



GOVERNMENT OF ASSAM  
PROJECT MANAGEMENT UNIT (PMU)  
**ASSAM PROJECT ON FOREST AND BIODIVERSITY CONSERVATION SOCIETY (APFBCS)**  
ARANYA BHAWAN, PANJABARI, GUWAHATI – 781037  
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***Project: AFD financed Assam Project on Forest & Biodiversity  
Conservation - Phase II***

**BIDDING DOCUMENT  
FOR  
ENGAGEMENT OF A SERVICE PROVIDER FOR DRONE-BASED  
SURVEY USING PHOTOGRAMMETRY AND LIDAR SENSORS FOR  
TREE MAPPING AND VERIFICATION ACROSS VARIOUS  
PLANTATIONS IN ASSAM (APPROX. 12,500 HECTARES)**

**IFB No: APFBC/PMU/Phase-II/DBS/2025/389/170**

**Dated: 25<sup>th</sup> July 2025.**

**Bidding Document Issued from: 26<sup>th</sup> July 2025.**

**Government of Assam**  
**AFD financed**  
**Assam Project on Forest & Biodiversity Conservation- Phase II**  
Assam Project on Forest & Biodiversity Conservation Society (APFBCS)  
Aranya Bhawan, Panjabari, Guwahati- 781037; Website: [www.apfbc.nic.in](http://www.apfbc.nic.in); Email: [pd@apfbc.in](mailto:pd@apfbc.in)

**INVITATION FOR BIDS (IFB)**

(IFB No. APFBC/PMU/ Phase-II/DBS/2025/389/170 dated 25<sup>th</sup> July, 2025)

Sealed fresh bids are invited from reputed and experienced bidders for the non-consultancy work, 'Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares)'. The detailed bidding document, including scope of work, terms and conditions, and other relevant information, will be available for download from **26<sup>th</sup> July 2025** at [www.apfbc.nic.in](http://www.apfbc.nic.in). The last date and time for submission of bids is up to 02:00 PM on **8<sup>th</sup> August 2025**. For further information, bidders may contact the office at the address mentioned above during office hours.

Sd/-  
Project Director  
PMU, APFBC Society

**NOTICE INVITING BID**  
**Detailed Procurement Notice**

1. The Project Director, PMU, APFBC Society, hereby invites offline bids from eligible bidders, following the **two-bid system**, for the following work –

Description of service	Period of Completion
Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares).	90 days from the date of issue of the work order

2. This Procurement notice includes the terms and conditions applicable to submission of bids; criteria for qualification, evaluation, and for award of work order(s); and relevant forms to be filled by the bidders.
3. Interested eligible Bidders may obtain further information from and inspect the bidding Document at the office of the Project Director, PMU, APFBCS, Aranya Bhawan, Panjabari, Guwahati - 781037 (Assam), Telephone:+91-361-2733917, Email: [pd@apfbc.in](mailto:pd@apfbc.in) ; Website: [www.apfbc.nic.in](http://www.apfbc.nic.in)
4. Bids, both Technical Part and Financial Part shall be submitted on or before 14:00 hours on **8<sup>th</sup> August 2025** and must be accompanied by a **Bid Security of Rs. 8.75 Lakh**. Any bid or modifications to bid received after the deadline shall not be considered and returned unopened.
5. The sealed envelope should be super scribed as ‘Bid for Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares).’; “Not to be opened before, **8<sup>th</sup> August 2025** at 14.30 hours”.
6. The technical bids will be opened publicly on the same day i.e. **8<sup>th</sup> August 2025 at 14.30** hours in presence of the bidders or their representatives who choose to attend at the office of the undersigned.
7. If the office happens to be closed on the date of opening of the bids as specified, the technical bids will be opened on the next working day at the same time. The financial bids shall remain unopened until the subsequent opening, after the evaluation of the technical bids. The price bids will be opened only for the bidders who qualify technically.
8. The PD, APFBC Society shall not be held liable for any delay in the receipt of bids.

**Sd/-**  
**Project Director**  
**APFBC Society**

**SECTION-I**  
**INSTRUCTION TO BIDDERS**

- 1) The Project Director, APFBC Society, hereby invites sealed bids for the provision of the following non-consultancy service:

Description of the Service	Period of Completion
Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares).	90 days from the date of issue of the work order.

The successful bidder shall ensure that the service is completed by the intended completion date, as specified above, in accordance with the terms of the contract.

- 2) **ELIGIBILITY CRITERIA (Pre-Qualification Stage):** Bidders must submit all the mandatory documents listed below to be considered eligible and technically qualified to proceed:

Eligibility			
Sl.	Criterion	Requirement(s)	Documentary proof to be submitted
1	Legal Status and Incorporation	The bidder must be incorporated and registered in India under the Indian Companies Act, Societies Registration Act, Trust Act, or any other applicable Act in India. It should be in continuous operation for a minimum of 5 years.	Company Incorporation Certificate+ GST Registration +PAN Card and Bank details
2	Local Presence	The bidder must have a functional local office in Guwahati for at least the last five (5) years.	The bidder must submit valid documents establishing that the firm has maintained a functional local office in Guwahati continuously for the last five (5) years. Acceptable proof includes GMC trade license, GST registration, government-issued registration certificates, lease agreements with occupancy proof, or any other official document confirming continuous local office operation.
3	Similar/ Comparable Experience	The bidder must have successfully executed the following work within the last five years i.e. FY: 2020-21, 2021-22, 2022-23, 2023-24 and 2024-25: i. The bidder must have experience in conducting drone-based surveys using LiDAR and/or photogrammetry techniques, with a minimum total coverage of 30 square kilometers of moderate/dense vegetation and challenging terrains, either under a single government project or cumulatively	Must submit a Work Order, Contract Agreement, or Completion Certificate issued by a competent authority as evidence of eligibility. The submitted documents must clearly specify the scope of work executed by the bidder to demonstrate compliance with the specified qualification criteria.

