3		
	Insulation class	F		
	Enclosure	IP 66		
	Supply frequency	50	Hz	
	Supply voltage	230 V, 50 Hz, single phase	V	
	Vibration Level	Accordance with ISO 10816		
	Cooling standard	Accordance with IEC 6034-6		
	Maximum noise level	< 75 dB @ 1 m		
4	Application	Low voltage operating pump for solar system		

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Annexure 5

Technical specifications: Equipment

Solar inverter (0.5 hp system)

Sr. No.	Particular	Range / Details	Units	Remarks
1	Input DC side			
	Maximum input power (Wp)	550-650	W	
	Max. DC input voltage (Vdc)	125-400	V	
	MPPT voltage range (Vdc)	70-264	V	
	Max. input current for each MPPT	8	A	
2	Output AC Side			
	Nominal AC output power (kW)	0.55	kW	
	AC output voltage (Vac)	200V –240 V, 50 Hz, Single Phase	V	
	Max. AC output current	7.5-10.2	A	
	Power factor	1		
	Grid frequency (Hz)	50	Hz	
3	Efficiency			
	Max. efficiency	95-99	%	
	Euro efficiency	93-97	%	
4	MPPT			
	No of MPPT	1		
	No of MPPT algorithms	≤ 1		
6	Power ports			
	No of input DC port for each MPPT	1 pair		
	Type of protected port	MCB		
	Type of AC output protected	MCB		
7	Protection			
	Surge arrestor DC side	Yes		
	Surge arrestor AC side	Yes		
	PV insulation monitor	No		
	O/U voltage protection	Both DC & AC		

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	Over current protection	Both DC & AC		
	Earth fault protection	Yes		
8	Others			
	Minimum start up voltage	200	V	
	Relative humidity	95	%	
	Cooling method	Self-ventilated		
	Weight (kg)	As per size		
	Protection	IP 54		
	Inverter to be placed away from solar PV modules as given in drawing			

Solar PV module (0.5 hp system)

Sr. No.	Specification	Range	Units	Remarks
1	Electrical characteristics			
	Maximum power (Pm) Nominal	325	W	
	Voltage @ maximum power (Vmpp)	≥ 36.85	V	
	Current @ maximum power (Impp)	≤ 8.82	A	
	Open circuit voltage (Voc)	≥ 45.35	V	
	Short circuit current (Isc)	≈ 9.55	A	
	Maximum system voltage	1000	V	
	Number of solar cells per panel	72	Nos.	
	Type of cell	Poly-Crystalline Silicon Cells		
2	Temperature co-efficient			
	Open circuit voltage (Voc)	-0.3253	% / °C	
	Short circuit current (Isc)	0.0718	% / °C	
	Rated (nominal) power (Pmax)	-0.4106	% / °C	
	Nominal operating cell temperature (NOCT)	46+-	°C	
3	Mechanical loading			
	Frame material type (AL/Cu/GI/FB)	Anodized aluminum	type	
	Frame thickness	3.2/4	mm	
	Front panel (Front face glass material)	Tempered glass (Low iron)	type	
	Panel dimensions (L X W X T) (approx.)	1960 × 990 × 40	mm	
	Weight (approx.)	22.5	kg	
	Junction box type	Weatherproof PPO/IP 65 / IP 67		
	Connector type (MC-4 / MC-3 / MC-2 / LC-4)	MC - 4 type		
4	Limits			
	Maximum operating temperature range	-40 to 85	°C	

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	Reverse current protection	Bypass diodes		
5	Warranty			
	Product warranty	10	years	
	Performance warranty	10	years for 90% of power	
		25	years for 80% of power	
6	Standard	IEC 61215, IEC 61730-1&2, IEC 60068-2-68, IEC 61701, IEC 62716		

AC combiner box (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	Combiner box - AC			
	IP protection	≥ IP 55		Ventilation required
	Number of inputs	2 Nos.	2 Nos X 4 sq. mm cable	Gland
	Earthing input	1 Nos	4 sq. mm cable	Gland
	Number of outputs	1 Nos	2 C X 1.5 sq. mm Cable	Gland
	Input terminal	8+1	4 sq. mm	Cable
	Output terminal	4	1.5 sq. mm	Cable
	SPD (Surge Protection Device)	1	1000V AC	Type 2
	Circuit breaker (MCB -2P)	1	220 V AC , 6A , 2P10KA	C Curve
	Indication lamp	3	LED AC	
	Dimension	1	≥ (500 x 370 x 170) mm	≥ IP54
	Combiner box to be placed away from solar PV modules as given in drawing. Use 2 nos. 35x35x5 mm GI angle for stand at 5 ft above GL, 2 nos. 35x3 mm GI horizontal bar & 3 mm GI sheet for overhead cover.			

Surge Protection Device AC (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	Type 2 PV SPD			
	Maximum PV voltage (Uocstc) (Vdc)	1000	V	
	Protection mode	CM/DM		
	Maximum operating voltage (Ucpv) (Vdc)	1060	V	
	Current withstand short circuit (Iscwpv)	> 1000	A	
	Operating current (Ipe) to voltage Ucpv	< 0.1	mA	

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	Leakage current (I _{pe}) to voltage U _{cpv}	< 0.1	mA	
	Nominal discharge current (I _n) (15 x 8/20 mic-sec Impulses)	20	KA	
	Protection level at I _n (U _p)	< 3.6	KV	
	Mechanical characteristics			
	Connection	by screw terminal: 4 – 25 sq.mm	sq.mm.	
	End of life mode	Disconnection of the SPD from PV line		
	Disconnection indicator	By mechanical indicator		
	Remote signaling of disconnection	Option DS50PVS-xxx		
	Mounting	Symmetrical Rail 35	mm	
	Operating temperature	- 40 / + 85	°C	
	Protection class	IP20		
	Housing material	Thermoplastic UL94-VD		
	Standards compliance			
	prEN50539- 11: Europe	PV surge protection - Class I and II testing		
	UL 1449 3rd Edition: USA	Type 4, for use in type 2 locations		

