

Notice Inviting Tender (NIT)

1. Notice Inviting Tender (NIT)

The President of India, through Surveyor General of India, the Head of Procurement of the Procuring Entity: Survey of India, in the Procuring Organisation: Survey of India, Department of Science and Technology (hereinafter referred to as 'the Authority', 'the Head of Procurement', 'the Procuring Entity' and 'the Procuring Organisation' respectively), invites proposals (herein after referred as the 'bid(s)') for entering into a contract for the delivery of Non-consultancy Services for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with

- Nadir Camera
- Multi angle (4 oblique + 1 Nadir) camera and
- Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(herein after referred to as 'the Services'). This Request for Proposal for providing Services for 2D/ 3D Mapping of Urban Areas, Tender Reference Number T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024 (hereinafter referred to as 'the Tender Document') should be referred for further details.

2. Availability of the Tender Document

The Tender Document shall be published on the Portal: <https://eprocure.gov.in/eprocure> . It shall be available for download after the date and time of the start of availability till the deadline for availability as mentioned in TIS. The downloaded Tender Document is free of cost. If the Procuring Entity happens to be closed on the deadline for submitting the bids as specified above, this deadline shall *not* be extended. Any query/ clarification regarding downloading Tender Documents and uploading Bids on the e-Procurement portal may be addressed to the Help Desk (contact details given in TIS).

2.1 Clarifications

A Bidder requiring any clarification regarding the Tender Document may ask questions in writing/ electronically from e-procurement portal/Office as mentioned in TIS, provided the questions are raised before the clarification end date mentioned in TIS. This deadline shall not be extended in case of any intervening holidays.

3. Eligibility Criteria for Participation in this Tender

Subject to provisions in the Tender Document, participation in this Tender Process is open to all bidders who fulfil the 'Eligibility' and 'Qualification criteria'.

4. Pre-bid Conference:

As indicated in TIS, Bidders are requested to attend a Pre-bid conference in in-person mode for clarification on the Tenders' technical specifications and commercial conditions, on the time, date, and place mentioned therein.

5. Disclaimers and Rights of Procuring Entity

The issue of the Tender Document does not imply that the Procuring Entity is bound to select bid(s), and it reserves the right without assigning any reason to:

- a) reject any or all of the Bids, or
- b) cancel the tender process; or
- c) abandon the procurement of the Services; or
- d) issue another tender for identical or similar Services

Note: For further details, please refer to appended TIS and the complete Tender Document.

Appendix: Tender Information Summary (TIS)

Appendix to NIT: Tender Information Summary

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 1.4)

Tender Information Summary (TIS)			
1.0 Basic Tender Details			
Tender Title	Request for Proposal for providing Services for 2D/ 3D Mapping of Urban Areas using Aerial Platform (Manned/ Unmanned) fitted on-board with <ul style="list-style-type: none"> • Nadir Camera • Multi angle (4 oblique + 1 Nadir) camera and • Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor 		
Tender Reference Number	T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024	Tender ID	T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024
Tender Type	Open Tender – Domestic	Form of Contract	Unit Rate
Tender Category	Non Consulting Services	No. of Covers	Two Covers
Bidding System	Single Stage RFP	*Price Structure	Unit-Rate (output admeasurement) – Definite-Delivery BOQ
e-Reverse Auction to be held after Financial bid opening (See AITB also in case of Yes)		NO	
The Procuring Organisation:	Survey of India	The Procuring Entity:	Survey of India
Authority on whose behalf Tender is invited	President of India	Through	Surveyor General of India
Tender Inviting Authority (TIA)	Surveyor General of India	Address	Office of the Surveyor General of India, Hathibarkala Estate, DEHRADUN, PIN - 248 001 helpdesk[dot]s oi[at]gov[dot]in

2.0 Requirement Details (ITB 5.0)			
Contract Period:	12 months (current scope of work to be delivered within 6 months. In case variation upto 100%, another 6 months will be timeline for delivery of additional scope of services.)	¹ Form of Contract (ITB-clause 5.5)	Unit-Rate (output admeasurement) – Definite-Delivery
Schedule	Ref Schedule VI-1		
Service Details:	Ref Schedule VI-1		
Indicative HSN Code:	NA	Consignee/ State:	Respective Geospatial Directorate responsible for Work as per Package (State) detailed in Attachment-1 to TIS
3.0 Critical Dates (ITB-clause 7.0; 8.0; 9.0, 10.0 and 11.0)			
Published Date	14/10/2024	Bid Validity (Days from the date of Tender Opening) – ITB-clause 9.3	90 days
Document Download Start Date & Time	14/10/2024, 1000 hrs	Document Download End Date & Time	05/11/2024, 1800 hrs
Clarification Start Date & Time	14/10/2024, 1000 hrs	Clarification End Date & Time	23/10/2024, 1800 hrs
Pre bid meeting date	26/10/2024, 1100 hrs		
Clarification/ Amendments to Tender, If any	30/10/2024		
bid Submission Start Date & Time	15/10/2024, 1000 hrs	bid Submission Closing Date & Time	05/11/2024, 1800 hrs
Tender Opening (techno-	06/11/2024, 1000 hrs	Tender Opening (Financial bid) Date & Time	To be intimated later to

¹ Based on BOQ Template: Item-wise Templates

commercial bid) Date & Time			technically qualified bidders.
4.0 Eligibility to Participate (NIT-clause 3 and ITB-clause 3.2)			
Nature of Bidders eligible	Individual Service Provider/ Firms/JV/Cs (maximum of 3 firms)		
Minimum local content for eligibility to participate ITB-clause 4.1.4 (Make in India Policy)	50%		
Classes of Local Suppliers eligible to participate ITB-clause 4.1.4 (Make in India Policy)	Only Class I local Suppliers are eligible		
5.0 Thresholds for Eligibility to Participate and Preference under Make in India Policy (ITB-clause 4.1.4)			
Classification of Local Suppliers based on Minimum local content (ITB-clause 4.1.1)	Class-I Local Suppliers: 50%		
The margin of purchase preference (ITB-clause 4.1.4)	Not Applicable		
Is the requirement divisible for preference (ITB-clause 4.1.5)	Not Applicable		
Would the contract be split among more than one bidder (ITB-clause 4.1.5)	Yes		
6.0 Obtaining the Tender Document and clarifications (ITB 7.0)			
eProcurement Portal and helpdesk for Document availability and submission	https://eprocure.gov.in/eprocure/app		
Cost of Tender Document (₹)	Not Applicable		
Office/ Contact Person/ email for clarifications	[Same as TIA above]		
7.0 Pre-bid Conference (ITB-clause 8)			
Place, time, and date of the Pre-bid Conference	In-Person Mode at Conference Hall, SGO, Survey of India, Hathibarkala, Dehradun 248001 at 1100hrs on 26/10/2024		
Place, time, and date before which Written queries for the Pre-bid conference must be received	23/10/2024, 1800 hrs		
Place, time, and date before which registration of participants	NA		

for the Pre-bid conference must be received	
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8.0 Preparation and Submission and Opening of Bids (ITB-clause 9.0 and 10.0)			
Bids to be Addressed to	Surveyor General of India, Survey of India, Hathibarkala, Dehradun, Uttarakhand - 248001		
Instructions for Online bid Submission	https://etenders.gov.in/e procure/app?page=HelpForContractors&service=page		
Tender Opening Place	On e-procurement portal(s) mentioned above		
Alternate Bids allowed or not: ITB-clause 9.1.6	NO		
9.0 Physical submission of Originals/ Self-attested copies of Originals of Scanned Documents uploaded (ITB-clause 10.3)			
Physical documents required/ permitted to be submitted	Yes		
If Yes, List of Documents to be submitted physically	1. Form 1: Bid Form, 2. Form 1.1: Bidder Information 3. Form 7: Documents related to Bid Security 4. MSME / Start-up Certificate (if any)		
Deadline for physical submission of originals/ self-attested copies of Originals of uploaded scanned documents	Same as the deadline for the bid submission		
Address of Physical Submission of Originals	[Same as TIA above]		
10.0 Documents relating to Bid Security (ITB-clause 9.4) and Performance Security (ITB-clause 13.2.4)			
In lieu of Bid Security Bid Securing Declaration is to be submitted by all bidders as per Form 7			
Performance Security	Applicable @ 3% of Order value	Form of Security and To whom to be addressed	Bank Guarantee from Nationalized bank in the favour of Establishment and Accounts Officer of respective Zonal Office with whom the contract will be signed.



Survey of India

Department of Science and Technology

**Tender Reference Number:
T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313
dated 10/10/2024**

Request for Proposal

for providing Services for 2D/ 3D Mapping of Urban Areas using Aerial Platform (Manned/ Unmanned) fitted on-board with

- Nadir Camera
- Multi angle (4 oblique + 1 Nadir) camera and
- Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Procuring Entity:

OFFICE OF SURVEYOR GENERAL OF INDIA,
SURVEY OF INDIA, HATHIBARKALA ESTATE
DEHRADUN (UTTARAKHAND) – 248001

Email - sgo[dot]soi[at]gov[dot]in

Survey of India

Tender Reference Number:

T-1590/1147-PROJECT

(NAKSHA)_DOLR/COMP_25313 DATED 10/10/2024

Request for Proposal

for providing Services for 2D/ 3D Mapping of Urban Areas using Aerial Platform (Manned/ Unmanned) fitted on-board with

- **Nadir Camera**
- **Multi angle (4 oblique + 1 Nadir) camera and**
- **Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor**

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Section I: Notice Inviting Tender (NIT)

1. Notice Inviting Tender (NIT)

The President of India, through Surveyor General of India, the Head of Procurement of the Procuring Entity: Survey of India, in the Procuring Organisation: Survey of India, Department of Science and Technology (hereinafter referred to as 'the Authority', 'the Head of Procurement', 'the Procuring Entity' and 'the Procuring Organisation' respectively), invites proposals (herein after referred as the 'bid(s)') for entering into a contract for the delivery of Non-consultancy Services for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with

- Nadir Camera
- Multi angle (4 oblique + 1 Nadir) camera and
- Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

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2. The Tender Document

2.1 Bidders must read the complete 'Tender Document'.

This NIT is an integral part of the Tender Document and serves a limited purpose of invitation, and does not purport to contain all relevant details for submission of bids. 'Tender Information Summary' (TIS) appended to this notice gives a salient summary of the tender information. Any generic reference to NIT shall also imply a reference to TIS as well. However, Bidders must go through the complete Tender Document for details before submission of their Bids.

2.2 Availability of the Tender Document

The Tender Document shall be published on the Portal: <https://eprocure.gov.in/eprocure> . It shall be available for download after the date and time of the start of availability till the deadline for availability as mentioned in TIS. The downloaded Tender Document is free of cost. If the Procuring Entity happens to be closed on the deadline for submitting the bids as specified above, this deadline shall *not* be extended. Any query/ clarification regarding downloading Tender Documents and uploading Bids on the e-Procurement portal may be addressed to the Help Desk (contact details given in TIS).

2.3 Clarifications

A Bidder requiring any clarification regarding the Tender Document may ask questions in writing/ electronically from e-procurement portal/Office as mentioned in TIS, provided the questions are raised before the clarification end date mentioned in TIS. This deadline shall not be extended in case of any intervening holidays.

3. Eligibility Criteria for Participation in this Tender

Subject to provisions in the Tender Document, participation in this Tender Process is open to all bidders who fulfil the 'Eligibility' and 'Qualification criteria'. Bidder should meet the following eligibility criteria as on the date of his bid submission and should continue to meet these till the award of the contract. Bidder shall be required to declare fulfilment of Eligibility Criteria in Form 1.2 (Eligibility Declarations). Bidder unless otherwise stipulated in TIS/ AITB:

1) must be:

- (a) a natural person, private entity
- (b) Unless permitted explicitly in TIS/ AITB, not be (or proposes to be) a Joint Venture/ Consortium (an association of several persons, firms, or companies - hereinafter referred to as JV/C through a legally binding agreement).
- (c) a provider of the Non-consultancy Services offered with valid registration regarding GSTIN, PAN, EPF, ESI, Labour, Private Security Agencies, as applicable to the subject Services.

2) must:

- (a) Not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of aforesaid reasons.
- (b) (Including their affiliates or subsidiaries or Contractors/ subcontractors for any part of the contract):
 - i) Not stand declared ineligible/ blacklisted/ banned/ debarred by the Survey of India or its Ministry/ Department from participation in its Tender Processes; and/ or
 - ii) Not be convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for:
 - offences involving moral turpitude in business dealings under the Prevention of Corruption Act, 1988 or any other law; and/or
 - offences under the Indian Penal Code or any other law for causing any loss of life/ limbs/ property or endangering Public Health during the execution of a public procurement contract and/ or
 - suspected to be or of doubtful loyalty to the Country or a National Security risk as determined by appropriate agencies of the Government of India.
 - iii) Not have changed its name or created a new "Allied Firm", consequent to having declared ineligible/ suspended/ blacklisted/ banned/ debarred as above.
 - iv) Not have an association (as a bidder/ partner/ director/ employee in any capacity)
 - of any retired Manager (of Gazetted Rank) or any retired Gazetted Officer of the Central or State Government or its Public Sector Undertakings if such a retired person has not completed the cooling-off period of one year after his retirement. However, this shall not apply if such managers/ officers have obtained a waiver of the cooling-off period from their erstwhile organisation.
 - of the near relations of executives of Procuring Entity involved in this Tender Process

- (c) Not have conflict of interest, which substantially affects fair competition. The prices quoted should be competitive and without adopting any unfair/ unethical/ anti-competitive means. No attempt should be made to induce any other bidder to submit or not to submit an offer for restricting competition
- 3) must fulfil any other additional eligibility condition, if any, as may be prescribed, in Tender Document.
- 4) must provide such evidence of their continued eligibility to the Procuring Entity if so requested
- 5) of Class-II Local Suppliers and Non-Local Suppliers (as defined in Make-in-India policy) shall be eligible subject to certain conditions as detailed in the ITB-clause4.1.
- 6) from specified countries having land borders with India (but not in development partnership with India) shall be eligible subject to certain conditions as detailed in the ITB-clause3.3.

4. Purchase Preference Policies of the Government

As detailed in the Tender Document, the Procuring Entity reserves its right to grant preferences to eligible Bidders under various Government Policies/ directives (policies relating to Make in India; MSME; Start-ups etc.).

5. Pre-bid Conference:

If so indicated in TIS, Bidders are requested to attend a Pre-bid conference for clarification on the Tenders' technical specifications and commercial conditions, on the time, date, and place mentioned therein. Participation in such a Pre-bid Conference is not mandatory. If a bidder does not participate or submit any query, then no subsequent representations from them regarding the Technical/ commercial specifications/ conditions shall be entertained.

6. Submission of Bids:

- 1) Bids must be uploaded till the deadline for submission mentioned in TIS. If the office happens to be closed on the deadline to submit the bids as specified above, this deadline shall not be extended.
- 2) Unless otherwise specified, in TIS, originals (or self-attested copies of originals – as specified therein) of specified scanned uploaded documents must be physically submitted sealed in double cover and acknowledgement be obtained before the bid submission deadline at mentioned venue. Failure to do so is likely to result in the bid being rejected. If the office is closed on the deadline for physical submission of originals, it shall stand extended to the next working day at the same time and venue.
- 3) No manual Bids shall be made available or accepted for submission (except for originals of scanned copies as per sub-clause above). Bidder must comply with the conditions of the eProcurement portal, including registration, compatible Digital Signature Certificate (DSC) etc. In the case of downloaded documents, Bidder must not make any changes to the contents of the documents while uploading, except for filling in the required information.
- 4) As per current Government orders, in lieu of bid security, bidders must furnish Bid Securing Declaration (BSD) as 'Form 7: Documents Relating To Bid Security' in their bid as per format given therein. The BSD shall be drawn in favour of the authority stipulated in TIS. A self-attested scan of the original Form 7 should be uploaded along with bids. Bids not complying with these provisions shall be rejected.

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

- 5) Integrity Pact:** If so indicated, in the TIS/ AITB, all Bidders shall have to sign the Integrity Pact with the Procuring Entity as per 'Form 8: Integrity Pact'. Bids without a signed Integrity Pact shall be rejected.

7. Bid Opening

Bids received shall be opened online at the specified date and time given in TIS. If the office is closed on the specified date of opening of the bids, the opening shall be done on the next working day at the same time.

8. Disclaimers and Rights of Procuring Entity

The issue of the Tender Document does not imply that the Procuring Entity is bound to select bid(s), and it reserves the right without assigning any reason to:

- a) reject any or all of the Bids, or
- b) cancel the tender process; or
- c) abandon the procurement of the Services; or
- d) issue another tender for identical or similar Services

Note: For further details, please refer to appended TIS and the complete Tender Document.

Digitally Signed by

Tender Inviting Authority (TIA):

(Shailesh Kumar Sinha)
Additional Surveyor General &
Chairman, Tender Committee
for Surveyor General of India
Dehradun, Uttarakhand

Appendix: Tender Information Summary (TIS)

Appendix to NIT: Tender Information Summary

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 1.4)

Tender Information Summary (TIS)			
1.0 Basic Tender Details			
Tender Title	Request for Proposal for providing Services for 2D/ 3D Mapping of Urban Areas using Aerial Platform (Manned/ Unmanned) fitted on-board with <ul style="list-style-type: none"> • Nadir Camera • Multi angle (4 oblique + 1 Nadir) camera and • Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor 		
Tender Reference Number	T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024	Tender ID	T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024
Tender Type	Open Tender – Domestic	Form of Contract	Unit Rate
Tender Category	Non Consulting Services	No. of Covers	Two Covers
Bidding System	Single Stage RFP	*Price Structure	Unit-Rate (output admeasurement) – Definite-Delivery BOQ
e-Reverse Auction to be held after Financial bid opening (See AITB also in case of Yes)		NO	
the Procuring Organisation:	Survey of India	The Procuring Entity:	Survey of India
Authority on whose behalf Tender is invited	President of India	Through	Surveyor General of India
Tender Inviting Authority (TIA)	Surveyor General of India	Address	Office of the Surveyor General of India, Hathibarkala

Request for Proposal for Non-consultancy Servicesproviding Services for 2D/ 3D Urban Mapping of Urban Areas –
T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

			Estate, DEHRADUN, PIN - 248 001 helpdesk[dot]soi[at] gov[dot]in
2.0 Requirement Details (ITB 5.0)			
Contract Period:	12 months (current scope of work to be delivered within 6 months. In case variation upto 100%, another 6 months will be timeline for delivery of additional scope of services.)	¹ Form of Contract (ITB-clause 5.5)	Unit-Rate (output admeasurement) – Definite-Delivery
Schedule	Ref Schedule VI-1		
Service Details:	Ref Schedule VI-1		
Indicative HSN Code:	NA	Consignee/ State:	Respective Geospatial Directorate responsible for Work as per Package (State) detailed in Attachment-1 to TIS
3.0 Critical Dates (ITB-clause 7.0; 8.0; 9.0, 10.0 and 11.0)			
Published Date	14/10/2024	Bid Validity (Days from the date of Tender Opening) – ITB-clause 9.3	90 days
Document Download Start Date & Time	14/10/2024, 1000 hrs	Document Download End Date & Time	05/11/2024, 1800 hrs
Clarification Start Date & Time	14/10/2024, 1000 hrs	Clarification End Date & Time	23/10/2024, 1800 hrs
Pre bid meeting date	26/10/2024, 1100 hrs		

¹ Based on BOQ Template: Item-wise or Mixed or Item-rate Templates

Clarification/ Amendments to Tender, If any	30/10/2024		
bid Submission Start Date & Time	15/10/2024, 1000 hrs	bid Submission Closing Date & Time	05/11/2024, 1800 hrs
Tender Opening (techno- commercial bid) Date & Time	06/11/2024, 1000 hrs	Tender Opening (Financial bid) Date & Time	To be intimated later to technically qualified bidders.
4.0 Eligibility to Participate (NIT-clause 3 and ITB-clause 3.2)			
Nature of Bidders eligible	Individual Service Provider/ Firms/JV/Cs (maximum of 3 firms)		
Minimum local content for eligibility to participate ITB-clause4.1.4 (Make in India Policy)	50%		
Classes of Local Suppliers eligible to participate ITB-clause4.1.4 (Make in India Policy)	Only Class I local Suppliers are eligible		
5.0 Thresholds for Eligibility to Participate and Preference under Make in India Policy (ITB-clause 4.1.4)			
Classification of Local Suppliers based on Minimum local content (ITB-clause4.1.1)	Class-I Local Suppliers: 50%		
The margin of purchase preference (ITB-clause 4.1.4)	Not Applicable		
Is the requirement divisible for preference (ITB-clause4.1.5)	Not Applicable		
Would the contract be split among more than one bidder (ITB-clause 4.1.5)	Yes		
6.0 Obtaining the Tender Document and clarifications (ITB 7.0)			
eProcurement Portal and helpdesk for Document availability and submission	https://eprocure.gov.in/eprocure/app		
Cost of Tender Document (₹)	Not Applicable		

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –
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Office/ Contact Person/ email for clarifications	[Same as TIA above]
7.0 Pre-bid Conference (ITB-clause 8)	
Place, time, and date of the Pre-bid Conference	In-Person Mode at Conference Hall, SGO, Survey of India, Hathibarkala, Dehradun 248001 at 1100hrs on 26/10/2024
Place, time, and date before which Written queries for the Pre-bid conference must be received	23/10/2024, 1800 hrs
Place, time, and date before which registration of participants for the Pre-bid conference must be received	NA

8.0 Preparation and Submission and Opening of Bids (ITB-clause 9.0 and 10.0)	
Bids to be Addressed to	Surveyor General of India, Survey of India, Hathibarkala, Dehradun, Uttarakhand - 248001
Instructions for Online bid Submission	https://etenders.gov.in/eprocure/app?page=HelpForContractors&service=page
Tender Opening Place	On e-procurement portal(s) mentioned above
Alternate Bids allowed or not: ITB-clause 9.1.6	NO
9.0 Physical submission of Originals/ Self-attested copies of Originals of Scanned Documents uploaded (ITB-clause 10.3)	
Physical documents required/ permitted to be submitted	Yes
If Yes, List of Documents to be submitted physically	1. Form 1: Bid Form, 2. Form 1.1: Bidder Information 3. Form 7: Documents related to Bid Security 4. MSME / Start-up Certificate (if any)
Deadline for physical submission of originals/ self-attested copies of Originals of uploaded scanned documents	Same as the deadline for the bid submission
Address of Physical Submission of Originals	[Same as TIA above]

10.0 Documents relating to Bid Security (ITB-clause9.4) and Performance Security (ITB-clause 13.2.4)			
In lieu of Bid Security Bid Securing Declaration is to be submitted by all bidders as per Form 7			
Performance Security	Applicable @ 3% of Order value	Form of Security and To whom to be addressed	Bank Guarantee from Nationalized bank in the favour of Establishment and Accounts Officer of respective Zonal Office with whom the contract will be signed.
Additional Clauses			
Clause	Description		
Integrity Pact to be Signed and Submitted along with bid ITB-clause 9.2.1	Yes	Independent External Monitor, Name and Contact Details	Not applicable
Price Variation (ITB-clause 6.2.2)	no	Advance Payments Provided	Yes
Quantity Splitting/ Parallel Orders ITB-clause 13.1.2	No	If yes, the Ratio of Distribution among L-1 and others	Not applicable
Whether Total work divided into Packages ITB-clause 12.2	Yes	If yes, Package distribution of work	Refer Attachment-1 to TIS
Whether Technical & Financial Evaluation to be carried out Package wise or for Lumpsum tender value ITB-clause 12.2, 12.4, 13.2	Yes	If yes details of thereof	Technical and financial evaluation will be carried out separately for each Package. Package wise Letter of Award (LoA) will only be issued in the tender to the L-1 bidder followed with Signing of Contract.

Attachment-1 to Tender Information Summary

Technology Wise Packages for the NAKSHA RFP									
Technology-1: Nadir Camera + 2D and Stereo Digitisation									
Sl.	Pack age	SOI Zone	State/ UTs	No of ULBs/ Towns etc	District	Name ULB/ Town/ City	Area (sqkm)	Area (sqkm)	Population
No								[Restricted for 2 lakh population]	
1	11	NORTHERN	Jammu and Kashmir	1	Jammu	Bishnah	2.05	2.05	10,719
			Punjab	5	Barnala	Barnala	37	37	116,449
					Patiala	Rajpura	21.29	21.29	92,301
					SAS Nagar	Derabassi	45.4	45.4	26,295
					SAS Nagar	Banur	22.69	22.69	18,775
					Ludhiana	Khanna	27.38	27.38	128,137
			Uttar Pradesh	4	Chitrakoot	Chitrakoot Dham	21.47	21.47	87,612
					Mirzapur	Chunar	14	14	37,185
					Barabanki	Nawabganj	30.3	30.3	179,468
					Hardoi	Hardoi	11.05	11.05	126,851
			Uttarakhand	1	Udham Singh Nagar	Nagar Palika Kitcha	28.96	28.96	74,357
Package Total	11			261.59	261.59	898,149			
2	12	EASTERN	Assam	4	Nalbari	Nalbari MB	13.59	13.59	27,839
					Sonitpur	Dhekiajuli MB	4.35	4.35	21,579
					Golaghat	Golaghat MB	14.33	14.33	41,989
					Hojai	Hojai MB	4.77	4.77	36,638
			Jharkhand	3	Lohardaga	Lohardaga Nagar	32.2	32.2	57,411
					Simdega	Simdega Nagar Parishad	36	36	42,944
					Palamu	Vishrampur Nagar Parishad	40	40	42,925
			Odisha	3	Khorda	Khorda Municipality	25.84	25.84	46,205

					Khordha	Jatni Municipality	17.01	17.01	55,925
					Mayurbhanj	Baripada Municipality	45.15	45.15	109,743
			Bihar	1	Vaishali	Hajipur Nagar Nigam	19.64	19.64	147,688
			Package Total	11			252.88	252.88	630,886
3	13	SOUTHERN	Telangana	6	Mahabubnagar	Jacherla	35.24	35.24	52,128
					Nalgonda	Miryalguda	28	28	108,781
					Warangal Rural	Wardhanpet	41.43	41.43	13,732
					Jagityal	Jagityal	29.55	29.55	105,735
					Siddipet	Husnabad	25	25	22,082
					Vikarabad	Kodangal	36.02	36.02	14,294
			Maharashtra	1	Ahmednagar	Shirdi (Tq. Rahata)	12.64	12.64	45,000
			Goa	1	North Goa	Corporation of the City of Panaji	37.86	37.86	131431
						Package Total	8		
4	14	SOUTHERN	Karnataka	5	Basavakalyan	Basavakalyan MC	36	36	161,000
					Gokaka	Gokaka MC	32.05	32.05	79,121
					Siraguppa	Siraguppa MC	31.14	31.14	52,492
					Kolar	Kolar Municipal Corporation (MC)	38.6	38.6	189,000
					Bhagyanagara	Bhagyanagara Town Panchayat (TP)	35	35	18,988
			Maharashtra	3	Buldhana	Buldhana	9.6	9.6	91000
					Chandrapur	Ghuggus (Tq. Chandrapur)	12.25	12.25	57,150
					Thane	Kulgaon Badalapur (Tq. Ambarnath)	30.59	30.59	179,000

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			Package Total	8			225.23	225.23	827,751
5	15	SOUTHERN	Andhra Pradesh	2	Prakasam	Ongole	127.29	101.43	251,175
					Chittor	Kuppam	34.55	34.55	46,598
			Tamil Nadu	4	Tiruvannamalai	Tiruvan namalai	13.64	13.64	165,025
					Dindigul	Dindigul	14.01	14.01	226,294
					Virudhunagar	Virudhu nagar	6.6	6.6	72,468
					Kanchipuram	Kanchip uram	36.14	36.14	289,484
			Kerala	5	Kasaragod	Kasarag od	16.7	16.7	54,172
					Thiruvananthapuram	Attingal	16.87	16.87	37,648
					Malappuram	Ponnani	24.82	24.82	90,491
					Thiruvananthapuram	Neyyatti nkara	29.5	29.5	70,850
					Alappuzha	Harippa d	19.24	19.24	30,977
			Package Total	11			339.36	313.5	1,335,182
6	16	WESTERN	Rajasthan	1	Beawar	Beawar	48.64	48.64	192,000
			Madhya Pradesh	4	Khandwa	Channe ra (Naya Harsood) Nagar Parisha d	16.71	16.71	22,000
					Alirajpur	Alirajpur Nagar Palika	15.44	15.44	28,000
					Chhatarpur	Chhatar pur Nagar Palika	39.45	39.45	142,000
					Vidisha	Vidhish a Nagar Palika	28.67	28.67	156,000
			Package Total	5			148.91	148.91	540,000
Techn ology - 1 Packag es	6		Grand Total	54			1473.71	1447.85	4,725,151

Technology- 2: Oblique Angle Camera (4 Oblique + 1 Nadir) + 3D Digitisation									
Sl. No	Package	SOI Zone	State/ UTs	No of ULBs/ Towns etc	District	Name ULB/ Town/ City	Area (sqkm)	Area (sqkm) [Restricted for 2lakh population]	Population
7	21	NORTHERN	Haryana	2	Panchkula	Panchkula	96.21	64.14	300,000
					Narnaul	Narnaul	63.36	63.36	200,000
			Punjab	1	SAS Nagar	SAS Nagar	32.15	32.15	166,864
					Uttar Pradesh	2	Bulandshahr	Anupshahr	10.03
			Pilibhit	Puranpur			4	4	40,007
			Jammu & Kashmir	2	Pulwama	Awantipora	3	3	12,647
					Reasi	Katra	4.15	4.15	9,008
Package Total	7					212.9	180.83	770,526	
8	22	EASTERN	Bihar	1	Bhojpur	Aara Nagar Nigam	30.97	30.97	369,000
			West Bengal	1	North 24 Parganas	AshokenagarKalyangarh Municipality	20.5	20.5	121,592
			Odisha	1	Jharsuguda	Jharsuguda Municipality	74.87	74.87	97,730
			Chattisgarh	3	Dhamtari	Nagar Palik Nigam Dhamtari	23.4	23.4	89,860
					Sarguja	Nagar Nigam Ambikapur	35.36	35.36	125,392
					Jagdalpur (Bastar)	Nagar Palik Nigam Jagdalpur (Bastar)	50.49	50.49	177,000
			Assam	2	Nagaon	Nagaon MB	12.56	12.56	117,722
Sivsagar	Sivsagar MB	7.3			7.3	50,781			
Package Total	8					255.45	255.45	1,149,077	
9	23	SOUTHERN	Karnataka	3	Chikkamagaluru	Chikkamagaluru MC	35.5	35.5	175,000
					Bagalkote	Bagalkote MC	61	61	111,000
					Anavatti	Anavatti TP	35.02	35.02	19,664
			Maharashtra	3	Jalgaon	Varanganv (Tq. Bhusaval)	23.3	23.3	33,000
					Chh.Sambhajinagar	Kannad	4.56	4.56	46,864
					Solapur	Pandhapur	19.38	19.38	122,000
			Goa	1	South Goa	MargaoM.C I	54.68	54.68	145,078

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			Andhra Pradesh	1	Ananthapur	Anantapuramu	16.31	16.31	261,004
			Package Total	8			249.75	249.75	913,610
10	24	SOUTHERN	Puducherry	1	Murungapakkam	Murungapakkam	4.87	4.87	25,209
			Tamil Nadu	3	Chengalattu	Maraimalai Nagar	58.08	58.08	110,592
					Thanjavur	Thanjavur	36.31	36.31	245,795
					Sivagangai	Karaikudi	13.75	13.75	122,714
			Kerala	1	Kannur	Thalassery	23.96	23.96	92,558
			Andhra Pradesh	3	Guntur	Mangalagiri - Tadepalli	191.22	150.86	253,546
					Guntur	Guntur	141.52	38.05	743,880
					Eluru	Eluru	65.16	46.05	283,631
Package Total	8			534.87	371.93	1,877,925			
11	25	SOUTHERN	Andhra Pradesh	2	Tirupati	Tirupati	30.01	30.01	374,260
					Kakinada	Kakinada	32.27	32.27	325,855
			Telangana	2	Bhadradi	Manuguru	24.86	24.86	32,091
					Kothagudem				
					Mahabubabad	Mahabubabad	45	35	69,288
			Maharashtra	1	Pune	Baramati	54.93	54.93	124375
Package Total	5			187.07	177.07	925,869			
12	26	WESTERN	Madhya Pradesh	4	Sehore	Shahganj Nagar Parishad	6.42	6.42	9,000
					Harda	Harda Nagar Palika	35.22	35.22	74,000
					Mandsaur	Mandsaur Nagar Palika	34.5	34.5	142,000
					Indore	Depalpur Nagar Palika	3.19	3.19	17,000
			Rajasthan	2	Kotputali-Behror	Behror	48	48	41,000
					Jaipur Rural	Bagru	30.37	30.37	47,826
			Package Total	6			157.7	157.7	330,826
Tech nology - 2 Packages	6		Grand Total	42			1597.74	1392.73	5,967,833

Technology- 3: Oblique Angle Camera (4 Oblique + 1 Nadir) + LiDAR Sensor + 3D Digitisation									
Sl. No	Package	SOI Zones	State/ UTs	No of ULBs/Towns etc	District	Name ULB/ Town/ City	Area (sqkm)	Area (sqkm) [Restricted for 2lakh population] Area (sqkm)	Population
13	31	NORTHERN	Uttarakhand	3	Almora	Nagar Palika Almora	9.25	9.25	39,627
					Haridwar	Nagar Palika Bhagwanpur	2.69	2.69	17,179
					Tehri Garhwal	Nagar Palika Narendra Nagar	13.36	13.36	6,613
			Himachal Pradesh	3	Solan	Solan MC	11.62	11.62	47,418
					Mandi	Mandi MC	28.66	28.66	41,375
					Kangra	Palampur MC	31.58	31.58	40,385
			Package Total				6		97.16
14	32	NORTHERN	Haryana	1	Gurugram	Manesar	138.18	92.12	300,000
			Uttar Pradesh	2	Gorakhpur	Gorakhpur	223.61	58.08	770,772
					Jhansi	Jhansi	169.5	67.13	505,693
			Chandigarh	1	Chandigarh	Sarangpur, Burail, Kajheri, Palsora, Attawa	16.52	16.52	71,030
Package Total				4		547.81	233.85	1,647,495	
15	33	EASTERN	Arunachal Pradesh	1	Namsai	Namsai	10	10	20,000
			Meghalaya	1	East Khasi Hills	Shillong	10.23	10.23	143,229
			Tripura	1	West	Agartala Municipal Corporation (MC)	90.21	31.05	581,698

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			Mizoram	1	Aizwal North	Aizwal MC 11-19	72	72	178,000
			Sikkim	1	Sikkim (East)	Gangtok Municipal Corporation	19.02	19.02	100,000
			Package Total	5			201.46	142.3	1,022,927
16	34	EASTERN	Assam	2	Barpeta	Barpeta Road	4.09	4.09	35,571
					Bongaigaon	Bongaigaon	11.89	11.89	67,322
			West Bengal	2	North 24 Parganas	New Town Kolkata Development Authority (NKDA)	28.33	28.33	100,000
					Hooghly	Chandannagar Municipal Corporation	22.03	22.03	166,867
			Bihar	1	Muzaffarpur	Muzaffarpur Nagar Nigam	32	32	354,462
			Package Total	5			98.34	98.34	724,222
17	35	SOUTHERN	Kerala	2	Kollam	Punalur	34.35	34.35	46,702
					Kozhikode	Vadakara	23.33	23.33	75,295
			Tamil Nadu	1	Coimbatore	Coimbatore (7 Wards)	10.44	10.44	123,314
			Goa	1	South Goa	CuncolimM. CI	33.57	33.57	19,476
			Package Total	4			101.69	101.69	264,787
Technology - 3 Packages	5		Grand Package Total	24			1046.46	673.34	3,852,028
All Technology				120			4117.91	3513.92	14,545,012

Section II: Instructions to Bidders (ITB)

1. The Tender Document

1.1 Basic Tender Details

This 'Request' Document (hereinafter referred to as the 'the Tender Document') details the terms and conditions for entering into a contract for delivery of the Services (hereinafter called 'the Services') mentioned in Section VI: "Schedule of Requirements". Bidders must go through the Tender Document for further details. 'Tender Information Summary' (TIS) is appended to Section I: Notice Inviting Tender (NIT) for ready reference. The 'Services' may include incidental Goods and Works if so indicated. In this Tender Document, any generic reference to 'Services' shall be deemed to include such incidental Goods and Works.

