NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED.

Sub: Construction and Installation of prefabricated Office cum Residence in the States of Arunachal Pradesh, Sikkim & Uttarakhand in high altitude remote areas.

Tender Reference No

: NHIDCL/MHA/BIP/Pkg-I/2020-21

Tender Id

: 2020_NHIDC_583317_1

Amendment No.01

Clause of NCB	Existing Clause		Modified Clause		
Clause 4.2 of Qualification of Bidder of SECTION- II		New	which includes the form of the principles. • Methodology • Details of var water supply Panels used type of foundar structures.	ctural design and drawing of m, materials and structural	
Clause 4.a (A) (b)of SECTION -II	Satisfactorily completed (not less than 90% of contract value), as a prime contractor (or as a nominated subcontractor duly approved by Employer, provided further that all other qualification criteria are satisfied) similar works during last five years ending last day of month previous to the one in which bids are invited should be either of the following:		Satisfactorily completed (not less than 90% of contract value), as a prime contractor (or as a nominated subcontractor duly approved by Employer, provided further that all other qualification criteria are satisfied) similar works during last Seven years ending last day of month previous to the one in which bids are invited should be either of the following:		
	Year Before	Multiplying Factor	Year Before		
	One (1) (2019-20)	1.00	One (1) (2019-20)	Multiplying Factor	
	Two(2) (2018-19)	1.05	Two(2) (2018-19)	1.05	
	Three(3) (2017-18)	1.10	Three(3) (2017-18)	1.10	
	Four(4) (2016-17)	1.15	Four(4) (2016-17)	1.15	
	Five(5) (2015-16)	1.20	Five(5) (2015-16)	1.20	
	[Five(3) (2013-10)	1.20		1.25	
			Six(6) (2014-15)	1.30	
Clause 4.6 of SECTION-II	Bidder		works executed in any Seven years (updated	d capacity = (A*2.5-B) lue of civil engineering one year during the last to the price level of the dix) taking into account the	

Clause 1.4 (a) of SECTION-III	Work performed as prime contractor, work performed in the past as a nominated subcontractor duly approved by Employer will also be considered, provided further that all other qualification criteria are satisfied (in the same name) on works of a similar nature during the last five years to qualify as per ITB.			performed contractor considere qualification name) on	erformed as prime of in the past as a control of the past of a similar nation are to qualify as per light as per light as per light as a control of the past of a similar nation.	a nominated sub- nployer will also be er that all other fied (in the same ture during the last	
Clause 2 of SECTION-III		AFFIDAVIT			AFFIDAVIT		
		(To be notarized by Nota	ry)	(To be notarized by Notary) 1. I correct.			
	I, correct. The last five years prior to the date of this bid.			2. The	e date of this bid.	last Seven years	
	3. The	reputation.		3. The	3. The reputation.		
	The Project implementing agency.				Project impleme	nting agency.	
Point 10 of table of Para B.	The contractorto specifications of BIS.			The contractorto specifications of OCR.			
Scope of Work, Technical specifications and Drawings	Sr.No.	Item	Qty	Sr.No.	Item	Qty (in each OCR)	
Drawings	1 to 11			1 to 11			
	12			12	Space heating Kerosine oil based device (Bukhari)	8	
Point 11 of para B of SECTION-VI	New		❖ Door ❖ Wind	Solid Core Flush do Flush Doors of thick used as per the do drawing. These doo combination of blocky	ness 35mm to be etails given in the rs are made from wood /particle board etails. Fibreboard etails provided the cross band, face ed opening. d Unit (hardened) multi-panel, having the details given in seful in snow bound etails required.		

- All construction should be done in conformity to DRDO specifications with AFS (Antifreeze systems) in sewage water and fresh water system or better engineering practice in heavy snow fall area and approved by Engineer in Charge.
- All fresh water pipes shall be Aluminium and polyethylene composite pipes. Composite pipes confirming to IS 15450:2004.
- ➢ Pressure rating of pipes shall 13.8 kg/cm² at 23°c. All fittings shall be composite type compression fittings.
- Pipes shall be Jindal/ Kitec etc. make.
- Pipes shall be insulated using 25 m thick XLPE Insulation Foam and heat traced using self-regulated PVC Insulated heating wire of 10 W/M to 40 W/M Capacity.

OVER HEAD WATER TANK -

- Tank of 1000l capacity shall be provided above the false ceiling.
- Heating tape / immersion heater with thermostat control shall be provided to the tank to heat up water to desired temperature.
- 25 mm thick XLPE insulation will be provided on all sides of the tank.
- Tank must be suitable for -40degree c..