<b>Eligibility</b>			
<b>Sl.</b>	<b>Criterion</b>	<b>Requirement(s)</b>	<b>Documentary proof to be submitted</b>
		across multiple government projects.	
4	Financial Ability/Stability	i. The bidder must have an average turnover of Rs. <b>3.00 Crore</b> over the last three (3) financial years, i.e., FY: 2021-22, FY: 2022-23, and FY: 2023-24. ii. The bidder should have a positive net worth in each of the last three financial years.	CA-certified copy of the Annual Turnover, along with the Profit & Loss Statements/Financial Statements for the last three financial years (i.e., FY 2021-22, FY 2022-23, and FY 2023-24) (Refer to Section V for the submission format.)
5	Technical Team	The bidder must have a qualified technical team comprising: <ul style="list-style-type: none"> <li>i. Project Manager-1</li> <li>ii. Lead Drone Pilots-4</li> <li>iii. GIS Specialists/Remote Sensing Experts-1</li> <li>iv. Data Analysts/Surveyors-1</li> <li>v. Technical Support Engineers/UAV Technicians-1</li> </ul>	A notarized undertaking affirming that the designated key personnel will be fully deployed for the duration of the assignment. (Also Bidder to submit CVs of proposed key personnel.)
6	Certifications	The bidder must possess valid ISO certifications issued by recognized bodies, including but not limited to: <ul style="list-style-type: none"> <li>i. A minimum of four (4) DGCA-certified drone pilots with valid Remote Pilot Licenses (RPLs).</li> <li>ii. ISO 9001:2015 for Quality Management Systems (The scope of the certification must be relevant to the nature of work proposed in this assignment, such as geospatial data services, remote sensing, aerial surveying, mapping, drone-based data acquisition, or similar technical services.)</li> <li>iii. The bidder may possess a valid ISO/IEC 27001:2013 or ISO/IEC 27001:2022 certification for Information Security Management Systems (ISMS). (The scope of the certification should be relevant to information security practices related to acquisition, processing, management, storage of data etc.)</li> </ul>	- DGCA RPL Certificates -Copies of valid ISO Certificates (certificate must be valid as of the date of bid submission)
7	Integrity and Legal Standing	The bidder must not have been banned, blacklisted, or debarred by any Government or Semi-Government entity for corrupt, fraudulent practices, or poor performance at any time during the last three (3) years.	A notarized self-declaration to this effect, signed by the authorized signatory, must be submitted.

Eligibility			
Sl.	Criterion	Requirement(s)	Documentary proof to be submitted
8	Pending Litigation	No pending litigation and if any, to be confirmed as being resolved against the Bidder.	A notarized self-declaration to this effect, signed by the authorized signatory, must be submitted.
9	Equipment	The bidder shall submit an undertaking that the following minimum equipment will be deployed for the assignment- drones, LiDAR units, high-resolution RGB cameras, GNSS/RTK equipment etc.	A notarized undertaking clearly mentioning that the bidder will deploy the minimum equipment as mentioned.
10	Insurance & Safety	The bidder should have adequate insurance coverage for drone equipment and third-party liability during operations.	A notarized undertaking confirming that all necessary insurance documents will be submitted prior to commencement of operations, if the contract is awarded.

**Note:** Only bidders who submit all mandatory documents will be deemed eligible and qualified to participate in the technical proposal evaluation.

- 3) **COST OF BIDDING:** The bidder shall bear all costs associated with the preparation and submission of the bid. The employer in no case be responsible for these costs regardless for the conduct or outcome of the bidding process.
- 4) **SITE VISIT AND EXAMINATION:** Bidders are encouraged to visit and examine the Site where the Services are to be performed, as well as its surrounding areas, at their own responsibility and risk. The purpose of the visit is to obtain all information necessary for the preparation of their Bids and for entering a contract for the performance of the Services. All costs incurred in connection with the Site visit shall be borne solely by the Bidder. The Procuring Entity shall not be liable for any expense, loss, or damage arising from or related to such a visit.
- 5) **CLARIFICATIONS:** Any request for clarification received by the Employer will be responded to, and such responses will be published on the official website of APFBCS for the information of all Bidders. Bidders are advised to regularly check the website for updates.
- 6) **PRE-BID MEETING:**
  - a) Prospective bidders are invited to participate in the pre-bid meeting scheduled to be held on the date, time, and venue specified below. Bidders may submit their written requests for clarification or suggestions, if any, on the bidding document in advance, for the consideration of the Employer.  
  
A Pre-Bid meeting shall take place at the following date, time and place:  
**Date: 31<sup>st</sup> July 2025.**  
**Time: 12:00 Hours IST**  
**Place: Wildlife Conference Hall, 2<sup>nd</sup> Floor, Aranya Bhawan, Panjabari, Guwahati – 781037(Assam).**
  - b) During the pre-bid meeting, clarifications sought by representatives of prospective bidders shall be addressed appropriately. However, all queries and suggestions must be submitted in writing. The employer shall publish written responses to such requests for clarification without identifying the source on the official website of the APFBC Society. If necessary, amendments to the bidding documents shall be issued, which will be binding on all prospective bidders.
- 7) **AMENDMENTS:** At any time before the bid submission deadline, the Employer may issue amendments to the Bid Document through Addenda/Corrigenda. All such amendments will be published on the official website of APFBCS. The Employer may also extend the submission deadline, if necessary.

**8) DOCUMENTS:** The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. Both Parts shall be submitted simultaneously.

**9) THE TECHNICAL PART OF BID SHALL COMPRISE THE FOLLOWING:** This shall include-

- a) Letter of Bid- Technical Part.
- b) Bid document Sealed & Signed by the authorized bidder.;
- c) Complete address and contact details of the Bidder with the following information:
  - i. Name of Firm:
  - ii. Address for communication:
  - iii. Telephone No(s):
  - iv. Office
  - iv. Mobile No.:
  - v. E-mail ID:
- d) All documents proving eligibility criteria (company registration, financial statements, certifications, experience certificates, pilot licenses, local office proof, non-blacklisting declaration, equipment details, etc.)
- e) Detailed Technical Proposal outlining methodology, work plan, team credentials, and compliance with technical specifications.
- f) Undertaking for Compliance with Technical Specifications for Tendered service (on pages 19), with declaration signed and sealed by authorized representative of the bidder.
- g) Bid Security as mentioned above.
- h) The Technical Part of Bid shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part of Bid, the Bid shall be declared non-responsive.

**10) THE FINANCIAL PART OF BID SHALL COMPRISE THE FOLLOWING: -**

- a) Letter of Bid- Financial Part
- b) Price Schedule.

**11) BID PRICES:**

- a) The contract shall cover the full scope of the service as specified in the Price schedule Form. Any corrections, if necessary, should be made by editing the information prior to bid submission.
- b) All duties, taxes, and other applicable levies related to the provision of the service shall be excluded in the total price.
- c) GST and any other taxes applicable to the service at the time of invoicing shall be shown separately. Bids that merely state taxes as 'extra' without specifying the amount are liable to be rejected. Where such taxes are not shown separately, they will be deemed to be included in the quoted price.
- d) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- e) The Prices shall be quoted in Indian Rupees only.

**12) VALIDITY OF BID:** Bid shall remain valid for a period not less than 90 days after the deadline date specified for submission.

**13) SIGNING OF BIDS:** The name and position held by each person signing the bid and related documents must be typed or printed below the signature.

**14) PREPARATION & SUBMISSIONS OF BIDS:**

- a) Each bidder shall submit only one bid.