1.2 Interpretations, Definitions, Abbreviations and Document Conventions

Section IV: General Conditions of Contract (GCC), details Tenets of interpretation (GCC-clause 1.1), Definitions (GCC-clause 1.2), Document conventions (GCC-clause 1.3) and Abbreviations (GCC-clause 1.4), which shall also apply to the rest of the Tender Document.

1.3 Overview of Contents

- 1) Unless otherwise stipulated in TIS/ AITB, the Sections, Forms and Formats comprising this Tender Document are described in ITB-clauses 1.4, 1.5 and 1.6 below. A BOQ file separately available on the eProcurement Portal is also part of this Tender Document. Any generic reference to Tender Document shall also imply a reference to any/ all the sections, Forms, Formats and the BOQ file or other files that comprise this Tender Document.
- 2) Bidder must submit the bid in the Forms/ Formats mentioned in ITB-clauses 1.5 and 1.6 below. The sections mentioned in ITB-clause 1.4 below need not be signed or returned by the bidders; however, Bidder must declare in his bid Form (Form 1) that he has read, understood, complied, and stands bound by all requirements of these sections:

1.4 Sections of the Tender Document (need not be signed or uploaded)

1.4.1 Sections of the Tender Document (need not be signed or uploaded)

Unless otherwise stipulated in TIS/ AITB, the Tender Document contains the following sections, which are described in subsequent sub-clauses:

- 1) Section I: Notice Inviting Tender (NIT) and its Appendix: Tender Information Summary (TIS)
- 2) Section II: Instructions to Bidders (ITB)
- 3) Section III: Appendix to Instructions to Bidders (AITB)
- 4) Section IV: General Conditions of Contract (GCC)
- 5) Section V: Special Conditions of Contract (SCC)
- 6) Section VI: Schedule of Requirements
 - a) Section VI-1: Services and Activities Schedule
- 7) Section VII: Performance Standards and Quality Assurance
 - a) Section VII-1: Method Statement
 - b) Section VII-2: Work Plan
 - c) Section VII-3: Critical Material Schedule

- 8) Section VIII: Qualification Criteria
 - a) Section VIII-1: Key Personnel Schedule
 - b) Section VIII-2: Critical Equipment Schedule

1.4.2 Section I: Notice Inviting Tender (NIT) and its Appendix: Tender Information Summary (TIS)

Section I – Notice Inviting Tender (NIT) and its Appendix – Tender Information Summary (TIS) provides a synopsis of information relevant for a Bidder to decide on participating in the Tender. Any generic reference to NIT shall also imply a reference to TIS as well. Bidders must fill up ‘Form 5: Terms and Conditions - Compliance’ regarding any deviations from this Schedule.

1.4.3 Section II: Instructions to Bidders (ITB) and Section III: Appendix to Instructions to Bidders (AITB)

Section II: “Instructions to Bidders” - ITB along with Section III: “Appendix to Instructions to Bidders – AITB” provides the relevant information as well as instructions to assist the prospective Bidders in preparation and submission of Bids. It also includes the mode and procedure adopted for receipt/ opening, scrutiny/ evaluation of Bids, and contract award. In case of a conflict, provisions of AITB shall prevail over those in the ITB. Any generic reference to ITB shall also imply a reference to AITB as well. Bidders must fill up ‘Form 5: Terms and Conditions - Compliance’ regarding any deviations from this Schedule.

1.4.4 Section IV: General Conditions of Contract (GCC) and Section V: Special Conditions of Contract (SCC)

Section IV – General Conditions of Contract (GCC) and Section V – Special Conditions of Contract (SCC) describe the conditions that shall govern the resulting contract. In case of a conflict, provisions of SCC shall prevail over those in the GCC. Any generic reference to GCC shall also imply a reference to SCC as well. In case of any conflict, provisions of GCC/ SCC shall prevail over those in ITB/ AITB. Bidders must fill up ‘Form 5: Terms and Conditions - Compliance’ regarding any deviations from terms and conditions in this and other Schedules.

1.4.5 Section VI: Schedule of Requirements and Section VI-1: Services Schedule

Section VI: Schedule of Requirements and Section VI-1: Service and Activities Schedule describe the background, purpose/ objectives, description/ scope, deliverables/ outcomes, quantum, timelines of Services required etc. The requirements may consist of more than one schedule. Each schedule may contain more than one Service. Bidders must fill-up ‘Form 2: Schedule of Requirements - Compliance’ and its sub-forms regarding these Schedules.

1.4.6 Section VII: Performance Standards and Quality Assurance

- 1) Section VII – Performance Standards and Quality Assurance stipulates the quantitative/ qualitative parameters/ limits/ thresholds for Performance standards/ Service Levels and functional/ technical specifications to which the service must be performed. It shall stipulate procedures for measurement, reporting and monitoring of performance parameters, including institutional or third-party arrangements for this purpose. It shall also stipulate the procedure for resolution and escalation in case of deficiency in performance/ quality/ service levels. In the case of long-term and complex services, it may stipulate a Service-Level Agreement (SLA) agreement which must be complied with during delivery of Services. Performance Standards shall also include statutory compliance required for Occupational Safety, Health and Working Conditions requirements during delivery of Services.

- 2) Procuring Entity may, if considered necessary, specify Section VII-1: Method Statement, Section VII-2: Work Plan and Section VII-3: Critical Material Schedule required for the performance of services to desired quality and standards. Otherwise, these may be left to be quoted by the Bidder.
- 3) Bidders must fill up the following Forms regarding this Schedule:
 - a) Form 3: Performance Standards and Quality Assurance - Compliance
 - b) Form 3.1: Method Statement
 - c) Form 3.2: Work-Plan
 - d) Form 3.3: Personnel Deployment Plan
 - e) Form 3.4: Equipment Deployment Form
 - f) Form 3.5: Materials Deployment Plan

1.4.7 Section VIII: Qualification Criteria; Section VIII-1: Key Personnel Schedule and Section VIII-2: Critical Equipment Schedule:

- 1) These Sections lay down the Qualifying Criteria for a bid/ Bidder to be considered a responsive bid/ bidder for further evaluation. Bids/ bidders not meeting these Qualification criteria shall be rejected as nonresponsive. It may indicate the extent of dispensation allowed for Start-ups under ITB-clause 4.3.2-2) and Make in India -JV/Cs under ITB 4.1.7-2. Unless otherwise stipulated in Section VII: Qualification Criteria, the Qualification Criteria shall include:
 - a) Criteria 1: Experience and Past Performance
 - i) Similar Experience
 - ii) Non-performing Contracts and Litigation
 - b) Criteria 2: Performance Capability
 - i) Key Personnel
 - ii) Critical Equipment
 - c) Criteria 3: Financial Capability
 - i) Financial Ratios
 - ii) Turnover
 - iii) Financial Liquidity
- 2) Bidders must fill up the following Forms regarding this Schedule. Forms quoted by the Bidder under Form 3 shall also be evaluated for determining compliance to qualification criteria:
 - a) Form 4: Qualification Criteria - Compliance
 - b) Form 4.1: Performance Statement.
 - b) Form 4.2: Non-performance, Litigation Statement
 - c) Form 4.3: Financial Capability Statements
- 2) Following Forms quoted by the Bidder under Form 3 shall also be evaluated for determining compliance to qualification criteria.
 - a) Form 3.3: Personnel Deployment Plan
 - b) Form 3.4: Equipment Deployment Plan

1.5 Forms (To be filled, digitally signed, and uploaded by Bidders)

Please refer to ITB-clause 1.5 above to relate the following forms to the corresponding Sections.

- 1) Form1:bid Form – (To serve as a covering letter to both the Techno-commercial and Financial Bids)
 - a) Form 1.1: Bidder Information
 - b) Form 1.2: Eligibility Declarations
 - c) Form 1.3: Declaration by Agents/ Associates of Foreign Principals
- 2) Form2: Schedule of Requirements - Compliance
- 3) Form 3: Performance Standards and Quality Assurance - Compliance
 - a) Form 3.1: Method Statement
 - b) Form 3.2: Work-Plan
 - c) Form 3.3: Personnel Deployment Plan
 - d) Form 3.4: Equipment Deployment Plan
 - e) Form 3.5: Materials Deployment Plan
- 4) Form4: Qualification Criteria- Compliance
 - a) Form 4.1: Performance Statement
 - b) Form 4.2: Non-performance, Litigation Statement
 - c) Form 4.3 Financial Capability Statements
- 5) Form5: Terms and Conditions - Compliance
- 6) Form6: Checklist for the Bidders
- 7) Form7: Documents Relating to Bid Security
- 8) BOQ Excel Sheet (To be Downloaded from the Portal).
- 9) Form8: Integrity Pact

1.6 Other Formats

- 1) Format 1: Contract Form(Required after Letter of Award)
 - a) Format 1.1: Description of Services
 - i) Format 1.1.1: Personnel Deployment Plan
 - ii) Format 1.1.2: Equipment Deployment Plan
 - iii) Format 1.1.3: Materials Deployment Plan
 - b) Format 1.2: Price Schedule
 - c) Format 1.3: Bank Guarantee Format for Performance Security
 - d) Format 1.4: Certification by Prospective Arbitrators
- 2) Format 2: Authorisation for Attending Pre-bid Conference. (To be filled up, if required, by Bidder)

2. Procuring Entity - Rights and Disclaimers

2.1 The Procuring Entity

Bids are to be addressed to the President through the Head of Procurement, Procuring Entity in the Survey of India (headed by Head of the Survey of India). The Tender Inviting Authority (TIA) is the designated officer for uploading and clarifying this Tender Document. The contract may designate,

as required, counterpart Contract Manager (or Contract Management Team); interim/ ultimate Beneficiaries of Services and Paying authority who shall discharge designated function during contract execution.

2.2 Right to Intellectual Property and confidentiality:

- 1) The Tender Document and associated correspondence are subject to copyright laws and shall always remain the property of the Procuring Entity and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent.
- 2) However, Bidders may share these to prepare and submit its bid with its employees, subcontractor(s), or holding Company. Bidders shall obtain from them an undertaking of confidentiality similar to that imposed on Bidder under this clause.
- 3) This condition shall also apply to bidders who do not submit a bid after downloading it or who are not awarded a contract in the process.
- 4) The obligation of the Bidders under sub-clauses above, however, shall not apply to information that:
 - a) now or hereafter is or enters the public domain through no fault of Bidder;
 - b) is legally possessed by Bidder at the relevant time and was not previously obtained, directly or indirectly, from the Procuring Entity; or
 - c) otherwise lawfully becomes available to Bidder from a third party that has no obligation of confidentiality.
- 5) The provisions of this clause shall survive completion or termination for whatever reason of the Tender Process or the contract.

2.3 Right to Reject any or all Bids

The Procuring Entity reserves its right to accept or reject any or all Bids, abandon/ cancel the Tender process, and issue another tender for the same or similar Goods at any time before the award of the contract. It would have no liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for such action(s).

2.4 Disclaimers

2.4.1 Regarding Purpose of the Tender Document

The Tender Document is neither an agreement nor an offer to prospective Bidder(s) or any other party hereunder. The purpose of the Tender Document is to provide the Bidder(s) with information to assist them in participation in this Tender Process.

2.4.2 Regarding Documents/ guidelines

The Tender Document, ensuing communications, and Contracts shall determine the legal and commercial relationship between the bidders/ contractors and the Procuring Entity. No other Government or Procuring Entity's document/ guidelines/ Manuals including its Procurement Manual (for internal and official use of its officers), notwithstanding any mention thereof in the Tender Document, shall have any locus-standii in such a relationship. Therefore, such documents/ guidelines/ Manuals shall not be admissible in any legal or dispute resolution or grievance redressal proceedings.

2.4.3 Regarding Information Provided

Information contained in the Tender Document or subsequently provided to the Bidder(s) is on the terms and conditions set out in the Tender Document or subject to which that was provided. Similar terms apply to information provided verbally or in documentary or any other form, directly or indirectly, by the Procuring Entity or any of its employees or associated agencies.

2.4.4 Regarding Tender Document:

- 1) The Tender Document does not purport to contain all the information Bidder(s) may require. It may not address the needs of all Bidders. They should conduct due diligence, investigation, and analysis, check the information's accuracy, reliability, and completeness, and obtain independent advice from appropriate sources. Information provided in the Tender Document to the Bidder(s) is on a wide range of matters, some of which may depend upon interpreting the law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Procuring Entity, its employees and other associated agencies accept no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.
- 2) The Procuring Entity, its employees and other associated agencies make no representation or warranty for the accuracy, adequacy, correctness, completeness or reliability, assessment, assumption, statement, or information in the Tender Document. They have no legal liability, whether resulting from negligence or otherwise, for any loss, damages, cost, or expense that may arise from/ incurred/ suffered howsoever caused to any person, including any Bidder, on such account.

3. Bidders – Eligibility and Preferential Policies

3.1 Bidders

Subject to provisions in the following clauses in this section and provisions in Tender Document, this invitation for Bids is open to all bidders **[as single entity or as JV/C]** who fulfil the 'Eligibility Criteria' stipulated in the Tender Document. In the case of the Second Stage (of two Stage Bidding or PQB) or Special Limited Tenders, this invitation is open only to such bidders who have been previously shortlisted or specifically invited.

3.1.1 Joint Ventures/ Consortium

Bids submitted by a joint venture (maximum of two firms allowed)/ Consortium (through a legally binding agreement) as partners shall comply with the following requirements:

- a) the bid shall include all the information listed in 'Bidding Forms' of this tender document;
- b) the bid and, in case of a successful bid, the Agreement, shall be signed so as to be legally binding on all partners;
- c) one of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- d) the partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture/Consortium and the entire execution of the contract, including payment, shall be done exclusively with the partner in charge;
- e) Each partner should meet at least 25% (and the lead partner at least 50%) out of the qualifying limit in case of "Experience and past Performance – Similar Experience" and

“Financial Turnover”. However, together JV/C should meet the full Qualification requirement.

- f) all partners of the joint venture/consortium shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under (c) above, as well as in the bid and in the Agreement [in case of a successful bid];
- g) The joint venture/ Consortium agreement should indicate precisely the role of all members of JV/C in respect of planning, design, equipment, key personnel, work execution, and financing of the project.
- h) All members of JV/C should have active participation in execution during the currency of the contract. This should not be varied/modified subsequently without prior approval of the procuring entity;
- i) The joint venture/Consortium should be registered in India so as to be legally valid and binding on partners; and
- j) a copy of the Joint Venture/Consortium Agreement entered into by the partners shall be submitted with the bid. Alternatively, a Letter of Intent to execute a joint Venture/Consortium Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed Agreement.

3.1.2 Sub-Contractors

Subject to the restrictions outlined in this Tender Document, any Bidder may propose to sub-contract a part of the contract for specialised items of services, provided that the names and details of the sub-contracts are clearly stated in the bid submitted by Bidder and provided further that such sub-contractor should not circumvent the eligibility condition laid down below. Procurement of material, hire of equipment or engagement of labour shall not be considered as sub-contracting. Despite any approval granted by the Procuring Entity for such arrangements, the Bidder/ Contractor shall be solely and directly responsible for executing sub-contracted portions of the contract. The total value of the sub-contracting portion of services must not exceed the per cent of the contract price as specified in the Tender Document/ Contract (if not so specified 25 (twenty-five) percent). Sub-contracting by the contractor without the approval of the Procuring Entity shall be a breach of contract.

3.2 Eligibility Criteria for Participation in this Tender

Subject to provisions in this Tender Document, participation in this Tender Process is open to all bidders who fulfil the ‘Eligibility’ and ‘Qualification criteria. Bidder should meet (as on the date of his bid submission and should continue to meet till the award of the contract) the ‘Eligibility Criteria’ detailed in NIT-clause 3, which shall be considered to be part of this clause of ITB (even though it is not being reproduced here for the sake of brevity). Bidder shall submit a declaration about the ‘Eligibility Criteria’ compliance in Form 1.2 – Eligibility Declarations.

3.3 Eligibility of bidders from specified countries

Orders issued by the Government of India restricting procurement from bidders from certain countries that share a land border with India shall apply to this procurement.

- 1) Any bidder (as defined in GCC-clause 1.2) from a country that shares a land border with India², excluding countries as listed on the website of the Ministry of External Affairs³, to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects – hereinafter called ‘Restricted Countries’) shall be eligible to bid in this tender only if Bidder is registered⁴ with the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Bidders shall enclose the certificate in this regard in Form 1 - bid Form.
- 2) In Bids for Turnkey contracts, including Works contracts, the successful bidder shall not be allowed to sub-contract works to any contractor from such Restricted Countries unless such contractor is similarly registered. In such cases, the bidders shall enclose the certificate in Form 1: Bid Form.
- 3) If Bidder has proposed to sub-contract Services or incidental Goods directly/ indirectly from the vendors from such countries, such vendor shall be required to be registered with the Competent Authority. However, if Bidder procures raw material, components, and sub-assemblies from such countries' vendors, such vendors shall not require registration.
- 4) "Bidder from such Restricted Countries" means: -
 - a) An entity incorporated, established, or registered in such a country; or
 - b) A subsidiary of an entity incorporated, established, or registered in such a country; or
 - c) An entity substantially controlled through entities incorporated, established, or registered in such a country; or
 - d) An entity whose beneficial owner is situated in such a country; or
 - e) An Indian (or other) agent of such an entity; or
 - f) A natural person who is a citizen of such a country; or
 - g) A consortium/ joint venture where any member falls under any of the above
- 5) The beneficial owner shall mean:
 - a) In a company or Limited Liability Partnership, the beneficial owner is the natural person(s). Whether acting alone or together or through one or more juridical persons, controlling ownership interest or exercises control through other means.

Explanation-

 - i) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five percent of the company's shares or capital or profits.
 - ii) "Control" shall include the right to appoint a majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder agreements or voting agreements;
 - b) In the case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together or through one or more juridical persons, has ownership of entitlement to more than fifteen percent of capital or profits.
 - c) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more

²<https://mea.gov.in/india-and-neighbours.htm>

³<http://meadashboard.gov.in/indicators/92>

⁴<https://dipp.gov.in/sites/default/files/Revised-Application-Format-for-Registration-of-Bidders-15Oct2020.pdf>

- juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
- d) Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.
 - e) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

3.4 Conflict of Interest

Any bidder having conflict of interest, which substantially affects fair competition, shall not be eligible to bid in this tender. Bids found to have a conflict of interest shall be rejected as non-responsive. Bidder shall be required to declare the absence of such conflict of interest in Form 1.2 - Eligibility Declarations. A bidder in this Tender Process shall be considered to have a conflict of interest if the bidder:

- 1) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- 2) receives or have received any direct or indirect subsidy/ financial stake from another bidder; or
- 3) has the same legal representative/ agent as another bidder for purposes of this bid. A Principal can authorise only one agent, and an agent also should not represent or quote on behalf of more than one Principals. However, this shall not debar more than one Authorised distributor from quoting equipment manufactured by an Original Equipment Manufacturer (OEM), in procurements under Proprietary Article Certificate; or
- 4) has a relationship with another bidder, directly or through common third parties, that puts it in a position to have access to information about or influence the bid of another Bidder or influence the decisions of the Procuring Entity regarding this Tender process; or
- 5) participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of a non-bidder firm as a sub-contractor in more than one bid; or
- 6) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services that it provided (or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm), for the procurement planning (inter-alia preparation of feasibility/ cost estimates/ Detailed Project Report (DPR), design/ technical specifications, terms of reference (ToR)/ Activity Schedule/ schedule of requirements or the Tender Document etc) of this Tender process; or
- 7) has a close business or family relationship with a staff of the Survey of India who: (i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Tender Process, and/or the evaluation of bids; or (ii) would be involved in the implementation or supervision of resulting Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the Tender process and execution of the Contract.

3.5 Regulation of Indian Agents/Associates of Foreign Principals

Wherever the foreign principal desires to involve in this tender process, an Indian Agent/ associate, their dealings shall be regulated. Foreign Principals and their Agents/ Associates must provide required declarations in Form 1.3 – Declarations by Agents/ Associates of Foreign Principals:

- 1) The name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal authorising them specifically to make an offer in India in response to tender either directly or through the agents/ representatives.
- 2) Such Agents/ Associates shall provide self-attested documentary evidence about their identity, business details to establish that they are a bonafide business and conform to regulations.
- 3) The Bidder/ Foreign Principal must commit to submitting after the Financial bid opening, due to price-sensitive information, the Agreement between them, including the amount of commission/ remuneration included in the price (s).
- 4) Confirmation on behalf of the foreign principals that the commission/ remuneration, if any, reserved for Indian Agents/ Associates in the quoted price(s), shall be paid by the Procuring Entity in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Goods and Spares.
- 5) Failure to furnish correct and detailed information shall render Foreign Principal's bid liable to be rejected as nonresponsive in addition to other punitive actions against the Foreign Principal and their Indian Agents/ Associates for violation of Code of Integrity as per the Tender Document.

4. Purchase Preference Policies of the Government

Unless otherwise stipulated in TIS/ AITB, the Procuring Entity reserves its right to grant preferences to the following categories of eligible Bidders under various Government Policies/ Directives:

- 1) Class I Local Suppliers under Public Procurement (Preference to Make in India) Order 2017” (MII) of Department for Promotion of Industry and Internal Trade, (DPIIT - Public Procurement Section) as revised from time to time.
- 2) Bidders from Micro and/ or Small Enterprises (MSEs) under Public Procurement Policy for the Micro and Small Enterprises (MSEs) Order, 2012 as amended from time to time.
- 3) Start-ups Bidders under Ministry of Finance, Department of Expenditure, Public Procurement Division OM No F.20\212014-PPD dated 25.07.2016 and subsequent clarifications; and/ or
- 4) Any other category of Bidders, as per any Government Policies, announced from time to time, if so provided in the TIS/ AITB

4.1 Make in India Order

Orders issued by the Government of India regarding eligibility to participate and for purchase preference to “Local Suppliers” to encourage 'Make in India' and promote manufacturing and production of goods and services in India shall apply to this procurement, as detailed below.

4.1.1 Categories of Local Suppliers

Bidders/Contractors are divided into three categories based on Local Content. Local content in the context of this policy is the total value of the service procured (excluding net domestic indirect taxes)

minus the value of imported content in the service/ incidental Goods (including all customs duties) as a proportion of the total value, in percent):

- 1) 'Class-I local Supplier' with local content equal to or more than that prescribed in TIS or 50% if not prescribed.
- 2) 'Class-II local Supplier' with local content equal or more than that prescribed in TIS or 20% if not prescribed, but less than that applicable for Class-I local Supplier.
- 3) 'Non - Local Supplier' with local content less than that applicable for Class-II local Supplier, in sub-clause above.

4.1.2 Eligibility Restrictions based on Reciprocity.

If so stipulated in the Tender Document, entities from such countries identified as not allowing Indian companies to participate in their Government procurement shall not be allowed to participate on a reciprocal basis in this tender. The term entity of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.

4.1.3 Eligibility to participate

- 1) **Minimum local content for eligibility to participate:** Only bidders meeting the minimum prescribed local content for the product shall be eligible to participate subject to the following conditions.
- 2) **Classes of Local Suppliers eligible to Participate:** Based on the Make in India Policy, classes of local/ non-local Suppliers eligible to participate in the tender shall be declared in TIS/ AITB/ Schedule of Requirements. If not so declared, only Class-I and Class-II local Suppliers shall be eligible to participate and not non-local Suppliers.

4.1.4 Thresholds

- 1) Following thresholds shall be declared in the Tender Document.
 - a) **Minimum local content for Contractor classification:** local content percentage prescribed to qualify as Class-I or Class-II local Suppliers for various products
 - b) **Minimum local content for eligibility to participate:** Minimum local content percentage prescribed for eligibility for a bid to be considered.
 - c) **The margin of purchase preference:** The bid price quoted by Class-I Local Supplier should be within this percentage from the L-1 price quoted by Non-local or Class-II bidders for being eligible for purchase preference.
- 2) If not so declared, the default threshold shall be as follows:
 - (a) Local content for eligibility for Class-I; Class-II local Suppliers and Non-local Suppliers shall be 50% and above; 20% and above but less than 50%; and less than 20%, respectively.
 - (b) Minimum local content for eligibility to participate shall be 50%.
 - (c) The margin of purchase preference shall be 20%

4.1.5 Purchase preference to Class-I local Suppliers

- 1) Where the Services are divisible by nature:
 - a) Among all qualified bids, the lowest bid shall be termed as L-1. If L-1 is 'Class-I local Supplier', the contract for full quantity shall be awarded to L-1.

- b) If the L-1 bid is not a 'Class-I local Supplier', 50% of the order quantity shall be awarded to L-1. After that, the lowest bidder among the 'Class-I local whose quoted price falls within the margin of purchase preference shall be invited to match the L-1 price for the remaining 50% quantity, and a contract for that quantity shall be awarded him, subject to matching the L-1 price. In case such lowest eligible 'Class-I local Supplier' fails to match the L-1 price or accepts less than the offered quantity, the next higher 'Class-I local Supplier' within the margin of purchase preference shall be invited to match the L-1 price for the remaining quantity and so on, and the contract shall be awarded accordingly. If some quantity is still left uncovered on Class-I local Suppliers, such balance quantity shall also be ordered on the L-1 bidder.
- 2) Where the Services are not divisible, and in the procurement of Services where the bid is evaluated on price alone:
 - a) Among all qualified bids, the lowest bid shall be termed as L-1. If L 1 is 'Class-I local Supplier', the contract shall be awarded to L-1.
 - b) If L-1 is not 'Class-I local Supplier', the lowest bidder among the 'Class-I local Supplier' shall be invited to match the L-1 price subject to Class-I local Supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local Supplier' subject to matching the L-1 price.
 - c) If such lowest eligible 'Class-I local Supplier' fails to match the L-1 price, the 'Class-I local Supplier' with the next higher and so on, bid within the margin of purchase preference shall be invited to match the L-1 price, and the contract shall be awarded accordingly. If none of the 'Class-I local Supplier' within the margin of purchase preference matches the L-1 price, the contract shall be awarded to the L-1 bidder.
- 3) Where parallel contracts are to be awarded to multiple bidders: In Bids where parallel contracts are to be awarded to multiple bidders subject to matching of L-1 rates or otherwise, the 'Class-I local Supplier' shall get purchase preference over 'Class-II local Supplier' as well as 'Non-local Supplier', as per following procedure:
 - a) If there is sufficient local capacity and competition for the service to be procured, as notified by the nodal Ministry, only Class I local Suppliers shall be eligible to bid. As such, the multiple Contractors, who would be awarded the contract, should be all and only 'Class I, Local Suppliers'.
 - b) In Bids, other than those mentioned above, 'Class II local Suppliers' or both 'Class II local Suppliers' and 'Nonlocal Suppliers' may also participate in the tender process along with 'Class I Local Suppliers'. If 'Class I Local Suppliers' qualify for the contract award for at least 50% of the tendered quantity in tender, the contract shall be awarded to all the qualified bidders as per award criteria stipulated in the Tender Documents. However, in case 'Class Local Suppliers' do not qualify for the contract award for at least 50% of the tendered quantity as per award criteria, purchase preference should be given to the 'Class I local Supplier' over 'Class II local Suppliers' / 'Non-local Suppliers' provided that their quoted rate falls within the margin of purchase preference of the highest bid considered for award of contract. To ensure that the 'Class I Local Suppliers' taken in totality are considered for award of contract for at least 50% of the tendered quantity, first purchase preference has to be given to the lowest

among such eligible 'Class-I local Suppliers', subject to its meeting the prescribed criteria for the award of contract as also the constraint of the maximum quantity that can be sourced from any single Contractor. If the lowest among such 'Class-I local Suppliers' does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity shall be given to next higher among such 'Class-I local Supplier', and so on.

4.1.6 Verification of local content and violations:

- 1) The 'Class-I local Supplier'/ 'Class-II local Supplier' at the time of tender, bidding, or solicitation shall be required to indicate the percentage of local content and provide self-certification that the service offered meets the local content requirement for 'Class-I local Supplier'/ 'Class-II local Supplier', as the case may be.
- 2) In cases of procurement for a tender value above Rs. 10 crores, the 'Class-I local Supplier'/ 'Class-II local Supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practising chartered accountant (in respect of Contractors other than companies) giving the percentage of local content.
- 3) Complaints about Local content declarations may be made through the channels of Procuring Entity. Procuring Entities and Nodal Ministries may prescribe fees for such complaints.
- 4) Bids with false declarations regarding Local contents shall be rejected as responsive, in addition to punitive actions under the MII orders and for violating the Code of Integrity as per the Tender Document.

4.1.7 Manufacture under license/ technology collaboration agreements with phased indigenisation

- 1) If so, declared in TIS and/ or AITB, foreign companies shall enter into a joint venture with an Indian company to participate.
- 2) The Procuring Entity reserves its right, but without being under any obligation to do so, to grant exemption from meeting the stipulated local content to Bidders manufacturing indigenously a product developed abroad under a license from a foreign manufacturer (who holds intellectual property rights) under a technology collaboration agreement/ transfer of technology agreement with a precise phasing of increase in local content. Bidder must obtain such an exemption letter and submit it along with his bid to avail such an exemption.

4.1.8 Information to be provided by Bidders regarding Make in India policy

Bidder shall provide required self-declaration as detailed in Form 1.2 – Eligibility Declarations:

- 1) Self-declaration of their local content (and required certificate, in case of procurements above Rs 10 Crores) and their status as Class-I/ Class-II/ Non-local Supplier and their eligibility to participate as per this clause.
- 2) If the Tender Document indicates countries identified as not allowing Indian companies to participate in their Government procurement, then a declaration that they are not an 'Entity' of such countries (as per criteria of the FDI Policy of DPIIT as amended from time to time) and are therefore eligible to participate in this tender.
 - 3) If a Bidder is claiming exemption (as obtained from relevant authorities) from meeting the stipulated local content on account of manufacturing the product in India under

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a license from a foreign manufacturer with the precise phasing of increase in local content, he must provide proof thereof.

4.2 Support/ Preferential Treatment to Micro & Small Enterprises (MSEs)

Policies of the Government to support Micro and Small Industries (MSEs, registered as per the following sub-clause) in comparison to non-MSE enterprises shall apply to this procurement.

4.2.1 Registration of MSEs

- 1) MSEs interested in availing such benefits must enclose in Form 1.2 with their offer the Udyam Registration Certificate with the Udyam Registration Number as proof of their being MSE registered on the Udyam Registration Portal. The certificate shall be of latest but before the deadline for the bid submission.
- 2) MSEs shall be treated as owned by SC/ ST or women entrepreneurs:
 - (a) The proprietor(s) shall be SC/ ST or women In proprietary MSEs
 - (b) At least 51% shares shall be held by the SC/ ST or women partners in a partnership MSEs.
 - (c) At least a 51% share shall be held by SC/ ST or women promoters in Private Limited Companies MSEs.

4.2.2 Support to MSEs

- 1) Tender sets shall be provided free of cost to MSEs.
- 2) MSEs shall be exempted from payment of Earnest Money.(as per ITB-clause 9.4 below, they shall be required only to submit Bid Security Declaration)

4.2.3 Purchase Preference to MSEs

The Procuring Entity reserves its option to give purchase preference to MSEs compared to the non-MSE enterprises as per policies of the Government from time to time. This preference shall only apply to products produced and services rendered by Micro and Small Enterprises. If an MSE bidder quotes a price within the band of the lowest (L-1) +15 percent in a situation where the L-1 price is quoted by someone other than an MSE, the MSE bidders are eligible for being awarded up to 25 percent of the total quantity being procured if they agree to match the L-1 price. In case of more than one such eligible MSE, this 25 percent quantity shall be distributed proportionately among these bidders.

4.3 Support to Start-up Enterprises

4.3.1 Definition of Start-up Enterprises

- 1) As defined by DPIIT, an entity shall be considered as a 'Start-up':
 - a) Upto a period of ten years from the date of incorporation/ registration, if it is incorporated as a private limited company (as defined in the Companies Act, 2013) or registered as a partnership firm (registered under section 59 of the Partnership Act, 1932) or a limited liability partnership (under the Limited Liability Partnership Act, 2008) in India, and
 - b) Turnover of the entity for any of the financial years since incorporation/ registration has not exceeded one hundred crore rupees, and

- c) The entity works towards innovation, development or improvement of products or processes or services or a scalable business model with a high potential for employment generation or wealth creation.
- 2) Provided that an entity formed by splitting up or reconstructing an existing business shall not be considered a 'Start-up'.
- 3) A Start-up so identified under the above definition shall be required to obtain and submit along with his bid a certificate of an eligible Start-up from the inter-Ministerial Board of Certification to obtain support.

4.3.2 Support to Start-ups

The Government of India has ordered the following support to Start-ups (as defined by the Department of Promotion of Industrial and Internal Trade - DPIIT).

- 1) **Exemption from submission of Bid Security:** Such Start-ups shall be exempted from payment of Earnest Money.(as per ITB-clause 9.4 below, they shall be required only to submit Bid Security Declaration)
- 2) **Relaxation in Prior Turnover and Experience:** The Procuring Entity reserves its right to relax the condition of prior turnover and prior experience for start-up enterprises subject to meeting of quality & technical specifications. The decision of the Procuring Entity in this regard shall be final. The decision of the Procuring Entity in this regard shall be final.

5. The Schedule of Requirements and Form of Contract

5.1 Eligible Services –Origin and Minimum Local Content

Unless otherwise stipulated in the Tender Document, all 'Services' and incidental 'Goods and Works' to be delivered under the contract must conform to i) restrictions on certain countries with land-borders with India; ii) minimum local content (Make in India Policy). If Bidder avails benefits under any preferential policy as Class-I Local Supplier or as MSE or Start-up enterprise, the Services delivered must not circumvent the provisions relating to such benefits.

5.2 Quotation for All Schedules and all Services

Unless otherwise stipulated in the Tender Document, Bidder must quote for all the schedules (and all the Services in a Schedule) in the Schedule of Requirement; otherwise, his bid would be rejected as nonresponsive.