HEAT TRACING -

Heat tracing of pipes shall be done throughout the fresh water supply lines to restore the system in case of freezing of pipes. The heat tracers shall be Nichrome wire based. The power consumption shall be 25W/ rn.m. The tape shall be powered through an emergency switch. The tape shall be coiled along the pipes.

CIRCULATION MOTOR -

Two motor (one main and one standby with a bypass connection) of 40W rating shall be provided on the loop. The motor shall circulate water in the lines continuously to prevent stagnation and frosting.

Roof Slope

Slope of roof must be taken as 1:2. Also, either 0.6 mm thick PPGI Sheet with Glass wool insulation or 70 mm thick PUF sandwich with Trapezoidal profile top sheets can be used as roof Panels.

False Ceilings

False ceiling of 40 mm of PUF Sandwich Panel to be used which confirms to IS 12436, IS 7888 and shall be manufactured on line PUF Panel manufacturing machine.

Suggestive details:

- Panel weight 10.20 Kg ± 0.1/ sq.m.
- Panel thickness 30mm.
- With CFC free polyurethane foam of density 40 kg ± 2 kg/ m3.
- The PUF panels shall have tongue and groove type of joint.
- Reflectivity 66% ± 2%

Flooring

PVC Linoleum flooring to be used. Floor Panel to be supported on Civil Foundation or on Steel Structure with either using of Fiber Board with Rockwool Insulation or PUF Panels made in PUF panel system using 0.6 mm thick PPGI as outer skin and 19mm thick marine Ply as per IS 303 or 12 mm hick Fiber Board as inner skin with and gap filled with 60mm thick layer of rigid CFC free polyurethane foam of density 40 kg ± 2kg / cum as Insulation with two number reinforcement tube of size 60 x 40 x 1.7 mm thick. And Approved by Engineer in charge. Heavy duty 10 mm thick vitrified tiles of 300 X 300 mm (vitrified) or PVC Floor in Living Area. Toilets must have anti skid tiles fixed using epoxy based tile chemical and joints filled with epoxy grout. And as approved by Engineer in charge.

· Partition walls:

The Partition wall either shall be made with framed structure with suitable insulation and cement boards. All the internal face of wall shall be covered with 12 mm BWR ply or 40 mm thick PUF Panels. And approved by Engineer in Charge.

SWITCHES, SOCKETS, WIRES & SWITCHGEAR

A. **CONDUITS** –

- All conduits shall be of minimum 20mm P.V.C. rigid type.
- Conduits shall be confirming to IS: 2509 – 1973 and IS: 3419 – 1989.
- The conduits shall be placed on the surface of PUF panels. Saddles for clamping conduits shall be of a heavy gauge non metallic type with base.

B. BOXES -

- All boxes shall be of surface mounted type and shall be confirming to IS: 14772 – 2000.
- Boxes shall be of rigid PVC molding

Ah)

type an all sides except for front side. The minimum thickness of walls shall not be less than 2.0mm and clear depth shall not be less than 60mm. PVC boxes The boxes shall be free from burrs, fins and internal roughness. C. WIRES -· All internal wires shall be multi strand copper conductor type.. Minimum size of wiring to be followed – Light and 5A socket wiring -1.5 sq.mm., Power - 15A socket wiring -4.0 sg.mm. Circuits with 1000W power -6.0mm. Copper conductor cable shall be PVC insulated. Fire Retardant, low smoke (FRLS) type confirming to BIS specification. Internal wiring Shall be of Finolex/ Polycab make. SWITCHES AND FACE PLATES -All switches and face plates shall be of modular type. The switches and plates shall be ISI marked. Switches and Switch plates shall be of Anchor/ Crabtree make. SWITCH GEAR - Switch gear shall be of Havell's make Design Parameters: Design Parameters for Structural design: (a) **SEISMIC- ZONE – V** as per IS 1893 – 1984 (b) **SNOW LOAD** - As per IS 875 (PART 4) 1987 with Max. 1M Fresh Snow Standing On Sloping Roof (c) WIND SPEED - As Per IS-875 PART 3: 1988) (Class - A and Category- 1) & Point 12 of para B of Topography Factor for slopes greater than 17 SECTION-VI degrees. (d)**TEMPERATURE** - (-) 45°C TO (+) 20°C. (e) MIN SAFE BEARING CAPACITY OF SOIL AT 0.30M TO 1.00 DEPTH - 10 T/M2. (f) IMPOSED LOADS - As per IS 875 (PART 2) 1987 for sloping roof & dormitories (g) DEAD LOADS - as actual