MCB AC (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	MCB AC			
	No of poles	2 Pole		
	Characteristic	C Curve		
	Breaking capacity	10	kA	
	Rated current	6	A	
	Rated voltage	440 DC	V	
	Current limitation class	Class 3		
	Frequency	50	Hz	
	Minimum operating voltage	12 V AC / DC	V	
	Mounting position	Vertical / horizontal / upside down / on the side		
	Fixing	On symmetric rail EN / IEC 60715		



	Applied connection torque	Recommended: 2.5 Nm, Max.: 3 Nm, Min.: 2 Nm		
	Standard	IS / IEC 60898 -1 2002		
	Mechanical endurance	20000 operation without load		
	Electrical endurance	10000 operation with load		
		2000 operation under In, DC current		
	Permissible ambient temperature	-25 to 70	°C	

AC cable (0.5 hp system)

Sr.No.	Particular	Range	Unit	Remarks
1	AC Cable	2C x 1.5 sq.mm flat cable & PVC insulated 1 ϕ		As per IS-694:1990
	Maximum operating voltage		V	
	Maximum operating current	> 17	A	
	Temperature rating	-40 to 90	°C	
	Conductor material	Bright electrolytic grade copper		
	Insulation material	Special PVC compound		
	Jacket material	Abrasion resistant PVC compound		
	Min. bend radius	8 x diameter	mm	
	Flame resistance	VW-1 , National Electric Code (NEC), NFPA 70		

DC combiner box (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	Combiner Box DC			
	IP protection	\geq IP54		
	Number of inputs	2 Nos.	1 Male/1 Female	MC4 connector
	Earthing input	1 No.	4sqmm cable	Gland IP65
	Number of outputs	2Nos.	1 Male/1 female	MC4 connector
	Input terminal	2	4 sq. mm.	Cable
	Output terminal	2	4 sq. mm.	Cable
	Fuse box (Fuse Base)	2	10A,30A-1000V DC	Cartridge
	SPD (Surge Protection Device)	1	1000V DC	Type-2

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	DC Disconnect Switch	1	1000 V DC , 10-25A	
	Dimension	1	≥ (300 x 300 x 170) mm	≥ IP 54
	Combiner box to be placed away from solar PV modules as given in drawing. Use 2 nos. 35x35x5 mm GI angle for stand at 5 ft above GL, 2 nos. 35x3 mm GI horizontal bar & 3 mm GI sheet for overhead cover.			

PV fuse (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	PV fuse rating			
	Voltage	1000	V	
	Current	10 A	A	
	Breaking capacity	50 KA DC	kA	
	Min. interrupting	50	kA	
	Time constant	1-3	ms	
	Poles	1	Nos.	
	Finger safe fuse holder			
	CMD - 1D Fuse Holder	10		
	Poles	1	Nos.	

Surge Protection Device DC (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	Type - 2 SPD DC			
	Maximum PV voltage (Uocstc) (Vdc)	1000	V	
	Protection mode	CM/DM		
	Maximum operating voltage (Ucpv) (Vdc)	1060	V	
	Current withstand short circuit (Iscwpv)	20	kA	
	Operating current (Ipe) to voltage Ucpv	< 0.1	mA	
	Leakage current (Ipe) to voltage Ucpv	< 0.1	mA	
	Nominal discharge current (In) (15 x 8/20 mic-sec Impulses)	10	kA	
	Protection level at In (Up)	< 3.6	kV	
	Mechanical characteristics			
	Connection	by screw terminal: 4 - 25 sq.mm	sq.mm	

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	End of life mode	Disconnection of the SPD from PV line		
	Disconnection indicator	By mechanical indicator		
	Remote signaling of disconnection	Option DS50PVS-xxx		
	Mounting	Symmetrical rail 35	mm	
	Operating temperature	- 40 / + 85	°C	
	Protection class	IP20		
	Housing material	Thermoplastic UL94-VD		
	Standards Compliance			
	prEN50539- 11: Europe	PV surge protection - Class I and II testing		
	UL 1449 3rd Edition: USA	Type 4, for use in type 2 locations		

DC Disconnect Switch (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	DC Disconnect Switch			
	Rated Operational Current	10-25	A	
	Conventional Free-air Thermal Current	32	A	At 40 .C
	Conventional Thermal Current	32	A	Fully Enclosed
	Rated Impulse Withstand Voltage	8	kA	
	Rated Insulation Voltage	1000	V	
	Rated Operational Voltage	1000	V	
	Rated Short-time Withstand Current	0.6	kA	For 1s
	Minimum Operating Voltage	12 V AC / DC	volts	
	Power Loss	0.3	W	
	Pollution Degree	3		
	Operating Mode	Front operated		
	Standard	IEC 60947-1, -3		
	Electrical Endurance	10000 operation with load		
	Degree of Protection	Front IP20		

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MC-4 connector (0.5 hp system)

Sr. No.	Particular	Range	Units	Remarks
1	MC - 4 connector			
	Maximum voltage	1000	V	
	Maximum current	45for 4 sq.mm.	A	
	Rated impulse voltage	8	kV	
	Protection class	Class-2		
	Test voltage	6 kV (50Hz, 1 min.)		
	Protection class	Class - 2		
	Application class	A		
	Flammability class	UL94-V0		
	Existence of an enclosure	Enclosed connector		
	Pollution degree	2	deg C	
	Temperature range	-40 to + 105	°C	
	Operating humidity	5% - 95%		
	Contact material	Copper tin plated		
	Cable cross section area	2.5 ,4 ,6 sq.mm	sq.mm	
	Degree of protection	IP67		
	UV protection	Anti UV capability		

PV cable (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	PV – Cable	1C x 4 sq. mm Cable		
	Maximum Operating Voltage	<1000 VRMS (UL PV)	Volts	
	Maximum Operating Current	>48	Amps.	
	Temperature Rating	-40 to 90	°C	
	Conductor Material	Soft Annealed tinned stranded copper		
	Separator	Paper Tape/PVC		
	Insulation Material	XLPE		
	Jacket Material	Sunlight-Resistant PVC		