- b) Bidders shall not contact other Bidders on matters relating to this bid.
- c) Bid shall be addressed to –

**Office of the Project Director**

**Project Management Unit, Assam Project on Forest and Biodiversity Conservation Society (APFBCS), 3rd Floor, Aranya Bhawan, Panjabari, Guwahati- 781037.**

- d) The sealed bid should be clearly marked as: '*Bid for Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares)*'.
- e) The name of the bidder, address and contact no. should be mentioned on the reverse of the sealed envelope.
- f) All pages of the bid shall be signed and stamped by the authorized person to indicate that the bidder has agreed to all terms and conditions of the bid.
- g) Overwriting, alterations, if any, in the bid should be signed by the authorized signatory.
- h) Bid not accompanied by specified documents, self-declarations, signatures may be rejected by the office as non-responsive and may not be evaluated.
- i) Bidders may submit their sealed envelopes containing the bids by post or by hand or drop in the box earmarked by the Employer.

**14) Bid Security**

- a) The bidder shall furnish, as part of their bid, a bid security in the amount specified in the detailed IFB for this particular work. The bid security shall be in favor of the 'Assam Project on Forest and Biodiversity Conservation Society Phase II,' payable at Guwahati, Assam, in one of the following forms:
  - i. Demand Draft/ Fixed Deposit Receipt (FDR) or Term Deposit Receipt (TDR) issued by Nationalized/Schedule Bank in India; or
  - ii. Bank Guarantee issued by a Nationalized/Schedule Bank in India.
- b) The Bid Security must remain valid for forty-five (45) days beyond the original or extended validity period of the bid.
- c) Any bid not accompanied by an acceptable Bid security shall be rejected by the Employer as non-responsive.
- d) Unless there is any challenge on the bid/bid process in any court of law, the Bid security of unsuccessful bidders will be returned within 28 days of the end of the validity period.
- e) The bid Security of the Successful Bidder will be discharged when the bidder has signed the Agreement and furnished the Performance Security.
- f) The Bid security shall be forfeited
  - i. If the Bidder withdraws the Bid after Bid Opening during the period of Bid Validity;
  - ii. If the Bidder does not accept the correction of the Bid Price, pursuant to Clause 15; or
  - iii. In the case of a successful Bidder, if the Bidder fails within the specified time limit to:
    - Sign the Agreement;
    - Or furnish the required Performance Security.

**15) LATE BIDS:**

- a) The Purchaser's officer authorized to receive the bids shall not receive any bid that is submitted personally by hand after the time and date fixed for submission of bids under any circumstances.
- b) Any bid which arrives by post after the deadline for submission of bids shall be declared and marked as "Late" and returned unopened to the bidder by registered post.

**16) OPENING AND EVALUATION OF THE BIDS -TECHNICAL:**



- a) The Technical bids will be opened publicly on the specified date and time wherein willing bidders may remain present.
- b) The Employer shall examine the bid to determine whether the bid -
  - i. has been properly signed and properly designed;
  - ii. is substantially responsive to the requirements of the bidding document; and
  - iii. meets the qualification criteria specified.
- c) Marking will be assigned internally for each element and qualifying criteria as set forth herein.
- d) Bidders must meet all eligibility criteria specified in Clause 2 of Section I and must also achieve the minimum required scores in both components of the technical evaluation-at least 49 out of 70 in the technical assessment and 21 out of 30 in the demonstration, with a combined total of at least 70 out of 100. Bidders who fail to meet any of these requirements will be disqualified, and their financial proposals will not be opened or considered.**

#### **17) OPENING AND EVALUATION OF THE BIDS-FINANCIAL**

- a) The Financial bids will be opened on the specified date and time by the employer's evaluation committee in the presence of the representatives of those bidders whose bids have passed the minimum technical score.
- b) The committee shall examine and confirm that Letter of bid - Financial Part and Price Schedule - are in accordance with the requirements specified in the bidding document. If any of these documents or information is missing, the offer shall be rejected.
- c) The evaluation shall be based on the total price of the service, excluding GST and any other applicable taxes, payable at the time of invoicing for the completed service at the project site.

#### **18) ADJUSTMENT:** During the evaluation of bids, any arithmetic errors will be corrected by the APFBC Society as follows:

- a) If there is a discrepancy between the amount stated in figures and the amount stated in words, the amount in words shall prevail.
- b) If there is a discrepancy between the unit price and the total price calculated by multiplying the unit price by the quantity, the unit price shall prevail, and the total price shall be corrected accordingly.
- c) Any such discrepancies will be re-computed and corrected by the APFBC Society.
- d) If a bidder does not accept the corrections made as per the above, the bid shall be rejected and the bid security shall be forfeited.

#### **19) AWARD OF CONTRACT:** The Employer will award the contract to the bidder whose bids has been determined to be substantially responsive and who has offered the lowest evaluated bid price.

- a) Notwithstanding the above, the Employer reserves the right to accept or reject any bids and to cancel the bidding process and reject all bids at any time prior to the award of contract.
- b) The bidder whose bid is accepted will be notified of the award of the contract by the Employer prior to the expiration of the bid validity period. The terms of the accepted offer shall be incorporated in the work order.

#### **20) FIXED CONTRACT PRICE:** The contract price, as specified in the Price Schedule, shall remain unchanged for the entire duration of the contract. No revisions, escalations, or adjustments shall be permitted during the execution of the assignment.

#### **21) EVALUATION PROCEDURE:** APFBCS shall open the technical bids and check them for the fulfillment of the Technical Qualification criteria and the requirements under Section-III. To be substantially responsive, the bids shall conform to the criteria mentioned in technical qualification and to the requirements mentioned in the Section III. Bids that are found to be non-responsive during the technical evaluation will be summarily rejected and will not be considered for price-bid evaluation.

- i. **Eligibility Verification:** The procurement committee will first verify that bidders have submitted all mandatory eligibility documents and meet the prescribed minimum criteria.
- ii. **Technical Proposal Evaluation:** For bidders who satisfy eligibility, the technical proposals will be evaluated and scored based on-
  - Methodology and approach-30 Marks
  - Team qualifications and experience-30 Marks
  - Compliance with technical requirements-10 Marks (*Catalogue, brochure, or other supporting documents must be submitted to demonstrate that the equipment to be used complies with the specified technical requirements. Failure to submit the required catalogue, brochure, or supporting documents will result in zero marks for compliance with technical requirements.*)

Bidders must obtain a minimum qualifying score (e.g., 70%) to be shortlisted for the next stage.

- iii. **Demonstration of Drone Solution:** The technically qualified bidders will be invited to demonstrate their drone solutions, assessed on-
  - Accuracy and quality of data capture
  - Operational efficiency
  - Compliance with specifications

Bidders passing the demonstration will proceed to financial bid opening.