5.3 Facilities to be Provided by the Procuring Entity

- 1) Unless otherwise stipulated in the Tender Document, no Facilities (including Reference Documents, Medical facilities, Rooms, Furniture, Transport, Access to IT Services etc.) shall be provided by the Procuring Entity to Contractor at Site.
- 2) Unless otherwise stipulated in the Tender Document, The Procuring Entity may supply without any obligation to do so, to the contractor part or whole of the quantity of the water and electricity required for the delivery of Services from the Procuring Entity's existing water/ electricity supply system at or near the site of Services on specified terms and conditions and on chargeable basis (unless specified otherwise), provided that the contractor shall arrange, at his own expense, to effect the connections and lay additional pipe/ power lines and accessories on the site. Nevertheless, it shall be the responsibility of the contractor to install adequate alternative arrangements to tide over outages in utilities

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or failure in supply by the Procuring Entity, and that the contractor shall not be entitled to any compensation– nor shall this be a reason for the delay in delivery of Services.

- 3) If so stipulated in the Tender Document, The Procuring Entity may hire to the contractor non-key Equipment owned and sparable by Procuring Entity for use during execution of the Services on terms and conditions and on a chargeable basis as may be stipulated in the contract or a separate agreement for Hire of such equipment.

5.4 Contract Period

The contract Period for which the Service shall be contracted shall be one year, unless terminated earlier as per the contract. In addition, at the option of the Procuring Entity, the contract period may be extended twice by three months at a time. Notice of renewal shall be provided by physical/ digital means to the Service Provider no later than thirty (30) days before the contract end.

5.5 Form of Contract

5.5.1 Form of BOQ/ Contract

Unless otherwise stipulated, the Form of BOQ/ Contract shall be Time-Based (Input admeasurement- a sum of the price of Inputs per month). Otherwise, if it is stipulated in TIS/ AITB, one of the following forms of BOQ/ Contract shall be applicable. The evaluation of bids and payments in the resulting Contract shall be as per such BOQ:

- 1) Unit-Rate (Output admeasurement - based on price per unit of quantity of Service)
- 2) Lump sum Price
- 3) Percentage- Based (of the value of Transactions)

5.5.2 Time-Based (Inputs Admeasurement) form of BOQ/ Contract

Unless otherwise stipulated in TIS/ AITB form of BOQ/ Contract shall be 'Time-Based (Inputs Admeasurement)':

- 1) Section VI: Schedule of Requirement shall indicate the quantum, frequency and duration of the Services/ Activities and also key inputs estimated to be required per month (Personnel, Equipment, Materials and Miscellaneous) for performing the Services/ Activities to the stipulated performance standards and quality. It shall also indicate the contract Period (one year, unless otherwise stipulated) of service required.
- 2) The Bidders shall quote the quantum of inputs per month he considers necessary to perform the Services/ Activities to the required performance standards and quality, in the Techno-commercial bid in respective Deployment Plan – Form 3.3: Personnel Deployment Plan, Form 3.4: Equipment Deployment Plan, and Form 3.5: Material Deployment Plan etc.
- 3) The Bidders shall quote the monthly rates of Inputs - Personnel, Equipment, Materials and Miscellaneous in the BOQ/ financial bid as per deployment plans in his techno-commercial bid. BOQ would calculate the total monthly cost of all inputs and total bid-amount over the Contract Period.
- 4) Evaluation of Bids shall be on the total price for Services for the Contract period.
- 5) Instead of quotation of rate separately of each input element, the Tender Document may pre-indicated such rates (based on Schedule of Rates (SOR) or otherwise) in BOQ. Bidders shall indicate only one %age figure above or below (negative %age not allowed in personnel schedule) such indicated rates, and evaluation shall be based on the %age quoted.

5.5.3 Unit-Rate (Output admeasurement) form of BOQ/ Contract

1) Unit-Rate form of BOQ/ Contract – Definite-delivery

If it is stipulated in TIS/ AITB that this is a Unit-Rate (Output admeasurement – definite volume) form of BOQ/ Contract, then:

- a) Section VI: Schedule of Requirement shall indicate the volume of required service outputs in specified units (Length, area, volume, hours/ days/ months etc.) as well as the contract Period (one year, unless otherwise stipulated) over which such volume shall be availed. Actual off-take of the volume of Services may be subject to a specified tolerance (+/- 5 % if not specified).
- b) The Bidders shall quote the per unit (e.g., length, area, volume, hourly/ daily/ monthly) price of outputs for the specified volume of service.
- c) The evaluation shall be done based on the total price of such specified volume of Services.
- d) Unless otherwise stipulated in the Tender Document, prices of Input Deployments (Personnel, equipment, materials, etc.) shall also be called for but shall be used only to price the variations and monitor performance standards, but not for evaluation of bids or payment of Services.

2) Unit-Rate form of BOQ/ Contract–Indefinite-Delivery (Rate Contract/ on-call)

If it is stipulated in TIS/ AITB that this is a Unit-Rate (Output admeasurement – indefinite Delivery) form of BOQ/ Contract, then:

- a) Section VI: Schedule of Requirement shall indicate only a tentative estimate of the volume of required service outputs in specified units (Length, area, volume, hours/ days/ months etc.) as well as the contract Period (one year, unless otherwise stipulated) over which such volume is likely to be availed. The Services shall be availed on-call as and when needed by the procuring entity without any commitment regarding the volume of services.
- b) The Bidders shall quote the per unit (e.g., length, area, volume, hourly/ daily/ monthly) price of outputs for the specified volume of service.
- c) The evaluation shall be done based on the total price of such indicative volume of Services.
- d) If expressly stipulated in the Tender Document, prices of Input Deployments (Personnel, equipment, materials, etc.) shall also be called for but shall be used only to price the variations and monitor performance standards, but not for evaluation of bids or payment of Services.

5.5.4 Lump sum form of BOQ/ Contract

If it is stipulated in TIS/ AITB that this is a Lump sum form of BOQ/ Contract, then:

- 1) Section VI: Schedule of Requirement shall indicate the scope of Services required.
- 2) The Bidders shall quote the Lumpsum price of complete Services.
- 3) The evaluation shall be done based on the Lumpsum price of such Services.
- 4) If expressly stipulated in the Tender Document, prices of Input Deployments (Personnel, equipment, materials, etc.) shall also be called for but shall be used only to price the variations and monitor performance standards, but not for evaluation of bids or payment of Services.

5.5.5 Percentage-Based (of Value of Transactions) form of BOQ/ Contract

If it is stipulated in TIS/ AITB that this is a Percentage of Value of Transactions form of BOQ/ Contract, then:

- 1) Section VI: Schedule of Requirement shall indicate the estimated value of required transactions as well as the contract Period (one year, unless otherwise stipulated) over which such volume shall be availed. However, there shall be no firm commitment to avail the entire value of transactions within the contract period.
- 2) The Bidders shall quote a percentage as service charge on the value of transactions.
- 3) The evaluation shall be done for the percentage quoted multiplied by the specified value of transactions.
- 4) If expressly stipulated in the Tender Document, prices of Input Deployments (Personnel, equipment, materials, etc.) may also be called for but shall be used only to price the variations and monitor performance standards, but not for evaluation of bids or payment of Services.

6. Bid Prices, Taxes and Duties

6.1 Prices

6.1.1 Competitive and Independent Prices

- a) The prices should be arrived at independently, without restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:
 - i) those prices; or
 - ii) the intention to submit an offer; or
 - iii) the methods or factors used to calculate the prices offered.
- b) The prices should neither be nor shall be knowingly disclosed by the Bidder, directly or indirectly, to any other bidder or competitor before bid opening or contract award unless otherwise required by law.

6.1.2 Undue profiteering

- 1) **Controlled Price, if any:** The price quoted by Bidder shall not be higher than the controlled price fixed by law for the Services, if any, or where there is no controlled price, it shall not exceed the prices or contravene the norms for fixation of prices if any, laid down by Government or where the Government has fixed no such prices or norms, it shall not exceed the price appearing in any agreement, if any, relating to price regulation by any industry.
- 2) **Undue profiteering:** If the price quoted is higher than the controlled price in the sub-clause above, Bidder shall specifically mention this fact in his bid giving reasons for quoting a higher price(s). If he fails to do so or makes any misstatement, it shall be lawful for the Procuring Entity either to revise the price at any stage to bring it in conformity with the sub-clause (1) above or to terminate the contract for default as per the contract and avail all the remedies available therein in addition to other punitive actions for violation of Code of Integrity.

6.1.3 Price Components

- 1) Bidder shall indicate in the Price Schedule all the specified components of prices shown therein, including the unit prices and total bid prices.

- 2) All costs related to Personnel shall be based on the prevailing minimum wages and shall show applicable liabilities of EPF and ESI and other statutory allowances. Quotation of 'Nil' Service charge/ margin over such minimum wages cost of personnel shall be rejected as nonresponsive.

6.1.4 Price Schedule

- 1) Bidders are to upload only the downloaded BOQ (in excel format) after entering the relevant fields without any alteration/ deletion/ modification of other portions of the excel sheet. All the columns shown in the price schedule should be filled up as required. If any column does not apply to a Bidder, he should clarify the same.
- 1) Bidders shall fill in their rates other than zero value in the specified cells without keeping it blank.
- 2) The quoted price shall be considered to include all relevant financial implications, including inter-alia the scope of the Services to be delivered and the incidental goods/ works to be supplied, location of the bidder, site(s) of the delivery of Services, terms of delivery, extant rules and regulations relating to taxes, duties, customs, transportation, environment, labour, Private Security Agencies, Mining & Forest of the bidder's country and in India.

6.1.5 Provisions of GST

- 1) Break up of different price elements, i.e., as per GST Act, shall be indicated separately, along with its associated HSN code and GST rate.
- 8) While quoting the basic rate, the bidder should offset the input credit available as per the GST Act.
- 9) Please refer to ITB-Clause 6.3 for further details.

6.1.6 Currencies of Bid and Payment

- 1) Unless otherwise stipulated in the Tender Document, the currency of bid and payment shall be quoted by Bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees only.
- 2) Where the Tender Document permits quotations in different currencies, then, for Services performed in India, prices shall be quoted in Indian rupees only, and for Services performed from foreign locations, prices shall be quoted either in Indian rupees or in the currency stipulated in the AITB. For evaluation, all quoted prices shall be converted into Indian Rupees as per procedure mentioned in ITB-clause 12.4.2 below.
 - a) Regarding price(s) for incidental works/ goods, if any required with the Services, the same shall be quoted in Indian Rupees if such works/ goods are to be performed in or sourced from India.
 - a) Commission for Indian Agent, if any and if payable, shall be indicated in the space provided for in the price schedule and quoted in Indian Rupees only.

6.1.7 Non-compliance

Tenders, where prices are quoted in any other way, shall be rejected as nonresponsive.

6.2 Firm/ Variable Price

6.2.1 Firm Price

Unless otherwise stipulated in the AITB, prices quoted by Bidder shall remain firm and fixed during the currency of the contract and not subject to variation on any account.

6.2.2 Price Variation Clause:

- 1) In case the Tender Documents require/ permit offers on a variable price basis, the price quoted by the Bidders shall be subject to adjustment during the original delivery period to take care of the changes in the input cost of labour, material, and fuel/ power components under the price variation formula as stipulated in the Tender Document.
- 2) If a Bidder submits a firm price quotation against the requirement of variable price quotation, that bid shall be prima-facie acceptable and considered further, taking price variation asked for by Bidder as nil.

6.3 Goods and Services Tax (GST)

6.3.1 GST Registration Status:

- 1) All the Bidders should ensure that they are GST compliant and their quoted tax structure/ rates as per GST Act/ Rules. Bidder should be registered under GST and furnish GSTIN number and GST Registration Certificate in their offer unless they are specifically exempted from registration under specific notification/ circular/ section/ rule issued by statutory authorities.
- 2) **GST Registration Number (15-digit GSTIN).** If the bidder has multiple business verticals in a state and has separate registration for each vertical, the GSTIN of each vertical is concerned with the delivery of Services involved, as per the Schedule of Requirements and Price Schedule's scope be quoted. If the services provided are from multiple states, the bidder should mention GST registration numbers for each state separately.
- 3) **Composition scheme:** If the Bidder has opted for a composition levy under Section 10 of CGST, he should declare the fact while bidding along with GSTIN and GST registration certificate.
- 4) **Exemption from Registration:** If a bidder is not liable to take GST registration, i.e., having turnover below threshold, he shall submit undertaking/ indemnification against tax liability. Bidder claiming exemption in this respect shall submit a valid certificate from practising Chartered Accountant (CA)/ Cost Accountant with Unique Document Identification Number (UDIN) to the effect that Bidder fulfils all conditions prescribed in notification exempting him from registration. Such bidder/ dealer shall not charge any GST and/ or GST Cess in the bill/ invoice. In such case, applicable GST shall be deposited under Reverse Charge Mechanism (RCM) or otherwise as per GST Act by the Procuring Entity directly to concerned authorities. Bidder should note that his offer would be loaded with the payable GST under the RCM. Further, Bidder should notify and submit to the Procuring Entity within 15 days from the date of becoming liable to registration under GST.
- 5) The Procuring Entity's state-wise GSTINs are indicated in Section VI – Schedule of Requirements.

6.3.2 HSN Code and GST Rate:

- 1) HSN (Harmonized System of Nomenclature) code for the goods provided in this Tender Document is only indicative. It shall be the responsibility of Bidder to ensure that they quote the exact HSN Code and corresponding GST rate for each activity of the Services being offered by them
- 2) As per the GST Act, the bid and contract must show the GST Tax Rates (and GST Cess if applicable) and GST Amount explicitly and separate from the bid/ contract price (exclusive of GST). If the price is stated to be inclusive of GST, the current rate included in the price must be declared by the bidder.

- 3) If a Bidder asks for GST (and GST Cess if applicable) to be paid extra, the rate and nature of such taxes applicable should be shown separately. Bidders should quote 'GST' if payable extra on the total basic rate of each service and quoted GST in '%' inclusive of cess.
- 4) If GST, other taxes, duties are not specified, or column is left blank in the price schedule, it shall be presumed that no such tax/ levy is applicable or payable by the Procuring Entity.
- 5) **Applicability to Imported Goods/ Services:** Following the implementation of GST, the import of commodities shall not be subject to such erstwhile applicable duties like safeguard duty, education cess, basic customs duty, anti-dumping duty, etc. All these supplementary custom duties are subsumed under GST. The supply of commodities or services or both, if imported into India, shall be considered as supply under inter-state commerce/ trade and shall attract integrated tax (IGST). The IGST rate and GST cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

6.4 Payments

6.4.1 General

Unless otherwise stipulated, the usual payment term is 100% on delivery and acceptance of Services at 'the Site' by the Procuring Entity and production of all required documents. However, periodic "On Account" payments shall be made unless otherwise stipulated as per the procedure laid down in GCC.

6.4.2 No Advance Payments

Unless otherwise stipulated, no advance payment of any type (Mobilization, secured advances etc.), shall be made by the Procuring Entity. If so, provided the conditions for such advances shall be as per conditions stipulated therefor.

7. Downloading the Tender Document; Corrigenda and Clarifications

7.1 Downloading the Tender Document

The Tender Document shall be published and be available for download as mentioned in TIS. Bidders can obtain the Tender Document after the date and time of the start of availability till the deadline for availability. If the office happens to be closed on the deadline for the availability of the Tender Document, the deadline shall not be extended.

7.2 Corrigenda/ Addenda to Tender Document

Before the deadline for submitting bids, the Procuring Entity may update, amend, modify, or supplement the information, assessment or assumptions contained in the Tender Document by issuing corrigenda and addenda. The corrigenda and addenda shall be published in the same manner as the original Tender Document. Without any liability or obligation, the Portal may send intimation of such corrigenda/ addenda to bidders who have downloaded the document under their login. However, the bidders' responsibility is to check the website(s) for any corrigenda/ addenda. Any corrigendum or addendum thus issued shall be considered a part of the Tender Document. To give reasonable time to the prospective bidders to take such corrigendum/ addendum into account in preparing their bids, the Procuring Entity may suitably extend the deadline for the bid submission, as necessary. After the procuring entity makes such modifications, any Bidder who has submitted his bid in response to the original invitation shall have the opportunity to either withdraw his bid or re-submit his bid superseding the original bid within the extended time of submission as per ITB-clause 10.4.1 below.

7.3 Clarification on the Tender Document

A Bidder may seek clarification of the Tender Document from Office/ Contact Person/ e-procurement Help Desk as mentioned in TIS, provided the clarifications are raised before the clarification end date mentioned in TIS (or if not mentioned, within 7 days before the deadline for the bid submission). The Procuring Entity shall respond within 5 working days of receipt of such a request for clarification. The query and clarification shall be shared on the portal with all the prospective bidders. Any modification of the Tender Document that may become necessary due to the clarification shall be made by the Procuring Entity through an Addendum/ Corrigendum issue under the sub-clause above.

8. Pre-bid Conference

- 1) If a Pre-bid conference is stipulated in the TIS, prospective bidders interested in participating in this tender may attend a Pre-bid conference to clarify the techno- commercial conditions of the Tenders at the venue, date and time specified therein. Participation in the Pre-bid conference is restricted to prospective bidders who have downloaded the Tender Document.
- 2) Participation is not mandatory. However, if a bidder chooses not to (or fails to) participate in the Pre-bid conference or does not submit a written query, it shall be assumed that they have no issues regarding the techno-commercial conditions.
- 3) The date and time by which the written queries for the Pre-bid must reach the authority and the last date for registration for participation in the Pre-bid conference are also mentioned in the TIS. If the dates are not mentioned, such date and time shall be 7 days before the date and time of the pre-bid conference.
- 4) Delegates participating in the Pre-bid conference must provide a photo identity and an authorization letter as per Format 2: "Authorization for attending a Pre-bid Conference" from their Company/ principals; else, they shall not be allowed to participate. The pre-bid conference may also be held online at the discretion of the Procuring Entity.
- 5) After the Pre-bid conference, Minutes of the Pre-bid conference shall be published on the Procuring Entity's portal within seven days from the Pre-bid conference. If required, a clarification letter and corrigendum to Tender Document shall be issued, containing amendments of various provisions of the Tender Document, which shall form part of the Tender Document. As per ITB-clause 7.2 above, to give reasonable time to the prospective bidders to take such clarifications into account in preparing their bids, the Procuring Entity may suitably extend, as necessary, the deadline for the bid submission.

9. Preparation of Bids

9.1 The bid

9.1.1 Language of the bid

Unless otherwise stipulated in the AITB, the bid submitted by Bidder and all subsequent correspondence and documents relating to the bid exchanged between Bidder and the Procuring Entity shall be written in English or the Official Language. However, the language of any printed literature furnished by Bidder in connection with its bid may be written in any other language provided a translation accompanies the same in the bid language. For purposes of interpretation of the bid, translation in the language of the bid shall prevail.

9.1.2 Acquaintance with Local Conditions and Factors

The Bidder, at his own cost, responsibility, and risk, is encouraged to visit, examine, and familiarise himself with all the site/ local conditions and factors. The Bidder acknowledges that before the submission of the bid, he has, after a complete and careful examination, made an independent evaluation of the Site/ local conditions, infrastructure, logistics, communications, the legal, environmental, and any other conditions or factors, which would have any effect on the performance of the contract. Bidders shall themselves be responsible for compliance with Rules, Regulations, Laws and Acts in force from time to time at relevant places. On such matters, the Procuring Entity shall have no responsibility and shall not entertain any request from the bidders in these regards.

9.1.3 Cost of Bidding

The Bidder(s) shall bear all direct or consequential costs, losses and expenditure associated with or relating to the preparation, submission, and subsequent processing of their Bids, including but not limited to preparation, copying, postage, delivery fees, expenses associated with any submission of samples, demonstrations, or presentations which the Procuring Entity may require, or any other costs incurred in connection with or relating to their Bids. All such costs, losses and expenses shall remain with the Bidder(s), and the Procuring Entity shall not be liable in any manner whatsoever for the same or any other costs, losses and expenses incurred by a Bidder(s) for participation in the Tender Process, regardless of the conduct or outcome of the Tender process.

9.1.4 Interpretation of Provisions of the Tender Document

The provisions in the Tender Document must be interpreted in the context in which these appear. Any interpretation of these provisions far removed from such context or other contrived or between-the-lines interpretation is unacceptable.

9.1.5 Quote Quantities/ Prices in both Numerals and Words

Although the software on the Portal may convert quantities/ rates/ amounts in numerical digits in Bids to words, the bidders are advised to ensure that there is no ambiguity in this regard.

9.1.6 Alternate Bids not Allowed.

Unless otherwise stipulated in the TIS/ AITB, conditional offers, alternative offers, multiple bids by a bidder shall not be considered. The Portal shall permit only one bid to be uploaded.

9.2 Documents comprising the bid:

9.2.1 Techno-commercial bid/ Cover

"Technical Bid" shall include inter-alia the original or scanned copies of duly signed or digitally signed copies of the following documents in pdf format. Pdf documents should not be password protected. If so stipulated in TIS/ AITB, specified originals or self-certified copies of originals shall also be required to be physically submitted as per instruction contained therein. *No price details should be given or hinted at in the Technical bid:*

- 1)** Form 7: Documents relating to Bid Security: A Bid Securing Declaration (BDS) in lieu of bid security in the format provided therein shall be uploaded as per ITB clause 9.4.
- 2)** Form 1: bid Form (to serve as covering letter and declarations applicable for both the Technical bid and Financial bid);

- a) Form 1.1: Bidder Information;
 - a) Form 1.2: Eligibility Declarations;
 - b) If applicable. Form 1.3: Declaration by Agents/ Associates of Foreign Principals (ITB-clause 3.5 above)
- 3) Form 4: Qualification Criteria - Compliance: Documentary evidence and following related forms needed to establish the Bidder's qualifications as stipulated in Section VIII: Qualification Criteria. Besides the stipulated documents, other supporting documents, literature, pamphlets may also be attached.**
- a) Form 4.1: Performance Statement
 - b) Form 4.2 Non-performance, Litigation Statement
 - c) Form 4.3 Financial Capability Statements (and its sub-forms)
- 4) Form 2: Schedule of Requirements - Compliance. Bidders should fill this form to detail the Schedules of Services offered by them, maintaining the same numbering and structure. They may add additional details not covered elsewhere in their bid. They should highlight here any deviations/ exceptions/ reservations regarding Section VI: 'Schedule of Requirements', in a chart form, without any ambiguity or conditionality along with justification and supporting documents. Even in case of no deviation, please fill in confirmations and nil deviation statements. If mentioned elsewhere in the bid, such deviations shall not be recognised and shall be null and void.**
- 5) Form 3: Performance Standards and Quality Assurance - Compliance.**
- Bidder shall upload the required and relevant documents like technical data, literature, drawings, and other documents. to establish that the Services offered in the bid fully conform to the Services specified by the Procuring Entity in the Tender Document. Bidder is also required to provide clause by clause compliance/ deviation Statement in a chart form (without ambiguity or conditionality along with justification) relating to all Performance Standards, Quality Assurance, Methods Statement, and Work Plan parameters. Even in case of no deviation, please fill in confirmations and nil deviation statements. If mentioned elsewhere in the bid, such deviations shall not be recognised and shall be null and void.
- a) Form 3.1: Method Statement
 - b) Form 3.2: Work-Plan
 - c) Form 3.3: Personnel Deployment Plan (shall also be evaluated for compliance to qualification criteria).
 - d) Form 3.4: Equipment Deployment Plan (shall also be evaluated for compliance to qualification criteria)
 - e) Form 3.5: Materials Deployment Plan
- 6) Form 5: Terms and Conditions - Compliance. Bidder must comply with the entire commercial and other clauses of this Tender Document. Any deviations should be listed in a chart form without ambiguity or conditionality, along with justification and supporting documents. All such Statements and Documents shall be uploaded as Form 5. Even in case of no deviation, please fill in confirmations and nil deviation statements. If mentioned elsewhere in the bid, such deviations shall not be recognised and shall be null and void.**
- 7) Form 6- Checklist for the Bidders: Bidder must also upload the Checklist given in the Tender Document as Form 6 to confirm that he has complied with all the instructions in the Tender Document, and nothing is inadvertently left out. This checklist is only for general guidance**

and is not comprehensive, and does not absolve Bidder from complying with all the requirements stipulated elsewhere in the Tender Document.

- 8) If stipulated in TIS/ AITB, duly signed Form 8: Integrity Pact
- 9) Any other format/ Form if stipulated in AITB or if considered relevant by the bidder

9.2.2 Financial bid/ Cover

"Financial bid" shall comprise the Price Schedule (To be submitted separately as an excel sheet) considering all financially relevant details, including Taxes and Duties as per ITB-clause 6.3. No additional technical details, which have not been brought out in the Technical bid shall be brought out in the Financial bid.

9.3 Bid Validity

- 1) Unless specified to the contrary in the TIS/ AITB, Bids shall remain valid for a period not less than 90 days from the deadline for the bid submission stipulated in TIS. A bid valid for a shorter period shall be rejected as nonresponsive.
- 2) In case the day upto which the bids are to remain valid falls on/ subsequently declared a holiday or closed day for the Procuring Entity, the bid validity shall automatically be deemed to be extended upto the next working day.
- 3) In exceptional circumstances, before the expiry of the original time limit, the Procuring Entity may request the bidders to extend the validity period for a specified additional period. The request and the bidders' responses shall be made in writing or electronically. A bidder may agree to or reject the request. A bidder who has agreed to the Procuring Entity's request for extension of bid validity, in no case, he shall be permitted to modify his bid.

9.4 Bid Security - Related Documents

- 1) In lieu of Bid Security, all Bidders shall furnish/ upload a Bid Securing Declaration (BSD) as Form 7: Documents Relating to Bid Security, along with its Technical bid. The BSD is required to protect the Procuring Entity against the risk of the Bidder's unwarranted conduct as amplified under the sub-clause below.
- 2) The BSD provides for automatic suspension of the Bidder from being eligible for bidding in any tender in Ministry/ Department of Procuring Organisation for 2 years from the date of such enforcement. This declaration shall stand enforced if Bidder breaches the following obligation(s) under the tender conditions:
 - (a) withdraws or amends his bid or impairs or derogates from the bid in any respect within the period of validity of its bid; or
 - (b) after having been notified within the period of bid validity of the acceptance of his bid by the Procuring Entity:
 - i) refuses to or fails to submit the original documents for scrutiny or the required Performance Security within the stipulated time as per the conditions of the Tender Document.
 - ii) Fails or refuses to sign the contract.
- 3) Unsuccessful Bidders' bid-Securing Declaration shall expire, if the contract is not awarded to them, upon:
 - (a) receipt by Bidder of the Procuring Entity's notification
 - i) of cancellation of the entire tender process or rejection of all bids or

- ii) of the name of the successful bidder or
- (b) forty-five days after the expiration of the bid validity or any extension thereof
- 4) The bid-Securing Declaration of the successful bidder shall stand expired only when Bidder has furnished the required Performance Security and signed the Agreement.

9.5 Non-compliance with these provisions

Bids are liable to be rejected as nonresponsive if a Bidder:

- 1) fails to provide and/ or comply with the required information, instructions etc., incorporated in the Tender Document or gives evasive information/ reply against any such stipulations.
- 2) furnishes wrong and/ or misleading data, statement(s) etc. In such a situation, besides rejection of the bid as nonresponsive, it is liable to attract other punitive actions under relevant provisions of the Tender Document for violation of the Code of Integrity.

10. Signing and Uploading of Bids

10.1 Relationship between Bidder and eProcurement Portal

The Procuring Entity is neither a party nor a principal in the relationship between Bidder and the organisation hosting the e-procurement portal (hereinafter called the Portal). Bidders must acquaint and train themselves with the rules, regulations, procedures, and implied conditions/ agreements of the Portal. Bidders intending to participate in the bid shall be required to register in the Portal. Bidders shall settle clarifications and disputes, if any, regarding the Portal directly with them. In case of conflict between provisions of the Portal with the Tender Document, provisions of the Portal shall prevail. Bidders may study the resources provided by the Portal for Bidders.

10.2 Signing of bid

The individual signing/ digitally signing the bid or any other connected documents should submit an authenticated copy of the document(s), which authorizes the signatory to commit and submit bids on behalf of the bidder in Form 1.1: Bidder Information.

10.3 Submission/ uploading of Bids.

10.3.1 Submission/ Uploading to the Portal

- 1) No manual Bids shall be made available or accepted for submission (except for originals of scanned copies as per sub-clause 5 below). In the case of downloaded documents, Bidder must not make any changes to the contents of the documents while uploading, except for filling the required information– otherwise, the bid shall be rejected as nonresponsive.
- 2) Bids shall be received only *Online* on or before the deadline for the bid submission as notified in TIS.
- 3) Only one copy of the bid can be uploaded, and Bidder shall digitally sign all statements, documents, certificates uploaded by him, owning sole and complete responsibility for their correctness/ authenticity as per the provisions of the IT Act 2000 as amended from time to time.
- 4) Bidder need not sign or up-load the Schedules in ITB-clause 1.4 above while uploading his bid unless otherwise instructed in the Tender Document. It is assumed that Bidder commits itself to comply with all the Sections and documents uploaded by the Tender Inviting Officer.

- 5) Bidder must upload scanned copies of originals (or self-attested copies of originals – as specified). Uploaded Pdf documents should not be password protected. Bidder should ensure the clarity/ legibility of the scanned documents uploaded by him.
- 6) If stipulated in the TIS, copies/ originals of such specified uploaded scanned documents must also be physically submitted sealed in double cover and acknowledgement be obtained before the deadline for the bid submission at the venue mentioned. Failure to do so is likely to result in the bid being rejected as nonresponsive. If the office is closed on the deadline for physical submission of originals, it shall stand extended to the next working day at the same time and venue. The Procuring Entity reserves its right to call for verification originals of all such self-certified documents from the Bidders at any stage of evaluation, especially from the successful Bidder(s) before the issue of Letter of Award (LoA).
- 7) Regarding the protected Price Schedule (excel format, Cover-2), Bidder shall write his name in the space provided in the specified location only. Bidder shall type rates in the figure only in the rate column of respective service(s) without any blank cell or Zero values in the rate column, without any alteration/ deletion/ modification of other portions of the excel sheet. If space is inadequate, Bidder may upload additional documents under "Additional Documents" in the "bid Cover Content."
- 8) The date and time of the deadline for the bid submission shall remain unaltered even if the specified date is declared a holiday for the Tender Inviting Officer.
- 9) The date and time of the e-Procurement server clock, which is also displayed on the dashboard of the bidders, shall be taken as the reference time for deciding the closing time of bid submission. Bidders are advised to ensure they submit their bid within the deadline and time of bid submission, taking the server clock as a reference, failing which the portal shall not accept the Bids. No request on the account that the server clock was not showing the correct time and that a particular bidder could not submit their bid because of this shall be entertained. Failure or defects on the internet or heavy traffic at the server shall not be accepted as a reason for a complaint. The Procuring Entity shall not be responsible for any failure, malfunction or breakdown of the electronic system used during the e-Tender Process.
- 10) All Bids uploaded by Bidder to the portal shall get automatically encrypted. The encrypted bid can only be decrypted/ opened by the authorised persons on or after the due date and time. The bidder should ensure the correctness of the bid before uploading and take a printout of the system generated submission summary to confirm successful bid upload.
- 11) The Procuring Entity may extend the deadline for the bid submission by issuing an amendment as per ITB-clause 7.2 above, in which case all rights and obligations of the Procuring Entity and the bidders previously subject to the original deadline shall then be subject to the new deadline for the bid submission.
- 12) Bid submitted through modalities other than those stipulated in TIS shall be liable to be rejected as nonresponsive.

10.3.2 Implied acceptance of procedures by Bidders

Submission of bid in response to the Tender Document is deemed to be acceptance of the e-Procurement and tender procedures and conditions of the Tender Document.

10.3.3 Late Bids

The bidder shall not be able to submit his bid after the expiry of the deadline for the bid submission (as per server time). Therefore, in eProcurement, a situation of Late Tender does not arise.

10.4 Modification, Resubmission and Withdrawal of Bids

10.4.1 Modification & Resubmission

Once submitted in e-Procurement, Bidder cannot view or modify his bid since it is locked by encryption. However, resubmission of the bid by the bidders for any number of times superseding earlier bid(s) before the date and time of submission is allowed. Resubmission of a bid shall require uploading of all documents, including financial bid afresh. The system shall consider only the last bid submitted.

10.4.2 Withdrawal

- 1) The bidder may withdraw his bid before the bid submission deadline, and it shall be marked as withdrawn.
- 2) No bid should be withdrawn after the deadline for the bid submission and before the expiry of the bid validity period. If a Bidder withdraws the bid during this period, the Procuring Entity shall be within its right to enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), in addition to other punitive actions provided in the Tender Document for such misdemeanour.

11. Bid Opening

The date & time of the opening bid is as stipulated in TIS. Bids cannot be opened before the specified date & time, even by the Tender Inviting Officer, the Procurement Officer, or the Publisher. If the specified date of tender opening falls on a subsequently declared a holiday or closed day for the Procuring Entity, the Bids shall be opened at the appointed time on the next working day.

12. Evaluation of Bids and Award of Contract

12.1 General norms

12.1.1 Evaluation based only on declared criteria.

The evaluation shall be based upon scrutiny and examination of all relevant data and details submitted by Bidder in its/ his bid and other allied information deemed appropriate by Procuring Entity. Evaluation of bids shall be based only on the criteria/ conditions included in the Tender Document.

12.1.2 Infirmary/ Irregularity/ Non-Conformity/ Deviations - Substantive or Minor

- 1) An infirmity/ irregularity or non-conformity/ exception/ deviation/ reservation/ omission from the requirements of the Tender Document shall be considered as a substantive deviation as per the following norm, and the rest shall be considered as Minor deviation:
 - a) which affects in any substantive way the scope, quality, or performance standards of the Services;
 - b) which limits in any substantive way, inconsistent with the Tender Document, the Procuring Entity's rights or the Bidder's obligations under the contract; or

- c) Whose rectification would unfairly affect the competitive position of other Bidders presenting substantively responsive Bids.
- 2) The decision of the Procuring Entity shall be final in this regard. Bids with substantive deviations shall be rejected as nonresponsive.
- 3) Variations and deviations and other offered benefits (Techno-commercial or Financial) above the scope/ quantum of Services stipulated in the Tender Document shall not influence evaluation Bids. If the bid is otherwise successful, such benefits shall be availed by the Procuring Entity, and these would become part of the contract.
- 4) The Procuring Entity reserves the right to accept or reject bids with any minor deviations. Wherever necessary; the Procuring Entity shall convey its observation as per sub-clause below, on such 'minor' issues to Bidder by registered/ speed post/ electronically etc. asking Bidder to respond by a specified date. If Bidder does not reply by the specified date or gives an evasive reply without clarifying the point at issue in clear terms, that bid shall be liable to be rejected as nonresponsive.

12.1.3 Clarification of Bids and shortfall documents

- 1) During the evaluation of Techno commercial or Financial Bids, the Procuring Entity may, at its discretion, but without any obligation to do so, ask Bidder to clarify its bid by a specified date. Bidder should answer the clarification within that specified date (or, if not specified, 7 days from the date of receipt of such request). The request for clarification shall be submitted in writing or electronically, and no change in prices or substance of the bid shall be sought, offered, or permitted that may grant any undue advantage to such bidder.
- 2) If discrepancies exist between the uploaded scanned copies and the Originals submitted by the bidder, the original copy's text, etc., shall prevail. Any substantive discrepancy shall be construed as a violation of the Code of Integrity, and the bid shall be liable to be rejected as nonresponsive in addition to other punitive actions under the Tender Document for violation of the Code of Conduct.
- 3) The Procuring Entity reserves its right to, but without any obligation to do so, to seek any shortfall information/ documents only in case of historical documents which pre-existed at the time of the tender opening, and which have not undergone change since then and does not grant any undue advantage to any bidder. There is a provision on the portal for requesting Short-fall documents from the bidders. The system allows taking the shortfall documents from any bidders only once after the technical bid opening.