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	Min. Bend Radius	8 x Diameter	mm	
	Flame Resistance	VW-1 , National Electric Code (NEC), NFPA 70		

Earthing (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	Earthing			
	Type	Rod Type		
	Material of construction	GI with copper bonded / pure copper		
	Outer wall thickness	≥ 3 (Applicable for pipe type)	mm	
	Copper coating thickness	≥ 200 (Applicable for pipe type)	micron	
	Length	≥ 2	Mtr.	
	Chemical	BFC		
	Approved by	ERDA & CRPI (Equivalent)		
	Nuts & bolt material	SS 316		
	Total dia. of electrode	Compatible with fault level		
	Earth pit cover size	300 × 300 × 60	mm	
	Pit cover construction	RCC type		
	Pipe type outer diameter (fault kA)	>19 (≥ 7.5 kA) or equivalent	mm	
	Required earth resistance after Installation ≤ 5 Ω			

Lightning arrester (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
	Lightning arrester			
1	Type	SS / Cu Coated		
2	Lightning rod height (h) total	2	m	Copper
3	Rod diameter	> 19	Sq.mm.	Copper
4	Rating of surge current	10	kA	
5	Maximum resistance of system	5	Ω	
	Protection Level Standards			
6	IS 2309: 1989 Protection of Buildings and Allied Structures Against Lightning code of Practice			

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7	IS 732: 1989 Code of practice for Electrical wiring Installation
8	IS 3043: 1987 Code of practice for Earthing
9	IEC 62305 Series Protection against lightning

Mounting structure (0.5 hp system)

Sr. No.	Particular	Range	Unit	Remarks
1	Module mounting structure			
	Type	MS square pipe with hot dip galvanized coating as per ASTM standard (40mm X 40mm X 3.2mm) \geq 80 microns. Structure can be fixed or rotating conforming to design. Solar panels at least 3 ft above ground.	microns	As per drawing
	Base plate	MS hot dip galvanized coating as per ASTM standard (150 x 150 x 10) mm		As per drawing
	Nuts & bolt	As required SS 304	Nos.	Anti-theft
	Solar Clamps	As required	Nos.	
	Welding Type	As per standard		

Note:

1. Any of the edges in the structure should not be sharp.
2. Hot dip galvanizing layer should be uniform.
3. Mounting structure base (PCD) should be mentioned.
4. The given quantities are for single unit. Requirement is of 10 systems.

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Annexure 6

Bill of quantities

Deogaon, Balangir (0.5 hp system x 10 nos)

Sr. No.	Description	Specifications	Quantity
1	Solar PV VFD inverter	1 kW	1 Nos. × 10 systems
2	Solar PV panel	325 W	2 Nos. × 10 systems
3	Combiner box AC	AC combiner box / Array junction box	1 Nos. × 10 systems
4	SPD AC (Surge Protection Device)	1000 V, 20 KA, Type-2 SPD	1 Nos. × 10 systems
5	MCB AC	440 V, 6 A DP	3 Nos. × 10 systems
6	MC - 4 connector Pair	1000V, 45A, 4 Sq.mm.	4 Nos. × 10 systems
7	AC cable	2C x 1.5sq.mm. flat Cable & PVC insulated, 1 Phase - As per IS-694:1990	As required site-wise for 10 sites
8	Combiner box DC	DC combiner box/Array junction box	1Nos. × 10 systems
9	Fuse DC	1000 V, 20 A, 50 KA S/C Rating	2 Nos. × 10 systems
10	SPD DC(Surge Protection Device)	1000 V, 20 KA, Type-2 SPD	1 Nos. × 10 systems
11	DC Disconnect Switch	1000 V, 25 A	1 Nos. × 10 systems
12	DC cable	4 sq. mm. - PV cable	As required site-wise for 10 sites
13	Solar PV module mounting structure	GI - Hot dip galvanized (80 microns)	As per design for 10 sites
14	Structure hardware system	GI	As required site-wise for 10 sites
15	Earthing system	Rod Type- GI - (2m, 19-25 mm Dia.) – 7.5 kA rating	3 Nos. × 10 systems
16	Lightning arrester system with base	SS / Cu, Length - 2m	As per Annexure 5
17	Submersible pump	0.5hp, 1 phase, 415V, 50 Hz	1 Nos. × 10 systems

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Annexure 7

List of vendors / make

Sr. No	Description	Make
1	Solar PV VFD inverter	ABB, Schneider, Siemens, Delta
2	Solar PV panel	Waree, Vikram, Emmvee, Tata, Anchor-Panasonic
3	Combiner box AC	Hensel, Hummel
4	SPD AC (Surge Protection Device)	CITEL, ABB, Phoenix
5	MCB AC	Siemens, ABB, Hager
6	MC - 4 connector Pair	Nordic Solution, Phoenix
7	AC cable	RR, KEI, Finolex
8	Combiner box DC	Hensel, Hummel, Fibox
9	Fuse DC	Hager, Cooper Bussmann
10	SPD DC (Surge Protection Device)	CITEL, ABB, Phoenix, Elmax
11	DC Disconnect Switch	Siemens, ABB, Hager, Salzer, L & T
12	DC cable	RR, KEI, Finolex, Havells, Polycab
13	Solar PV module mounting structure	As per fabrication drawing
14	Structure hardware system	Local vendor
15	Earthing system	JMV LPS, ASHLOK, JEF
16	Lightning arrester system with base	JMV LPS, ASHLOK, JEF
17	Submersible pump	Kirloskar, Shakti, CRI, Lubi

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Annexure 8

Technical details (To be submitted by party in the format herein)

Supply, installation, commissioning & testing of solar water pumping systems at Deogaon block, Balangir

A. General information

Sr. No.	Particular	Information by Party
1	Name of the party	
2	Address of the party	
3	Contact person, number and email	
4	Permanent account number (PAN) (Enclose copy)	
5	GST registration number (Enclose copy)	
6	Certificate of incorporation / registration (Enclose copy)	
7	Whether the party is a manufacturer or authorized dealer (Enclose authorization / dealership certificate)	
8	Whether the party is an employee or a relative of employee working in BAIF. If yes, please mention the name, designation and department	
9	Annual turnover of the party in last two years in Rupees	
10	Cumulative solar pumping installments in last two years in hp	
11	Whether the party has visited the site and acquainted with work scope & conditions	