1/hpl

Plan of Store /DG Room of SECTION-VI

Plan for office cum residence including location of water tank, Septic tank, Store & Gen -Set

Revised Plan enclosed as Annexure-a

General Specifications of SECTION - VI Scope of work, Technical specifications and Drawings

Fabrication, Erection, Construction and installation of prefabricated office cum residence (OCR) along with store & gen-set area (duly connected with main office) including PUF insulated 1000 ltr water tank and Septic tank as per the DRDO approved design at various locations given in the bid. The work has to be carried out as per approved design, drawing by the engineer. The structure shall be designed for +20 to -45 deg C temperature; special grade steel shall be used to withstand extreme temperature difference. Wall cladding shall be of PUF panels made up of 80/120 mm thick composite PUF sandwich between 0.5 mm PPGI sheets both sides. The panels shall be made of PPGI on both sides with 80/100 mm thick layer of rigid CFC free polyurethane foam of density of 40+2 kg/m3 as insulation. The wall panels shall have tongue & Groove arrangement and inter cam lock system. PPGI sheet shall have minimum coating of 4-5 micron epoxy primer and 25 microns polyester top coat on the finish surface and 7-8-micron primer alkyl base on reverse. The Partition wall shall be with framed structure with suitable insulation and cement boards. All the internal face of wall shall be covered with 12 mm BWR ply. The work also include the foundation, ramp, corridor, insulated water tank, pipeline, septic tank, shed for gen-set, store room, bukhari, electric installations, geyser, taps, door, windows, flooring, and other base work. All the electrical wiring shall be multi strand copper wire with ISI mark having low smoke & fire-resistant properties. All switches & fittings shall be modular type and all luminous shall be of higher efficiency, Specialized Grade PPR plumbing (as per IS specification) with insulation fixtures, durable accessories providing & Installation of improved space heating kerosene oil based device (Bukhari) complying with the specifications of DIPAS, DRDO. The work shall be completed in all respect as per the approved design, drawings and specifications. All works shall be executed as per Indian codes and established best engineering practices.