12.1.4 Contacting Procuring Entity during the evaluation

From the time of bid submission to awarding the contract, no Bidder shall contact the Procuring Entity on any matter relating to the submitted bid. If a Bidder needs to contact the Procuring Entity for any reason relating to this tender and/ or its bid, it should do so only in writing or electronically. Any effort by a Bidder to influence the Procuring Entity during the processing of bids, evaluation, bid comparison or award decisions shall be construed as a violation of the Code of Integrity, and bid shall be liable to be rejected as nonresponsive in addition to other punitive actions for violation of Code of Integrity as per the Tender Document.

12.2 Evaluation of Bids

12.2.1 Preliminary Examination of Bids - Determining Responsiveness

A substantively responsive bid is complete and conforms to the Tender Document's essential terms, conditions, and requirements, without substantive deviation, reservation, or infirmity. Only

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

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substantively responsive bids shall be considered for further evaluation. Unless otherwise stipulated in the AITB, the following are some of the crucial aspects for which a bid shall be rejected as nonresponsive:

- 1) The bid is not in the prescribed format or is not submitted as per the stipulations in the Tender Document.
- 2) Required Bid Security Declaration (Form 7) has not been provided.
- 3) Bidder is not eligible to participate in the bid as per laid down eligibility criteria;
- 4) The Services offered are not eligible as per the provision of this tender.
- 5) Bidder has quoted conditional bids or more than one bid or alternative bids unless permitted explicitly in the TIS/ AITB.
- 6) The bid validity is shorter than the required period.
- 7) The bid departs from the essential requirements stipulated in the bidding document;
- 8) Bidder has not quoted all Schedules or against a schedule in Section VI: Schedule of Requirement or has not quoted the entire Services as stipulated in that schedule.
- 9) Bidder has quoted 'Nil' Service charges/ margin over the minimum wages in Personnel Deployment Schedule.
- 10) Non-submission or submission of illegible scanned copies of stipulated documents/ declarations

12.2.2 The evaluation process in Single/ multiple Cover(s) and PQB Tenders

- 1) Unless otherwise stated, this Tender Process is for multiple (two or more) covers Bids. Initially, only the techno-commercial bids shall be opened on the stipulated date of opening of bids. After that, the techno-commercial evaluation shall be done whether these bids meet the eligibility & qualification criteria and techno-commercial aspects. Subsequent opening of financial bids and financial evaluation shall be done only of bids declared successful in techno-commercial evaluation.
- 2) If it is stipulated that this is the second stage of the two-stage tender Process or pre-qualified bidding (PQB) after shortlisting qualified bidders in the EoI/ PQB stage, evaluation of responses from the shortlisted qualified bidders shall follow the same procedure as described above for multiple covers Tender Process.
- 3) If the TIS/ AITB stipulate this to be a single cover Tender process, the single cover bids shall be opened on the stipulated date of opening of bids. After that, evaluation of eligibility/ qualification of bidders, the techno-commercial, and the financial aspects shall be done simultaneously. There shall be no interim/ separate declaration of results of the techno-commercial evaluation.

12.3 Techno-commercial Evaluation

Only substantively responsive bids shall be evaluated for techno-commercial evaluation. In evaluating the techno-commercial bid, conformity to the eligibility/ qualification criteria, technical specifications, and Quality Assurance; and commercial conditions of the offered Services to those in the Tender Document is ascertained. Additional factors incorporated in the Tender Document shall also be considered in the manner indicated therein. Bids with substantive techno-commercial deviations shall be rejected as nonresponsive. Procuring entity reserves its right to consider and allow minor deviations in technical and Commercial Conditions as per ITB-clause 12.1.2.

12.3.1 Evaluation of eligibility

Procuring Entity shall determine, to its satisfaction, whether the Bidders are eligible as per ITB-clause 3.2 and NIT-clause 3 above to participate in the Tender Process as per submission in Form 1.2: Eligibility Declarations. Tenders that do not meet the required eligibility criteria prescribed shall be rejected as nonresponsive.

12.3.2 Evaluation of Qualification Criteria

Procuring Entity shall determine, to its satisfaction, whether the Bidders are qualified and capable in all respects to perform the contract satisfactorily (subject to dispensation if any, for Start-ups, as per ITB-clause 4.3.2) as per submission in Form 4 and its sub-forms (4.1 to 4.3). This determination shall, inter-alia, consider the Bidder's Experience/ Past Performance, Performance and Financial Capabilities; for satisfying all requirements incorporated in the Tender Document. The determination shall not consider the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than specialized subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.

12.3.3 Evaluation of Conformity to Performance Standards and Quality Assurance

The Procuring Entity shall examine the Performance Standards and Quality Assurance; Methods Statement, Input Deployment Plans and Work Plan, as per Form 3, 3.1, 3.2, 3.3, 3.4 and 3.5.

12.3.4 Evaluation of Conformity to Commercial and Other Clauses

Bidder must comply with all the Commercial and other clauses of the Tender Document as per submissions in Form 5. The Procuring Entity shall also evaluate the commercial conditions quoted by Bidder to confirm that all terms and conditions stipulated in the Tender Document have been accepted without substantive omissions/ reservations/ exception/ deviation by the Bidder. Deviations from or objections or reservations to critical provisions such as those concerning Governing laws and Jurisdiction (GCC Clause 3), Contractor's Obligations and Restrictions of its Rights (GCC Clause 5), Performance Bond/ Security (GCC Clause 5.8), Force Majeure (GCC Clause 10.7), Taxes & Duties (GCC Clause 11.2), Defects Liability Period (GCC Clause 11.7) and Code of Integrity (GCC Clause 14) will be deemed to be a material deviation.

12.3.5 Declaration of Techno-commercially Suitable Bidders and Opening of Financial Bids

Bids that succeed in the above techno-commercial evaluation shall be considered techno-commercially suitable, and financial evaluation shall be done only of such Bids. The list of such techno-commercially suitable bidders and a date/time and venue for the opening of their financial bids shall be declared on the Portal and individually to all participant bidders in accordance with ITB-clause 12.2.2 as per the type of Tender Processes.

12.4 Evaluation of Financial Bids and Ranking of Bids

12.4.1 Ranking of Financial Bids

- 1) Unless otherwise stipulated, evaluation of the financial bids shall be on the price criteria only. Financial Bids of all Techno-commercially suitable bids are evaluated and ranked to determine the lowest priced bidder.
- 2) Unless otherwise stipulated, the comparison of the responsive Bids shall be on total outgo from the Procuring Entity's pocket, to be paid to the contractor or any third party, including all elements of costs as per the terms of the proposed contract, duly delivered, commissioned, etc. as the case may be, including any taxes, duties, levies etc.

- 3) Unless otherwise stipulated, if the Schedule of Requirements contains more than one schedule, the financial ranking of bids shall be done based on all schedules put together. The bid for a schedule shall not be considered if the complete requirements prescribed in that schedule are not included in the bid;
- 4) If any bidder offers conditional discounts/ rebates in his bid or suo-motu discounts and rebates after the tender opening (techno-commercial or financial), such rebates/ discounts shall not be considered for ranking the offer. But if such a bidder does become L-1 without discounts/ rebates, such discounts/ rebates shall be availed and incorporated in the contracts;
- 5) Unless announced beforehand, the quoted price shall not be loaded based on deviations in the commercial conditions. If it is so declared, such loading of a financial bid shall be done as per the relevant provisions;
- 6) As per policies of the Government, from time to time, the Procuring Entity reserves its option to give purchase preferences to eligible categories of Bidders as indicated in the Tender Document.
- 7) evaluation of Bids shall include and consider the following taxes/ duties, as per ITB-clause 6.3 above:
 - a) in the case of Services performed in India or incidental goods of foreign origin already located in India, GST & other similar duties, which shall be contractually payable, on the Services and incidental Goods, if a contract is awarded on the bidder;
 - b) The offers shall be evaluated based on the GST rate quoted by each bidder, and the same shall be used for determining the inter-se ranking. The Procuring Entity shall not be responsible for any misclassification of HSN Number or incorrect GST rate if quoted by the bidder. Any increase in GST rate due to misclassification of HSN number shall have to be absorbed by the supplier; and
 - c) If GST is quoted extra, but with the provision that it shall be charged as applicable at the time of delivery, the offer shall be evaluated for comparison purposes by loading the maximum existing rate of GST for the product/ HSN code.
- 8) **Price Variation:** If the tenders have been invited on a variable price basis, the tenders shall be evaluated, compared, and ranked based on the position as prevailing on the last deadline for techno-commercial bid submission and not on any future date.
- 9) **Ambiguous Financial bid:** If the financial bid is ambiguous and leads to two equally valid total price amounts, it shall be rejected as nonresponsive.

12.4.2 Global Tender Enquiry (GTE, International Competitive Bidding)

If stipulated in the TIS/ AITB that this is a Global Tender Enquiry (International Competitive Bidding), the following additional aspects of the evaluation of the financial offer shall also apply:

1) Currency of Tender

In GTE tenders, if permitted in AITB, the bid price may be in foreign currencies, except for expenditure incurred in India (including incidental Works/ Goods delivered in India and agency commission, if any) which should be stated in Indian Rupees.

2) Evaluation of Offers

- a) For financial evaluation, all Bids shall be converted to Indian Rupees based on the “Bill for Collection (BC) selling” exchange rate on the last deadline for the bid submission (Techno-commercial offer) from a source as specified (State Bank of India, if not so specified) in the tender document. The offers would be compared based on the

principle of the total outgo from Procuring Entity's pockets, including all applicable taxes and duties (Customs duty, GST, and GST Cess). For bids with Letter of Credit (LC) payment, the likely LC charges (as ascertained from the Procuring Entity's bankers) should also be loaded. Import of Goods or services or both attracts integrated tax (IGST). The IGST rate and GST cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

- b) The terms FOB, FAS, CIF, DDP etc. shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS, published by the International Chamber of Commerce, Paris

12.4.3 Evaluation Process in Tender cum e-Reverse Auction

If it is specified in TIS/ AITB that this is a Tender cum e-Reverse Auction Tender Process then, the e-Reverse Auction process shall be mandatorily conducted on the same portal after the financial bid opening (declaration of L-1 landed price/ s), provided the number of valid bidders is not less than the stipulated number (3 if not specified). Unless otherwise stipulated following procedure shall be followed:

1) Shortlisting of bidders eligible to participate in e-Reverse Auction:

- (a) The bids disallowed from participating in the Reverse Auction (e-RA) shall be the highest bidder(s) in the tabulation of prices in the financial bid. If the highest bidders quote the same rate, the Price Offer received last, as per the time log of the Portal, shall be removed first, on the principle of last in first out by the system.
- (b) If the number of valid bidders is less than the minimum stipulated number (or 3 if not specified), a Reverse auction shall not be conducted, and the financial bids shall be evaluated. In the case of 4 to 6 valid bidders lowest three (3) bidders shall be allowed to participate in the reverse auction. In the case of more than 6 valid bidders, only 50% of the bidders (rounded up to next integer) shall be allowed to participate.
- (c) However, if MSE bidders or Class-I Local suppliers under the Make in India policy do not come under the above criteria, but their prices in financial bids are within the policy's margin of preference, they shall be allowed to participate. Such bidders would be over and above the short-list mentioned above.

2) Reverse Auction Process (RAP)

Note: If the Portal RAP process is different from the one described below, the portal provisions shall prevail.

- (a) Upon opening the financial bids, a reverse auction platform shall be created. The reverse auction shall start within the specified period (two hours if not specified) of the bid. There shall be no participation fees for the e-Reverse auction.
- (b) Unless modified by TIA, L-1 landed price in financial bid (as per the calculation schema based on the Tender Document evaluation criteria) shall be the start bid price on which the auction shall be initiated.
- (c) The TIA shall specify the decrement value before starting the e-Reverse Auction (or, if not specified, 0.5% of the start bid price rounded off to the next unit, tens, hundreds, thousands etc., with a minimum of Rs. 1). The reduction shall have to be made as per decrement value or in multiple thereof.
- (d) An initial period of the reverse auction shall be as stipulated (or two hours if not specified). All times and periods are as per server time-stamp. There shall be auto

extensions of time by specified minutes (ten minutes if not specified) in case of any reduction recorded in the last auto-extension period. The Maximum number of auto extensions shall be as stipulated (or 50 if not stipulated).

- (e) In case of service disruption at the service provider's end during the reverse auction, the reverse auction process shall start all over again, with the last recorded lowest price of prematurely ended RAP as the 'Start bid' price. The prices quoted in the prematurely ended RAP shall be binding on all the bidders for consideration if the restarted process does not trigger within the stipulated time (or by 5.00pm on the same day, if not stipulated). Disruption and restarting of RAP shall be intimated to all the bidders through system/ SMS/ e-mail through the e-procurement portal.
- 3) Bidders must submit only the landed price in the reverse auction, and only the item-wise L-1 price shall be displayed without disclosing the number of bids and names of the bidders. The landed price would not be the same for two bidders, even if any bidder makes such an attempt. While evaluating the bids, the exchange rate captured by the e-procurement system shall be considered for converting foreign currency into Indian Rupees.
- 4) On the auction's closing time expiry, the bid history showing all the last valid bids offered along with the name of the bidders shall be published. All bidders shall have the facility to see and get a print of the same for their record.
- 5) All electronic bids submitted during the reverse auction process shall be legally binding on the bidder. Only the chronologically last bid submitted by Bidder until the end of the auction shall be considered the valid financial bid of Bidder, and consideration of the same for entering into a contract by the Procuring Entity shall bind on the bidder. If a bidder does not submit his bid in the Reverse Auction, the price quoted in the financial bid shall be considered the valid price of that bidder. The status of Bidder (L-1, L-2 etc.) shall be evaluated considering either the bid price submitted in Reverse auction or the Price quoted in the financial bid, whichever is lower.
- 6) The successful L-1 bidder, after the reverse auction, has to upload within a stipulated period (within 2 working days, if not specified) the breakup of Landed Prices in the shortfall documents, at which the contract shall be awarded. While giving the breakup, the Bidder shall include the same taxes and duties as quoted while submitting the financial bid. If the L-1 bidder fails to submit the breakup of landed price within the stipulated period, the Procuring Entity shall place an order based on the breakup of the financial bid submitted by Bidder, and the same shall be binding on the bidder.
- 7) **Purchase Preference**

Short-listed bidders, eligible for any purchase preference policy as per the Tender Document, shall get an opportunity to match the L-1 prices concluded after the reverse auction if their final prices in Reverse Auction fall within the permitted percentage.

12.4.4 Cartel Formation/ Pool Rates

- 1) Unless the Procuring Entity decides this to be a case of Cartel/ Pool Rates, if more than one bidder quote the same total evaluated price, then the Procuring Entity reserves its right to distribute unequal quantities among the bidders - excluding one or more bidders based on considerations like performance/ financial capabilities, any extra features/ benefits offered etc.
- 2) If Procuring Entity decides this to be a case of Cartel/ Pool Rates, leading to "Appreciable Adverse Effect on Competition" (AAEC) as identified in Competition Act, 2002, as amended from time to time, It reserves its rights to:

- a) order any quantity on any one or more bidders without assigning any reason thereof.

And/ or

- b) consider it as a violation of the Code of Integrity and reject the bid(s) as nonresponsive in addition to other punitive actions provided in this regard in the Tender Document. In addition to such remedies, the Procuring Entity also reserves the right to refer the matter to the Competition Commission of India (CCI) for obtaining necessary relief. In addition, the attention of the bidders is drawn to Chapter VI of the “The Competition Act 2002”, which deals with Penalties. Such actions shall be in addition to other rights and remedies available to the Procuring Entity under the contract and Law.

12.4.5 Reasonableness of Rates Received

Procuring Entity shall evaluate whether the rates received in the Bids in the zone of consideration are reasonable. If the rates received are considered abnormally low or unreasonably high, it reserves its right to take action as per the following sub-clauses, or as per ITB-clause 2.3, reject any or all Bids; abandon/ cancel the Tender process and issue another tender for identical or similar Services.

12.4.6 Consideration of Abnormally Low Bids

An Abnormally Low bid is one in which the bid price, in combination with other elements of the bid, appears so low that it raises substantive concerns as to the Bidder's capability to perform the contract at the offered price. Procuring Entity shall in such cases seek written clarifications from the Bidder, including detailed price analyses of its bid price concerning scope, schedule, allocation of risks and responsibilities, and any other requirements of the Tender Document. If, after evaluating the price analyses, procuring entity determines that Bidder has substantively failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity shall reject the bid/ proposal, and evaluation shall proceed with the next ranked bidder.

12.4.7 Price Negotiation

Usually, there shall be no price negotiations. However, the Procuring Entity reserves its right to negotiate with the lowest acceptable bidder (L-1), who is techno-commercially suitable for delivery of Services and on whom the contract would have been placed but for the decision to negotiate. This right shall also apply to post eReverse Auction process.

13. Award of Contract

13.1 The Procuring Entity's Rights

13.1.1 Right to Vary Quantities at the Time of Award:

At the time of contract award, the Procuring Entity reserves the right to increase or decrease without any change in the unit prices or other terms and conditions of the bid and the Tender Document, the quantum of Services originally stipulated in Section VI: Schedule of Requirements, provided this increase/ decrease does not exceed 25 (twenty-five) percent of tendered quantity (or any other percentage indicated in the Tender Document).

13.1.2 Parallel Contracts or Splitting of Award

The Procuring Entity reserves its right to split the quantities and conclude Parallel contracts with more than one bidder (for the same tender) in the following circumstances:

- 1) Unless otherwise stipulated in TIS/ AITB, there shall be no parallel orders or splitting quantities among more than one Bidders.
- 2) However, if the Tender Document stipulates such parallel contracts due to the critical/ strategic/ specific nature of the Services, the manner of deciding relative share of the lowest bidder (L-1) and the rest shall be clearly defined, along with the minimum number of Bidders sought (subject to availability of suitable bids meeting the requirements) for the contract. In such cases, the bidders should not quote for less than 25% of the tendered quantity; otherwise, their offer shall be rejected as nonresponsive. Unless otherwise stipulated in the AITB, in case of splitting in two and three, the ratio of 70:30; 50:30:20, respectively shall be used. These ratios are approximate, and the Procuring Entity reserves its right to marginally vary quantities to suit capacity/ past performance of the bidder/ unit loads of packing or transportation/ relative ranking of the bids/ delivery period offered/ existing load of Bidder and other similar factors affecting smooth delivery of Services as per requirements.

13.2 Letter of Award (Acceptance - LoA) and Signing of Contract

13.2.1 Selection of Successful Bidder(s)

The Procuring Entity shall award the contract to the Bidder(s) whose bid(s) is Techno-commercially suitable and bid price(s) is lowest and reasonable, as per evaluation criteria detailed in the Tender Document.

13.2.2 Verification of Original Documents

Before issuing a Letter of Award (LoA) to the successful Bidder(s), the Procuring Entity may, at its discretion, ask Bidder to submit for verification the originals of all such documents whose scanned copies were submitted online along with the Technical bid. If so decided, the photocopies of such self-certified documents shall be verified and signed by the competent officer and kept in the records as part of the contract agreement. If the Bidder fails to provide such originals or in case of substantive discrepancies in such documents, it shall be construed as a violation of the Code of Integrity. Such bid shall be liable to be rejected as nonresponsive in addition to other punitive actions provided in the Tender Document. The evaluation of Bids shall proceed with the subsequent ranked offers.

13.2.3 Letter of Award (LoA)

- 1) The Bidder, whose bid has been accepted and documents verified (at the discretion of Procuring Entity), shall be notified of the award by the Procuring Entity before the expiration of the bid validity period by written or electronic means. This notification (hereinafter and in the Conditions of Contract called the "Letter of Award - LoA") shall state the sum (hereinafter and in the contract called the "Contract Price") that the Procuring Entity shall pay the contractor in consideration of delivery of Services. The Letter of Award (LoA) shall constitute the legal formation of the contract, subject only to the furnishing of performance security as per the provisions of the sub-clause below. The Procuring Entity, at its discretion, may directly issue the contract subject only to the furnishing of performance security, skipping the issue of LoA.
- 2) It shall be mandatory for the successful bidder to be registered on GeM and obtain a unique GeM Seller ID. Before the placement of LoA or the contract. This ID shall be incorporated in the contract.

13.2.4 Performance Security

- 1) Within 14 days (or any other period stipulated in AITB) of receipt of the Letter of Award (LoA, or the contract if LoA has been skipped), performance Security as per details in GCC-5.8 shall be submitted by the contractor to the Procuring Entity.
- 2) If the contractor, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful for the Procuring Entity at its discretion to annul the award and enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), besides taking any other administrative punitive action like 'Removal from List of Registered Suppliers' etc.
- 3) If the bidder, whose bid has been found to be the lowest evaluated bid withdraws or whose bid has been accepted, fails to sign the procurement contract as may be required, or fails to provide the security as may be required for the performance of the contract or otherwise withdraws from the procurement process, the Procuring Entity shall cancel the procurement process. Provided that the Procuring Entity, on being satisfied that it is not a case of cartelization, and that the integrity of the procurement process has been maintained, may offer the next successful bidder an opportunity to match the financial bid of the first successful bidder, and if the offer is accepted, award the contract to the next successful bidder at the price bid of the first successful bidder.

13.2.5 Signing of Contract

- 1) Within seven working days of receiving performance security, the Procuring Entity shall send the contract form (as per Format 1: Contract Form along with sub-formats) duly completed and signed, in duplicate, by registered/ speed post or by suitable digital means to the successful Bidder.
- 2) If so asked by the Procuring Entity, the successful Bidder shall return the original copy of the contract, duly signed and dated, within seven days from the date of receipt of the contract, to the Procuring Entity by registered/ speed post or by a suitable digital means.
- 3) Otherwise, the contract shall be taken to be legally effective from the date of its signing. The contractor may point out to the Procuring Entity, in writing/ electronically, any anomalies noticed in the contract within seven days of its receipt.

13.2.6 Expiry of bid Declaring Declarations

Upon the furnishing by the successful Bidder of the Performance Security, the Procuring Entity shall promptly notify the other Bidders that their Bids have been unsuccessful. The Bid Securing Declarations of unsuccessful bidders shall expire on receipt of this notification by them, in terms of ITB-clause 9.4above. The bid-Securing Declaration of the successful bidder shall expire when Bidder has furnished the required Performance Security and signed the Agreement.

13.2.7 Publication of Tender Result

The name and address of the successful Bidder(s) receiving the contract(s) shall be published in the Portal and notice board/ bulletin/website of the Procuring Entity.

14. Grievance Redressal/ Complaint Procedure

- 1) Bidder has the right to submit a complaint or seek de-briefing regarding the rejection of his bid, in writing or electronically, within 10 days of declaration of techno-commercial or financial evaluation results. The complaint shall be addressed to the Head of Procurement.

- 2) Within 5 working days of receipt of the complaint, the Tender Inviting Officer shall acknowledge the receipt in writing to the complainant indicating that it has been received, and the response shall be sent in due course after a detailed examination.
- 3) The Tender Inviting Officer shall convey the final decision to the complainant within 15 days of receiving the complaint. No response shall be given regarding the confidential process of evaluating bids and awarding the contract before the award is notified, although the complaint shall be kept in view during such a process. However, no response shall be given regarding the following topics explicitly excluded from such complaint process:
 - a) Only a bidder who has participated in the concerned Tender Process, i.e., pre-qualification, bidder registration or bidding, as the case may be, can make such representation.
 - b) Only a directly affected bidder can represent in this regard.
 - i) In case of pre-qualification bid has been evaluated before the bidding of Technical/ financial bids, an application for review concerning the technical/ financial bid may be filed only by a bidder who has qualified in pre-qualification bid;
 - ii) In case a technical bid has been evaluated before the opening of the financial bid, an application for review concerning the financial bid may be filed only by a bidder whose technical bid is found to be acceptable.
 - c) Following decisions of the Procuring Entity shall not be subject to review:
 - i) Determination of the need for procurement.
 - ii) Complaints against performance standards except under the premise that they are either vague or too specific to limit competition
 - iii) Selection of the mode of procurement or bidding system;
 - iv) Choice of the selection procedure.
 - v) Provisions limiting the participation of bidders in the Tender Process, in terms of policies of the Government
 - vi) Provisions regarding purchase preferences to specific categories of bidders in terms of policies of the Government
 - vii) The decision to enter into negotiations with the L-1 bidder; and
 - viii) Cancellation of the Tender Process except where it is intended to subsequently re-tender the same Services.

15. Code of Integrity in Public Procurement, Misdemeanours and Penalties:

Procuring authorities, bidders, suppliers, contractors, and consultants should observe the highest standard of integrity and not indulge in prohibited practices or other misdemeanours, either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts. GCC-clause 14 (including the penalties prescribed therein) shall be considered to be part of this clause of ITB (even though it is not being reproduced here for the sake of brevity) and shall apply mutadis mutandis during the pre-award tender process.

Section III: Appendix to Instructions to Bidders (AITB)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor.

(Ref ITB-clause 1.4)

Note for Bidders: Following clauses (in column 1), wherever these appear in ITB shall be taken to be negated or additional provision be added to, or existing provisions be altered as per column 2. Whenever there is any conflict between the provision in the ITB and that in the AITB, the provision contained in the AITB shall prevail.

ITB clauses	To be read as
ITB 3, 4	Bidders - Eligibility and Preferential Policies
ITB 3.1.2	For Sub contractors already proposed in the bid, no prior approval by Procuring entity is required.
ITB 3.2	As applicable
ITB 4.1	As applicable
ITB 4.1.3	Only Class I local Suppliers shall be eligible to participate
ITB 4.3.2	No relaxation in Prior Turnover and Experience for MSEs and Start-ups. For Qualification Criteria please refer Section VIII.
ITB 5 The Schedule of Requirements and Form of Contract	
ITB 5.2	<ul style="list-style-type: none"> a) Bidder is required to quote for all Schedules and all Services in any Schedule for a particular package, b) "Bidders may quote for one or more packages, or for all the packages, as per their capability and interest. The bidder must clearly indicate the package for which they are submitting their bid. c) Each package will be evaluated independently as per the Qualification Criteria stipulated for each Package in Section VIII. However, for award of or multiple packages, the award of number of Packages to the bidder will be limited by the Aggregate Evaluation Criteria. d) <i>For example, the qualification criteria for minimum number of drones per package is 3 as per section VIII-2: Critical Equipment schedule. To qualify for 3 packages, the bidder should submit Critical Equipment Deployment Plan for at least 9 nos of drones.</i> e) However, the bidder must ensure that they have the capacity, resources, and capability to deliver all the services required for each package they are quoting for, in accordance with the scope of work, timelines, and quality standards specified for each respective package. Bidders are advised that they may be awarded one or multiple packages based on the evaluation results and the discretion of the Tender Evaluation Committee." f) The figures for each of the partners of a joint venture/ Consortium shall be added together to determine the Bidder's compliance with the minimum qualifying criteria as per Section VIII. All the partners collectively must meet the criteria specified in Section VIII in full. Failure to comply with this requirement will result in rejection of the joint venture's/ Consortium's bid.

ITB 5.3	Following data will be provided to the Service Provider as received from the State Urban Authority after award of Contract: (i) Area of Interest (AOI) in kml/ kmz/shape. (ii) Revenue Maps of the area (if available).
ITB 5.4	Contract Period will be 12 months extendable twice by 3 months at a time.
ITB 5.5	Unit-Rate (output admeasurement) – Definite-Delivery BOQ
ITB 6. Bid Prices, Taxes and Duties	
ITB 6.1.6	Indian Rupees (₹) only
ITB 6.2.2	Not Applicable
ITB 6.4.2	Payment of 20 % of the contract value (including GST etc) as mobilization advance will be made on achieving the 1 st work milestone against unconditional bank guarantee from a nationalized bank.
ITB 7 to 11 Downloading, Preparation, Submission and Opening of Bids	
ITB 9.1.1	As mentioned in NIT
ITB 9.1.6	Alternate Bids are NOT allowed.
ITB 12 and 13 Evaluation of Bids and Award of Contract	
ITB 12.1	As per tender document
ITB 12.2.2	Single Stage, Two-Cover Tender Process
ITB 12.4.1	No Change
ITB 12.4.1	The evaluation is to be done for each Package. Bidders need to quote for all the Services in a Schedule for each package.
ITB 12.4.2	Not Applicable
ITB 12.4.3	Not Applicable
ITB 13.1.1	100% increase of services as per tendered quantity is permissible without any change in the unit prices. In case a contractor (X) fails to carry out services in the package allotted to X, the services can be asked to be executed by contractor (Y) of any other package whose performance is found satisfactory. While allotting additional quantity of work from contractor X to contractor 'Y', it shall be ensured that the additional allotment does not exceed 100% of the quantity originally allotted to Y. The additional quantity awarded to Y should be at the same unit rate at which it was awarded to contractor X.
ITB 13.1.2	Not applicable for this case.
ITB 13.2.1	<ul style="list-style-type: none"> One bidder can be at most be awarded contract in 25% of total number of packages in case the bidder is L1 in more than 25% of total packages. For the packages in which the bidder is L1, the 25% to award contract will be selected such that for the remaining packages in which the bidder is L1, the value of bids L2-L1 is least.

	<p>For example, let there are 10 packages and bidder X is L1 in 6 packages for Technology-1, Bidder A,B,C,D,E & F are L2 in those 6 packages, then the cases will be-</p> <table border="1"> <thead> <tr> <th>Packages</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td>L1</td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> <tr> <td>L2</td> <td>A</td> <td></td> <td>B</td> <td>C</td> <td></td> <td>D</td> <td></td> <td>E</td> <td></td> <td>F</td> </tr> <tr> <td>L3</td> <td colspan="10">L3 and so on...</td> </tr> </tbody> </table> <p>The manner of deciding relative share of the lowest bidder (L-1): Most Economically Advantageous Tender (the "MEAT"). The bidder X shall be awarded 25% of all packages i.e. 2 number of packages. To decide that, the difference between bids of L1 and L2 will be calculated i.e. A-X, B-X, C-X, D-X, E-X and F-X. The first four packages having minimum difference will be awarded to the L2 bidder and the rest 2 to L1 bidder e.g. in this case, if the lowest differences are A-X, C-X, E-X and F-X then the packages 1, 4, 8 and 10 will be awarded to A, C, E and F respectively and the remaining 2 packages i.e. 3, 6 will be awarded to X.</p>	Packages	1	2	3	4	5	6	7	8	9	10	L1	X		X	X		X		X		X	L2	A		B	C		D		E		F	L3	L3 and so on...									
Packages	1	2	3	4	5	6	7	8	9	10																																			
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L2	A		B	C		D		E		F																																			
L3	L3 and so on...																																												
ITB 13.2.4	3%																																												
ITB-clause 12.2	<p>Total work is divided into Packages. For Package wise distribution of work, refer Attachment-1 to TIS.</p> <p>Joint ventures, / Consortium and subcontracting shall be allowed to carry out work for individual package.</p>																																												
ITB-clause 12.2, 12.4, 13.2	<p>Technical and financial evaluation will be carried out separately for each Package wise.</p> <p>Package wise Letter of Award (LoA) will only be issued in the tender to the L-1 bidder followed with Signing of Contract.</p>																																												

Section IV: General Conditions of Contract (GCC)

1. General

1.1 Tenets of Interpretation

Unless where the context requires otherwise, throughout the contract:

- 1) The heading of these conditions shall not affect the interpretation or construction thereof.
- 4) Writing or written includes matter either whole or in part, in digital communications, manuscript, typewritten, lithographed, cyclostyled, photographed, or printed under or over signature or seal or digitally acceptable authentication, as the case may be.
- 5) Words in the singular include the plural and vice-versa.
- 6) Words importing the masculine gender shall be taken to include other genders, and words importing persons shall include any company or association or body of individuals, whether incorporated or not.
- 7) Terms and expression not herein defined shall have the meanings assigned to them in the contract Act, 1872 (as amended) or the Sale of Goods Act, 1930 (as amended) or the General Clauses Act, 1897 (as amended) or of INCOTERMS, (current edition published by the International Chamber of Commerce, Paris) as the case may be.
- 8) Any reference to 'Services' shall be deemed to include the incidental Works/ Goods also.
- 9) Any generic reference to GCC shall also imply a reference to SCC as well.
- 10) In case of conflict, provisions of SCC shall prevail over those in GCC.
- 11) Any reference to 'Contract' shall be deemed to include all other documents (inter-alia GCC, SCC) as described in GCC-clause 2.5.
- 12) Any reference to any legal Act, Government Policies or orders shall be deemed to include all amendments to such instruments, from time to time, till date.
- 13) GCC-clause 5.13 (Book Examination clause) shall not apply unless invoked explicitly in the contract.

1.2 Definitions

In the contract, unless the context otherwise requires:

- 1) "Agent" is a person employed to do any act for another or represent another in dealings with a third person. In the context of public procurement, an Agent is a representative participating in the Tender Processor Execution of a Contract for and on behalf of its principals.
- 2) "Beneficiary" (of Services/ Works) means the person for whom the Services/ Works are to be delivered as stipulated in the contract.
- 3) "bid" (including the term 'tender', 'offer', 'quotation' or 'proposal' in specific contexts) means an offer to supply goods, services or execution of works made as per the terms and conditions set out in a document inviting such offers.
- 4) "Bidder" (including the term 'Bidder', 'consultant' or 'service provider' in specific contexts) means any person or firm or company, including any member of a consortium or joint venture/ Consortium (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a Tender Process.