**Bidders must achieve at least 49 marks out of 70 in the technical evaluation and 21 marks out of 30 in the demonstration to qualify for the next stage.**

- iv. **Product evaluation:** The qualifying bidder must be in conformity with the specification of the items and the methodology of the demonstration of the product as mentioned in the section III of the bid document. The Bidder would be required to showcase the product demonstration anywhere in the State of Assam on a “No Cost No Commitment” basis. The schedule of demonstration will be notified to all technically qualified bidders. This shall form part of the substantial responsiveness of the bid.
- v. **Financial Proposal Evaluation:**
  - (i) Financial bids of technically qualified and demonstrated bidders will be opened. The contract will be awarded to the bidder quoting the lowest evaluated cost.
  - (ii) **Price Bid Evaluation:** The Least total Price exclusive of taxes (L1) shall be the sole determining criterion for awarding the contract among substantially responsive bids. The quoted rate shall be all-inclusive, covering the complete scope of work including mobilization, execution, data processing, reporting, manpower, equipment, travel etc. No additional payment shall be made beyond the quoted rate. The indicated area of 12,500 hectares is approximate and subject to variation, with payment made based on the actual area surveyed and certified by the client. The quoted rate shall remain firm and valid throughout the contract period, irrespective of any changes in scope within the overall area.

**18) DELIVERY SCHEDULE:** The services specified in the List of Services are required to be delivered within the acceptable time range specified in Section III, Delivery Schedule. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as non-responsive.

**19) ELIGIBILITY CRITERIA RELATED TO KEY PERSONNEL:** The bidder must provide comprehensive details of the project team, demonstrating that key personnel meet the following minimum qualifications and experience:

- i. **Project Manager:** Bachelor’s degree and a minimum of 5 years’ experience in managing drone surveying, mapping, or related environmental projects. **(7 marks)**
- ii. **Lead Drone Pilots:** At least four (4) pilots holding valid DGCA Remote Pilot Licenses (RPL), each with a minimum of 3 years’ experience operating drones equipped with LiDAR and photogrammetry sensors. **(3 marks for each person)**

- iii. **GIS Specialists/Remote Sensing Experts:** Bachelor's or Master's degree in Geography, Geoinformatics, Remote Sensing, Environmental Science, Forestry, or related fields, with a minimum of 3 years' experience in LiDAR and photogrammetry data processing, analysis, and interpretation. (4 marks)
- iv. **Data Analysts/Surveyors:** Bachelor's degree in Surveying, Geomatics, Civil Engineering, or related fields, with a minimum of 2 years' experience in analyzing drone-collected data and preparing technical reports and maps. (4 marks)
- v. **Technical Support Engineers/UAV Technicians:** Diploma or degree in Electronics, Mechanical Engineering, or related fields, with at least 2 years' experience in UAV maintenance and troubleshooting. (3 marks)

**The bidder must submit detailed CVs along with copies of all relevant certificates, licenses, and qualifications for the above-mentioned key personnel as part of the technical bid.**

**20) EVALUATION SCORING FOR TEAM QUALIFICATIONS AND EXPERIENCE (30 MARKS):** The number of points assigned to each key personnel shall be determined based on the following two sub-criteria, with the respective percentage weights:

Sub-Criterion	Weight (%)
(i) General qualifications (education, training, and experience)	25%
(ii) Adequacy for the Services (relevant education, training, and experience in the sector/similar services)	80%

**21) PERFORMANCE SECURITY:**

- a) Within seven (7) days of receiving the Letter of Acceptance, the successful bidder shall submit a Performance Security to the Employer, in the format provided in Section V, for an amount equivalent to five percent (5%) of the contract price.
- b) The Performance Security shall be pledged in favor of the "Assam Project on Forest and Biodiversity Conservation Society Phase II", payable at Guwahati, Assam.
- c) The Performance Security shall remain valid for a period of 45 days beyond the completion of all contractual obligations.
- d) Failure to submit the Performance Security within the stipulated timeframe shall constitute sufficient grounds for the annulment of the contract award and forfeiture of the bid security.
- e) In the event of any default or failure by the bidder to fulfill contractual obligations, the Employer shall have the right to forfeit the Performance Security, in whole or in part, as compensation for any resulting losses.

**21) PAYMENT TERMS:**

- a) Payments to the successful bidder shall be made as per the agreed payment schedule. All payments, except for the mobilization advance described in Clause (d), shall be subject to satisfactory delivery of services and certification by the concerned officer of the APFBC Society.
- b) All payments shall be made through bank account transfer only.
- c) All applicable taxes, including GST and other statutory levies, shall be handled in accordance with prevailing Government laws and regulations.
- d) A mobilization advance of 10% of the contract value shall be provided to the successful bidder upon submission of a Bank Guarantee equivalent to 110% of the advance amount.
- e) The detailed payment schedule, including milestones and timelines for remaining payments, shall be finalized in consultation with the successful bidder prior to signing of the contract.

**22) CONFLICT OF INTEREST:** Bidders must not have any conflicts of interest. Any bidder found to have a conflict of interest will be disqualified.

**23) TERMINATION FOR INSOLVENCY:** The Employer may, by giving written notice, terminate the contract without any obligation to compensate the bidder, if the bidder becomes unwilling, is declared bankrupt, or is otherwise rendered insolvent. Such termination shall be without prejudice to any other rights or remedies available to the Employer under the contract or under applicable law.

**24) FORCE MAJEURE:** The Service Provider shall not be liable for penalties or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

- a) For purposes of this Clause, "Force Majeure" means an events beyond the control of the Service Provider and not involving the Service Provider's fault or negligence and not foreseeable. Such events may include, but not restricted to, act of Client in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- b) If a Force Majeure situation arises, the Service Provider shall promptly notify the Client in writing of such condition and the cause thereof. Unless otherwise directed by the Client in writing, the Service Provider shall continue to perform its obligations under the Contract as far as is reasonably practical and shall seek all reasonable alternative means for performance not prevented by Force Majeure event.

**25) DISPUTE SETTLEMENT:**

- a) In the event of any question, dispute, or difference arising under or in connection with this Agreement (except for matters where the decision is specifically provided for in the Agreement), the parties shall first attempt to resolve the issue through **mutual and amicable consultation**.
- b) If such consultation fails to result in a resolution, the dispute shall be referred to **arbitration by a Sole Arbitrator**, to be appointed by the **First Party**. The arbitration proceedings shall be conducted in accordance with the provisions of the **Arbitration and Conciliation Act, 1996** (as amended from time to time). The decision of the Arbitrator shall be **final and binding** on both parties.
- c) The **venue of arbitration** shall be **Guwahati, Assam**, and the proceedings shall be conducted in the **English language**.

**26) SET OFF:** The Employer shall be entitled to set off any sum of money due and payable to the successful bidder under this contract including any refundable security deposit against any claim the Employer may have against the bidder, whether under this contract or any other contract entered into between the bidder and the Employer.

**27) Liquidated Damages:**

- a) Liquidated damages shall be imposed to the selected bidder under the following conditions:
  - i. Non-completion of work under the contract beyond ninety (90) days from the date of the award of the Work Order shall invite 0.5% liquidated damage per day of the total contract value.
  - ii. The liquidated damage shall be calculated up to a maximum of 10% of the total contract amount. Next course of action once the maximum percentage is reached shall be termination of the contract under the bid.