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B. Technical specifications & scope (To be submitted by party in the format herein)

Deogaon, Balangir (0.5 hp system x 10 nos)

Sr.	Particular	Party response	Remarks
1	Submersible pump as per Annexure 1, 2, 4, & 6 Make Model Head range (m) Discharge range (lph) Catalog / brochure / data sheet Quantity: 1 nos. x 10 sites	<i>Agree / disagree</i> <i>Mention</i> <i>Mention</i> <i>Mention</i> <i>Mention</i> <i>Enclosed / not enclosed</i>	
2	Delivery pipe from pump up to GL (HDPE PE 63 PN6 50 mm) (Rising main pipe NOT in scope of work)	<i>Agree / disagree</i>	
3	Dry run protection	<i>Agree / disagree</i>	
4	PV module of 325 Wp as per Annexure 1,2, 5, & 6 Make: Catalog / brochure / data sheet Quantity: 2 nos. x 10 sites	<i>Agree / disagree</i> <i>Agree / disagree</i> <i>Enclosed / not enclosed</i>	
5	Control, electronics & protection (inverter, SPD, connectors, DC cable, MCBs, fuse, combiner boxes with stand, overhead cover, earthing, lightning protection etc.) (As per Annexure 1,2, 3, 5 & 6) Make Catalog / brochure / data sheet Quantity: 1 set x 10 sites	<i>Agree / disagree</i> <i>Mention</i> <i>Enclosed / not enclosed</i>	
6	Solar PV module mounting structure – Hot dip galvanized iron (80 microns) structure (Fixed or rotating structure as per specifications including civil work). Solar panel module at least 3 ft above ground. (As per Annexure 1,2,3,5& 6) Structure drawing from party Quantity: 1 unit x 10 sites	<i>Agree / disagree</i> <i>Mention – Fixed or rotating</i> <i>Enclosed drawing / not enclosed</i>	
7	AC cable (2C x 1.5 sq.mm. single phase flat cable & PVC insulated as per IS-694:1990, laying in high density PVC pipe) (excluding trench excavation) (As per Annexure 1,2, 3, 5& 6) Make Length: 30 m x 10 sites	<i>Agree / disagree</i> <i>Mention</i>	
8	Supply, installation, commissioning, testing & on-site training for operations	<i>Agree / disagree</i>	
9	Provision of operational manual in Odiya	<i>Agree / disagree</i>	
10	Duty cycle: 5-6 hours per day	<i>Agree / disagree</i>	



11	Water source: Farm pond	<i>Agree / disagree</i>	
12	All components should conform to BIS/IEC/MNRE / applicable specifications & certifications (As per Annexure 4, 5 &6)	<i>Agree / disagree Enclosed / not enclosed</i>	
13	Layout / SLD	<i>Enclosed / not enclosed</i>	
14	Warranty– 10 year’s system warranty. Solar module peak output wattage should be more than 90% of rated peak output for 10 years &80% of rated peak output after 10 years till 25 years. 2 years comprehensive maintenance from date of commissioning covering on-site parts replacement & complaint redressal within 5 days.	<i>Agree / disagree</i>	
15	Exclusions: Rising main above GL.	<i>Agree / disagree</i>	

Date:

Signature with seal of party

Note: Technical details must strictly adhere to the above format and must be typed & printed on A4 pages. The column “Particular” must be presented as it is. Response should be given in the column “Party response” as follows.

- Offered / not offered – Whether the particular / item is included in the offer.
- Agree / disagree – Whether the party agrees to the terms / requirement.
- Comply / does not comply – Whether the party complies with the requirement
- Mention – Details / specifications to be mentioned.
- Enclosed / not enclosed – Relevant enclosure to be included.

Remarks – Any point desired to be mentioned by the party. For response / enclosure which is not applicable to the respective party, “Not applicable” should be stated against the item in the Remarks column. For the response which defers from the requirement or not in line with the requirement, reason / justification should be clearly stated in the Remarks column.

Relax

[Handwritten Signature]



Annexure 9

Price Offer (To be submitted by party in the format herein)

Supply, installation, commissioning & testing of 10 solar water pumping systems of 0.5 hp at Deogaon block, Balangir, Odisha

Table 1: Offer summary (Details in Table 2)

Sr.	Description	Price (₹)	GST (___%) (if applicable) (₹)	Any other (₹)	Final offered price (₹)
A	Total components cost as given in Table 2 (Figures should match with Total of Table 2)				
B	Supply, installation, commissioning, testing & on-site training including transportation				
C	Comprehensive maintenance of 2 years				
Note: Total amount to be mentioned for 10 sites.					

Rupees (in words): _____ only

Date:

Signature with seal of party

Pls.

Aur



Table 2: Offer details

Component-wise price details for 10 sites						
Sr.	Description	Qty.	Price (₹)	GST (___%) (as applicable) (₹)	Any other (₹)	Final offered price (₹)
1	Submersible pump & delivery pipe up to GL (As given in Technical details in Annexure 8)	10 nos.				
2	PV module of 325 Wp (As given in Technical details in Annexure 8)	20 nos.				
3	Control, electronics & protection (inverter, SPD, connectors, DC cable, MCBs, fuse, combiner boxes with stand, cover, earthing, lightning protection etc.) (As given in Technical details in Annexure 8)	10 set				
4	Solar PV module mounting structure – Hot dip galvanized iron (80 microns) structure (Fixed or rotating as per specifications, including civil works). 1 set of 2 panels. Solar panel module at least 3 ft above ground. (As given in Technical details in Annexure 8)	10 sets				
5	AC cable (2C x 1.5sqmm Single Phase flat cable & PVC insulated as per IS-694:1990, laying in high density PVC pipe) (excluding trench excavation) (As given in Technical details in Annexure 8)	300 m				
Total components' cost for 10 systems at 10 sites						

Rupees (in words): _____ only

Date:

Signature with seal of party

Handwritten signature

Handwritten signature



Annexure 10

Undertaking

Date:

To

The Chief Programme Executive

BAIF Institute for Sustainable Livelihoods and Development - Odisha

Ref.: Supply, installation, commissioning & testing of solar photovoltaic water pumping systems
Deogaon block, Balangir.