- 5) "Bill of Quantities" (including the term Price Schedule or BOQ) means the priced and completed Bill of Quantities forming part of the bid.
- 6) "Commercial Bank" means a bank, defined as a scheduled bank under section 2(e) of the Reserve Bank of India Act, 1934.
- 7) "Contract" (including the terms 'Purchase Order' or 'Supply Order' or 'Withdrawal Order' or 'Work Order' or 'Consultancy Contract' or 'Contract for Services', 'rate contract' or 'framework contract' or 'Letter of Award – LoA' (letter or memorandum communicating to the contractor the acceptance of his bid) or 'Agreement' or a 'repeat order' accepted/ acted upon by the contractor in specific contexts), means a formal legal agreement in writing relating to the subject matter of procurement, entered into between the Procuring Entity and the contractor on mutually acceptable terms and conditions and which are in compliance with all the relevant provisions of the laws of the country;
- 8) "Contractor" (including the terms 'Supplier' or 'Service Provider' or 'Consultant' or 'Firm' or 'Vendor' or 'Manufacturer' or 'Successful Bidder' in specific contexts) means the person, firm, company, or a Joint Venture/ Consortium (through a legally binding agreement) with whom the contract is entered into and shall be deemed to include the contractor's successors (approved by the Procuring Entity), agents, subcontractor, representatives, heirs, executors, and administrators as the case may be unless excluded by the terms of the contract;
- 9) "Contract Manager" means the Procurement Officer or any other officer or a third-party agency who has been assigned the authority to take all actions on behalf of the Procuring Entity during the execution of the contract by the contractor;
- 10) "Day", "Month", "Year" shall mean calendar day/ month or year (unless reference to financial year is clear from the context).
- 11) "Drawing" means the drawing or drawings stipulated in or annexed to the Specifications or the Tender Document/ Contract;
- 12) "Equipment" means the contractor's machinery and vehicles brought temporarily to the Site for the performance of Service.
- 13) "General Conditions" means the General Conditions of Contract, also referred to as GCC.
- 14) "Goods" (including the terms 'Stores', 'Material(s)' in specific contexts) includes all articles, material, commodity, livestock, medicines, furniture, fixtures, raw material, consumables, spare parts, instruments, machinery, equipment, industrial plant, vehicles, aircrafts, ships, railway rolling stock assemblies, sub-assemblies, accessories, a group of machines comprising an integrated production process or such other categories of goods or intangible, products like technology transfer, licenses, patents or other intellectual properties (but excludes books, publications, periodicals, etc., for a library), in specific contexts), procured or otherwise acquired by a Procuring Entity. Any reference to Goods shall be deemed to include specific small work or some services that are incidental or consequential to the supply of such goods;
- 15) "Government" means the Central Government or a State Government as the case may be and includes agencies and Public Sector Enterprise sunder it, in specific contexts;
- 16) "Inspection" means activities such as measuring, examining, testing, analysing, gauging one or more characteristics of the goods or services or works, and comparing the same with the specified requirement to determine conformity.
- 17) "Intellectual Property Rights" (IPR) means the rights of the intellectual property owner concerning a tangible or intangible possession/ exploitation of such property by others. It includes rights to Patents, Copyrights, Trademarks, Industrial Designs, Geographical indications (GI).

- 18) “Joint Venture” means a Joint Venture or a Consortium (that is an association of several persons, or firms or companies - also referred to as JV/C)
- 19) “Materials” means all supplies, including consumables, used by the contractor for service performance or use by his staff.
- 20) “Outsourcing of Services” means deployment of outside agencies on a sustained long-term basis (for one year or more, excluding short-term stand-alone Services) for the performance of routine Services (e.g., Security Services, Horticultural Services, Janitor/Cooking/Catering/Management Services for Hostels and Guest Houses, Cleaning/Housekeeping Services, Errand/Messenger Services and so forth) that were traditionally being done in-house in the Government.
- 21) “Parties”: The parties to the contract are the "Contractor" and the “Procuring Entity”, as defined in this clause;
- 22) “Performance Security” (includes the terms ‘Security Deposit’ or ‘Performance Bond’ or ‘Performance Bank Guarantee’ or other specified financial instruments in specific contexts) means a monetary guarantee to be furnished by the successful Bidder or Contractor in the form prescribed for the due performance of the contract;
- 23) “Procurement” or “public procurement” (or ‘Purchase’, or ‘Government Procurement/ Purchase’ including an award of Public-Private Partnership projects, in specific contexts) means the acquisition of Goods/ Services/ works by way of purchase, lease, license or otherwise, either using public funds or any other source of funds (e.g. grant, loans, gifts, private investment etc.) of goods, works or services or any combination thereof, by a Procuring Entity, whether directly or through an agency with which a contract for procurement services is entered into, but does not include any acquisition without consideration. The term “procure”/ “procured” or “purchase”/ “purchased” shall be construed accordingly;
- 24) “Procuring Entity” means the entity in The Procuring Organization procuring Goods, Works, or Services;
- 25) “Procurement Officer” means the officer signing the Letter of Award (LoA) and/or the contract on behalf of the Procuring Entity;
- 26) “Service(s)” (including the term ‘Non-consultancy services’ or ‘Outsourcing of Services’ in specific contexts) are defined by exclusion as services that cannot be classified as Consultancy Services. Services (non-Consultancy) involve routine, repetitive physical, procedural, and non-intellectual outcomes for which quantum and performance standards can be tangibly identified and consistently applied and are bid and contracted on such basis but does not include the appointment of an individual made under any law, rules, regulations, or order issued in this behalf. Any reference to Services shall be deemed to include the supply of goods or performance of consultancy service or small works, which are incidental or consequential to such services;
- 27) “Special Conditions” means Special Conditions of Contract, which override the General Conditions, also referred to as SCC.
- 28) “Specification” or “Technical Specification” means the drawing/ document/ standard or any other details governing the construction, manufacture or supply of goods or performance of services that prescribes the requirement to which goods or services have to conform as per the contract.
- 29) “Signed” means ink signed or digitally signed with a valid Digital Signature as per IT Act 2000 (as amended from time to time). It also includes stamped, except in the case of Letter of Award or amendment thereof.

- 30) “Sub-Contractor” means a person or corporate body with an agreement with the contractor to carry out a specific part of the contract that may or may not include working on the Site.
- 31) “Temporary Works” means works designed, constructed, installed, and removed by the contractor needed during the Services' performance.
- 32) “Variation” means an instruction given by the Contract Manager, which varies the scope, quantum or performance standards of the Service performed.
- 33) “Tender”; “Tender Document”; “Tender Enquiry” or “Tender Process”: ‘Tender Process’ is the whole process from the publishing of the Tender Document till the resultant award of the contract. ‘Tender Document’ means the document (including all its sections, appendices, forms, formats, etc.) published by the Procuring Entity to invite bids in a Tender Process. The Tender Document and Tender Process may be generically referred to as “Tender’ or ‘Tender Enquiry’, which would be clear from context without ambiguity.
- 34) “Works” refer to any activity involving construction, fabrication, repair, overhaul, renovation, decoration, installation, erection, excavation, dredging, and so on, which make use of a combination of one or more of engineering design, architectural design, material and technology, labour, machinery, and equipment.

1.3 Document Conventions

All words and phrases defined in GCC-clause 1.2 are written as ‘Capitalised word’ and shall have the defined meaning. The rest of the words shall be as per grammar, inter-alia ‘Services’ shall indicate definition as given in the GCC while ‘services’ shall have usual dictionary meaning.

1.4 Abbreviations:

Abbreviation	Definition
AITB	Appendix to Instructions To Bidders
BOQ	Bill of Quantities
BSD	Bid Securing Declaration
DPIIT	Department for Promotion of Industry and Internal Trade
EFT	Electronic Funds Transfer
EPFO	Employees Provident Fund Organization
ESI	Employees State Insurance
GCC	General Conditions of Contract
GeM	Government e-Marketplace
GST	Goods and Services Tax
GSTIN	GST Identification Number
GTE	Global Tender Enquiry (International Competitive Bidding)
HSN	Harmonized System of Nomenclature
IEM	Independent External Monitor
IPR	Intellectual Property Rights

Abbreviation	Definition
₹	Indian Rupee
ITB	Instructions To Bidders
JV	Joint Venture
JV/C	Joint Venture/ Consortium
LoA	Letter of Award (Acceptance)
MII	Make in India
MSE	Micro and Small Enterprises
MSME	Micro Small and Medium Enterprises
MSMED	MSME Development (Act)
NEFT	National Electronic Funds Transfer
NIT	Notice Inviting Tender
PAN	Permanent Account Number
PC	(Indian) Penal Code
PPD	Procurement Policy Division
PQB	Pre-Qualification Bidding
PVC	Price Variation Clause
RAP	Reverse Auction Process
RCM	Reverse Charge Mechanism
SC	Scheduled Caste
SCC	Special Conditions of Contract
ST	Scheduled Tribe
TCS	Tax Collected at Source
TDS	Tax Deducted at Source
TIA	Tender Inviting Authority
TIS	Tender Information Summary

2. The Contract

2.1 Language of Contract

Unless otherwise stipulated in the SCC, the contract shall be written in the Official Language or English. All correspondence and other contract documents, which the parties exchange, shall also be written/ translated accordingly in that language. For purposes of interpretation of the contract, the English documents/ translation shall prevail.

2.2 The Entire Agreement

This Contract and its documents (referred to in GCC-clause 2.5 below) constitutes the entire agreement between the Procuring Entity and the contractor and supersedes all other communications, negotiations, and agreements (whether written or oral) of the Parties made before the date of this Contract. No agent or representative of either Party has the authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not outlined in this Contract.

2.3 Severability

If any provision or condition of this Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of this Contract.

2.4 Parties

The parties to the contract are the contractor and the Procuring Entity, as defined in GCC-clause 1.2 above and as nominated in the contract.

2.5 Contract Documents and their Precedence

The following conditions and documents in indicated order of precedence (higher to lower) shall be considered an integral part of the contract, irrespective of whether these are not appended/ referred to in it. Any generic reference to 'Contract' shall imply reference to all these documents as well:

- 1) Valid and authorized Amendments issued to the contract.
- 2) the Agreement consisting of the initial paragraphs, recitals and other clauses set forth immediately before the GCC and including the formats annexed to it and signatures of Procuring Entity;
 - a) Format 1.1: Description of Services;
 - a) Format 1.1.1: Personnel Deployment Plan;
 - b) Format 1.1.2: Equipment Deployment Plan;
 - c) Format 1.1.3: Material Deployment Plan;
 - d) Format 1.2: Price Schedule;
- 3) the Letter of Award (LoA)
- 4) Final written submissions made by the contractor during negotiations, if any;
- 5) the SCC
- 6) the GCC
- 7) the contractor's bid;
- 8) any other document listed in the SCC as forming part of this Contract.
- 9) Integrity Pact, if any

2.6 Modifications/ Amendments, Waivers and Forbearances

2.6.1 Modifications/ Amendments of Contract

- 1) If any of the contract provisions must be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Procuring Entity, and no modified provisions shall be applicable unless such modifications have been done. No

variation in or modification of the contract terms shall be made except by a written amendment signed by the Procuring Entity. Requests for changes and modifications may be submitted in writing by the contractor to the Procuring Entity. At any time during the currency of the contract, the Procuring Entity may suo-moto or, on request from the contractor, by written order, amend the contract by making alterations and modifications within the general scope of the Contract.

- 2) If the contractor does not agree to the suo-moto modifications/amendments made by the Procuring Entity, he shall convey his views within 14 days from the date of amendment/ modification. Otherwise, it shall be assumed that the contractor has consented to the amendment.
- 3) Any verbal or written arrangement abandoning, modifying, extending, reducing, or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Procuring Entity unless and until the same is incorporated in a formal instrument and signed by the Procuring Entity, and till then the Procuring Entity shall have the right to repudiate such arrangements.

2.6.2 Waivers and Forbearance

The following shall apply concerning any waivers, forbearance, or similar action taken under this Contract:

- 1) Any waiver of a Procuring Entity's rights, powers, or remedies under this Contract must be in writing, dated, and signed by an authorized representative of the Procuring Entity granting such waiver and must specify the terms under which the waiver is being granted.
- 2) No relaxation, forbearance, delay, or indulgence by Procuring Entity in enforcing any of the terms and conditions of this Contract or granting of an extension of time by Procuring Entity to the contractor shall, in any way whatsoever, prejudice, affect, or restrict the rights of Procuring Entity under this Contract, neither shall any waiver by Procuring Entity of any breach of Contract operate as a waiver of any subsequent or continuing breach of Contract.

2.7 Separate Contracts in Connection with Services

The Procuring Entity shall have the right to let other contracts related to or linked with the Services. The contractor shall afford other contractors' reasonable opportunity to store their materials, execute their services/ works, and properly connect and coordinate their services. The contractor shall inspect services/ works of other contractors(s) and promptly report to the Contract Manager any defects that may hinder proper execution of his Services to proper performance standards. The contractor's failure to inspect and report such defects shall constitute an acceptance of the other contractor's work as fit and proper for the performance of Contractor's services, except as to defects that may develop in the other contractor's work after such a provision Services.

3. Governing Laws and Jurisdiction

3.1 Governing Laws and Jurisdiction

- 1) This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Laws of India for the time being in force.
- 2) Irrespective of the place of delivery, or the place of performance or the place of payments under the contract, the contract shall be deemed to have been made at the place from which the Letter of Award (LoA, or the contract Agreement, in the absence of LoA) has been

issued. The courts of such a place shall alone have jurisdiction to decide any dispute arising out or in respect of the contract.

3.2 Changes in Laws and Regulations

Unless otherwise stipulated in the contract, if after the last deadline for the bid submission (Techno-commercial), any law, regulation, ordinance, order or bye-law having the force of law is enacted, promulgated, abrogated, or changed in India (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/ or the contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased, to the extent that the contractor has thereby been affected in the performance of any of its obligations under the contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable.

4. Communications

4.1 Communications

- 1) All communications under the contract shall be served by the parties on each other in writing, in the contract's language, and served in a manner customary and acceptable in business and commercial transactions.
- 2) The effective date of such communications shall be either the date when delivered to the recipient or the effective date mentioned explicitly in the communication, whichever is later.
- 3) No communication shall amount to an amendment of the terms and conditions of the contract, except a formal letter of amendment of Contract, so designated.
- 4) Such communications would be an instruction or a notification or an acceptance or a certificate from the Procuring Entity, or it would be a submission or a notification from the contractor. A notification or certificate which the contract requires must be communicated separately from other communications.
- 5) The Contract Manager shall direct the order in which the several components of the Services shall be provided, and the contractor shall execute without delay all orders given by the Contract Manager from time to time. Still, the contractor shall not be relieved thereby from responsibility for the due performance of the Services in all respects.

4.2 Persons signing the Communications

For all purposes of the contract, thereunder all communications to the other party shall be signed by:

- 1) The person who has signed the contract on behalf of the contractor shall sign all correspondences. A person signing communication in respect of the contract or purported to be on behalf of the contractor, without disclosing his authority to do so, shall be deemed to warrant that he has authority to bind the contractor. If it is discovered at any time that the person, so signing has no authority to do so, the Procuring Entity reserves its right, without prejudice to any other right or remedy, to terminate the contract for default in terms of the contract and avail any or all the remedies thereunder and hold such person personally and/ or the contractor liable to the Procuring Entity for all costs and damages arising from such remedies.
- 2) Unless otherwise stipulated in the contract, the Contract Manager signing the contract shall administer the contract and sign communications on behalf of the Procuring

Entity. Beneficiaries of Services and the Paying Authorities mentioned in the contract shall also administer respective functions during Contract Execution.

4.3 Address of the parties for sending communications by the other party.

For all purposes of the contract, ~~including arbitration~~, thereunder the address of parties to which the other party shall address all communications and notices shall be:

- 1) The address of the contractor as mentioned in the contract, unless the contractor has notified change by a separate communication containing no other topic to the Procuring Entity. The contractor shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid, and
- 2) The address of the Procuring Entity shall be the address mentioned in the contract. The contractor shall also send additional copies to officers of the Procuring Entity presently dealing with the contract.
- 3) In case of the communications from the contractor, copies of communications shall be marked to the Contract Manager and the Procuring Entity's officer signing the contract, and as relevant also to interim/ ultimate Beneficiaries of Services and the Paying Authorities mentioned in the contract. Unless already specified before the contract's start, the Procuring Entity and the contractor shall notify each other if additional copies of communications are to be addressed to additional addresses.

5. Contractor's Obligations and restrictions on its Rights

5.1 Changes in Constitution/ financial stakes/ responsibilities of a Contract's Business

the contractor must proactively keep the Procuring Entity informed of any changes in its constitution/ financial stakes/ responsibilities during the execution of the contract.

- 1) Where the contractor is a partnership firm, the following restrictions shall apply to changes in the constitution during the execution of the contract:
 - a) a new partner shall not be introduced in the firm except with the previous consent in writing of the Procuring Entity, which shall be granted only upon execution of a written undertaking by the new partner to perform the contract and accept all liabilities incurred by the firm under the contract before the date of such undertaking.
 - b) On the death or retirement of any partner of the contractor firm before the complete performance of the contract, the Procuring Entity may, at his option, terminate the contract for default as per the contract and avail any or all remedies thereunder.
 - c) If the contract is not terminated as provided in Sub-clause (b) above notwithstanding the retirement of a partner from the firm, that partner shall continue to be liable under the contract for acts of the firm until a copy of the public notice given by him under Section 32 of the Partnership Act, has been sent by him to the Procuring Entity in writing or electronically.

5.2 Obligation to Maintain Eligibility and Qualifications

The contract has been awarded to the contractor based on specific eligibility and qualification criteria. The contractor is contractually bound to maintain such eligibility and qualifications during the execution of the contract. Any change which would vitiate the basis on which the contract was awarded to the contractor should be pro-actively brought to the notice of the Procuring Entity

within 7 days of it coming to the Contractor's knowledge. These changes include but are not restricted to:

- 1) Change regarding declarations made by it in its bid in Form 1.2: Eligibility Declaration
- 2) Change in its qualification criteria submitted in its bid in Form 4: Qualification Criteria - Compliance and its sub-forms.

5.3 Restriction on Potential Conflict of Interests

- 1) Neither the contractor nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:
 - a) during the term of this Contract, any business or professional activities in India that would conflict with the activities assigned to them under this Contract.
 - b) after the termination of this Contract, such other activities as may be stipulated in the contract.
- 2) During the term of this Contract and after its termination, the contractor, and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing goods, works, or Services (other than the subject Service of this Contract and any continuation thereof) for any project resulting from or closely related to the subject Services of this Contract.

5.4 Consequences of breach by Constituents of a Contractor

Should the contractor or any of its partners or its Subcontractors or the Personnel commit a default or breach of GCC-clause 5.1 to 5.7, the Contractor shall remedy such breaches within 21 days, keeping the Procuring Entity informed. However, at its discretion, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder. The decision of the Procuring Entity as to any matter or thing concerning or arising out of GCC-clause 5.1 to 5.7 or on any question whether the contractor or any partner of the contractor firm has committed a default or breach of any of the conditions shall be final and binding on the contractor.

5.4.1 In the case of Joint Venture/ Consortium

In the event of default or breach of GCC-clause 5.1 to 5.7 by any member, in the execution of his part of Contract, the Procuring Entity shall be so notified within 30 days by the Lead Member, or in the case of the Lead Member being the defaulter, by the member nominated as Lead Member of the remaining Joint Venture/ Consortium. Within 60 days of the said notice, the Lead Member shall assign the work of the defaulting member to any other equally competent party acceptable to the Procuring Entity to ensure the execution of that part of the contract. Failure to comply with the above provisions or if the Lead Member himself defaults shall be lawful for the Procuring Entity to terminate the contract for default and avail any or all remedies thereunder.

5.5 Assignment and Sub-contracting

- 1) the contractor shall not, save with the previous consent in writing of the Procuring Entity, sublet, transfer, or assign the contractor any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever.
- 2) The contractor shall notify the Procuring Entity in writing all subcontracts awarded under the contract if not already stipulated in the contract. In its original bid or later, such notification

shall not relieve the contractor from any of its liability or obligation under the terms and conditions of the contract. Subcontract shall be only for bought out services and incidental goods/ works. Subcontracts must comply with and should not circumvent Contractor's compliance with its obligations under GCC-clause 5.1 to 5.7, based on which Contract is awarded to him.

- 3) If the contractor sublets or assigns this Contract or any part thereof without such permission, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder.

5.6 Obligation to Indemnify Procuring Entity

5.6.1 For breach of IPR Rights

- 1) the contractor shall indemnify and hold harmless, free of costs, the Procuring Entity and its employees and officers from and against all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which may arise in respect of the Services provided by the contractor under this Contract, as a result of any infringement or alleged infringement of any patent, utility model, registered design, copyright, or other Intellectual Proprietary Rights (IPR) or trademarks, registered or otherwise existing on the date of the contract arising out of or in connection with:
 - a) any design, data, drawing, specification, or other documents or Services provided or designed by the contractor for or on behalf of the Procuring Entity.
 - a) The sale by the Procuring Entity in any country of the services/ products produced by the Services delivered by the contractor, and
 - b) The delivery of the Services by the contractor or the use of the Services at the Procuring Entity's Site
- 2) Such indemnity shall not cover any use of the Services or any part thereof other than for the purpose indicated by or to be reasonably inferred from the contract, neither any infringement resulting from the use of the Services or any part thereof, or any service/ products produced thereby in association or combination with any other service, equipment, plant, or materials not delivered by the contractor.
- 3) If any proceedings are brought, or any claim is made against the Procuring Entity arising out of the matters referred above, the Procuring Entity shall promptly give the contractor a notice thereof. At its own expense and in the Procuring Entity's name, the contractor may conduct such proceedings and negotiations to settle any such proceedings or claim, keeping the Procuring Entity informed.
- 4) If the contractor fails to notify the Procuring Entity within twenty-eight (28) days after receiving such notice that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be free to conduct the same on its behalf at the risk and cost to the contractor.
- 5) At the contractor's request, the Procuring Entity shall afford all available assistance to the contractor in conducting such proceedings or claim and shall be reimbursed by the contractor for all reasonable expenses incurred in so doing.

5.6.2 For Losses and Damages Caused by Contractor

- 1) the contractor shall indemnify and keep harmless the Procuring Entity, from and against, all actions, suit proceedings, losses, costs, damages, charges, claims, and demands of every

nature and description brought or recovered against the Procuring Entity because of any act or omission or default or negligence or trespass of the contractor, his agents, or employees despite all reasonable and proper precautions may have been taken, during the execution of the Services. The contractor shall make good at his own expense all resulting losses and/ or damages to:

- a) the Services themselves or
 - b) any other property of the Procuring Entity or
 - c) the lives, persons, or property of others
- 2) In case the Procuring Entity is called upon to make good such costs, loss, or damages, or to pay any compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof; the amount of any costs or charges including costs and charges in connection with legal proceedings, which the Procuring Entity may incur about it, shall be charged to the contractor. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the actual loss or damage sustained and whether or not any damage shall have been sustained.
- 3) The Procuring Entity shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings, or in anticipation of legal proceedings being instituted consequent on the action or default of the contractor, to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Contractor, as aforesaid, any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defence or compromise, and the incurring of any such expenses shall not be called in question by the contractor.

5.7 Confidentiality, Secrecy and IPR Rights

5.7.1 IPR Rights

All deliverables, outputs, plans, drawings, specifications, designs, reports, and other documents and software submitted by the contractor under this Contract shall become and remain the property of the Procuring Entity and subject to laws of copyright and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent. The contractor shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Procuring Entity, together with a detailed inventory thereof. The contractor may retain a copy of such documents and software but shall not use it for any commercial purpose.

5.7.2 Confidentiality

All documents, drawings, samples, data, associated correspondence or other information furnished by or on behalf of the Procuring Entity to the contractor, in connection with the contract, whether such information has been furnished before, during or following completion or termination of the contract, are confidential and shall remain the property of the Procuring Entity and shall not, without the prior written consent of Procuring Entity neither be divulged by the contractor to any third party, nor be used by him for any purpose other than the design, procurement, or other services and work required for the performance of this Contract. If advised by the Procuring Entity, all copies of all such information in original shall be returned on completion of the contractor's performance and obligations under this contract.

5.7.3 Secrecy

If the contract declares the subject matter of this Contract as coming under the Official Secrets Act, 1923 or if the contract is marked as “Secret”, the contractor shall take all reasonable steps necessary to ensure that all persons employed in any connection with the contract, have acknowledged their responsibilities and penalties for violations under the Official Secrets Act and any regulations framed thereunder.

5.7.4 Obligations of the contractor

- 1) Without the Procuring Entity’s prior written consent, the contractor shall not use the information mentioned above except for the sole purpose of performing this contract.
- 2) The contractor shall treat and mark all information as confidential (or Secret – as the case may) and shall not, without the written consent of the Procuring Entity, divulge to any person other than the person(s) employed by the contractor in the performance of the contract. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for such performance for this contract.
- 3) Notwithstanding the above, the contractor may furnish to its holding company or its Subcontractor(s) such documents, data, and other information it receives from the Procuring Entity to the extent required for performing the contract. In this event, the contractor shall obtain from such holding company/ Subcontractor(s) an undertaking of confidentiality (or secrecy – as the case may be) similar to that imposed on the contractor under the above clauses.
- 4) The obligation of the contractor under sub-clauses above, however, shall not apply to information that:
 - a) the contractor needs to share with the institution(s) participating in the financing of the contract;
 - a) now or hereafter is or enters the public domain through no fault of Contractor;
 - b) can be proven to have been possessed by the contractor at the time of disclosure and which was not previously obtained, directly or indirectly, from the Procuring Entity; or
 - c) otherwise lawfully becomes available to the contractor from a third party that has no obligation of confidentiality.
- 5) The above provisions shall not in any way modify any undertaking of confidentiality (or Secrecy – as the case may be) given by the contractor before the date of the contract in respect of the contract or the Tender Document or any part thereof.
- 6) The provisions of this clause shall survive completion or termination for whatever reason of the contract.

5.7.5 Protection and Security of Personal Data

- 1) Where the contractor is processing Personal Data, as a Data Processor or otherwise for the Procuring Entity, the contractor shall:
 - a) Process the Personal Data only as per instructions from Procuring Entity (which may be specific instructions or instructions of a general nature) as set out in this Contract or as otherwise notified by Procuring Entity;
 - b) Comply with all applicable laws;

- c) Process the Personal Data only to the extent, and in such manner as is necessary for the discharge of the contractor's obligations under this Contract or as is required by Law or any Regulatory Body;
 - d) Implement appropriate technical and organisational measures to protect Personal Data against unauthorized or unlawful Processing and accidental loss, destruction, damage, alteration, or disclosure. These measures shall be appropriate to the harm which might result from any unauthorized or unlawful Processing, accidental loss, destruction, or damage to the Personal Data and having regard to the nature of the Personal Data which is to be protected;
 - e) Take reasonable steps to ensure the reliability of its staff and agents who may have access to the Personal Data;
 - f) Obtain prior written consent from the Authority to transfer the Personal Data to any sub-contractor for the provision of the Services;
 - g) Not cause or permit the Personal Data to be transferred, stored, accessed, viewed, or processed outside of India without the prior written consent of the Procuring Entity.
 - h) Ensure that all staff and agents required to access the Personal Data are informed of the confidential nature of the Personal Data and comply with the obligations set out in this clause.
 - i) Ensure that none of the staff and agents publishes or disclose any personal data to any third parties unless directed in writing to do so by the Procuring Entity.
 - j) Not disclose Personal Data to any third parties in any circumstances other than with the written consent of the Procuring Entity or compliance with a legal obligation imposed upon the Procuring Entity;
- 2) Notify the Procuring Entity (within five Working Days) if it receives;
- a) a request from an employee of Procuring Entity to have access to his or other employees' Personal Data; or
 - b) a complaint or request relating to the Procuring Entity' obligations under the law;
- 3) The provision of this clause shall apply during the contract Period and indefinitely after its expiry.

5.8 Performance Bond/ Security

- 1) Within fourteen days (or any other period mentioned in Tender Document or Contract) after the issue of Letter of Award (LoA or the contract, if LoA is skipped) by the Procuring Entity, the contractor shall furnish to the Procuring Entity, performance security, valid up to sixty days (or any other period mentioned in Tender Document or Contract) after the date of completion of all contractual obligations by the contractor, including the Defect Liability obligations.
- 2) The amount of Performance security shall be as stipulated in Tender Document or Contract (or if not specified @ 3% of the contract Price)denominated in Indian Rupees or the currency of the contract and shall be in one of the following forms:
 - a) Unless otherwise stipulated in Tender Document or Contract, Account Payee Demand Draft or Fixed Deposit Receipt or Banker's Cheque is drawn on any commercial bank in India, favouring the authority mentioned in therein (or FA&CAO of the Procuring Organisation, if not mentioned).

- b) Bank Guarantee issued by a commercial bank in India, in the prescribed form provided in Format 1.3.
- 3)** If the contractor, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful for the Procuring Entity at its discretion to annul the award and enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), besides taking any other administrative punitive action like 'Removal from List of Registered Suppliers' etc.
- 4)** If the contractor during the currency of the Contract fails to maintain the requisite Performance Security, it shall be lawful for the Procuring Entity at its discretion at its discretion
- (a) to terminate the Contract for Default besides availing any or all contractual remedies provided for breaches/ default, or
- (b) without terminating the Contract:
- i) recover from the contractor the amount of such security deposit by deducting the amount from the pending bills of the contractor under the contractor any other contract with the Procuring Entity or the Government or any person contracting through the Procuring Organisation or otherwise howsoever as per GCC-clause 11.4, or
- ii) treat it as a breach of contract and avail any or all availing any or all contractual remedies provided for breaches/ default.
- 5)** In the event of any amendment issued to the contract, the contractor shall furnish suitably amended value and validity of the Performance Security in terms of the amended contract within fourteen days of issue of the amendment.
- 6)** The Procuring Entity shall be entitled, and it shall be lawful on his part,
- (a) to deduct from the performance securities or to forfeit the said security in whole or in part in the event of:
- i) any default, or failure or neglect on the part of the contractor in the fulfilment or performance in all respect of the contract under reference or any other contract with the Procuring Organisation or any part thereof
- ii) for any loss or damage recoverable from the contractor which the Procuring Entity may suffer or be put to for reasons of or due to above defaults/ failures/ neglect
- (b) and in either of the events aforesaid to call upon the contractor to maintain the said performance security at its original limit by making further deposits, provided further that the Procuring Entity shall be entitled, and it shall be lawful on his part, to recover any such claim from any sum then due or which at any time after that may become due to the contractor for similar reasons.
- 7)** Subject to the sub-clause above, the Procuring Entity shall release the performance security without any interest to the contractor on completing all contractual obligations, including the Defect Liability obligations, if any. Alternatively, upon the contractor submitting a suitable separate Defect Liability Security for the duration of Defect Liability obligations, the original Performance Guarantee Security shall be released mutatis mutandis.
- 8)** No claim shall lie against the Procuring Entity regarding interest on cash deposits or Government Securities or depreciation thereof.

5.9 Labour Codes and Related Obligations

5.9.1 Independent Contractor

The contractor's status shall be that of an independent contractor and Primary Employer of staff deployed during the contract by him or his sub-contractors or other associates. The contractor, its employees, agents, and subcontractors performing under this Contract are not employees or agents of the Procuring Organisation or Procuring Entity or Central or State Government or their agencies/Enterprises, simply by Services delivered under this Contract.

5.9.2 Obligations of the contractor under Labour Codes and Rules

- 1)** In cases where Services are to be performed by the contractor at the premises of the Procuring Entity or Beneficiary of Services, the contractor shall comply with the provisions of the Labour Codes including Code on Wages, 2019, The Industrial Relations Code 2020, Code on the Social Security 2020, and The Occupational Safety, Health and Working Conditions 2020, and Draft Rules made thereunder, as modified from time-to-time, wherever applicable and shall also indemnify the Procuring Entity from and against any claims under the aforesaid Labour codes and the Rules.
- 2)** The contractor shall obtain a valid licence under the aforesaid Labour codes and the Rules as modified from time to time before the commencement of the contract and continue to have a valid licence until the completion of the contract. Any failure to fulfil this requirement, the Procuring Entity shall treat it as a breach of contract for default as per the contract and avail any or all remedies thereunder.
- 3)** In respect of all labour directly or indirectly employed in the contract for the performance of the contractor's part of the contract, the contractor shall comply with or cause to comply with the provisions of the aforesaid Labour codes and the Rules wherever applicable. The contractor shall be solely responsible for submitting all the necessary returns under these Codes and the Rules. Nevertheless, the contractor shall submit monthly returns to the Procuring Entity to confirm compliance with such Codes and rules. Failure to do so shall entitle Procuring Entity to take any measure to ensure compliance to such codes and rules by the contractor and his associates, including, but not limited to, withholding contractor's on-account bills.
- 4)** The contractor shall pay the wages as per the Code on Wages to their workers not below the rate of minimum wages, as notified by the State Government or Central Government, whichever is higher, through the bank transfer. The contractor shall, notwithstanding the contract's provisions to the contrary, cause to be paid the wages to labour directly or indirectly engaged on the contract, including any engaged by his Sub-Contractors in connection with the said contract as if he had immediately employed the labour. The Procuring Entity shall, without any commitments or being obliged to do, may its discretion, monitor that such payments are being made. The contractor shall be required to submit, every month, documentary evidence in the form of a Bank Statement of having transferred the gross minimum wages to each worker. Failure to do so shall entail Procuring Entity taking up any measure to ensure the payment of wages including, but not limited to, withholding contractor's on-account bills.
- 5)** In every case in which, by virtue of the provisions of the aforesaid Labour codes and the Rules, the Procuring Entity is obliged to pay any amount of wages to a workman employed by the contractor or his Sub-Contractor in execution of the contract or to incur any expenditure in providing welfare and health amenities required to be provided under the

aforesaid Labour codes and the Rules or to incur any expenditure on account of the contingent liability of the Procuring Entity due to the contractor's failure to fulfil his statutory obligations under the aforesaid Labour codes and the Rules the Procuring Entity shall recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred, and without prejudice to the rights of the Procuring Entity under the aforesaid Labour codes and the Rules, the Procuring Entity shall be at liberty to recover such amount or part thereof by deducting it from the security deposit and/ or from any sum due by the Procuring Entity to the contractor whether under the contract or otherwise. The Procuring Entity shall not be bound to contest any claim made against it under the aforesaid Labour codes and the Rules except on the contractor's written request, and upon giving the Procuring Entity complete security for all costs, for which the Procuring Entity might become liable in contesting such claim. The decision of the Procuring Entity regarding the amount recoverable from the contractor as stated above shall be final and binding on the contractor.

5.9.3 Occupational Safety, Health, Working Conditions, Social Security, and Industrial Relations Requirements:

As per Labour Codes, which included Code on Wages, 2019, The Industrial Relations Code 2020, Code on the Social Security 2020, and The Occupational Safety, Health and Working Conditions 2020 and rules thereunder, the following provisions shall be ensured by the contractor.

1) Provisions for Workers:

- a) At his own expense, the contractor shall make adequate arrangements for the housing, supply of drinking water, and provision of clean sanitation, including urinals, etc., for his staff and workers, directly or through the petty contractors or sub-contractors.
- b) The contractor shall also provide a temporary creche (Bal-mandir) where 50 or more workers are employed at a time.
- c) Suitable sites on Procuring Entity's land, if available, but without any obligation to do so, may be allotted to the contractor for the erection of labour camps, either free of charge or on such terms and conditions that the Procuring Entity may prescribe.
- d) All camp sites shall be maintained in clean and sanitary conditions by the contractor at his own cost.

2) During the execution of services, unless otherwise stipulated in the contract, the contractor shall at his own cost provide the following materials as is necessary for:

- a) the safety, hygiene, satisfaction, elegance, acceptance, proper handling of assets and shall ensure that no damage, injury, or loss is caused or likely to be caused to any person or assets or hindrance to other works/ services.
- b) environmental requirements to conserve energy, water, wood, paper, and other resources, reduce waste, phase out the use of ozone-depleting substances, and minimise the release of greenhouse gases, volatile organic compounds, and other substances damaging health and the environment.

3) Medical Facilities: the contractor shall provide medical facilities at the site as prescribed by the Contract Manager on the advice of the Procuring Entity's Medical Authority commensurate with the strength of the contractor's resident staff and workers. Such facilities shall include a First-Aid facility manned with staff trained in first aid as per labour codes or the Contract Manager's directions.