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## **SECTION II**

### **SCOPE OF SERVICES**

#### **1. INTRODUCTION:**

The Assam Forest Department is inviting proposals from qualified and experienced service providers for the procurement of non-consultancy services aimed at conducting a high-precision, drone-based survey. This survey will utilize Photogrammetric and LiDAR (Light Detection and Ranging) technologies for mapping and verifying seedlings and trees across various plantations in the state of Assam. The total project area encompasses approximately 12,500 hectares of forest and plantation land.

This procurement is open to firms with demonstrated expertise in drone-based remote sensing, geospatial data processing, and forestry applications. Proposals will be evaluated based on the technical proficiency of the firm in handling similar projects, as well as their ability to meet the requirements outlined in this tender.

The successful agency will be expected to provide reliable, precise, and timely services while maintaining compliance with all relevant forest conservation policies and regulations.

#### **2. OBJECTIVES:**

The primary objectives of the drone-based survey are as follows:

- a) Acquire, in a single drone campaign, high-resolution LiDAR + RGB data covering approximately 12,500 ha of scheduled plantations in Assam.
- b) Produce validated seedling density and gap maps by correlating AI-detected seedlings with 1 ha Plantation Management Information System (PMIS) generated sample plots, using field data collected by the Service Provider as per Forest Department specifications.
- c) Deliver spatial layers and reports meeting audit, planning within 90 calendar days from issue of work order.

#### **3. FOREST DEPARTMENT SUPPLIED DATA & RESOURCES**

- a) PMIS Sample-Plot Layer: Shape file/Geo Package showing geo-referenced 1 ha circular or square plots, pre-allocated by Forest Department.
- b) Field Data Collection Template: CSV/physical format specifying what variables to collect in each plot (e.g., seedling count, height class, weed cover %).
- c) PMIS Credentials: Web/API access for bidder to upload field data directly.

#### **4. STATISTICAL SAMPLING DESIGN**

<b>Plantation Block Area (ha)</b>	<b>Minimum No. of 1 ha Plots</b>
≤ 50	3 plots (fixed minimum)
51 – 250	Area / 50 (≈ 2 %)
> 250	Area / 60 (≈ 1.7 %)

#### **5. SCOPE OF WORK:**

The selected service provider will be tasked with executing the following activities:

##### **5.1 Phase A – Pre-Survey (Day 1-15)**

- a. Ingest PMIS plot layer; plan flights ensuring ≥ 70 % forward & 60 % side overlap.
- b. Prepare field data collection tools as per Client-specified format; train staff accordingly.
- c. Obtain DGCA & local permissions.

## 5.2 Phase B – Simultaneous Data Collection (Day 16-45)

a. **Drone Operations:** Multi-rotor or VTOL fixed-wing with LiDAR  $\geq 5,00,000$  pps + 20 MP RGB; GNSS RTK.

b. **Field Data Collection by Bidder:** Enumerate all designated 1 ha PMIS plots using Client-prescribed format. Data must include:

- **Total seedlings count** within the plot
- **Height class distribution:** count of seedlings in defined height bands (e.g.,  $<0.5$  m,  $0.5-2$  m,  $>2$  m)
- **Average seedling height** in sub-sampled areas
- **Weed cover percentage (%)**: visually estimated in 5–10 sub-quadrats
- **Dominant species (if identifiable)**
- **Plot occupancy status:** full/partial failure, blank zones

Service Provider may adopt sub-sampling strategy (e.g., nested quadrats or strips) for efficiency. Complete plot data entry within 48 hours of corresponding drone overpass and upload to PMIS.

c. **Photogrammetry Role:** Generate high-resolution orthomosaics and 3D models using Structure from Motion (SfM) techniques to support gap detection, canopy delineation, and AI training. RGB cameras will perform vegetation classification by relying on texture, color, and spatial patterns. Photogrammetric outputs shall include orthomosaics, dense point clouds, and 3D surface models to support AI classification, while all bare-earth terrain modeling (DTM) shall rely solely on LiDAR returns.

## 5.3 Phase C – Processing & AI Correlation (Day 26-70)

a. Create DTM, DSM, CHM using Lidar ; classify point cloud into ground, low vegetation ( $<0.5$  m), seedlings ( $0.5-2$  m), trees ( $>2$  m).

b. Train convolutional / point-based AI model using 70 % of plots; validate on remaining 30 %.

c. Derive **correction factor raster** by kriging plot-level residuals or some other technique ; apply to raw seedling map.

d. Compute metrics: RMSE, bias,  $R^2$  between drone-predicted and field counts.

## 5.4 Phase D – Reporting & Handover (Day 71-90)

a. Submit draft deliverables; incorporate Client comments ( $\leq 7$  days).

b. Final deliverables, technical report and metadata uploaded to PMIS or GIS dashboard and delivered on SSD/Cloud.

c. Conduct one-day technical hand-over workshop.

### Final Deliverables:

Code	Deliverable	Format	Notes
D1	Orthophoto Mosaic	GeoTIFF ( $\leq 10$ cm)	Tiled by lot
D2	LiDAR Classified LAS	LAS 1.4	Ground, low-veg, seedling, tree classes
D3	Canopy Height Model	GeoTIFF	1 m grid
D4	Raw Seedling Detection Raster	GeoTIFF	Pre-correction
D5	Calibrated Seedling Density Map	GeoTIFF (cells = 0.1 ha)	With bias correction

D6	Validation & Accuracy Report	PDF + XLSX	Stats, confusion matrix, correction factors
D7	Plantation Gap / Mortality Layer	Shapefile	Cells with density < threshold
D8	PMIS-ready Plot Data	Direct DB push	JSON/API or direct app access according to PMIS schema

## 6. TECHNICAL REQUIREMENTS:

Sl.	Component	Specifications
1	Drone	Endurance: Minimum 30 minutes per flight. Payload: Dual-sensor capability (RGB + LiDAR). RTK/PPK-enabled for high-precision geotagging.
2	Sensor	RGB Camera: $\geq 20$ MP, global shutter. Ground Sampling Distance (RGB): $\leq 5$ cm.  LiDAR: $\geq 5,00,000$ pulses per second, multiple returns, LiDAR Density: $\geq 150$ pts $m^{-2}$ along track.
3	Accuracy Standards	Horizontal Accuracy: $\leq 10$ cm RMSE. Vertical Accuracy: $\leq 15$ cm RMSE. Tree/Seedling Detection Accuracy: Bias $\leq \pm 10\%$ & $R^2 \geq 0.90$ against PMIS plots.

- 7. TIMELINES:** The work is to be completed within a total period of 90 days, which includes all essential activities such as obtaining necessary approvals, planning, execution of data acquisition through drone operations, data processing, analysis, and submission of final deliverables as has been mentioned above. The bidder shall ensure timely completion of each phase to adhere to the overall work schedule.