Dear Sir,

In response to the invited by you, I/ We have examined the notice, conditions, specifications and terms of the contract and I/We agree to abide by all instructions in these documents attached hereto and hereby bind myself / ourselves to execute the work as per schedule stipulated in the notice.

I / We further agree to sign and execute all agreements / bonds as may be required by BISLD to abide by the all conditions of the contract and to carry out all work as per specifications, failing which, I / We shall have no objection for the forfeiture of the earnest money / security money deposited with BISLD.

I / We also undertake that I / We have not been blacklisted by any entities any time.

I / We enclose herewith the required documents.

Sincerely yours,

Signature of Party with seal

Encl.:

1. Technical details
2. Price offer

plm

[Handwritten signature]



Annexure 11
Enclosure check-list

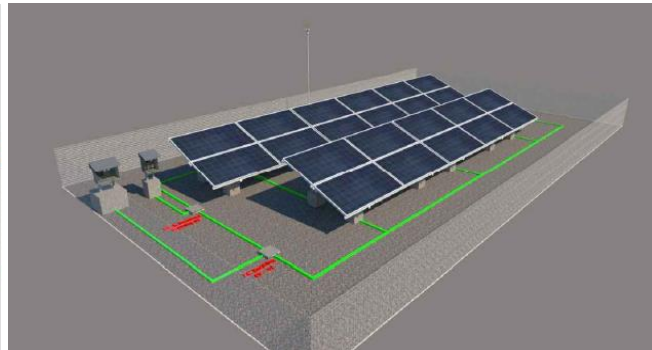
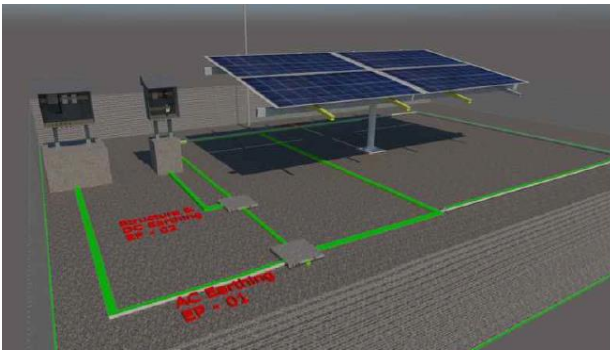
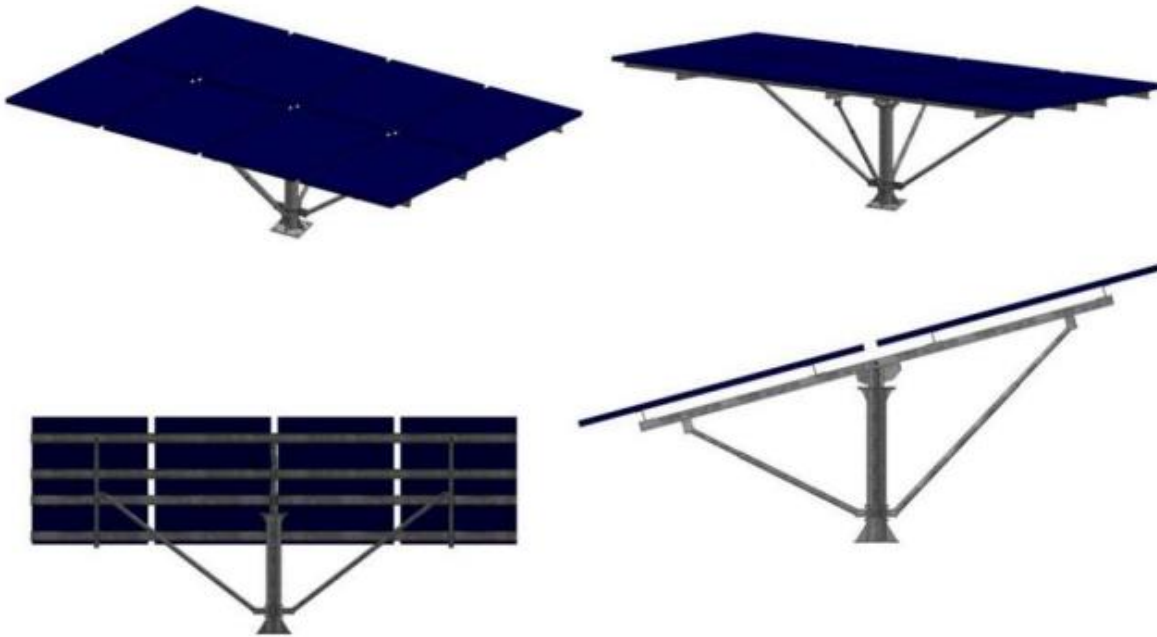
1. Work order/ Work completion report for 20 hp cumulative solar pumping installation in last 2 years. As per Eligibility Criteria
2. Auditor's report, Balance sheet, P&L / I&E, notes to accounts of two years
3. Copy of GST registration
4. Copy of PAN card
5. Copy of certificate of registration / incorporation
6. Authorization / dealership certificate from manufacturer
7. Company brochure & product catalogue
8. Self-declaration about not being a black listed entity
9. Solar PV module mounting structure drawing
10. Any other supporting documents
11. Certifications of components as applicable

ok
[Signature]



Annexure 12

Indicative details and drawing of mounting structure (This is indicative. Mounting structure can be fixed or rotating conforming to specifications)