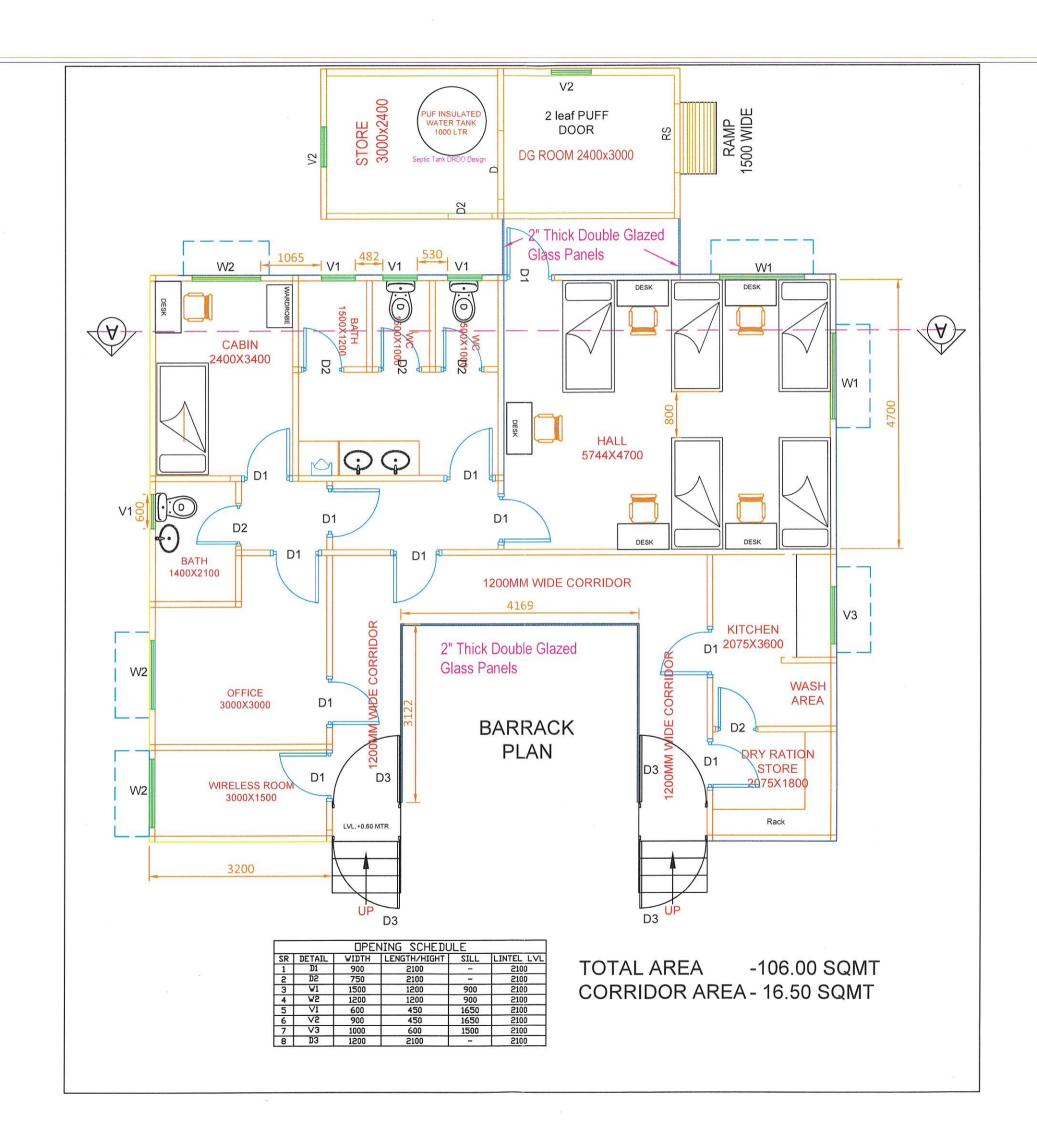
Fabrication, Erection, Construction and installation of prefabricated office cum residence (OCR) along with store & gen-set area (duly connected with main office) including PUF insulated 1000 ltr water tank and Septic tank as per the DRDO approved design at various locations given in the bid. The all works of sanitary & water supply must using AFS (Antifreeze systems) or better engineering technology practice in heavy snow fall area .The work has to be carried out as per approved design, drawing by the engineer. The structure shall be designed for +20 to -45 deg C temperature; special grade steel shall be used to withstand extreme temperature difference. Wall cladding shall be of PUF panels made up of 120 mm thick composite PUF sandwich between 0.6 mm PPGI sheets both sides. The panels shall be made of PPGI on both sides with 120 mm thick layer of rigid CFC free polyurethane foam of density of 40+2 kg/m3 as insulation. The wall panels shall have tongue & Groove arrangement and inter cam lock system. PPGI sheet shall have minimum coating of 4-5 -micron epoxy primer and 25 microns polyester top coat on the finish surface and 7-8-micron primer alkyl base on reverse. The Partition wall shall be made with framed structure with suitable insulation and cement boards. All the internal face of wall shall be covered with 12 mm BWR ply. The work also include the foundation, ramp, corridor, insulated water tank, pipeline, septic tank, shed for gen-set, store room, bukhari, electric installations, geyser, taps, door, windows, flooring, and other base work. In the corridor glass panels to be provide. All the DGU electrical wiring shall be multi strand copper wire with ISI mark having low smoke & fire-resistant properties. All switches & fittings shall be modular type and all luminous shall be of higher efficiency, Specialized Grade PPR plumbing (as per IS specification) with insulation fixtures, durable accessories and providing & Installation of improved space heating kerosene oil based device (Bukhari) complying with the specifications of DIPAS, DRDO. The work shall be completed in all respect as per the approved design, drawings and specifications. All works shall be executed as



		per Indian codes and established best engineering practices.	
Para C. BOQ ITEM NO. 3 OF SECTION-VI	Supply & Installation of two numbers three phase silent DG set of 10 kVA with suitable AMF Panel suitable for 10 kVA DG set (AMF inside the DG set shed) and 2 KW Solar off-Grid on rooftop with 6 to 8 hours backup as per specifications of MNRE.	 Supply & Installation of two numbers in each OCR three phase silent DG set of 10 kVA with suitable AMF Panel suitable for 10 kVA DG set (AMF inside the DG set shed) and 2 kW Solar off- Grid on roof top with 6 to 8 hours backup as per specification of MNRE with Lithium Ion Battery Banks. Air Cooled Generator Set shall be 10 kVA Single Phase, (Make – Cummins / Eicher / Kirloskar or equivalent) Electric Start with plate Battery, Fuel Tank-200 Liter. (Min.) Acoustic Enclosure shall be ass per CPCB Guidelines. The noise level shall be below 75db as per norms prescribed by the Pollution Control Committee. The DG Set shall be provided with cold start up arrangement. Waste heat from DG Sets to heat up the fresh water. Both DG sets of 10 kVA will be joined with a Change over switch (COS). 	
Para C BOQ ITEM NO.4 of Section-V	v	Supply and fixing a Double Glazed Unit (Hardened) Glass in corridor with double door at as per the details given in the plan & drawing.	
	BOQ	Modified BOQ	
Section-III Format Power of attorney		As Annexure-b & c.	
Notice Inviting Bid	B.Shivprasad, General Manager/Tech National Highways & Infrastructure Development Corporation Ltd. Third Floor, PTI Building,4 Sansad Marg. New Delhi-110001 Phone:+91-11-23461600 e-mail: (shivprasad.12p@gov.in) e-mail: (sanjeev.malik@gov.in)	B.Shivprasad, General Manager/Tech National Highways & Infrastructure Development Corporation Ltd. Second Floor, PTI Building,4 Sansad Marg. New Delhi-110001 Phone:+91-11-23461674 e-mail: (shivprasad.152p@gov.in) e-mail: (sanjeev.malik@gov.in)	