However, the Project Director, APFBC Society, reserves the right to terminate the contract at any point during the assignment if the performance of the Service Provider is found to be unsatisfactory. As time is of the essence for this assignment, the Service Provider must ensure submission of all deliverables within the stipulated 90-day timeframe, without exception.

- 8. EXPECTED IMPACT:** The implementation of this drone-based forest monitoring and mapping project is anticipated to achieve the following key outcomes:

- a) Enhanced forest monitoring for conservation and afforestation programs.
- b) Data-driven policymaking for Assam's climate resilience strategies.
- c) Transparency in plantation audits and carbon credit assessments.

**Section-III**  
**SCHEDULE OF REQUIREMENTS**

**1. List of Service and Delivery Schedule:**

Sl.	Brief Description of Services	No. of Teams	Contract period	Deliverables	Consignee/ Service Consumer
1.	A high-precision drone-based survey using Photogrammetric and LiDAR (Light Detection and Ranging) sensors for mapping and verifying trees across various plantations in the state. The project encompasses an approximate area of 12500 hectares, aiming to enhance forest management, biodiversity conservation, and carbon sequestration assessment through advanced geospatial technologies & Feature Extraction through GIS processing from the verified images or photos.	08	90 days from the date of contract signing. Start and end dates will be communicated to the successful bidder upon award.	1. Orthophoto Mosaic 2. LiDAR Classified LAS 3. Canopy Height Model 4. Raw Seedling Detection Raster 5. Calibrated Seedling Density Map 6. Validation & Accuracy Report 7. Plantation Gap / Mortality Layer 8. PMIS-ready Plot Data	The Project Director, Project Management Unit, Assam Project on Forest and Biodiversity Conservation Society (APFBCS) Aranya Bhawan, Panjabari, Guwahati – 781037 (Assam), India Telephone: +91-361-2733917. Email: <a href="mailto:pd@apfbc.in">pd@apfbc.in</a>

**2. Technical specification of UAS/Drone based system for optical sensors.**

**Technical Specifications**

Sl.	Description	Required Specification without operator	Bidder's Offered Specifications/ Compliance/ Deviation Statement (to be filled up by the BIDDER)
1	UAS type	To be provided by the bidder	
2	Mission	Surveying and Mapping/ Professional grade	
3	Landing and Take off	At the bidder's discretion	
4	Maximum Takeoff Weight (MTOW)	To be provided by the bidder (complying with DGCA regulations for UAS operation)	
5	Flight Height above ground level	As defined by DGCA or At least 120 mAGL with Terrain tracing capability whichever is suitable.	
6	Endurance or max flight time	Minimum 30 minutes.	
7	Sensor or Camera	<ul style="list-style-type: none"> <li>LiDAR sensor Minimum point density of <b>150 points per square meter</b> (after classification) over vegetation and Minimum <b>laser pulse rate of 5,00,000 pulses per second (pps)</b> with a field of view (FOV) <math>\geq 70^\circ</math>.</li> <li>High resolution RGB camera with minimum resolution 20MP or more. RGB sensor must cover visible</li> </ul>	



		spectrum (400–700 nm) with Ground Sampling Distance (GSD) ≤ 5 cm at 120 m AGL	
8	GNSS Grade	PPK enabled with GNSS base station (GNSS station of L1 and L2 frequency)	
9	Nominal coverage at 120 m. Forward overlap 70% and side overlap 60%	1-1.2 sq km with) ≤ 5cmGSD	
10	Operational wind Speed	Minimum 8m/s or higher	
11	Average X, Y accuracy	<10cm (95% of total checked values (absolute accuracy) should be less than 10 cm)	
12	Average Z accuracy	<15cm (95% of total checked values (absolute accuracy) should be less than 15 cm)	
13	Battery Type	To be provided by the bidder	
14	Emergency recovery mode	Ability return back to launch pad or home position with landing accuracy of 3 meter or better in case of communication failure, low battery/power and high wind (more than operational wind speed) etc.	
15	Security	128 bit encryption	
16	DGCA Guidelines	The Professional Survey Grade Unmanned Aerial Vehicle/ Drone shall have all necessary permits and should be registered with DGCA. The party will arrange to get permission wherever necessary.	

### 3. PRODUCT DEMONSTRATION:

The bidder shall carry out the product demonstration strictly using the specifications mentioned above. Following checklist will be used for the technical evaluation of the product.

Sl.	Criteria	Marks	Marks Awarded
1	<b>Drone Operational Capabilities and Reliability:</b> The drone's ability to perform autonomous takeoff, flight, and landing, complete deployments quickly, maintain communication, return to home in case of failure, track its position and flight parameters, cover specified areas efficiently, and resume missions after interruptions like battery changes or signal loss.	8	
2	<b>Data Collection and Analytical Outputs:</b> The drone's capacity to accurately detect and geotag individual saplings, identify planting density gaps, differentiate between saplings and weeds (including providing percentage weed cover and green cover with height class distribution), identify fencing and boundary markers, and generate various vegetation metrics like NDVI.	7	
3	<b>Surveying, Mapping, and Image Acquisition:</b> The drone's performance in accurate 2D and 3D surveys (including flight planning and GCPs), its ability to capture and demonstrate efficiency in generating Ortho mosaic, DTM, and DSM	8	

	outputs, and its capability for high-quality RGB and multispectral imagery acquisition with real-time data display and video streaming with telemetry overlay.		
4	<b>Deliverables, Environmental Resilience, and Innovation:</b> The drone's output of data in specified formats (jpeg/png for RGB, tiff for multispectral), its ability to demonstrate obstacle avoidance during flight, its stable operation in mild wind or overcast conditions, and any bonus marks for innovation that meets the desired use case.	7	

**Undertaking/Declaration by the Bidder:**

*(The Bidder must submit the undertaking with its letterhead clearly showing the Bidder's complete name and address)*

We, (Bidder Name), hereby declare that we have fully understood the scope of work of the present tender for conducting a high-precision drone-based survey using Photogrammetric and LiDAR sensors for mapping and verifying trees across various plantations covering approximately 12,500 hectares in the state, along with all related service requirements.

We certify that we shall perform all the services mentioned in this tender and comply with the minimum technical and operational specifications contained in the schedule of requirements, including data acquisition, processing, feature extraction, AI/ML training and corrections and delivery of the final outputs within the agreed timelines.

We have attached necessary compliance documents and proof of our capability to carry out these services as per the defined scope.

We further declare and affirm that the methodologies, equipment, and personnel proposed by us meet the tender specifications and that we have secured all required permissions and arrangements with equipment manufacturers or service providers, ensuring readiness to execute the contract upon award.