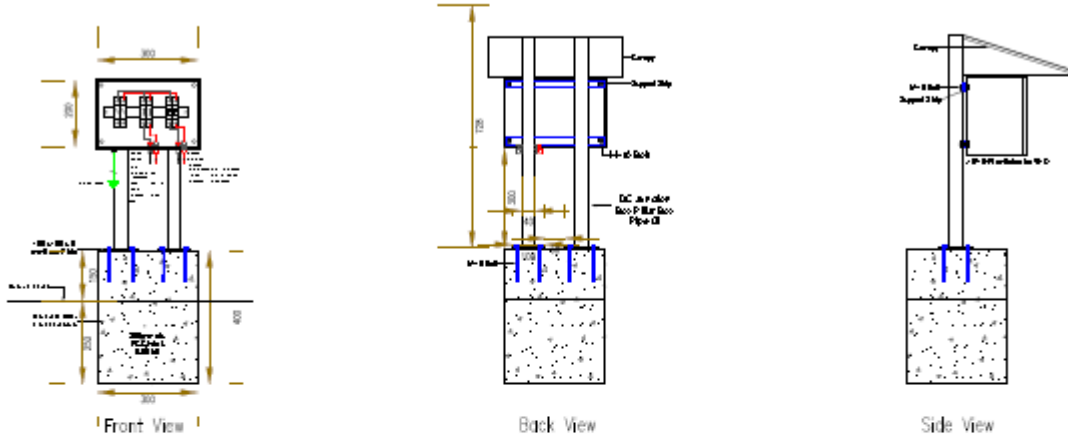
Note:- Given drawings are indicative. Solar PV module mounting structure can be fixed or rotating as per specifications. Party to consider design for 02 nos. solar panels. Above layout is to be followed. Least height of solar panels from ground should not be less than 3 ft.

Relax
[Signature]