(B.Shivprasad)
General Manager(T)
(30.09.2020)

Annexure-a





FORMAT FOR POWER OF ATTORNEY FOR SIGNING OF BID

Know all men by these presents, We (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./Ms (name),) and presently residing at (Address), who is presently son/daughter/wife of (Name employed with us/ the Lead Member of our Joint Venture and holding the position of (Designation), as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our BID for the Project proposed or being developed by the National Highways & Infrastructure Development Corporation Ltd. (the "Authority") including but not limited to signing and submission of all applications, BIDs and other documents and writings, participate in Pre-BID and other conferences and providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts including the agreement and undertakings consequent to acceptance of our BID, and generally dealing with the Authority in all matters in connection with or relating to or arising out of our BID for the said Project and/ or upon award thereof to us and/or until the entering into of the Contract with the Authority.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,, THE	ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS
POWER OF ATTORNEY ON THIS DAY OF	
	For
	(Signature, name, designation and address) of person authorized by Board Resolution
	(in case of Firm/ Company)/ partner in case of
Witnesses:	Partnership firm
1.	
2.	
Accepted	
(Signature)	
(Name, Title and Address of the Attorney)	(Notarised)
	lentified by me/ personally appeared before me/
	Attested/ Authenticated*
	(*Notary to specify as applicable
	(Signature Name and Address of the Notary)
	Seal of the Notary
	Registration No. of the Notary
T.	Date:

My

Notes:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.
- For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Appostille certificate.



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FORMAT FOR POWER OF ATTORNEY FOR LEAD MEMBER OF JOINT VENTURE

invited BIDs for the "[Name of the	The second secon	2	
Whereas,	ested in bidding for th	879	
Whereas, it is necessary for the Member Member with all necessary power and a acts, deeds and things as may be necess Project and its execution.	authority to do for and	d on behalf of the Joint Venture, all	d
NOW THEREFORE KNOW ALL MEN BY T	HESE PRESENTS	5	
We, having our registered office at having our registered office at, a (hereinafter collectively referred to as to constitute, appoint and authorize M/S Members of the Joint Venture, as the Venture (hereinafter referred to as the (with power to sub-delegate) to conduct one of us during the bidding process a during the execution of the Project and Venture, all or any of such acts, deeds pre-qualification of the Joint Venture a limited to signing and submission of participate in pre BID and other confersign and execute contracts and under Venture and generally to represent the any other Government Agency or any arising out of the Joint Venture's BID for the Contract is entered into with the Authority and the contract is entered into with the Authority and the contract is entered into with the Authority and the contract is entered into with the Authority and the contract is entered into with the Authority and contract in the contract is entered into with the Authority and contract in the contract is entered into with the Authority and contract in the contract is entered into with the Authority and contract in the contract is entered into with the Authority and contract in the contract i	the "Principals") do he with the "Principals") do he with the Head Member and "Attorney"). We here the all business for and and, in the event the wind in this regard, to do to things as are necestand submission of its all applications, BIDs ences, respond to questakings consequent to Joint Venture in all in person, in all matter or the in all respect P	ereby irrevocably designate, nominate ered office at	nt ey nt ey nt nt ot ss, ts, or or
AND hereby agree to ratify and confirm done or caused to be done by our sconferred by this Power of Attorney and exercise of the powers hereby conferred by Joint Venture.	said Attorney pursua d that all acts, deeds a	nt to and in exercise of the powe and things done by our said Attorney	rs in

Amendment (OCR (Pkg-I))

For	For	For
(Signature)	(Signature)	(Signature)
(Name & Title)	(Name & Title)	(Name & Title)

(Executants)

(To be executed by all the Members of the Joint Venture)

Witnesses:

1.

2.

Notes:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executants (s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- Also, wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.
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