By signing this undertaking, we acknowledge that any misrepresentation or failure to meet the specified requirements shall lead to the rejection or cancellation of our bid and other remedies as per the tender conditions.

**Seal and Signature of the Bidders' Authorized Representative**

**TENTATIVE LIST OF PLANTATION SITES FOR DRONE-BASED SURVEY:**

<b>Sl.</b>	<b>Plantation Lot/ Plantation Circle</b>	<b>Forest Division</b>	<b>No. of Plantation Site</b>	<b>Area (Ha)</b>
1	Jorhat	Jorhat, Digboi, Dibrugarh, Doomdooma and Lakhimpur	12	1,525
2	Silchar	Barak Valley Wildlife, Cachar, Karimganj and Karimganj SF	7	925
3	Kokrajhar	Baksa, Dhansiri, Haltugaon, Kokrajhar SF, and Parbatjhora	11	1,050
4	Halflong	Dima Hasao East, Dima Hasao West and Southern Afforestation	16	2,730
5	Tezpur	Dhemaji, Sonitpur East, Sonitpur West, Lakhimpur, Nagaon, Parbatjhora, Goalpara and Nagaon South, North Kamrup, Kamroop East, Karimganj, Cachar, and Doomdooma	33	3,085
6	Bongaigaon	Aie Valley, Bongaigaon SF and Dhubri	8	850
7	Dima Hasao Autonomous Council (DHAC)	Dima Haso (East), Dima Hasao (West)	8	450
8	Central Southern Assam Social Forestry Circle (SASFC)	Karimganj, Barak Valley Wildlife	4	125
9	Lower Assam Social Forestry Circle (LASFC)	Aie Valley	2	50
10	Bodo Land Teritorial Autonomous District (BTAD)	Kokrajhar SF, Dhansiri, Parbatjhora	19	535
11	Southern Assam Circle (SAC)	Cachar	11	240
12	Central Assam Circle (CAC)	Goalpara	3	75
13	Northern Assam Circle (NAC)	Dhemaji, Lakhimpur, Sonitpur (East), Nagaon (South)	10	300
14	Eastern Assam Circle (EAC)	Dibrugarh, Doomdooma, Digboi	26	570

## **SECTION - IV**

### **LETTER OF BID-TECHNICAL**

*The Bidder must prepare the Letter of Bid with its letterhead clearly showing the Bidder's complete name and address. The italicized text is for Bidder's guidance in preparing these forms and shall be deleted from the final products.*

**Description of the Works:** Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares).

**IFB No. APFBC/PMU/Phase-II/DBS/2025/389/170**

**Dated: ...../...../2025**

To:

The Project Director, APFBC Society,

Aranya Bhawan, Panjabari,

Guwahati - 781037

Sub: Technical Bid for 'Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares)'.

Sir,

1. We, the undersigned, hereby submit our Bid in two parts, namely:

(a) Technical Part; and

(b) Financial Part

2. In submitting our Bid, we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document;

(b) **Conformity:** We offer to execute the subject work in conformity with the bidding document and in accordance with the Period of Completion specified in Section -I;

(c) **Bid Validity Period:** Our bid shall be valid for the period of 90 days, from the deadline fixed for the bid submission;

(d) **Eligibility:** We meet the eligibility requirements and have no conflict of interest, we are not participating in more than one bid in this bidding process, and we have not been temporarily suspended or blacklisted or suspended by the Central or any State Government;

(e) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of corrupt, fraudulent, collusive, coercive, or obstructive practices; and we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."

Yours faithfully,

Authorized Signature

Name & Title of Signatory \_\_\_\_\_

In the capacity of *[insert legal capacity of person signing the Letter of Bid]*

Name of Bidder \_\_\_\_\_

Address \_\_\_\_\_

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*

## LETTER OF BID-FINANCIAL

*The Bidder must prepare the Letter of Bid with its letterhead clearly showing the Bidder's complete name and address. The italicized text is for Bidder's guidance in preparing these forms and shall be deleted from the final products.*

**Description of the Works:** Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares).

**IFB No. APFBC/PMU/Phase-II/DBS/2025/389/170**

Our Reference: No..... Dated.....

**To:**

The Project Director, APFBC Society,  
Aranya Bhawan, Panjabari,  
Guwahati – 781037

**Subject:** Financial Bid for “Engagement of a service provider for drone-based survey using photogrammetry and lidar sensors for tree mapping and verification across various plantations in Assam (approx. 12,500 hectares)”.

**Sir,**

1. We, the undersigned, hereby submit the second part of our Bid, the Financial Part. In submitting our Financial Part, we make the following additional declarations:

- (a) Our bid shall be valid for the period of 90 days from the deadline fixed for the bid submission.
- (b) The total price of our Bid, including any unconditional discounts offered, is:

Total price of the bid **[insert the total price of the bid including GST and any other taxes, which will be payable on the finished goods, in words and figures];**

Yours faithfully,

Authorized Signature

Name & Title of Signatory \_\_\_\_\_

In the capacity of *[insert legal capacity of person signing the Letter of bid]*

Name of Bidder \_\_\_\_\_

Address \_\_\_\_\_

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*

### **PRICE SCHEDULE**

<b>Item No. (Col 1)</b>	<b>Description of Work (Col 2)</b>	<b>Unit (Col 3)</b>	<b>Qty (Col4)</b>	<b>Unit Rate exclusive of GST (INR) (Col5)</b>	<b>Quoted Amount exclusive of GST (INR) (Col 6 = Col4*Col5)</b>	<b>GST(INR)and other taxes (Col7)</b>	<b>Total Quoted Amount with GST(INR)and other taxes (Col 8=Col 6 +Col 7)</b>
1	Drone data acquisition using LiDAR + RGB for 12,500 ha	ha	12,500				
2	Photogrammetry processing (DSM, orthophoto, 3D model)	ha	12,500				
3	LiDAR processing & DTM, CHM, classification	ha	12,500				
4	Ground-truthing field data collection for PMIS plots	Plot	200-250				
5	AI model training, correlation & seedling map calibration	Lot	1				
6	Final deliverables: accuracy report, gap layers, PMIS uploads	Lump sum	1				
7	Training, report submission, handover workshop	Lump sum	1				
<b>Total</b>							

(The lowest evaluated responsive bidder shall be decided on the total amount quoted exclusive of GST, and other taxes as applicable, i.e., **Total under Col 6**)

**Notes:**

- The quoted rate shall be deemed to cover the complete scope of work, including mobilization, execution, data processing, reporting, manpower, equipment, travel etc.
- Applicable taxes and duties shall be paid separately on actuals, as per prevailing rates.
- Unit quoted rate shall be final.
- The quantity indicated (12,500 hectares) is approximate and subject to variation. Payment will be made based on the actual area surveyed and certified by the client.
- The quoted rate shall remain firm and valid throughout the contract duration, irrespective of any changes in scope within the overall area.