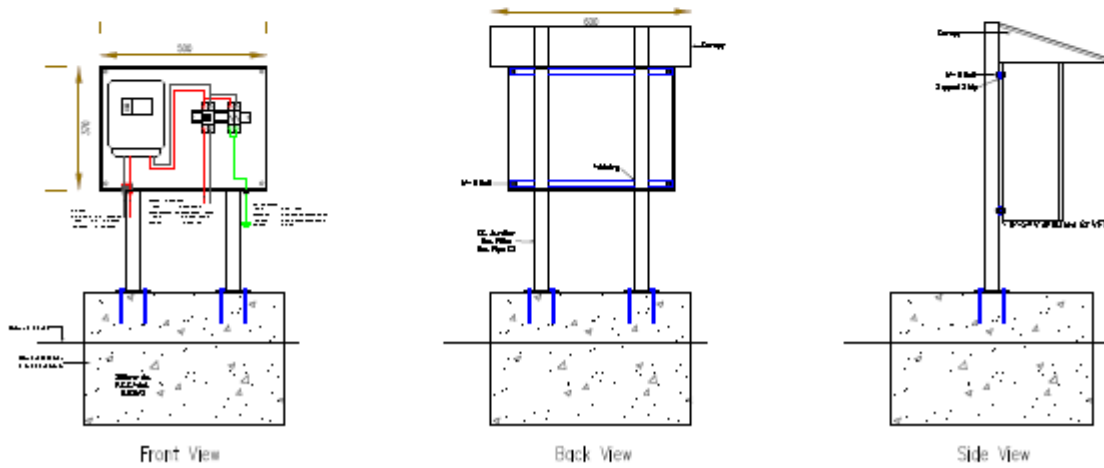


DC JB & AC Power Panel Mounting Layout

DC Junction Box Mounting Layout



AC Power Panel Mounting Layout

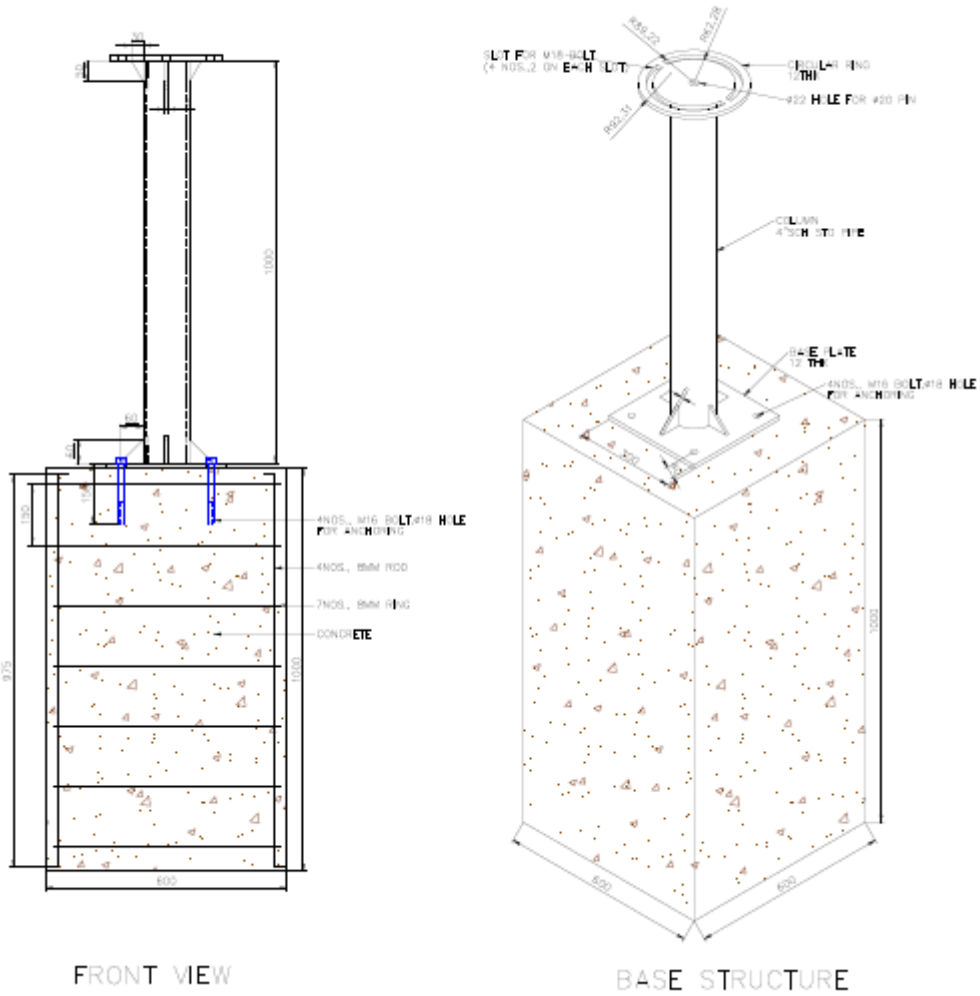


Handwritten signature/initials

Handwritten signature/initials



BOTTOM STRUCTURE LAYOUT

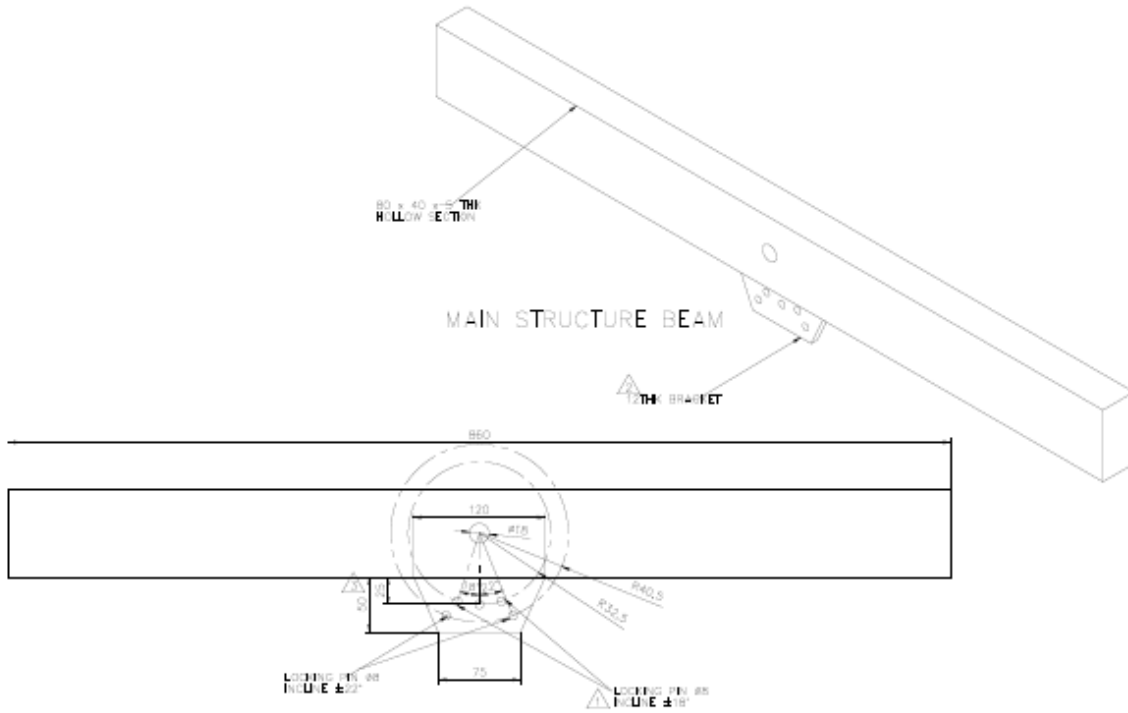


Handwritten signature or initials.

Handwritten signature or initials.



TOP STRUCTURE LAYOUT
MAIN MEMBER

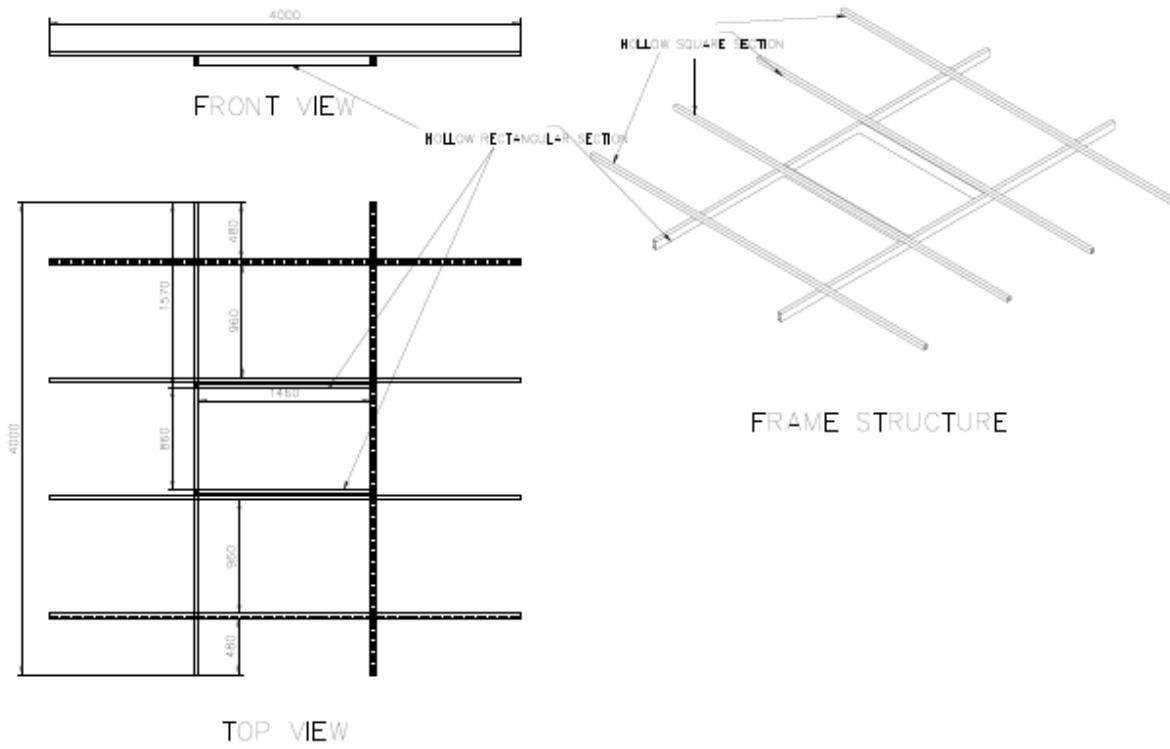


ok

[Signature]