4) Medical Certificate of Fitness for Labour

the contractor shall not employ a person below 18 years of age. For delivery of Services under the contract, unless a medical certificate of fitness in the prescribed form under labour codes (or as directed by the contract manager) is granted to each worker by a certifying surgeon certifying that he is fit to work as an adult, is obtained and kept in the custody of the contractor or a person nominated by him in this behalf and the person carries with his, while at work, a token giving a reference to such certificate.

- a) **Period of Validity of Medical Fitness Certificate:** A certificate of fitness granted or renewed for the above-said purposes shall be valid only for one year at a time. The certifying surgeon shall revoke a certificate granted or renewed if, in his opinion, the holder of it is no longer fit for work in the capacity stated therein. Where a certifying surgeon refuses to grant or renew a certificate or revoke a certificate, he shall, if so required by the person concerned, state his reasons in writing for doing so.
- b) **Medical Re-Examination of Labour:** Where any official appointed on this behalf by the Ministry of Labour believes that any person employed in connection with the execution of any work under this Contract in the age group 18 to 65 years is without a certificate of fitness or is having a certificate of fitness but no longer fit to work in the capacity stated in the certificate, he may serve on the contractor, or the person nominated by him in this regard, a notice requiring that a certifying surgeon and such person shall examine such persons shall not if the concerned official so directs, be employed or permitted to do any work under this Contract unless he has been medically examined and certified that he has been granted a certificate of fitness or a fresh certificate of fitness, as the case may be.

5.9.4 Mandatory Compliance of Government Welfare Schemes

the contractor must ensure and provide documentary evidence for the following and must submit documentary evidence to show the coverage of all his workers or labour under the following schemes at all times during the contract period on an annual basis:

- 1)** All the contractor's workers or labour employed directly or indirectly must be enrolled under the Pradhan Mantri Jan Dhan Yojana (PMJDY), a scheme that aims to provide all the citizens of India a bank account, credit facility, insurance cover and debit card.
- 2)** All the workers or labour employed directly or indirectly by the contractor between the ages 18-70 years must be enrolled under the Pradhan Mantri Suraksha Bima Yojana (PMSBY), an accident insurance scheme which shall be a one-year cover, renewable from year to year, offering accidental death and disability cover for death or disability on account of an accident. The contractor shall pay the premium per annum per member for all his workers during the contract period.
- 3)** All the workers or labour employed directly or indirectly by the contractor between the ages 18-50 years must be enrolled under the Pradhan Mantri Jeevan Jyoti Bima Yojana, an insurance scheme which shall be a one-year cover, renewable from year to year, offering life insurance cover for death due to any reason. The contractor shall pay the premium per annum per member for all his workers during the contract period.

5.9.5 Contract Labour Records and Management System

A comprehensive record needed for contract labour management and monitoring attendance (Identity Cards, Labour Records, Attendance, Time Sheets, Training Record, acknowledgements of

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labour Codes) for efficient performance and safeguarding workers' welfare must be maintained by the contractor. It shall be inspected during Site Inspections by the Contract Manager. The contractor shall put this system in place unless otherwise stipulated in the Special Conditions of Contract. If so stipulated in Special Conditions of Contract⁵, a computerised Contract Labour Management system shall be mandatory.

5.9.6 The obligation of Contractor to ensure awareness of Labour Codes

- 1) the contractor has to mandatorily provide a comprehensive day-long training carried out by a certified Third-Party agency for the awareness of Labour codes and the Rules, grievance redressal mechanism and other provisions applicable to his and his Sub-contractor's staff, workers, labour employed by him directly or indirectly in delivery of service to the Procuring Entity. The contractor must submit relevant documentary proof to Procuring Entity of having conducted such training to all workers.
- 2) The contractor must provide a comprehensive booklet (Procuring Entity approves that) containing all the relevant updated labour codes, rules, and other applicable provisions, to every worker at the outset of the contract in the local vernacular language.
- 3) Procuring Entity, without any commitments or being obliged to do, may its discretion, provide following facilities for Contractor's Contract Labour working on this Contract:
 - a) Helpline for complaints from labour regarding payment of wages, work site facilities, sexual harassment etc
 - b) Provision for recording anonymous complaints from workers, citizens etc., regarding violation of Labour codes and the Rules by Contractor.

5.10 Insurances

- 1) the contractor (a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Entity, insurance against the risks, and for the coverage, as stipulated in the contract or any applicable law including Labour Codes; and at the Procuring Entity's request, shall provide evidence to the Procuring Entity showing that such insurance has been taken out and maintained and that the current premiums have been paid.
- 2) the contractor at his cost shall provide, in the joint names of the Procuring Entity and the contractor, insurance cover from the start date to the date of completion of the contract, in the amounts and deductibles as per the instructions of the contract manager and the contract for the following events which are due to the contractor's risks:
 - a) loss of or damage to Equipment, materials for which advances have been paid;
 - b) loss of or damage to property of the Procuring Entity in connection with the contract; and
 - c) Personal injury or death.
 - d) Penalties and demands by labour regulatory authorities
- 3) Insurance policies and certificates for insurance shall be delivered to the Contract Manager for approval before the Start Date. All such insurance shall provide compensation payable in Indian Rupees to rectify the loss or damage incurred.

⁵ in labour intensive service contracts i.e., facility management and housekeeping etc

- 4) Alterations to the terms of insurance shall not be made without the approval of the Contract Manager.
- 5) Both parties shall comply with any conditions of the insurance policies.

5.11 Permits, Approvals and Licenses

Whenever the delivery of Services and incidental Goods/ Works requires the contractor to obtain permits, approvals, and licenses from local public authorities, it shall be the contractor's sole responsibility to obtain these and keep these current and valid. Such requirements may include but not be restricted to licences or environmental clearance if required. If requested by the contractor, the Procuring Entity shall make its best effort to assist the contractor in complying with such requirements in a timely and expeditious manner, without any dilution of the Contractor's responsibility in this regard.

5.12 Accounting, Inspection and Auditing

the contractor shall keep accurate and systematic accounts and records regarding the provision of the Services under this Contract, as per accounting principles prescribed in India.

5.13 Book Examination Clause

If explicitly invoked in the contract, the Procuring Entity reserves the right for 'Book Examination' as follows:

- 1) the contractor shall, whenever called upon and required to produce or cause to be produced, for examination by any Government Officer duly authorised in that behalf, any cost or other book of account, voucher, receipt, letter, memorandum, paper or writing or any copy of or extract from any such document. The contractor shall also furnish information relating to the execution of this contract or relevant for verifying or ascertaining the cost of execution of this contract to such Government Officer in such manner as may be required. The decision of such Government Officer on the question of relevancy of any document, information of return being final and binding on the parties. The obligation imposed by this clause is without prejudice to the contractor's obligations under any other statute, rules or orders which shall be concurrently binding on the contractor.
- 2) The contractor shall, if the authorised Government Officer so requires (whether before or after the prices have been finally fixed), afford facilities to the Government Officer concerned to visit the contractor's premises to examine the processes of production and estimate or ascertain the cost of performance of Contract. The authorised Government Officer shall have power, mutadis mutandis, to examine all the relevant books of Contractor's subcontractor, or any subsidiary or allied firm or company, If any portion of the contract is entrusted or carried out by such entities.
- 3) If on such examination, it is established that the contracted price is more than the actual cost-plus reasonable margin of profit, the Procuring Entity shall have the right to reduce the price and determine the amount to a reasonable level.
- 4) The contractor or its agency is bound to allow examination of its books within 60 days from the date the notice is received by the contractor or its agencies calling for the production of documents under sub-clause (1) above. In the event of the contractor's or his agency's failure to do so, the contract price would be reduced and determined according to the best judgment of the Procuring Entity, which would be final and binding on the contractor and his agencies.

6. Procuring Entity's Obligations

6.1 Facilities to be Provided by the Procuring Entity

- 1) No Facilities (including Reference Documents, Medical facilities, Rooms, Furniture, Transport, Access to IT Services etc.) other than those stipulated explicitly in the contract shall be provided or loaned by the Procuring Entity to the contractor for performance of the contract. Whenever such assets are required to be issued to the contractor as per the contract, these would be issued only as per terms and conditions and against appropriate safeguards (including Insurances, Bank Guarantee, Indemnity Bonds, Retention Money etc.) specified therein. The contractor shall use such property for the execution of the contract and no other purpose whatsoever.
- 2) Unless otherwise stipulated in the contract, The Procuring Entity may hire to the contractor non-key Equipment owned and sparable by Procuring Entity for use during execution of the Services on terms and conditions and on the chargeable basis as may be stipulated in the contract or a separate agreement for Hire of such equipment.

6.2 Provision of Utilities at Site by Procuring Entity

Unless otherwise stipulated in the contract, The Procuring Entity may supply without any obligation to do so, to the contractor part or whole of the quantity of the water and electricity required for the delivery of Services from the Procuring Entity's existing water/ electricity supply system at or near the site of Services on specified terms and conditions and on chargeable basis (unless specified otherwise), provided that the contractor shall arrange, at his own expense, to effect the connections and lay additional pipe/ power lines and accessories on the site. Nevertheless, it shall be the responsibility of the contractor to install adequate alternative arrangements to tide over outages in utilities or failure in supply by the Procuring Entity, and that the contractor shall not be entitled to any compensation– nor shall this be a reason for the delay in delivery of Services.

6.3 Custody and Return of the Procuring Entity's Assets loaned to Contractor

- 1) The contractors shall sign accountable receipts for all tools, plants and materials or other assets/ properties made over to him by the Contract Manager. All such assets shall be deemed to be in good condition when received by the contractor unless he has within twenty-four hours of the receipt thereof notified the Procuring Entity to the contrary. Otherwise, he shall be deemed to have lost the right to do so at any subsequent stage.
- 2) These assets shall remain the property of the Procuring Entity, and the contractor shall take all reasonable care of all such assets. The contractor shall be responsible for all damage or loss from whatever cause caused while assets are possessed or controlled by the contractor, staff, workmen, or agents.
- 3) Where the contractor insures such assets against loss or fire at the request of the Procuring Entity, such insurance shall be deemed to be by way of additional precaution and shall not prejudice the contractor's liability as aforesaid.
- 4) The contractor shall return all such assets in good order and repair, fair wear and tear excepted, before the completion/ closure/ termination of the contract and shall be responsible for any failure to account for the same or any damage done to that as assessed by the Procuring Entity whose decision shall be final and binding.

7. Scope of Services, Performance Standards and Quality Assurance

7.1 Scope of Services

- 1) This contract is for the performance/ delivery of Services of the description, scope/ quantum, performance standards and quality outlined in the contract during the contract Period specified therein. Unless otherwise specified, the Services shall conform to performance and quality standards as stipulated in the contract or as per best standards in the market, where not so specified.
- 2) The contractor shall deliver Services and submit the reports, deliverables, outputs, and documents stipulated in Format 1.1: Description of Services to the Procuring Entity.
- 3) The Services shall include all such work-elements not mentioned explicitly in this Contract, but that can be reasonably inferred from this Contract as being required for attaining Completion of the Services as if such items were expressly mentioned in this Contract.
- 4) **Incidental Works/ Goods:** If so stipulated, the contractor shall be required to perform/ deliver specified incidental Works/ Goods as an integral part of the Services in the contract.

7.2 Performance Standards

- 1) the contractor shall perform the Services as per Format 1.1: Description of Services, and carry out its obligations with all due diligence, efficiency, and economy, observing sound management practices, and employ appropriate advanced technology and safe methods as per the performance standards and quality control parameters as stipulated in the contract. For matters where the contract does not specify any Standard, the Services delivered shall conform to National/ International Standards or generally accepted professional techniques and practices.
- 2) **The shortfall in Performance:** In cases where the performance or/and quality of Services is/are found to be unsatisfactory, Procuring Entity or his representatives shall impose damages for the shortfall in performance as per GCC-clause 10.5 below. This levy of damages shall not absolve the contractor from rectification or reperformance of the defective Service without further payment.

7.3 Quality Control and Defect Liability

- 1) The Procuring Entity shall check the quality of the Services and shall inspect the contractor's performance according to the relevant section(s) of Format 1.1: Description of Services. The Procuring Entity shall promptly notify the contractor of any identified defects, requesting the correction of the notified defect within a reasonable time.
- 2) If the contractor has not corrected notified defect within the time stipulated in the Procuring Entity's notice, the Procuring Entity shall assess the cost of having the defect corrected. Without prejudice to any of its other remedies under this Contractor applicable law, procuring Entity shall be legally entitled to deduct such cost from the contract's payments, together with the damages for the shortfall in performance (as per clause above), a sum equivalent to the percentage stipulated in the contract.

7.4 Eligible Services - Country of Origin and Minimum Local Content

Unless otherwise stipulated in SCC or Contract, country of origin of 'Services' and related 'Goods' under the contract shall have their origin in India or other countries and must conform to the declaration made by the contractor in its bid regarding but not limited to i) restrictions on certain countries with land-borders with India; ii) minimum local content and location of value addition

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(Make in India Policy); iii) Contractor's status as MSE or Start-up. The term "origin" used in this clause means the place from where the Services (and incidental Goods, including subcontracted components) are arranged and delivered, or incidental goods are mined, grown, produced, or manufactured. For purposes of this Clause, the term 'Services' shall have the meaning as defined in GCC-clause 1.2.

7.5 Quantity Tolerance

Unless otherwise stipulated in the contract, the obligation for completing Services shall be considered complete if the Services have been performed to the tolerance of plus or minus 5% of the quantum or the total value of Services ordered in the contract. Only the delivered quantity shall be paid for as per the terms of the contract.

7.6 Contract Period and Option Clause

7.6.1 Contract Period

Unless otherwise stipulated in the contract, the contract Period for which the Service shall be provided shall be one year from the effective date of the contract, unless completed earlier or terminated as per the contract.

7.6.2 Option Clause

If stipulated otherwise in the contract, the Procuring Entity shall have the right to exercise the following options, by written notification to the contractor no later than thirty (30) days before Contract end:

- 1) extend the contract Period only once (unless otherwise stipulated in the contract) by four months period (unless otherwise stipulated in the contract).
- 2) increase the ordered quantum of Services upto the percentage specified therein (or 25% if not specified) at any time, till the completion date of the contract, by giving reasonable notice and providing a reasonable extension in delivery period for increased quantum, even though the quantum ordered initially has been delivered in full before the completion Period.

8. Measurement, Variations and Modifications

8.1 Quantities in Contract

The quantities set out in the contract are the estimated quantities of the Services, and they shall not be taken as the actual and correct quantities of the Services to be executed by the contractor to fulfil his obligations under the contract. Payment shall be made for the actual quantities deployed/ delivered; however, payments shall not be made for quantities over and above those indicated in the contract unless extra quantity has been asked in a written order by the contract manager.

8.2 The admeasurement of Inputs and Services

- 1)** Measurements shall be recorded based on the contractor's day-to-day records and authenticated by the Contract Manager or his representative as updated per the agreed Works Programme.
- 2)** The contractor shall be paid for the Inputs /Services at the rates in the contract and extra inputs/ Services at rates determined under GCC-clause 8.4 below on the measurements taken by the Contract Manager or his representative. The quantities for items the unit of which in the contract is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and a half and above being taken as one; for items, the unit of which in the contract is single (if not an integral quantity), the quantities shall be calculated to two places of decimals. Such measurements shall be taken of the Services in progress from time to time and at such intervals as in the opinion of the Contract Manager shall be proper regarding the progress of Service. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the contractor who shall be present at the site and shall sign the results of the measurements (which shall also be signed by the Contract Manager or his representative) recorded in the official measurements book as an acknowledgement of his acceptance of the accuracy of the measurements.
- 3)** If the contractor fails to attend, the service may be measured up in his absence, and such measurements shall, notwithstanding such absence, be binding upon the contractor whether or not he has signed the measurement books.
 - 4)** It shall be open to the contractor to take specific objection to any recorded measurements or Classification on any ground within seven days of the date of such measurements. Any re-measurement taken by the Contract Manager or his representative in the contractor's presence or absence after due notice has been given to him shall be final and binding on the contractor. No claim whatsoever shall after that be entertained regarding the accuracy and classification of the measurements. If the Contract Manager finds an objection raised by the contractor to be incorrect, the contractor shall be liable to pay the actual expenses incurred in re-measurements.

8.3 Variations and Claims

8.3.1 Powers of Variations

- 1)** the Contract Manager, on behalf of the Procuring Entity, in consultation with the Contractor, order variations in writing to enlarge or extend, diminish, or reduce the Services or make any alterations in their design, inputs, site, quantities, sequence or timing, dimensions or the method of their execution or the combination and use of materials for the execution thereof or to order any additional service to be performed or any Services not to be performed. The contractor shall not be entitled to any compensation for any increase/reduction in the quantities of work but shall be paid only for the actual amount of work done. Such variations shall not be more than plus/ minus 15% of the value of the Contract and must be broadly within the original scope/ character and purpose of the original contract.
- 2)** Unless otherwise stipulated, the accepted variation in the quantity of each contract item would be upto 25% of the quantity initially contracted. The contractor shall be bound to carry out the service at the agreed rates and shall not be entitled to any claim or compensation whatsoever upto the limit of 25% variation in the quantity of the individual item of services.

- 3) If the Contract Managers decide to increase the variation beyond 125% of Contracted quantity after internal approvals, the rates and acceptability shall be mutually agreed upon.
- 4) As far as items in Format 1.3: Price Schedule is concerned, the limit of 25% would apply to the value of the contract as a whole and not on individual items.

8.3.2 Valuation of Variations

The variation referred to in sub-clause above shall in no degree affect the validity of the contract; but shall be performed by the contractor as provided therein and be subject to the same conditions, stipulations, and obligations as if they had been initially and expressly included and provided for in the contract and the amounts to be paid therefore shall be calculated as per the Price Schedule. Any extra items/quantities of Services falling outside the purview of the provisions of Price Schedule above shall be paid for at the rates determined under GCC-clause 8.4 of these Conditions.

8.4 Rates for Extra Items

- 1) Any extra item of Service carried out by the contractor on the instructions of the Contract Manager which is not included in the Price Schedule shall be executed at the rate agreed upon between the Contract Manager and the contractor before the execution of such items of service.
- 2) The contractors shall be bound to notify the Contract Manager at least seven days before the necessity arises to execute such extra items of Services for which the Price Schedule/ Contract does not include rate or rates.
- 3) The rates payable for such extra items shall be decided at the meeting between the Contract Manager and Contractor, in as short a period as possible after the need for the extra item has come to the notice. In case the contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at, the Procuring Entity shall be entitled to execute such extra items of Service by other means, and the contractor shall have no claim for loss or damage that may result from such procedure.
- 4) Provided that if the contractor commences such items of Service or incurs any expenditure in this regard before the rates as determined and agreed upon as mentioned above, then and in such a case, the contractor shall only be entitled to be paid in respect of the Services carried out or expenditure incurred by him before the date of determination of the rates as aforesaid according to the rates as shall be fixed by the Contract Manager. However, if the contractor is not satisfied with the decision of the Contract Manager in this respect, he may appeal to the Head of Procurement within 30 days of getting the decision of the Contract Manager, supported by analysis of the rates claimed. The Head of Procurement's decision after hearing both the parties in the matter would be final and binding on the contractor and the Procuring Entity.

9. Deployment of Resources

9.1 Site and Assets thereon

9.1.1 Site of Service Delivery

- 1) The site for Service delivery shall be the lands, spaces, and other places on, under, in or through which the Services are to be carried out and any other lands or places provided by the Procuring Entity for the contract.
- 2) No land or building or any other asset belonging to or in possession of the Procuring Entity shall be occupied by the contractor without the permission of the Procuring Entity. The contractor shall not use or allow to be used the site for any purposes other than executing or concerning the execution of the services.
- 3) **Facilities for Inspection:** the contractor shall afford the Contract Manager and his representative every facility for entering in and upon every portion of the site at all hours for inspection or otherwise and shall provide all facilities required for the purpose. The Contract Manager and his representative shall have free access to every part of the site and all places at which materials, tools, and plants are stored or prepared for the Services.
- 4) **Existing Roads and Waterways:** Existing roads or water courses shall not be blocked, cut through, altered, diverted, or obstructed in any way by the contractor, except with the permission of the Contract Manager. All compensations claimed for any unauthorized closure, cutting through, alteration, diversion or obstruction to such roads or water courses by the contractor or his agent or his staff shall be recoverable from the contractor by deduction from any sums which may become due to him in terms of Contract, or otherwise according to law.
- 5) **Non-Obstruction of Access:** During the progress of Services in any street or thoroughfare, the contractor shall make adequate provision for the passage of traffic, for securing safe access to all premises approached from such street or thoroughfare and for any drainage, water supply or means of lighting which may be interrupted by reasons of the execution of the Services and shall react and maintain at his cost barriers, lights and other safeguards as prescribed by the Contract Manager, for the regulation of the traffic, and provide security staff necessary to prevent accidents.
- 6) **No Obstruction to Flow of Work and Personnel of Procuring Entity:** Contractor shall arrange his work in consultation with the Contract Manager in such a manner to avoid obstruction to the normal flow of work and personnel of the Procuring Entity at the site, preferably utilising non-business hours for such obstructive or hazardous activities.

9.1.2 Temporary Works at Site

- 1) the contractor shall at his own expense erect temporary works, e.g., sheds, yards, and storehouses in such situations, and such numbers as in the opinion of the Procuring Entity is requisite for performing the Services. The contractor shall keep at each such sheds, yards, and store-houses a sufficient quantity of materials/ plant in stock as not to delay the performance of the Services with due expedition. The Procuring Entity and its representative shall have free access to the said sheds/yards/ store houses at any time to inspect the stock of materials or plant so kept in hand, and any materials or plant which the Procuring Entity may object to shall not be brought upon or used in the services but shall be forthwith removed from the sheds/yards/store houses by the contractor.

9.1.3 Security Arrangements

- 1) The contractor shall secure security arrangements at the site against unauthorised access/ trespass, pilferage, theft, leakage or misuse of property or belongings of his or his staff or Procuring Entity and its Staff by his staff or third parties or trespassers.
- 2) Preservation of Peace
 - a) the contractor shall take requisite precautions and use their best endeavours to prevent any riotous or unlawful behaviour by or amongst their workers and others, employed directly or through the petty contractors or sub-contractors for services, and for the preservation of peace and protection of the inhabitants and security of property in the neighbourhood of the site of services.
 - b) If the Procuring Entity stipulates maintenance of a special Police Force at or in the vicinity of the site during the tenure of service Contract, the expenses thereof shall be borne by the contractor and, if paid by the Procuring Entity, shall be recoverable from the contractor.
- 3) **Prohibition of Smoking and Intoxicants:** the contractor or his staff or any labour employed through sub-contractors or petty contractors shall be prohibited from Smoking in ‘No Smoking Zone’ and in Public Places and also prohibited from the use of any intoxicating substances including, but not limited to, intoxicating beverages during the service period or on-site or near the site or in any of the facilities, sites, buildings, encampments, or tenements owned, occupied by or within the control of the contractor or any of his employees. The contractor shall exercise influence and authority to the utmost extent to secure strict compliance with this condition.

9.1.4 Safety Issues

- 1) the contractor shall be responsible for the safety of all activities on the Site.
- 2) The contractor shall be responsible for the safety of all persons employed by him on Site, directly or through petty contractors or Sub-Contractors, and shall report accidents to any of them, however, and wherever occurring on Works, to the contract manager or his representative, and shall make every arrangement to render all possible assistance and to provide prompt and proper medical attention. The compensation for affected Workers or their relatives shall be paid by the contractor in such cases expeditiously as per the Workmen's Compensation Act and other labour codes.
- 3) **Safety of Public and Third parties:** the contractor shall be *responsible for taking all precautions to ensure* the safety of the public and third parties, whether on public or Procuring Entity’s property and shall post look out, such persons as may, in the opinion of the Contract Manager, be required to comply with regulations appertaining to the service. No explosives shall be used for the Services rendered or on the site by the contractor.

9.1.5 Clearance of Site on Completion

On completion of the services, the contractor shall clear away and remove all tools /plants and surplus materials, rubbish and temporary works of every kind and leave the whole of the site clean to the satisfaction of the Contract Manager.

- 1) If the contractor provides temporary huts on the Procuring Entity land for labour engaged by him to execute services, the contractor shall arrange for handing over vacant possession of the said land after the service is completed.

- 2) No final payment in settlement of the accounts for the Services shall be paid, held to be due or shall be made to the contractor till, in addition to any other condition necessary for final payment, site clearance shall have been affected by him.
- 3) In the event of failure on the part of the contractor to comply with this provision within 7 days after receiving notice for clearance of Procuring Entity's site and lands, the Contract Manager shall cause them to be removed through public sales of such materials and property or in such a way as deemed fit and convenient and cost as increased by supervision and other incidental charges shall be recovered from the contractor. If the contractor's labour refuses to vacate and has to be ejected following due process by the Procuring Entity, necessary expenses incurred by the Procuring Entity in connection shall be borne by the contractor. The Procuring Entity shall not be held liable for any loss or damage to the contractor's property as may be on the site and due to such removal.

9.2 Key and Non-key Personnel

9.2.1 Key Personnel

- 1) The titles agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the contractor's Key Personnel are described in Format 1.1.1
- 2) Except as the Procuring Entity may otherwise agree, no changes shall be made in the Key Personnel. If it becomes necessary to replace any of the Key Personnel for any reason beyond the contractor's reasonable control, the contractor shall provide as a replacement a person of equivalent or better qualifications, subject to GCC-clause 9.2.1.

9.2.2 Non-key Personnel

- 1) the contractor must ensure deployment of non-key Personnel as per the Personnel Deployment Plan in Format 1.1.1 and approved Works Programme as updated. If the Contract Manager believes that the contractor is not employing sufficient staff and workers as is specified or otherwise for the proper execution of the Services, he shall issue a notice to the contractor for remedial measures. The contractor shall forthwith on receiving intimation to this effect deploy the additional number of staff and labour as specified by the Contract Manager immediately, and failure on the part of the contractor to comply with such instructions shall entitle the Procuring Entity to penalize the contractor for the shortfall in performance or terminate the contract as per the contract and avail all the remedies thereunder. Such action shall be in addition to deduction from Contractor's payment cost of shortfall personnel as per Format 1.1.1.
- 2) The contractor shall also deploy efficient and competent supervisory staff to give the necessary directions to his workers and to see that they provide their services desirably and adequately and shall employ only such supervisors, workers & labour in or about the execution of any of these Services as are careful and skilled in the various trades. Daily attendance records of such supervisors and labour shall be maintained.
- 3) Procuring Entity reserves its right to ask for additional manpower, and the contractor shall be contractually bound to provide such manpower at one week's advance notice – which shall be paid extra at rates quoted.
- 4) **Police Verification of Labour employed by Contractor:** the contractor must submit Police Verification certificates in a format prescribed by the Police Department (or as directed by the Contract Manager) for all contractual staff hired for delivery of Services for Procuring Entity.

- 5) Restrictions on the Employment of Retired Staff or Officers or Managers of Procuring Entity Services within One Year of their Retirement: the contractor shall not, himself be a retired Government Manager of Gazetted rank, or engage any employee or associate who is a retired Government Manager of Gazetted rank, if such persons have not completed one year from the date of retirement, in connection with this Contract in any manner whatsoever without obtaining prior permission of the relevant authority. If the contractor is found to have contravened this provision, it shall constitute a breach of contract and Procuring Entity shall be entitled to terminate the contract and avail any or all the remedies thereunder.
- 6) The contractor shall, when he is not personally present on the site of the workplace, shall keep a responsible agent during working hours who shall, on receiving reasonable notice, present himself to the Contract Manager and orders given by the Contract Manager or his representative to the agent shall be deemed to have the same force as if they had been given to the contractor. Before absenting herself, the contractor shall furnish the name and address of his agent for this clause and failure on the contractor's part to comply with this provision at any time shall entitle the Procuring Entity to terminate the contract and avail any or all the remedies thereunder.

9.2.3 Removal of Personnel on Orders of Contract manager

- 1) If the Procuring Entity finds that any of the Personnel have (i) committed severe misconduct or have been charged with having committed a criminal act, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the contractor shall, at the Procuring Entity's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Entity, subject to sub-clause 2) below.
- 2) The contractor shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

9.3 Key and Non-key Equipment, Tools and Plants

- 1) The details of Key Equipment required to be deployed are described in Format 1.1.2.
- 2) Except as the Procuring Entity may otherwise agree, no changes shall be made in the deployment of Key Equipment. If it becomes necessary to replace any of the Key Equipment for any reason beyond the contractor's reasonable control, the contractor shall provide Equipment of equivalent or better performance as a replacement.
- 3) The contractor must ensure deployment of non-key Equipment as per the Equipment Deployment Plan in Format 1.1.2 and approved Works Programme as updated. In the event of the Contract Manager believing that the contractor is not employing on the Services sufficient Equipment/Tools/ Plant as is specified or otherwise for the proper execution of the Services within the prescribed procedure and time, the contractor shall forthwith on receiving intimation to this effect deploy the additional equipment/ tools/ plants as specified by the Contract Manager immediately and failure on the part of the contractor to comply with such instructions shall entitle the Procuring Entity to penalize the contractor under shortfall in performance or terminate the contract as a breach of contract. Such action shall be in addition to a deduction from Contractor's payment cost of shortfall Equipment as per Equipment Deployment Plan in Format 1.1.2.
- 4) the Contract Manager or his representative shall be entitled to order within the time stipulated in the order:

- a) The removal of any equipment/ tools/ plants which in their opinion are not as per the performance standards.
- b) The substitution of proper and suitable equipment/ tools/ plants

9.4 Materials Deployment

- 1) Deployment of adequate inventory and supply chain of materials specified and provided in the contract necessary for the delivery of Services or Personnel and Equipment deployed shall be of specified specification and quality and if not specified as per the best of market and business practices. The materials may be subjected to tests employing such machines, instruments and appliances as the Procuring Officer may direct and wholly at the contractor's expense.
- 2) Except as the Procuring Entity may otherwise agree, no changes shall be made in such materials' deployment, inventory, or supply chain. If for any reason beyond the contractor's reasonable control, it becomes necessary to do so, the contractor shall provide a replacement by materials of equivalent or better quality.
- 3) The contractor must ensure the deployment of materials as per the Materials Deployment Plan in Format 1.1.3 and the approved Works Programme as updated. In the event of the Contract Manager believing that the contractor is not employing on the Services sufficient materials/ inventory as is specified or otherwise for the proper execution of the Services within the prescribed procedure and time, the contractor shall forthwith on receiving intimation to this effect deploy additional materials/ inventory as specified by the Contract Manager immediately and failure on the part of the contractor to comply with such instructions shall entitle the Procuring Entity to penalize the contractor under shortfall in performance or terminate the contract as a breach of contract. Such action shall be in addition to deduction from Contractor's payment cost of shortfall materials as per Materials Deployment Plan in Format 1.1.3.

9.5 Property in Equipment and Materials brought to Site.

The materials and plant brought by the contractor upon the site or on the land occupied by the contractor in connection with the Services and intended to be used for the execution shall not be removed from the site without the approval of the Procuring Entity. However, materials/ equipment which the Contract Manager rejects under GCC-clause 7.3 during the progress of the Services, or which after the grant of the certificate of completion, are declared as not needed or those that remain unused, can be removed from the site or the said land by the Contractor. This clause shall not in any way diminish the liability of the contractor nor shall the Procuring Entity be in any way answerable for any loss or damage which may happen to or in respect of any such materials or plant either by the same being lost, stolen, damaged, or destroyed by fire, tempest or otherwise.

10. Delivery of Services and delays

10.1 Works Programme

- 1) Before commencement of the Services, the contractor shall submit for approval of the Contract Manager a Works Programme showing the Methods; schedule of delivery of services, the deployment plans for Personnel; Equipment and Materials for the execution of the services. The programme of delivery of Services amended as necessary by discussions with the Contract Manager shall be treated as the agreed Works programme for this Contract. The Services shall be carried out and monitored as per the approved Program as updated.
- 2) Unless otherwise stipulated in the contractor agreed between the parties, the Works Programme shall be based on round-the-clock (24X7) operations without violating statutory regulations.

10.2 Compliance to Contract Manager's Instructions

- 1) the Contract Manager shall direct the order in which the several components of the Services shall be provided, and the contractor shall execute without delay all orders given by the Contract Manager from time to time. Still, the contractor shall not be relieved thereby from responsibility for the due performance of the Services in all respects.
- 2) Any instructions or approval given by the Contract Manager's representative to Contractor in connection with the Services shall bind the contractor as though the Contract Manager had given it provided as follows -
 - a) Failure of the Contract Manager's representative to disapprove any work/ Services or materials shall not prejudice the power of the Contract Manager after that to disapprove such Services or material and order the rectification thereof.
 - b) If the contractor is dissatisfied because of any decision of the Contract Manager's representative, he shall be entitled to refer the matter to the Head of Procurement through the Contract Manager, who shall there upon confirm or vary such decision.
- 3) **Compliance with Contractor's Request for Details:** the Contract Manager shall furnish with reasonable promptness, after receipt of the contractor's request, additional instructions regarding procedures, specifications or otherwise, necessary for the proper performance of the Services or any part thereof. All such procedures, specifications and instructions shall be consistent with the contract Documents and reasonably inferable from them.

10.3 Commencement of Services

- 1) **Effective Date of Contract:** Contractor shall commence the Services and shall proceed with due expedition and without delay, from the effective date of Contract (all dates of delivery shall be counted from such a date), which shall be the date mentioned as the effective date in the contract, or if not so mentioned:
 - a) 15 days from (unless specified otherwise in that order) the date of an order to this effect from the Contract Manager, or if no such order is issued,
 - b) 15 days from the date Contract has been signed by the Procuring Entity

10.4 Time for Delivery of services and Extensions Thereof

The time and uninterrupted delivery of Services shall be deemed to be the essence of the contract. Subject to any requirement in the contract as to the completion of any portions or portions of the Services before completion of the whole; the contractor shall fully and finally complete the whole of the services comprised in the contract as per the Delivery and Completion Schedule stipulated in Format 1.1: Description of Services. If at any time during the currency of the contract, the contractor encounters conditions hindering the timely performance of services, the contractor shall promptly inform the Procuring Entity in writing about the same and its likely duration. He must make a request to the Procuring Entity for an extension of the delivery schedule. On receiving the contractor's communication, the Procuring Entity shall examine the situation and, at its discretion, may agree to extend the completion schedule, with or without liquidated damages and with and without denial clause by issuing an amendment to the contract in terms of the following clauses.

10.4.1 Extension Due to Modification

The Contract Manager might grant a reasonable extension of the completion date if any modifications ordered materially increase the time for delivery of the services. The contractor shall be responsible for requesting such extension of the date as soon as the cause thereof shall arise and in any case not less than one month before the expiry of the date fixed for completion of the services.

10.4.2 Extension for Delay Not Due to Contractor

- 1) If in the opinion of the contractor, the progress of Services has any time been delayed due to following reasons, then within 15 days of such happening causing delay, he shall give notice thereof in writing to the Contract Manager, but shall nevertheless do due diligence to bring down or make good the delays and to proceed with the services:
 - a) any act or neglect of other contractor employed by the Procuring Entity or in executing the work/service not forming part of the contract but on which Contractor's performance necessarily depends or
 - b) proceeding taken or threatened by or dispute with external third parties arising otherwise than from the contractor's own default etc. or
 - c) any act or neglect of Procuring Entity's employees or
 - d) delay authorized by the Contract Manager or
 - e) the contractor not having received in due time necessary instructions from the Procuring Entity for which he shall have especially applied in writing to the Contract Manager or his authorized representative.
 - f) hand over possession of the site or the necessary facilities/ documents/ data or instructions by the Procuring Entity to the contractor or
 - g) give the necessary notice to commence the services, or
 - h) any other delay caused by the Procuring Entity due to any other cause whatsoever.
- 2) the contractor may also indicate the period for which the Services is likely to be delayed and ask for a necessary extension of time. On receipt of such request from the contractor, the Contract Manager shall consider the same and grant such extension of time as in his opinion is reasonable regarding the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period. The same rates, terms, and conditions as the original Contract shall apply during the extended period.