Name & Title of Signatory \_\_\_\_\_

In the capacity of *[insert legal capacity of person signing the Letter of bid]*

Name of Bidder \_\_\_\_\_

Address \_\_\_\_\_

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*



## **Section-V**

### **Financial Situation and Performance**

*[to be filled by the Bidder]*

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

IFB No. and title: *[insert IFB number and title]*

#### **1. Financial data**

Type of Financial information in Indian Rupee (INR) Equivalent	Historic information for previous Three (3) years (amount in INR equivalent)		
	2023-24	2022-23	2021-22
<b>Statement of financial position (information from balance sheet)</b>			
Total Assets (TA)			
Total Liabilities (TL)			
Total Equity/Net Worth (NW)= (TA-TL)			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital (WC)			
<b>Information from income statement</b>			
Total Revenue (TR)			
Profit before Taxes (PBT)			
<b>Cash flow information</b>			
Cash flow from operating activities			

#### **2. Financial Parameters**

Based on the above table, which is based on the corresponding years' balance sheets audited and certified by Chartered Accountant, the compliance requirements are stated below:

a) Average Liquidity Ratio for last 3 years:

Year	2023-24	2022-2023	2021-22	Average
Liquidity Ratio (CA/CL)				

b) Net Worth for last 3 years:

Year	2023-24	2022-2023	2021-22
Net Worth			

**Note: This document should be certified by a Chartered Accountant.**

**Average Annual Turnover**

*[to be filled by the Bidder]*

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

IFB No. and title: *[insert IFB number and title]*

<b>Year</b>	<b>Annual turnover data</b>
<i>[Indicate financial year]</i>	<i>[insert amount in INR]</i>
2023-24	
2022-23	
2021-22	
<b>Average Annual Turnover</b>	

**Note: This document should be certified by a Chartered Accountant.**

## **Technical Proposal**

*[Below is a suggested structure of the technical Proposal]*

### **A. Bidder's Structure and Experience**

*[Provide here a brief description of the background and organization of your company, and - in case of a joint venture - of each member that will be participating in the Services, including an organizational chart, a list of board of directors, and beneficial ownership.]*

### **B. Description of Approach, Methodology, and Work Plan in accordance with the Shedule of Requirements**

#### **a) Technical approach and methodology:**

*[Please explain your understanding of the objectives of the Services as outlined in the Section VII (Schedule of Requirements), the technical approach, and the methodology you would adopt for implementing the tasks to deliver the expected output(s), and the degree of detail of such output. Include here your comments and suggestions on the Schedule of Requirementss and comments on counterpart staff and facilities provided by the Client if any. Please do not repeat/copy the Schedule of Requirementss in here.]*

#### **b) Work Plan**

*[Please outline the plan for the implementation of the main activities/tasks of the Services, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and tentative delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing your understanding of the Schedule of Requirements and ability to translate them into a feasible working plan. A list of the final documents (including reports) to be delivered as final output(s) should be included here.]*

### **C. Bidder's Organization and Staffing**

*[Please describe the structure and composition of your team, including a list of the specialists and relevant technical and administrative support staff. CVs of all experts shall be provided (Below mentioned format may be used for that purpose).]*

**Curriculum Vitae (CV)**  
**(Indicative format)**

<b>Position Title and No.:</b>	<i>[e.g., Project Manager]</i>
<b>Name of Expert:</b>	<i>[insert full name]</i>
<b>Date of Birth:</b>	<i>[day/month/year]</i>
<b>Country of Citizenship/Residence:</b>	<i>[insert country]</i>

**Education:** *[List college/university or other specialized education, giving names of educational institutions, dates attended, degree(s)/diploma(s) obtained.]*

\_\_\_\_\_

\_\_\_\_\_

**Employment record relevant to the Services:** *[Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the Services does not need to be included.]*

<b>Period</b>	<b>Employing organization and your title/position. Contact information for references</b>	<b>Country</b>	<b>Summary of activities performed relevant to the Services</b>
<i>[e.g., May 2015 – present]</i>	<i>[e.g. Ministry of _____, advisor/consultant to _____ For references: phone _____ / email _____, Mr. Bbbbbb, deputy minister]</i>		

**Language Skills (indicate only languages in which you can work):** \_\_\_\_\_

\_\_\_\_\_

**Adequacy for the Services:**

<b>Detailed Tasks Assigned to bidders's Team of Experts</b>	<b>Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks</b>
<i>[List all deliverables/tasks in which the Expert will be involved]</i>	

**Expert's contact information:***[email: \_\_\_\_\_, phone: \_\_\_\_\_]*

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the Services in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client.

*[day/month/year]*

Name of Expert	Signature
	Date

*[day/month/year]*

---

Name of authorized Representative of the Consultant

Signature

Date

*[the same who signs the Proposal]*

**Important Note: CVs not signed by the Respective Experts and by the Authorized Representative of the Bidder (the same who signs the technical bid) may not be considered for technical evaluation and marking.**

**Form for Bid Security  
Demand Guarantee**

Beneficiary: \_\_\_\_\_  
Invitation for Bids No.: \_\_\_\_\_  
Date: \_\_\_\_\_  
Bid Guarantee No.: \_\_\_\_\_  
Guarantor: \_\_\_\_\_

We have been informed that \_\_\_\_\_ (hereinafter called "**the Bidder**") has submitted or will submit to the Beneficiary its bid (hereinafter called "**the Bid**") for the execution of \_\_\_\_\_ under Invitation for Bids No. \_\_\_\_\_ ("**the IFB**").

Furthermore, we understand that, according to the Beneficiary's conditions, Bids must be supported by a Bid guarantee.

At the request of the Bidder, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of INR \_\_\_\_\_ (Indian Rupees \_\_\_\_\_ only) upon receipt by us of the Beneficiary's first demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Bidder:

a) Has withdrawn its Bid during the period of Bid validity set forth in the Bidder's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Bidder; or

b) Having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Bidder, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("**ITB**") of the Beneficiary's Bidding Documents.

This guarantee will expire:

a) if the Bidder is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Bidder and the performance security issued to the Beneficiary in relation to such contract agreement; or

b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Bidder of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

\_\_\_\_\_

**Performance Security  
Demand guarantee**

**Beneficiary:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**PERFORMANCE GUARANTEE No.:** \_\_\_\_\_

**Guarantor:** \_\_\_\_\_

We have been informed that \_\_\_\_\_ (hereinafter called "**the Bidder**") has entered into Contract No.

\_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of \_\_\_\_\_ (hereinafter called "**the Contract**").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Bidder, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ *[insert amount in figures]* (\_\_\_\_\_) *[insert amount in words]*1 such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's first demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Bidder is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the \_\_\_\_\_ day of \_\_\_\_\_ 2 \_\_\_\_2, and any demand for payment under it must be received by us at this office indicated above on or before that date.

\_\_\_\_\_ *[Signature]*

***[Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.]***