FRAME STRUCTURE LAYOUT

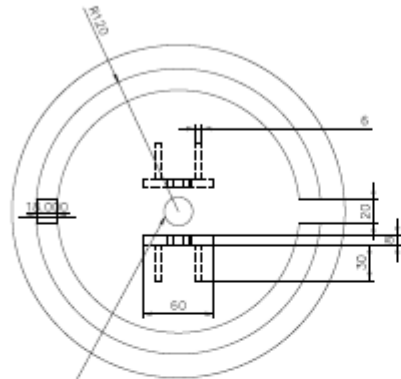


ok

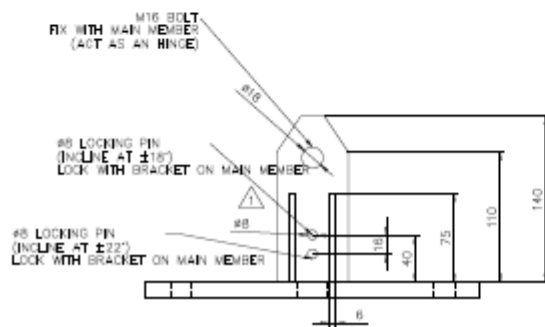
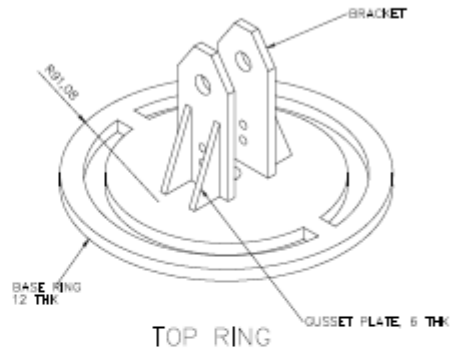
[Signature]



TOP STRUCTURE LAYOUT – RING



Ø 20 BOLT/PIN, Ø22 HOLE
TO POSITION WITH RING
ON BOTTOM STRUCTURE



M16 BOLT
FIX WITH MAIN MEMBER
(ACT AS AN HINGE)

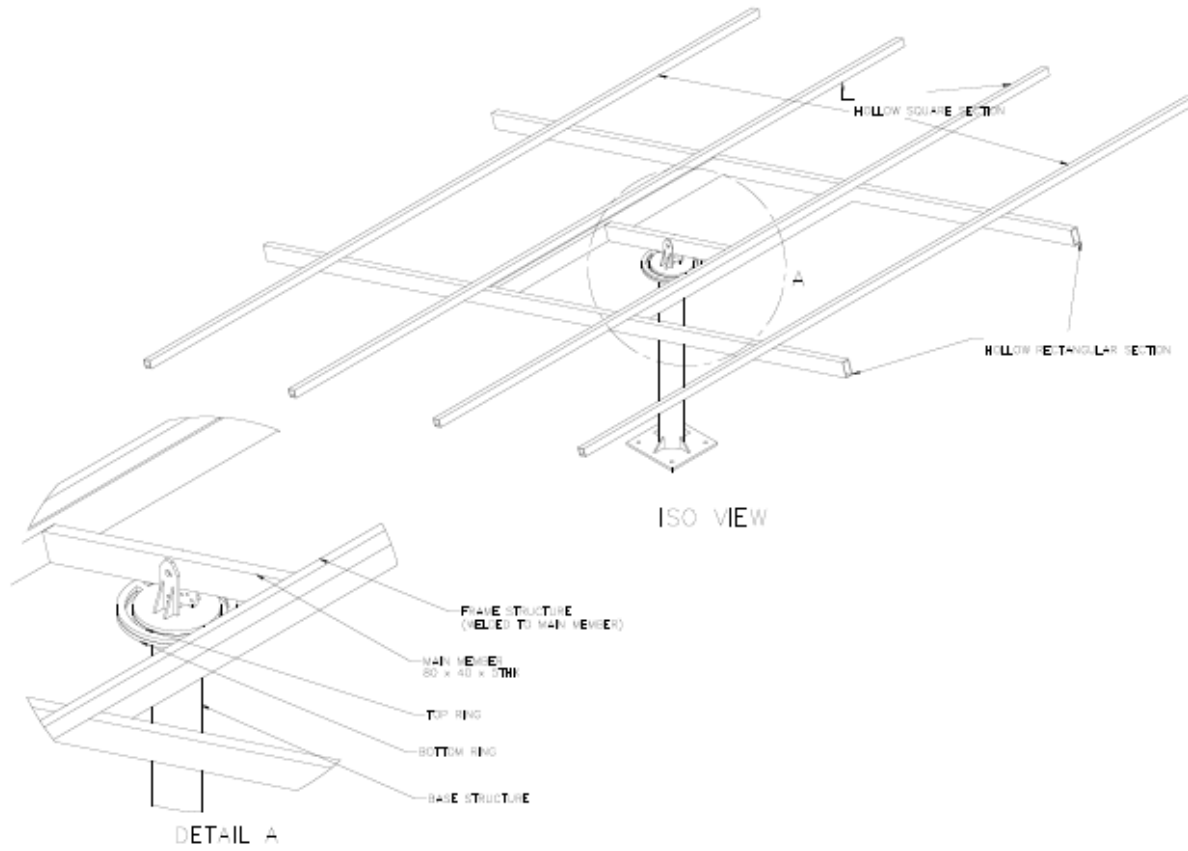
Ø8 LOCKING PIN
(INCLINE AT ±18°)
LOCK WITH BRACKET ON MAIN MEMBER

Ø8 LOCKING PIN
(INCLINE AT ±22°)
LOCK WITH BRACKET ON MAIN MEMBER

Relax



SOLAR STRUCTURE ASSEMBLY LAYOUT



Olhas

[Signature]