10.4.3 Extension of Time for Delay Due to Contractor

- 1) If the contractor fails to deliver the Services within the fixed/ extended period for reasons other than those stipulated in GCC-clause 10.4.1 and 10.4.2 above, the Procuring Entity may, if satisfied that the service delivery can still be completed within a reasonable time, extend the period further.
- 2) On such extension, the Procuring Entity shall be entitled without prejudice to any other right and remedy available on that behalf to recover from the contractor as agreed damages and not by way of penalty Liquidated Damages as per GCC-clause 10.5 below.
- 3) Provided further, that if the Procuring Entity is not satisfied that the service can be completed by the contractor or in the event of failure on the part of the contractor to complete the service within the extension of time allowed further as aforesaid, the Procuring Entity shall be entitled without prejudice to any other right or remedy available in that behalf, treat the delay as a breach of contract and avail any or all the remedies thereunder, whether or not actual damage is caused by such default.
- 4) **Inordinate Delays:** Delays due to the contractor of more than one-fourth (25%) of the total completion period shall be treated as inordinate delays. Such inordinate delays shall be noted as poor performance and be held against the contractor in future tenders. A show-cause notice shall be issued to the contractor before declaring it a poor performance. Such delays may be considered as a breach of the contract at the option of the Procuring Entity.

10.5 Damages and Deductions Thereof

10.5.1 Right of the Procuring Entity to recover Damages.

Procuring Entity shall be entitled to, and it shall be lawful for him to recover damages for the shortfall in performance and Liquidated damages as detailed in this clause from all payments due or any Performance Security or any retention money. This clause does not limit Procuring Entity from imposing more than one damages under the contract, and such damages shall be applied concurrently.

10.5.2 Damages for Shortfall in Performance

The Procuring Entity shall, without prejudice to other rights and remedies under the contract, recover as damages for the shortfall in performance, but not as a penalty, 0.5% percent (or any other percentage prescribed) of the delivered price (including elements of GST & freight) of the defective Services, If the contractor fails to perform the Services as per Performance Standards and Quality, without having to prove actual loss incurred.

10.5.3 Liquidated damages

- 1) Subject to GCC-clause 10.4, if the contractor fails to perform the Services within the time frame(s) incorporated in the contract, the Procuring Entity shall, without prejudice to other rights and remedies available to the Procuring Entity under the contract, deduct from the contract price, as liquidated damages for each week of delay or part thereof until actual delivery or performance, but not as a penalty, a sum equivalent to the 0.125% percent of the contract value for each week of delay. Besides liquidated damages during such a delay, the denial clause as per GCC-clause 10.5.4 shall also apply.

10.5.4 Denial Clause:

- 1) No increases in price on account of any statutory increase in or fresh Imposition of GST, or on account of any other taxes/ duty/ cess/ levy) leviable in respect of the Services and incidental goods/ works stipulated in the said Contract which takes place after the original delivery date shall be admissible on such of the said Services, as are delivered after the said date; and
- 2) Notwithstanding any stipulation in the contract for an increase in price on any other ground, including the price variation clause, no such increase after the original delivery date shall be admissible on such Services delivered after the said date.
- 3) Nevertheless, the Procuring Entity shall be entitled to the benefit of any decrease in price on account of reduction in or remission of GST, or on account of any other Tax or duty or any other ground as stipulated in the price variation clause, which takes place after the expiry of the original delivery date.

10.5.5 Limit on total Damages

However, deduction on account of damages for delays and performance under this clause GCC 10.5, put together shall be subject to a maximum of 10% (or any other percentage if prescribed) of the entire value of Contract of Services. Penalties/ liabilities outside this clause shall be covered by clause GCC 13.1.5.

10.6 Suspension of Services

10.6.1 Suspension Ordered by Contract Manager

the contractor shall, on the order of the Contract Manager, suspend the progress of the Services or any part thereof for such time or times and in such manner as the Contract Manager may consider necessary, and shall during such suspension, adequately protect and secure the site and assets so far as is necessary in the opinion of the Contract Manager. If such suspension is -

- 1) Provided for in the contract, or
- 2) Necessary for the proper execution of the Services or because of extraneous conditions or by some default on the part of the contractor and or
- 3) Necessary for the safety of the Services or any part thereof

10.6.2 Extension of Time and Compensation

the contractor shall not be entitled to the extra costs, if any, incurred by him during the period of suspension of the service, but in the event of any suspension ordered by the Contract Manager for reasons other than aforementioned and when each such period of suspension exceeds 14 days, the Contract Manager shall extend the time of service for completion of the Services as he may consider proper, having regard to the period or periods of such suspensions and such compensations as the Contract Manager may consider reasonable in respect of expenses incurred by the contractor during the periods of such suspension.

10.6.3 Suspension Lasting More Than 3 Months

If the Contract Manager suspends the Services or any part thereof for more than three months at a time, the contractor may serve a written notice on the Contract Manager requesting permission to proceed with the suspended part(s) of service. If such permission is not granted within 15 days from the receipt thereof, the contractor by further written notice may, treat the suspended part(s) of the service as deleted from the Contract. If the whole of the services has been suspended, he may treat

it as a breach of the contract by the Procuring Entity and avail any or all remedies provided in this regard in the contract.

10.7 Force Majeure

- 1) On the occurrence of any unforeseen event, beyond the control of either Party, directly interfering with the delivery of Services arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the affected Party shall, within a week from the commencement thereof, notify the same in writing to the other Party with reasonable evidence thereof. Unless otherwise directed by the Procuring Entity in writing, the contractor shall continue to perform its obligations under the contract as far as reasonably practicable and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the force majeure condition(s) mentioned above be in force for 90 days or more at any time, either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this Contract before such termination.
- 2) Notwithstanding the remedial provisions contained in GCC-clause 10.5 and 13, none of the Party shall seek any such remedies or damages for the delay and/ or failure of the other Party in fulfilling its obligations under the contract if it is the result of an event of Force Majeure.

11. Prices and Payments

11.1 Prices

11.1.1 Firm Prices

Unless otherwise stipulated in the contract, Prices shall be fixed and firm. If the Price Variation Clause is included, such up and down variations shall also be payable.

11.1.2 Price Variation Clause

- 1) In case the contract provides for a Price Variation Clause or variation on any other account, the price shall be subject to adjustment as per such clauses, only during the original Delivery Period, subject to the following:
- 2) Any increase due to such variations during the extended delivery period, beyond the original delivery period, shall not be paid by the Procuring Entity; however, it shall be entitled to any reduction during this period under the GCC-clause 10.5 (Denial Clause).
- 3) Taxes and duties, if any, chargeable and payable on the Services shall be charged on the net price after variations.
- 4) While claiming payments where such variations are applicable, the contractor must submit its calculations for each invoice, even if the payment on account of these variations is nil. Any price reduction due to such variations must be passed on to the Procuring Entity.
- 5) **No Other Claim due to Variations:** With the payment of such variations, no additional individual claim shall be admissible on account of fluctuations in market rates, increase in taxes/any other levies/tolls etc.
- 6) If the Price Variation clause is applicable as per the contract, the price shall be subject to adjustment to take care of the changes in the cost of labour, material, and fuel/ power

components as per the price variation formula specified therein. The amount payable on account of Price variation shall be settled every quarter.

- 7) **Base Month and Quarter:** Unless otherwise stipulated in the contract, the Base Month for 'Price Variation Clause' shall be taken as the month before the month of the last date of bid submission, if any, unless otherwise stated elsewhere. The Base Quarter for applicability of PVC shall end on the Base Month. Unless the contract has stipulated a different time lag for reckoning Price Variation, the month of reckoning the varied price shall be the month before the month in which delivery has been made. The Quarter of reckoning for applicability of PVC shall end on the Month of reckoning. The Price Variation shall be based on the relevant Indices in the Base Quarter and Quarter of reckoning.
- 8) **Applicability:** If Contract provides for some inputs to be supplied by Procuring Entity free or at a fixed rate, cost of such inputs shall be excluded from the value of the Goods supplied in the relevant quarter for payment/recovery Of price variation.

11.2 Taxes and Duties

- 1) the contractor shall be entirely responsible for all taxes, duties, fees, levies etc., incurred until delivery of the Services to the Procuring Entity. Further instruction, if any, shall be as provided in the SCC.
- 2) If applicable under relevant tax laws and rules, the Procuring Entity shall deduct from all payments and deposit required taxes to respective authorities on account of GST Reverse Charge Mechanism; Tax Deducted at Source (TDS), and Tax Collected at Source (TCS) relating to Income Tax, labour cess, royalty etc.
- 3) **Payment of GST Tax under the contract:**
 - (a) The payment of GST and GST Cess to the contractor shall be made only on the latter submitting a GST compliant Bill/ invoice indicating the appropriate HSN code and applicable GST rate thereon duly supported with documentary evidence as per the provision of relevant GST Act and the Rules made there under. The delivery of Services shall be shown being made in the name, location/ state, and GSTIN of the beneficiary of the Services only, the location of the procurement office of the procuring entity has no bearing on the invoicing.
 - (b) While claiming reimbursement of duties, taxes etc. (like GST) from the Procuring Entity, as and if permitted under the contract, the contractor shall also certify that in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the contractor) shall refund to the Procuring Entity, the Procuring Entity's share out of such refund received by the contractor. The contractor shall also refund the appropriate amount to the Procuring Entity immediately after receiving the same from the concerned authorities.
 - (c) All necessary adjustment vouchers such as Credit Notes/ Debit Notes for any short/ excess delivery of Services or revision in prices or any other reason under the contract shall be submitted to the Procuring Entity in compliance with GST provisions.
 - (d) GST shall be paid as per the rate at which it is liable to be assessed or has been assessed provided the provision of Services is legally liable to such taxes and is payable as per the terms of the contract subject to the following conditions:
 - i) The Procuring Entity shall not pay a higher GST rate if leviable due to any misclassification of HSN number or incorrect GST rate incorporated in the contract due to contractor's fault. Wherever the contractor invoices the Goods at GST rate or

HSN number, which is different from that incorporated in the contract, payment shall be made as per GST rate, which is lower of the GST rates incorporated in the contract or billed.

- ii) However, the Procuring Entity shall not be responsible for the contractor's tax payment or duty under a misapprehension of the law.
 - iii) Bidder is informed that he shall be required to adjust his basic price to the extent required by a higher tax rate billed as per invoice to match the all-inclusive price mentioned in the contract.
 - iv) In case of profiteering by the contractor relating to GST tax, the contractor shall treat it as a violation of the Code of Integrity in the contract and avail any or all punitive actions thereunder, in addition to recovery and action by the GST authorities under the Act.
- (e) The contractor should issue Receipt vouchers immediately on receipt of all types of payments along with tax invoices after adjusting advance payments, if any, as per Contractual terms and GST Provisions.
- (f) Liquidated damages or any other recoveries should be shown as deductions on the invoice, and GST shall be applicable only on the net balance payment due.
- 4) **Statutory Variation Clause:** Unless otherwise stated in the contract, statutory increase in applicable GST rate only during the original delivery period shall be to Procuring Entity's account. Any increase in the rates of GST beyond the original completion date during the extended delivery period shall be borne by the contractor. The benefit of any reduction in GST rate must be passed on to the Procuring Entity during the original and extended delivery period. However, GST rate amendments shall be considered for quoted HSN code only, against documentary evidence, provided such an increase of GST rates takes place after the last date of bid submission.

11.3 Terms and Mode of Payment

- 1) Payment schedule/stages have been given in details in **Section V: Special Conditions of Contract (SCC)** subjected to acceptance of Services at 'the Site' by the Procuring Entity and the contractor's production of all required documents.
- 2) The payments shall be made in the manner as per Procuring Entity's payment procedures. Unless otherwise stipulated in the contract, payments above ₹ 5,000 (or any other threshold specified) to Contractors shall be made through EFT only. The contractor shall give his consent in a mandate form for receipt of payment through NEFT. In case of non-payment through EFT, or where the EFT facility is not available, payment may be released through cheque.
- 3) In Domestic Contracts, payments shall only be made in Indian Rupees. In Global Tenders, payment to foreign bidders shall be made in the currency/ currencies authorized in the contract. However, agency commission and local value addition shall be paid only in Indian Rupees.
- 4) the contractor shall send its claim for payment in writing as per GST compliant Invoice and documents, when contractually due, along with relevant documents etc., as stipulated in Contract and a manner as also specified therein.
- 5) While claiming payment, the contractor is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the contractor for claiming that payment has been fulfilled as required under the contract.

11.4 Withholding and lien in respect of sums claimed:

- 1) Whenever any claim or claims for payment of a sum of money arises against the contractor, out of or under the contract, the Procuring Entity shall be entitled, and it shall be lawful on his part, to withhold and also have a lien to retain such sum or sums, in whole or in part pending finalisation or adjudication of any such claim from -
 - a) any security or retention money, if any, deposited by the contractor.
 - b) any sum(s) payable till now or hereafter to the contractor under the same Contract or any other contract with the Procuring Entity if the security is insufficient or if no security has been taken from the contractor.
- 2) Where the contractor is a partnership firm or a limited company, the Procuring Entity shall be entitled, and it shall be lawful on his part, to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/ limited company, as the case may be, whether in his capacity or otherwise.
- 3) It is an agreed term of the contract that the sum(s) of money so withheld or retained under the lien referred above shall be kept withheld or retained till the claim arising out of or under the contract is determined under clause GCC 12 and/ or 13. The contractor shall have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the contractor.
- 4) **Lien in respect of Claims in other Contracts:** Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Procuring Entity or Government against any claim of the Procuring Entity or Government in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Procuring Entity or Government.

11.5 Payments to Contractor

- 1) **Time-Based (Inputs admeasurement):** Unless instructed in writing by the Procuring entity, payments shall not be made for any extra inputs deployed over and above the Input Deployment Plans (Personnel, equipment, materials etc.) mentioned in the contract. Nevertheless, if such inputs are deployed less than those stipulated, deductions shall be made based on the rates indicated for the inputs (Personnel, equipment, materials etc.) in the contract.
- 2) **Unit-Rate (Output admeasurements):** Unless otherwise stipulated, payments shall be made every month for the volume of Services rendered during the period.
- 3) **Lumpsum:** Unless otherwise stipulated, payments shall be made only on completion of Services.
- 4) **Percentage (of Value of Transactions):** The payment for the total price of Services calculated at the percentage of the actual value of Activities rendered shall be made either every month or on completion of milestones or on completion of entire Services whichever is stipulated in the contract.

11.5.1 "On-Account" Payments

The contractor shall be entitled to be paid every month (unless otherwise stipulated in the contract) by way of "On-Account" payment, only for such Services, as in the opinion of the Contract Manager, the contractor has executed in terms of the contract during the month. All payments due against the Contract Manager or his representative's certificates of measurements shall be subject to any

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deductions, which may be made under the contract, always provided that the Contract Manager may by any certificate make any correction or modification in any previous certificate, which he may have issued. The Contract Manager may withhold any certificate if the Services or any part thereof are not being carried out as per the contractual performance standards.

11.5.2 On Account Payments Not Prejudicial to Final Settlement

"On-Account" payments made to the contractor shall be without any prejudice to the final settlement of the accounts (except where measurements are noted explicitly in the Measurement Book as "Final Measurements" and the contractor has signed it such). They shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such accounts nor of any particular quantity of service having been executed nor of the manner of its execution being satisfactory.

11.5.3 Claims for Variations

the contractor shall prepare and furnish to the Contract Manager once in every month an account giving complete and detailed particulars of all claims for any additional expenses to which the contractor may consider himself entitled to and of all extra or additional works ordered by the Contract Manager which he has executed during the preceding month and no claim for payment for and such work shall be considered which has not been included in such particulars.

11.5.4 Advance Payments

- 1) Unless the contract provides explicitly for Advance Payments to be made to the contractor in SCC, the following procedure shall apply:
 - a) On the request of the contractor, the Procuring Entity shall make the following advance payment (subject to a maximum of 10% (ten percent) of the initial contract price) to the contractor against submission by the contractor of an Unconditional Bank Guarantee from a Commercial bank acceptable to the Procuring Entity in amounts equal to 110% (one hundred ten percent) of the amount of the advance payment being requested. Advance payments shall be released in not less than two instalments, commensurate with the progress of work and mobilization of required equipment etc.:
 - i) Mobilization advances up to 5% (five percent) of the initial contract price.
 - ii) Equipment Advance up to 90 % (ninety percent) of the cost of the new equipment brought to the site,
- 2) The Bank Guarantee shall remain effective until the advance payment has been repaid, but the amounts repaid by the contractor shall progressively reduce the guaranteed amount. Interest shall not be charged on the advance payment. However, if the contract is terminated due to the contractor's default, the Mobilization Advance and the Equipment Advance shall be deemed an interest-bearing advance at the prevailing rate (MIBID - Mumbai Interbank Bid Rate) on the date of such advance payment.
- 3) The contractor is to use the advance payment only to pay for Equipment, plant and Mobilization expenses explicitly required for the performance of Services. The contractor shall demonstrate that the advance payment has been used in this way by Utilization certificate enclosing copies of invoices or other documents to the Contract Manager. Further instalments shall be released after getting a satisfactory utilization certificate from the contractor for the earlier instalment. In case of Equipment advance, insurance and hypothecation to the Procuring Entity must be ensured by the Contractor.

- 4) The advance payment shall be recovered in a time-based manner not linked with the progress of work by deducting proportionate amounts from payments otherwise due to the contractor for the Services performed. Any delayed recoveries due to late submission of bills by the contractor shall attract interest at the prevailing rate (MIBID - Mumbai Interbank Bid Rate). No account shall be taken of the advance payment or repayment in assessing valuations of Services performed, variations, price adjustments, or liquidated damages.

11.5.5 Preconditions for Passing the Bills

- 1) The Contract Manager shall ensure and cross-check with all relevant records before passing the bills of the contractor. Upon verification of the records by Procuring Entity, payments can be released to the contractor.
- 2) The contractor shall ensure that Minimum gross wages, including ESI, EPF etc., is paid as per the actuals by the contractor to all workers, and portions to be deposited with the relevant authorities has also been deposited by him. If the contractor fails to pay the gross minimum wages, the same shall be informed to the Regional Labour Commissioner.
- 3) The Contract Manager shall ensure that the contractor submits all the relevant records related to statutory obligations and agreement conditions for claiming monthly bills.
 - 4) Procuring Entity shall upload the details of the contractor online on the Employees' Provident Fund Organisation (EPFO) portal. Every month, Procuring Entity may, if required, cross-verify the contractor's monthly statements regarding EPF and other contributions from the EPFO's records online. The contractor must provide documentary evidence to show coverage of all his workers or labour under the schemes mentioned in GCC-clause 9.1.4 annually.

11.6 Completion Certificate and Final payment

11.6.1 Completion Certificate

Upon a written intimation from the contractor, the Contract Manager shall issue a certificate of completion duly indicating the date of completion after satisfying himself of the following. The Contract Manager may also issue such a certificate indicating the date of completion concerning any part of the service (before the completion of the whole of service), which has been completed to the satisfaction of the Contract Manager:

- 1) that the whole of the Services to be done under the provisions of the contracts have been completed or when any such certificate is given in respect of part of a service, such part shall be considered completed.
- 2) that they have been inspected by him since their completion and found to be in good and substantial order,
- 3) that such completed services have satisfactorily passed any final test or tests that may be prescribed,
- 4) that all properties, works and things, removed, disturbed, or damaged in consequence of the Services have been adequately replaced and
- 5) that the contractor has returned in good condition, all assets loaned or hired from the Procuring Entity and has given a satisfactory account of payments made to or retained by the Procuring Entity for such loaned/ hired assets,
- 6) that the contractor has made good and satisfied in conformity with the contract all expenses and demands:
 - a) incurred by or made upon by the Procuring Entity.

- b) for or in respect of damages or losses from or in consequence of the services.

11.6.2 Approval Only by Completion Certificate:

No certificate other than completion certificate referred to in sub-clause above shall be deemed to constitute approval of any service or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the contractor any part thereof or of the accuracy of any claim or demand made by the contractor or of additional varied Services having been ordered by the Contract Manager nor shall any other certificate conclude or prejudice any of the powers of the Contract Manager.

11.6.3 Cessation of Procuring Entity's Liability

After the issue of Completion Certificate, the Procuring Entity shall not be liable to the contractor for any matter arising out of or in connection with the contract for the delivery of the Services, unless the contractor shall have claimed in writing in respect thereof before the issue of the Completion Certificate for service in Contract.

11.6.4 Unfulfilled Obligations

Notwithstanding the issue of Completion Certificate for service, the contractor and the Procuring Entity shall remain liable for the fulfilment of any obligation incurred under the provision of the contract before the issue of the Completion Certificate for service, which remains unperformed at the time such certificate is issued. The contract shall be deemed to remain in force till the nature and extent of any such obligations are determined.

11.6.5 Final Payment

The contractor shall submit a Final bill on the Contract Manager's certificate of completion regarding the services. The Final payment shall be made as per the following calculations to the contractor after receiving a clear "No Claim Certificate" signed from him:

- 1) the total quantity of service executed by the contractor upto the completion date based on the Contract Manager or his representative's certified measurements.
- 2) priced at the rates in the Price Schedule in the contract and for extra works on rates determined under GCC-clause 8.4 of these Conditions.
- 3) necessary adjustment for any payments already made or retained
- 4) any deduction which may be made under the contract,
- 5) a complete account of all claims Contractor may have on the Procuring Entity, and the Contract Manager gave a certificate in writing that such claims are correct,

11.6.6 No Claim Certificate and Release of Contract Securities

The contractor shall submit a 'No-claim certificate' to the Procuring Entity in such form as shall be required by the Procuring Entity after the Services are finally admeasured and before the final payment/ performance securities are released. The Procuring Entity shall release the contractual securities without any interest if no outstanding obligation, asset, or payments are due from the contractor. The contractor shall not be entitled to make any claim whatsoever against the Procuring Entity under or arising out of this Contract, nor shall the Procuring Entity entertain or consider any such claim, if made by the contractor, after he shall have signed a "No Claim" Certificate in favour of the Procuring Entity. The Contactor shall be debarred from disputing the correctness of the items covered by the "No Claim" Certificate.

11.6.7 Post Payment Audit

Notwithstanding the issue of Completion Certificate and release of final Payment, the Procuring Entity reserves the right to carry out within 180 days (unless otherwise stipulated in the contract) of such completion/ final payment, a post-payment audit and/ or technical examination of the Services and the final bill including all supporting vouchers, abstracts etc. If any over-payment to the contractor is discovered due to such examination, the Procuring Entity shall claim such amount from the contractor.

11.6.8 Signature on Receipts for Amounts

Every receipt for money, which may become payable, or for any security which may become transferable to the contractors, under the contract, shall if signed in the partnership name by any one of the partners of a Contractor's firm, be a suitable and sufficient discharge to the Procuring Entity in respect of the sums of money or security purported to be acknowledged thereby. In the event of death of any contractor, partners during the pendency of the contract, every receipt by anyone of the surviving constituents shall be suitable and sufficient discharge as aforesaid. Nothing in this Clause shall be deemed to prejudice or effect any claim that the Procuring Entity may hereafter have against the legal representative regarding any breach of any contract conditions by any contractor partner/member so dying. Nothing in this clause shall be deemed to prejudice or effect the respective rights or obligations of the contractor partners/ members and the legal representatives of any deceased Contractor partners/ members.

11.7 Defects Liability Period

- 1)** the contractor warrants that the Services have been delivered as per description, scope/ quantum, performance standards and quality outlined in the contract. This Defect Liability shall be in effect for a period stipulated in the contract (or if not specified for ninety (90) days) from completing the Services. The contract shall be deemed alive during this period, even if final payment and/ or Performance Guarantee has been released.
- 2)** During the Defects Liability Period, upon discovering any deficiencies in outputs/ outcomes attributable to a shortfall in scope/ quantum, performance standards and quality of the performed Services, the Procuring Entity shall give written notice to the contractor.
- 3)** Upon receiving such notice, the contractor shall, within 21 days (or within any other period, if stipulated in the contract), expeditiously remedy or reperform the Services or parts thereof, free of cost, at the site.
- 4)** If the contractor, having been notified, fails to rectify/ replace the defect(s) within 21 days (or within any other period, if stipulated in the contract), it shall amount to breach of

Contract, and the Procuring Entity shall proceed to take such remedial action(s) as deemed fit by it as detailed.

11.8 Payment Against Time-Barred Claims

All claims against the Procuring Entity shall be legally time-barred after three years calculated from the date when the payment falls due unless the payment claim has been under correspondence. The Procuring Entity is entitled to, and it shall be lawful for it to reject such claims.

11.9 Commissions and Fees

The Service Provider shall disclose any commissions or fees that may have been paid or are to be paid to agents, representatives, or commission agents concerning the selection process or execution and performance of this Contract. The information disclosed must include the name and address of the agent, representative, or commission agent, the amount and currency, and the purpose of the commission or fee in a format similar to Form 1.3 of the Tender Document.

12. Resolution of Disputes

12.1 Disputes and Excepted Matters

All disputes and differences between the parties hereto, as to the construction or operation of this Contract, or the respective rights and liabilities of the parties on any matter in question; or any other account whatsoever, but excluding the Excepted Matters (detailed below); arising out of or in connection with the contract, within thirty (30) days from aggrieved Party notifying the other Party of such matters; whether before or after the completion/ termination of the contract, that cannot be resolved amicably between the Contract Manager and the contractor, shall be hereinafter called the “Dispute”. The aggrieved party shall give a ‘Notice of Dispute’ indicating the Dispute and claims citing relevant Contractual clause to the designated authority requesting for invoking the following dispute resolution mechanism. The Dispute shall be resolved without recourse to courts through dispute resolution mechanisms detailed subsequently, in the sequence as mentioned below, and the next mechanism shall not be invoked unless the earlier mechanism has been invoked or has failed to resolve it within the deadline mentioned therein.

- 1) Adjudication
- 2) Conciliation

12.2 Excepted Matters

Matters for which provision has been made in any Clause of the contract shall be deemed as ‘excepted matters’ (matters not disputable/ arbitrable), and decisions of the Procuring Entity, thereon shall be final and binding on the contractor. The ‘excepted matters’ shall stand expressly excluded from the purview of the sub-clauses below. However, where the Procuring Entity has raised the dispute, this sub-clause shall not apply. Unless otherwise stipulated in the contract, excepted matters shall include but not limited to:

- 1) any controversies or claims brought by a third party for bodily injury, death, property damage or any indirect or consequential loss arising out of or in any way related to the performance of this Contract (“Third Party Claim”), including, but not limited to, a Party’s right to seek contribution or indemnity from the other Party in respect of a Third-Party Claim.
- 2) Issues related to the pre-award tender process or conditions

- 3) Issues related to ambiguity in Contract terms shall not be taken up after a Contract has been signed. All such issues should be highlighted before the signing of the contract by the contractor.
- 4) Provisions incorporated in the contract, which are beyond the purview of The Procurement Entity or are in pursuance of policies of Government, including but not limited to
 - a) Provisions of restrictions regarding local content and Purchase Preference to Local suppliers in terms of Make in India policy of the Government
 - b) Provisions regarding restrictions on Entities from Countries having land borders with India in terms of the Government's policies in this regard
 - c) Purchase preference policies regarding MSEs and Start-ups

12.3 Adjudication

After exhausting efforts to resolve the Dispute with the Contract Manager executing the contract on behalf of the Procuring Entity, the contractor shall give a 'Notice of Adjudication' specifying the matters which are in question, or subject of the dispute or difference indicating the relevant contractual clause, as also the amount of claim item-wise to Procurement or any other authority mentioned in the contract (hereinafter called the "Adjudicator") for invoking resolution of the dispute through Adjudication. During his adjudication, the Adjudicator shall give adequate opportunity to the contractor to present his case. Within 60 days after receiving the representation, the Adjudicator shall make and notify decisions in writing on all matters referred to him. The parties shall not initiate, during the adjudication proceedings, any conciliation or arbitral or judicial proceedings in respect of a dispute that is the subject matter of the adjudication proceedings. If not satisfied by the decision in adjudication, or if the adjudicator fails to notify his decision within the abovementioned time-frame, the contractor may proceed to invoke the process of Conciliation as follows.

12.4 Conciliation of disputes

- 1) Any party may invoke Conciliation by submitting "Notice of Conciliation" to the Head of the Procuring Organisation. Since conciliation is a voluntary process, within 30 days of receipt of "Notice of Conciliation", the Head of the Procuring Organisation shall notify a sole Conciliator if the other party is agreeable to enter Conciliation.
- 2) The Conciliator shall proactively assist the parties to reach an amicable settlement independently and impartially within the terms of Contract, within 60 days from the date of appointment of Conciliator.
- 3) If the parties reach an agreement on a dispute settlement, they shall draw up a written settlement agreement duly signed by the parties and conciliator. When the parties sign the settlement agreement, it shall be final and binding on the parties. The dispute shall be treated as resolved on the date of such agreement.
- 4) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.
- 5) Termination of Conciliation: Disputes shall remain alive if the conciliation is terminated as follows:
 - a) By written declaration of the conciliator, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of such declaration; or

- b) By a written declaration of any party to the conciliator to the effect that the conciliation proceedings are terminated, on the date of such declaration; or
- c) If the parties fail to reach an agreement on a settlement of the dispute, within 60 days of the appointment of Conciliator

13.Defaults, Breaches, Termination, and closure of Contract

13.1 Termination due to Breach, Default, and Insolvency

13.1.1 Defaults and Breach of Contract

In case the contractor undergoes insolvency or receivership; neglects or defaults, or expresses inability or disinclination to honour his obligations relating to the performance of the contract or ethical standards or any other obligation that substantively affects the Procuring Entity's rights and benefits under the contract, it shall be treated as a breach of Contract. Such defaults could include inter-alia:

- 1) Default in Performance and Obligations:** if the contractor fails to deliver any or all of the Services or fails to perform any other contractual obligations (including Code of Integrity or obligation to maintain eligibility and Qualifications based on which contract was awarded) within the period stipulated in the contract or within any extension thereof granted by the Procuring Entity.
- 2) Insolvency:** If the contractor being an individual or if a firm, any partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order or order for the administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or
- 3) Liquidation:** if the contractor is a company being wound up voluntarily, or by order of a Court or a Receiver, Liquidator or Manager on behalf of the Debenture-holders is appointed, or circumstances shall have arisen which entitle the Court or Debenture- holders to appoint a Receiver, Liquidator or Manager

13.1.2 Notice for Default:

As soon as a breach of contract is noticed, a show-cause 'Notice of Default' shall be issued to the contractor, giving two weeks' notice, reserving the right to invoke contractual remedies. After such a show-cause notice, all payments to the contractor would be temporarily withheld to safeguard needed recoveries that may become due on invoking contractual remedies.

13.1.3 Terminations for Default

- 1) Notice for Termination for Default:** In the event of unsatisfactory resolution of 'Notice of Default' within two weeks of its issue as per sub-clause above, the Procuring Entity, if so decided, shall by written Notice of Termination for Default sent to the contractor, terminate the contract in whole or in part, without compensation to the contractor.
- 2)** Such termination shall not prejudice or affect the rights and remedies, including under sub-clause below, which have accrued and/ or shall accrue to the Procuring Entity after that.
- 3)** Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.
- 4)** All Defect Liability obligations, if any, shall continue to survive despite the termination.

13.1.4 Contractual Remedies for Breaches/ Defaults or Termination for Default

If there is an unsatisfactory resolution within this period, the Procuring Entity shall take one; or more of the following contractual remedies.

- 1) Temporary withhold payments due to the contractor till recoveries due to invocation of other contractual remedies are complete.
- 2) Call back any loaned property or advances of payment, if any, with a levy of interest at the prevailing rate (MIBID - Mumbai Interbank Bid Rate).
- 3) Recover liquidated damages and invoke denial clause for delays.
- 4) Encash and/ or Forfeit performance or other contractual securities.
- 5) Prefer claims against insurances, if any.
- 6) Terminate Contract for default, fully or partially including its right for Risk-and-Cost Procurement as per following sub-clause.
- 7) **Risk and Cost Procurement:** In addition to termination for default, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Services similar to those terminated, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the contractor. Such Risk and Cost Procurement must be contracted within six months from the breach of Contract. The contractor shall be liable for any loss which the Procuring Entity may sustain on that account provided the procurement, or, if there is an agreement to procure, such agreement is made. The contractor shall not be entitled to any gain on such procurement, and the manner and method of such procurement shall be in the entire discretion of the Procuring Entity. It shall not be necessary for the Procuring Entity to notify the contractor of such procurement. It shall, however, be at the discretion of the Procuring Entity to collect or not the security deposit from the firm/ firms on whom the contract is placed at the risk and cost of the defaulted firm.

Note: Regarding the Services that are not readily available in the market and where procurement difficulties are experienced, the period for making risk procurement shall be nine months instead of six months provided above.

- 8) Initiate proceedings in a court of law for the transgression of a law, tort, and loss, not addressable by the above means.

13.1.5 Limitation of Liability

Except in cases of criminal negligence or wilful misconduct, the aggregate liability of the contractor to the Procuring Entity, whether under the contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the contractor to indemnify the Procuring Entity concerning IPR infringement.

13.2 Termination for Default/ Convenience of Procuring Entity and Frustration

13.2.1 Notice for Determination of Contract

- 1) The Procuring Entity reserves the right to terminate the contract, in whole or in part for its (the Procuring Entity's) convenience or frustration of Contract as per sub-clause below, by serving written 'Notice for Determination of Contract' on the contractor at any time during the currency of the contract. The notice shall specify that the termination is for the

convenience of the Procuring Entity or the frustration of the contract. The notice shall also indicate inter-alia, the extent to which the contractor's performance under the contract is terminated, and the date with effect from which such termination shall become effective.

- 2) Such termination shall not prejudice or affect the rights and remedies accrued and/ or shall accrue after that to the Parties.
- 3) Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.
- 4) All Defect Liability obligations, if any, shall continue to survive despite the termination.
- 5) The Services and incidental goods/ works that can be delivered or performed within thirty days after the contractor's receipt of the notice of termination shall be accepted by the Procuring Entity as per the contract terms. For the remaining Services and incidental goods/ works, the Procuring Entity may decide:
 - a) To get any portion of the balance completed and delivered at the contract terms, conditions, and prices; and/ or
 - b) To cancel the remaining portion of the Services and incidental goods/ works and compensate the contractor by paying an agreed amount for the cost incurred by the contractor, if any, towards the remaining portion of the Services and incidental goods/ works.

13.2.2 Frustration of Contract

- 1) **Notice of Frustration Event:** Upon a supervening cause occurring after the effective date of the contract, including a change in law, beyond the control of either party whether as a result of the Force Majeure clause or within the scope of section 56 of the Indian Contract Act, 1872, that makes it impossible to perform the contract within a reasonable timeframe, the affected party shall give a 'Notice of Frustration Event' to the other party giving justification. The parties shall use reasonable efforts to agree to amend the contract, as may be necessary to complete its performance. However, if the parties cannot reach a mutual agreement within 60 days of the initial notice, the Procuring Entity shall issue a 'Notice for Determining the contract' and terminate the contract due to its frustration as in the sub-clause above.
- 2) However, the following shall not be considered as such a supervening cause
 - a) Lack of commercial feasibility or viability or profitability or availability of funds
 - b) if caused by either party's breach of its obligations under this Contract or failure to act in good faith or use commercially reasonable due diligence to prevent such an event.

13.3 Closure of Contract

The contract shall stand closed upon

- 1) successful performance of all obligations by both parties, including completion of Defect Liability obligations and final payment.
- 2) termination and settlements after that, if any, as per clause 13.1 or 13.2 above.

14. Code of Integrity in Public Procurement; Misdemeanours and Penalties

14.1 Code of Integrity

Procuring authorities as well as bidders, suppliers, contractors, and consultants - should observe the highest standard of ethics and should not indulge in following prohibited practices, either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts:

- 1) **“Corrupt practice”** - making offer, solicitation or acceptance of a bribe, reward or gift or any material benefit, in exchange for an unfair advantage in the Tender Process or to otherwise influence the Tender Process;
- 2) **“Fraudulent practice”** - any omission or misrepresentation that may mislead or attempt to mislead so that financial or other benefits may be obtained or an obligation avoided. Such practices include a false declaration or false information, for participation in a tender process or to secure a Contract, or in the execution of the contract;
- 3) **“Anti-competitive practice”** - any collusion, bid-rigging or anti-competitive arrangement, or any other practice coming under the purview of the Competition Act, 2002, between two or more bidders, with or without the knowledge of the Procuring Entity, that may impair the transparency, fairness, and the progress of the Tender Process or to establish bid prices at artificial, non-competitive levels;
- 4) **“Coercive practice”** - harming or threatening to harm persons or their property to influence their participation in the Tender Process or affect the execution of a contract;
- 5) **“Conflict of interest”** –participation by a bidding firm or any of its affiliates who are either involved in the Consultancy Contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if their personnel have a relationship or financial or business transactions with any official of procuring entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) bidder from the Procuring Entity with an intent to gain unfair advantage in the Tender Process or for personal gain;
- 6) **“Obstructive practice”** - materially impede procuring entity’s investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/ or by coercive practices mentioned above, to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the Procuring Entity’s rights of audit or access to information;

14.2 Obligations for Proactive Disclosures:

- 1) Procuring authorities, bidders, suppliers, contractors, and consultants are obliged under this Code of Integrity to *suo-moto* proactively declare any conflict of interest (coming under the definition mentioned above - pre-existing or as and as soon as these arise at any stage) in any Tender Process or execution of the contract. Failure to do so shall amount to a violation of this code of integrity.
 - 2) Any bidder must declare, whether asked or not in a bid-document, any previous transgressions of such code of integrity during the last three years or of being under any category of debarment by the Central Government or by the Ministry/ Department of the Procuring Organisation from participation in Tender Processes. Failure to do so shall amount to a violation of this code of integrity.

14.3 Misdemeanours

The following shall be considered misdemeanours - if a bidder/ contractor either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts:

- 1) violates the code of Integrity mentioned in GCC-clause 14.1 or the Integrity Pact (if included in the Tender/ Contract);
- 2) has been convicted of an offence:
 - a) under the Prevention of Corruption Act, 1988; or
 - b) the Indian Penal Code or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of the execution of a public procurement contract.
- 3) It is determined by the Government of India to have doubtful loyalty to the country or national security consideration.
- 4) Employs a government servant, who has been dismissed or removed on account of corruption or employs a non-official convicted for an offence involving corruption or abetment of such an offence, in a position where he could corrupt government servants or employs a government officer within one year of his retirement, who has had business dealings with him in an official capacity before retirement; or

14.4 Penalties for Misdemeanours

Without prejudice to and in addition to the rights of the Procuring Entity to other remedies as per the Tender-documents or the contract, If the Procuring Entity concludes that a (prospective) bidder/ contractor directly or through an agent has violated this code of integrity or committed a misdemeanour in competing for the tender or in executing a contract, the Procuring Entity shall be entitled. It shall be lawful on his part to take appropriate measures, including the following:

14.4.1 if his bids are under consideration in any procurement

- 1) Enforcement of Bid Securing Declaration in lieu of forfeiture or encashment of Bid Security.
- 2) calling off of any pre-contract negotiations, and;
- 3) rejection and exclusion of Bidder from the Tender Process

14.4.2 if a contract has already been awarded

- 1) Termination of Contract for Default and availing all remedies prescribed thereunder;
- 2) Encashment and/ or Forfeiture of any contractual security or bond relating to the procurement;
- 3) Recovery of payments including advance payments, if any, made by the Procuring Entity along with interest thereon at the prevailing rate (MIBID - Mumbai Interbank Bid Rate);

14.4.3 Remedies in addition to the above:

In addition to the above penalties, the Procuring Entity shall be entitled, and it shall be lawful on his part to:

- 1) File information against Bidder or any of its successors, with the Competition Commission of India for further processing, in case of anti-competitive practices;
- 2) Initiate proceedings in a court of law against Bidder or any of its successors, under the Prevention of Corruption Act, 1988 or the Indian Penal Code or any other law for transgression not addressable by other remedies listed in this sub-clause.
- 3) Remove Bidder or any of its successors from the list of registered suppliers for a period not exceeding two years. Suppliers removed from the list of registered vendors or their related entities may be allowed to apply afresh for registration after the expiry of the period of removal.

- 4) Initiation of suitable disciplinary or criminal proceedings against any individual or staff found responsible.
- 5) Debar a bidder/ contractor from participation in future procurements as follows:
 - a) A Ministry/ Department may debar a bidder or any of its successors from participating in any Tender Process undertaken by all its procuring entities for a period not exceeding two years commencing from the date of debarment for misdemeanours listed in sub-clause GCC 14.3 -1) above. The Ministry/Department shall maintain such a list which shall also be displayed on their website.
 - b) Central Government may debar a bidder or any of its successors from participating in any Tender Process undertaken by all its procuring entities for a period not exceeding three years commencing from the date of debarment for misdemeanours listed in sub-clause GCC 14.3 - 2) or3) above. Central Public Procurement Portal (CPPP) shall publish a list of such centrally debarred bidders.

Section V: Special Conditions of Contract (SCC)

Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 9.2)

{Note for Procuring Entity: Text in grey italics font within square bracket [e.g., Mention ...] are just suggestions/ directions and must be replaced by applicable text - remove brackets and convert the font to regular and black. Delete the rows not required. Clauses other than those mentioned below may also be mentioned, if these need to be changed}

Note for Bidders: Following Special Conditions of Contract (SCC) shall apply for this procurement. These Special Conditions shall modify/ substitute/ supplement the corresponding (GCC) clauses as indicated below. Whenever there is any conflict between the provision in the GCC and that in the SCC, the provision contained in the SCC shall prevail.

GCC Clause No.	Topic	To be Read as
GCC 1, 2, 3 and 4: General, The Contract, Governing Laws and Jurisdiction, Communications		
1.1, 1.3, 1.4	General	Additional Abbreviations are mentioned in the Contract as and where needed.
1.2	Procuring Entity	The Contract will be signed by The Additional Surveyor Generals of the Zones of SOI on behalf of Surveyor General of India. The responsibility for contract implementation and associated payments will lie with the Directors of Sol's Geospatial Directorates (GDs) in respect of ULBs/Towns/cities etc. falling in their states from various packages.
1.2 (9)	Contract Manager	The Contract will be implemented by concerned Geospatial Directors and monitoring will be done by their respective Addl. Surveyor General at Zone level through Zonal PMU and at Organizational level through National PMU headed by Surveyor General of India.
2.1	Language of Contract	English
3.1	Governing Laws and jurisdiction	Additionally, the bidder will be fully responsible for compliances of all provisions as per "Geospatial Guidelines for acquiring and producing Geospatial Data" , "National Geo-Spatial Policy-2022 " , "Drone Rules 2021" and relevant rules/guidelines pertaining to Aerial Work by Aircrafts

4.1, 4.3	Communications and notices	No additional communication requirements apart from GCC
4.2	Persons Signing Communications	No deviation from GCC
GCC 5 and 6: Contractor's and Procuring Entity's Obligations		
5.7.	Confidentiality and Secrecy of information	<p>1) Security instructions(including but not limited to) for compliance by bidder:</p> <ul style="list-style-type: none"> i. The bidder will submit a comprehensive flying plan and schedule with details including ATC clearance, MHA permissions, fortnightly flight schedule, applicable stage approval etc. ii. Aerial data- acquisition/ photography/ survey is to be strictly confined to the project area. iii. The nearest ATC should be intimated as per DGCA guidelines. iv. In case any foreign expert is involved in the execution, the bidder shall be responsible to ensure that necessary clearances/permissions from MHA/MEA (as applicable) are obtained for carrying out the work with foreign expert. v. Bidder will be fully responsible to ensure security compliances stipulated in project design document covering Production centre, field activities, all records, data storage & archival of all kinds. Adequate measures for physical security, data security, network security, cyber security, etc. should be in place on 24 X 7 basis by the bidder. vi. The bidder will be responsible to ensure that authorized expert/other personnel only are provided access to the data for various activities. Procuring entity reserves the right to inspect/check the bidders facilities, personnel identities of the personnel, infrastructure deployed for execution etc. during the execution of the project for validating the compliances vii. Work should only be executed inside Production Centre.
5.8	Performance Bond/ Security	3% of the Contract Price. Bank Guarantee in Favour of Establishment & Accounts Officer of respective Geospatial Directorates who will sign the contract.

		The Performance Security shall be valid for a period 2 months beyond the defect liability period.
5.13	Book Examination Clause	GCC Clause 5.13 Book Examination clause will be applicable
6.1, 6.2, 6.3	Facilities, Utilities to be provided by Procuring Entity	Following data will be provided as received from the State Urban Authority to the Service Provider after award of Contract: I. Area of Interest (AOI) in kml/ kmz/shape. II. Revenue Maps of the area (if available).
GCC 7 and 8: Scope of Services, Performance Standards and Quality Assurance		
7.2 and 7.3	Performance Standards, Quality Assurance	Following may be ready along with GCC 7.3.1 The Procuring Entity shall promptly (within 15 working days from the receipt of the services) notify the contractor of any identified defects, requesting the correction of the notified defect within a reasonable time.
7.4	Eligible Services	No deviation from GCC
7.5	Quantity Tolerance	No deviation from GCC
7.6	Contract Period and Option Clause	Contract Period will be 6months extendable twice by 3 months at a time.
8.3.1	The threshold for maximum variation	100% increase of services as per tendered quantity is permissible without any change in the unit prices. In case a contractor (X) fails to carry out services in the package allotted to X, the services can be asked to be executed by contractor (Y) of any other package whose performance is found satisfactory. While allotting additional quantity of work from contractor X to contractor Y, it shall be ensured that the additional allotment does not exceed 100% of the quantity originally allotted to Y. The additional quantity awarded to Y should be at the same unit rate at which it was awarded to contractor X.
GCC 9: Deployment of Resources		
9.2	Labour Codes and related Obligations	No deviation from GCC
GCC 10: Delivery of Services and Delays		

10.1	Works Programme	The Contract Manager will approve, with or without amendment in the Works Programme submitted by the Contractor within 7 working days from the date of receipt of the Works Programme from Contractor.		
10.5.2	Damages for Shortfall in Performance	S.No	Description	Penalty
		3	In case Service provider fails to rectify defect within 21 days of defect notification by employer or its representative	From 22th day onward, @0.5 % per day of the total work order value till 30th and Beyond30th day, cancellation of the work order with forfeiture of performance bank guarantee.
		4	If Service provider or any of his employee is found disclosing any confidential information/ document to any third parties without prior approval of Employer	Cancellation of the contract with forfeiture of PBG along with recovery of losses caused (if any) and legal action against the Service Provider depending on the gravity of the act
10.5.3	Liquidated Damages	S.No	Description	Penalty
		1	In case Service provider fails to acquire data on date mentioned in the workorder, due to any reasons solely attributable to service provider including no turn up of service provider's deployed	Up to 8 weeks, @1.25 %per week of the total work order value for each week delayed and Beyond that, cancellation of the work order with forfeiture of performance bank guarantee.
		2	In case Service provider fails to supply final deliverables on date of delivery mentioned in the work order.	Up to 8 weeks, @1.25%per week of the total work order value for each week delayed and Beyond that, cancellation of the work order with forfeiture of performance bank guarantee.
		Note: In case a delay that occurred at the time of achieving one milestone is covered while achieving the subsequent or previous milestones, liquidated damages levied earlier will be returned/adjusted in subsequent payment stages.		

10.3	Commencement of Services	15 days from the date Contract has been signed by the Procuring Entity								
GCC 11: Prices and Payments										
11.1.2	Price Variation Clause	Not Applicable								
11.3	Terms and Mode of Payment	Payment stages will be applicable as per the completion of the work mile stones and acceptance of the final deliverables by the procuring entity. The Work Milestones as well as payment stages are with respect to the contract for each package. Work mile stones are given under:								
		<table border="1"> <thead> <tr> <th>Milestones</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1st Work Milestone: Project Planning and Mobilization</td> <td>Submission of Works Programme on 1st day of Commencement of the Services.</td> </tr> <tr> <td>2nd Work Milestone: Data Acquisition and Processing</td> <td> 1. TECHNOLOGY-1: Delivery of final ORI and DEM/DSM /DTM along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-1 in a Package within 02 months of the achievement of the 1st Work milestone. 2. TECHNOLOGY-2: Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-2 in a Package within 02 months of the achievement of the 1st Work milestone. 3. TECHNOLOGY-3: Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-3 in a Package within 02 months of the achievement of the 1st Work milestone. </td> </tr> <tr> <td>3rd Work Milestone:</td> <td>1. TECHNOLOGY-1: Delivery of final 2D (using a.</td> </tr> </tbody> </table>	Milestones	Description	1st Work Milestone: Project Planning and Mobilization	Submission of Works Programme on 1 st day of Commencement of the Services.	2nd Work Milestone: Data Acquisition and Processing	1. TECHNOLOGY-1: Delivery of final ORI and DEM/DSM /DTM along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-1 in a Package within 02 months of the achievement of the 1st Work milestone. 2. TECHNOLOGY-2: Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-2 in a Package within 02 months of the achievement of the 1st Work milestone. 3. TECHNOLOGY-3: Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-3 in a Package within 02 months of the achievement of the 1st Work milestone.	3rd Work Milestone:	1. TECHNOLOGY-1: Delivery of final 2D (using a.
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3rd Work Milestone:	1. TECHNOLOGY-1: Delivery of final 2D (using a.									

		<p>Feature extraction to generate GIS layers.</p>	<p>ORI and b. digital stereo images) Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 2Dproperty layer (using a. ORI and b. digital stereo images) based on topographical markers in soft copy on a SOI defined schema along with QCRs for entire area of TECHNOLOGY-1 in a Package within 03 months of the achievement of the 2nd Work milestone.</p> <p>2. TECHNOLOGY-2: Delivery of final 3D Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 3D property layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in soft copy on a SOI defined schema along with QCRs for entire area of TECHNOLOGY-2 in a Package within 03 months of the achievement of the 2nd Work milestone.</p> <p>3. TECHNOLOGY-3: Delivery of final 3D Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 3D property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in soft copy on a SOI defined schema along with QCRs for entire area of TECHNOLOGY-3 in a Package within 03 months of the achievement of the 2nd Work milestone.</p>
		<p>4thWork Milestone:</p>	<p>For all TECHNOLOGIES in a package, contractor must</p>

		<p>Reporting, Documentati on, and Final Acceptance</p>	<p>submit/ perform following within 1 month after completion of 3rd milestone.</p> <ol style="list-style-type: none"> 1. Final Project Report: Comprehensive report summarizing the project activities, outcomes, and final deliverables. Includes all data, models, and QA/QC documentation, 2. Data Handover : Secure handover of all final deliverables to the client, including data files, models, reports, and any associated documentation, 3. Client Training and Support: Providing training to client personnel on how to use and interpret the delivered data and models, and 4. Post-delivery support: <ol style="list-style-type: none"> a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be. b) The service provider should provide technical hand holding support to the State/ City ground truthing team. c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contact value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period. d) If the field survey is prolonged beyond the period of contract, payment of 5% of the
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			<p>contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.</p>
		<p>Payment Milestones: Payments for a particular package shall be made as following.</p> <ul style="list-style-type: none"> (i) Payment of 20 % of the contract value (including GST etc) as mobilization advance will be made on achieving the 1st work mile stone against unconditional bank guarantee from a nationalized bank. (ii) Payment of 60% of the contract value (including GST etc) will be made on achieving the 2nd work mile stone. Advance payment made at 1st Payment milestone will be fully adjusted while releasing payment at this stage.. (iii) Payment of 25% of the contract value (including GST etc) will be made on achieving the 3rd work mile stone. (iv) Payment of 10 % of the contract value (including GST etc) will be made on achieving the 4th work mile stone. (v) Remaining 5% of the contract value (including GST etc) will be made on final acceptance by the Contract Manager within 30 days from the delivery of 4th work milestone and only after the completion of field survey and draft map prepared before inviting objections within the contract period as detailed in the 4th Work Milestone, Point (4). If the final acceptance or otherwise is not given within 30 days, all the services will be deemed accepted. In case of any observation/ defect found during the final acceptance stage, contractor has to act as per the relevant clauses of the contract related to performance and defects. (vi) In addition to above payment stages bidder can also submit monthly bill for the work (town wise) completed in a month for which final deliverables have been accepted by the procuring entity. This payment term will only be applicable during 2nd and 3rd work milestones. (vii) Payment of Local Taxes such as GST will be against valid Invoice as per GST ACT & Rules and submission of GST 	

		<p>Registration Certificate along with declaration that GST Registration is valid and all liabilities towards GST have been discharged by the vendor. GST amount will be paid after 30 days of submission of valid Invoice and all required documents and declaration by vendor”.</p> <p>(viii) 100% increase of services as per tendered quantity is permissible to carry out work in allotted or other packages. In case the bidder completes only a portion of the work awarded, the payment for the work completed will be done on pro rata basis. However, payment will be only made when at least 50% of the allotted work gets completed.</p> <p>Note: Incentive payments may be made to the contractor on following conditions subject to final acceptance of the deliverables:</p> <table border="1"> <tr> <td>Submission of deliverables before 5 months after commencement of services</td> <td>2.5 % per week of the value of total work order, maximum upto 10%</td> </tr> </table>	Submission of deliverables before 5 months after commencement of services	2.5 % per week of the value of total work order, maximum upto 10%
Submission of deliverables before 5 months after commencement of services	2.5 % per week of the value of total work order, maximum upto 10%			
11.5	Payment to Contractors	Payment shall be made within 45 days of receipt of the invoice and the relevant documents and within 60 days in the case of the final payment.		
11.5.4 (1)	Advance payments	Payment of 20 % of the contract value (including GST etc) as mobilization advance will be made on achieving the 1 st work mile stone.		
11.6	Completion Certificate and Final Payment	Completion certificate will be issued by the procuring entity on submission of final deliverables for complete package and successful acceptance as per QA/QC norms.		
11.7	Defects Liability Period	<p>1) The contractor warrants that the Services have been delivered as per description, scope/ quantum, performance standards and quality outlined in the contract. This Defect Liability shall be in effect for a period of 3 years from completing the Services. The contract shall be deemed alive during this period, even if final payment and/ or Performance Guarantee has been released.</p> <p>2) During the Defects Liability Period, upon discovering any deficiencies in outputs/ outcomes attributable to a shortfall in scope/ quantum, performance standards and quality of the</p>		

		<p>performed Services, the Procuring Entity shall give written notice to the contractor.</p> <p>3) Upon receiving such notice, the contractor shall, within 21 days (or within any other period, if stipulated in the contract), expeditiously remedy or reperform the Services or parts thereof, free of cost, at the site.</p> <p>4) If the contractor, having been notified, fails to rectify/ replace the defect(s) within 21 days (or within any other period, if stipulated in the contract), it shall amount to breach of Contract, and the Procuring Entity shall proceed to take such remedial action(s) as deemed fit by it as detailed.</p>
GCC 12 Resolution of Disputes		
12.2	Excepted Matters	No deviation from GCC
12.5	Arbitration	DELETED
GCC 13 Defaults, Breaches, Termination and Closure of Contract		
13.1.4-7)	Risk and Cost Procurement	Applicable

Section VI: Schedule of Requirements

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for proposal for providing Services for Urban Revenue 2D/ 3D Mapping of Towns using Nadir, Multi Oblique angle (4 oblique + 1 Nadir) camera and/or LiDAR sensor on-board an Aerial Platform (Manned/ Unmanned)

(Ref ITB-clause 9.2)

Note for Bidders: Regarding this Schedule, Bidders must fill Form 2: 'Schedule of Requirements - Compliance' and Form 2.1: 'Services and Activities Schedule' with their Technical Bids.

Background of Services

1) Background of Procuring Organisation and Services and impact on Procuring Organisation's performance/ objectives;

Survey of India (Sol) is the National Survey and Mapping Organization of the country under the Department of Science & Technology is the OLDEST SCIENTIFIC DEPARTMENT OF THE GOVT OF INDIA. Sol is mandated to prepare, maintain and upkeep the geodetic reference framework and the topographical database of the country. Sol also undertakes high accuracy, high resolution Surveying and Mapping projects on various scales under National/State Programmes/schemes. The large scale mapping projects for the cadastral mapping are being executed for various stakeholders. In its assigned role as the nation's Principal Mapping Agency, Survey of India bears a special responsibility to ensure that the country's domain is explored and mapped suitably, provide base maps for expeditious and integrated development and ensure that all resources contribute with their full measure to the progress, prosperity and security of our country now and for generations to come.

Department of Land Resources, Ministry of Rural Development is in the process of formulating a National Scheme for Digitization of Urban Land Records with technical support of Survey of India (SOI) and other Ministries/Departments and States/UTs. This will involve large scale mapping including manned/unmanned survey, scanning and integration of existing property and land records, ground truthing, finalization of claims and objections and providing records of rights to the property owners.

One of the major components of urban planning is Land and Property Management Which requires very precise survey / resurvey and updation of the survey & settlement and Property records including ground control network and Cadastral revenue map overlaid on very High resolution Base Map & GIS ready Topographical Layers generated using hybrid method involving use of Professional Survey Grade manned/Unmanned Aerial Vehicle/ Drone for Large Scale Mapping and precise field measurements. Also, since ULBs have multi storied structure, narrow roads and streets, this calls for mapping the ULBs in 3D environment to accurately capture the ownership data and other categorization of property.

For the purpose SOI intends to outsource to surveying and mapping agencies for the work of large scale SURVEY AND MAPPING OF URBAN LAND RESOURCES AND DIGITIZATION OF URBAN LAND RECORDS using Nadir, oblique angle camera (5 cameras) and/or LiDAR Sensor for creation of 3D reality Model and creation of 2D/3D GIS dataset, generation of Ortho, DEM,

DSM, DTM etc and generation of 2D/3D GIS layers including property layer extracted based on topographical markers.

The output of this RFP will serve as an input to state urban authorities for further ground validation/truthing and generation of final urban land records.

2) Purpose and Service Outcomes Statement

This Non-Consulting Services outsourcing work involves identification, shortlisting and engagement of a qualified and capable agency for providing services for Urban Revenue 2D/3D Mapping of Towns using Nadir, Multi Oblique angle (4 oblique + 1 Nadir) camera and/or LiDAR sensor on-board an Aerial Platform (Manned/ Unmanned) for about 120 towns in different states of India. The 120 towns are divided Packages wise as detailed in the scope of works and deliverables defined in this RFE document.

The Non-Consulting Services are to be provided for generation and delivery of following:

- A. TECHNOLOGY-1:** Aerial (manned/ unmanned) Data Acquisition using Nadir Camera for generation of Ortho Rectified Imagery, Orthomosaic, DEM/DSM/DTM; and Generation of 2D GIS Dataset through feature extraction including all buildings and public utilities (using a. ORI and b. digital stereo images), etc to generate 2D Property layer based on topographical markers
- (i) Data acquisition at sufficient overlap in cross grid pattern.
 - (ii) Digital True Ortho-imagery (R, G, B) or ORI of 5cm GSD or better in .GEOTIFF format.
 - (iii) Digital Stereo Pair Images (R, G, B) of 5cm GSD or better in .GEOTIFF format.
 - (iv) Horizontal Accuracy of all output deliverables is to be 10cm RMSE or better.
 - (v) Horizontal Accuracy of Ground Control points is to be 2cm RMSE or better.
 - (vi) Projection & Datum-UTM & WGS-84.
 - (vii) Processed Digital Elevation data of 25cm vertical accuracy RMSE (for Indian vertical datum) **at regular spacing of 0.50 meter** – called DSM in GEOTIFF and ASCII format.
 - (viii) Processed Digital Elevation data (Bare Earth Model) of 25cm vertical accuracy RMSE (for Indian vertical datum) **at regular spacing of 0.5 meter** – called DTM in GEOTIFF and ASCII format.
 - (ix) Raw data captured by various sensors and instruments including camera calibration certificate, .CAM files etc.
 - (x) All Ground control points (GCPs) & Check Points (duly processed) provided/used for Data Acquisition & Processing with descriptions and sketches.
 - (xi) Processed Digital Surface Model (DSM).
 - (xii) All topographical 2D (using a. ORI and b. digital stereo images) vector layers including all buildings and public utilities, etc to generate 2D Property layer (using a. ORI and b. digital stereo images) based on topographical markers in shape file format as well as in open format for geospatial information such as geopackage etc.
 - (xiii) All soft copy deliverables and raw data will be delivered to the procuring entity in 2 nos of NAS boxes.
 - (xiv) All salient reports generated including Survey report, Flight Plans, Photo-index, Aerial Flying Reports, AT (Aerial Triangulation) report, Block file, QA/QC reports (QCRs), etc.

B. TECHNOLOGY-2: Aerial (manned/ unmanned) Data Acquisition using Oblique Angle (1 Nadir + 4 Oblique) Camera for generation of Orthorectified imagery (ORI), Orthomosaic, DEM/DSM/DTM, 3D textured model/ 3D realty Model; and Generation of 3D GIS Dataset through feature extraction including all buildings and public utilities, etc to generate 3D Property layer based on topographical markers.

- (i) Digital True Ortho-imagery (R,G,B) or ORI of 5cm GSD or better in .GEOTIFF format.
- (ii) Digital Stereo Pair Images (R,G,B) of 5cm GSD or better in .GEOTIFF format.
- (iii) Horizontal Accuracy of all output deliverables is to be 10cm RMSE or better.
- (iv) Horizontal Accuracy of Ground Control points is to be 2cm RMSE or better.
- (v) Projection & Datum - UTM & WGS-84.
- (vi) Processed Digital Elevation data of 25 cm vertical accuracy RMSE (for Indian vertical datum) at regular spacing of 0.5 meter– called DEM in GEOTIFF and ASCII format.
- (vii) Processed Digital Elevation data (Bare Earth Model) of 25 cm vertical accuracy RMSE (for Indian vertical datum) at regular spacing of 0.5metre– called DTM in GEOTIFF and ASCII format.
- (viii) Raw data captured by various sensors and instruments including camera calibration certificate, .CAM files etc.
- (ix) All Ground control points (GCPs) & Check Points (duly processed) provided/ used for Data Acquisition & Processing with descriptions and sketches.
- (x) Processed Digital Surface Model (DSM).
- (xi) City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D city mesh & 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers. This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer based on topographical markers in open file formats such as CityGML format etc.
- (xii) All softcopy deliverables and raw data will be delivered to the procuring entity in 2 nos of NAS boxes.
- (xiii) All salient reports generated including Survey report, Flight Plans, Photo-index, Aerial Flying Reports, AT (Aerial Triangulation) report, Block file, generation of 3D mesh model, QA/QC reports (QCRs), etc.

C. TECHNOLOGY-3: Aerial (manned/ unmanned) Data Acquisition using Oblique Angle (1 Nadir + 4 Oblique) Camera AND LiDAR sensor for generation of Orthorectified imagery (ORI), Orthomosaic, DEM/DSM/DTM, 3D textured model/ 3D realty Model; and Generation of 3D GIS Dataset through feature extraction including all buildings and public utilities, etc to generate 3D Property layer based on topographical markers.

- (i) Digital True Ortho-imagery (R, G, B) or ORI of 5cm GSD or better in .GEOTIFF format.
- (ii) Digital Stereo Pair Images (R, G, B) of 5cm GSD or better in .GEOTIFF format.
- (iii) Horizontal Accuracy of all output deliverables is to be 10cm RMSE or better.
- (iv) Horizontal Accuracy of Ground Control points is to be 2cm RMSE or better.

- (v) Projection & Datum-UTM & WGS-84.
- (vi) LiDAR Data Processed Digital Elevation data of 25 cm vertical accuracy RMSE (for Indian vertical datum) at regular spacing of 0.5 metre– called DEM in GEOTIFF and ASCII format.
- (vii) LiDAR data Processed Digital Elevation data (Bare Earth Model) of 25 cm vertical accuracy RMSE (for Indian vertical datum) at regular spacing of 0.5 metre– called DTM in GEOTIFF and ASCII format.
- (viii) Raw data captured by various sensors and instruments including camera calibration certificate, .CAM files etc.
- (ix) All Ground control points (GCPs) & Check Points (duly processed) provided/ used for Data Acquisition & Processing with descriptions and sketches.
- (x) Processed Digital Surface Model (DSM).
- (xi) City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D city mesh & 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers. This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer based on topographical markers in open file formats such as CityGML format etc.
- (xii) All softcopy deliverables and raw data will be delivered to the procuring entity in 2 nos of NAS boxes.
- (xiii) All salient reports generated including Survey report, Flight Plans, Photo-index, Aerial Flying Reports, AT (Aerial Triangulation) report, Block file, generation of 3D mesh model, QA/QC reports (QCRs), etc.

3) Short Description and Scope of Services:

Survey of India (Sol) is carrying out large scale mapping work for Urban Revenue 2D/ 3D Mapping of Towns using Nadir, Multi Oblique angle (4 oblique + 1 Nadir) camera and/or LiDAR sensor on-board an Aerial Platform (Manned/ Unmanned) and Sol intends to engage the qualified and capable agencies for the same for 120 towns (~3500 sqkm) area divided in packages. The work for a package for all purposes to be completed within 06 months' time as given under in this bid document. This high-resolution data acquisition work is very important and critical as per planned activities of Sol considering the strict project timelines and other associated future activities based on these output deliverables. Contract will be awarded for one or more packages

- Each PACKAGE corresponds to a particular Type of TECHNOLOGY for data acquisition and GIS feature extraction ie. **TECHNOLOGY-1, TECHNOLOGY-2 and TECHNOLOGY-3** as detailed in **Section VI/Para 2**
- Each PACKAGE contains specific number of Cities/Towns/Urban Local Bodies etc.

For details of Packages, Please refer Attachemnt-1 to TIS.

**Index to Lots, Incidence and extent of each Cities/Towns/Urban Local Bodies in a lot of a particular cluster/state will be provided as .KMZ/shape file by the procuring entity at time of execution.*

*** The area of Packages given here are approximate. The actual package wise area would be as per the area .shp file provide at time of execution. This aspect should be factored during bidding.*

A. TECHNOLOGY-1:

- (i) **Provision of Ground controls:** This shall include survey control planning, observations, computation, and pre-signaling as required for achieving the technical specifications of the final deliverables.
- (ii) **Clearances for flying:** The Service Provider is responsible to obtain necessary clearances from Director General of Civil Aviation and/ or other agencies of Government of India or concerned State Government as may be required to complete the job of flying over the Aol, for data acquisition etc. The client would provide necessary documentation; however, getting clearance would be the entirely the responsibility of the Service Provider. Scope of this activity shall include operational requirements for use of Aerial Vehicle confirming to DGCA guidelines in vogue and for Civil Remotely Piloted Aircraft System (RPAS) as per Drone Rules 2021, issued under Gazette Notification dated 25th August 2021 and also in obtaining Unique Identification Number (UIN).
- (iii) **Raw Data Acquisition & Pre-processing:** Acquisition of Raw Digital Data by Aerial Platform (manned/unmanned) using Nadir Camera for generating the Digital True Ortho-imagery of 5 cm GSD or better.
 - a. This shall also include Flight Planning, Sensor Calibration, Flight Execution as per plan, QA/QC for review of flight line alignment, raw data validation for completeness, no data voids, strip matching, pre-processing of onboard GNSS/IMU data for trajectory file and other pre- processing steps needed for point cloud extraction/preparing data for post-processing stage.
 - b. Scope of this activity shall also include performing responsibilities of Non-Scheduled Operator or certified drone pilot as the case may be for Aerial data acquisition work as required for performing the services. Valid Non- Scheduled Operator's Permit (NSOP) should be held by the firm (as single entity or JV/C), granted by the Ministry of Civil Aviation, Government of India under applicable rules for such Aerial data acquisition work.
 - c. The bidder shall ensure that other necessary clearances or regulatory compliances as applicable for such Aerial data acquisition work involving Aerial flying using manned unmanned aerial vehicle/aircraft are obtained from the appropriate agency or Ministry of the Government of India. The bidder shall also ensure that regulatory compliances as applicable for such Aerial data acquisition work including data processing & data handling as per "Guidelines for Acquiring & Producing Geo-spatial data and Geo-spatial data Services including Maps" by Department of Science & Technology, Government of India.
 - d. In case of gap areas, re-flying in gap areas, data processing and data validation is to be carried out.

(iv) **Post Processing for generation of Digital True Ortho-imagery (ORI), Digital Elevation Model (DEM), Digital Terrain Model (DTM) & Digital Surface Model (DSM):**This activity shall include:-

- a. Planning for the Aerial Triangulation (At), Bundle Block Adjustment and final data processing along with a photogrammetry processing report.
- b. Generation of Orthomosaics, DEM , DSM and DTM Creation

(v) **2D Feature Extraction (using a. ORI and b. digital stereo images) and GIS Integration**

Description: The bidder must extract relevant features from the processed data and integrate them into a 2D (using a. ORI and b. digital stereo images)GIS platform to create a features layers including a detailed property layer based on topographical markers.

Requirements:

- **Feature Extraction:** All buildings, utilities, roads, and other relevant infrastructure must be accurately extracted and attributed.
- **GIS Integration:** The extracted features must be integrated into a GIS database compatible with ArcGIS or other similar platforms including open source platforms.

Deliverables: 2D GIS layers (buildings, utilities, roads) including property layer based on topographical markers, and feature extraction report including topological checks performed (using a. ORI and b. digital stereo images).

(vi) **QA /QC at various stages** of Project as per technical specifications including validating horizontal and vertical accuracy of ORIs and DEMs. Proper versioning and management of data in various Production Cycles. QA/QC reports for data acquisition, processing, final deliverables, and Final validation report and acceptance testing results. This shall include carrying out corrections as per Quality Audit Report by Procuring entity.

(vii) **Data Delivery and Documentation:**

- a. Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP for GIS layers, etc.).
- b. Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata
- c. Final data package, processing and QA/QC reports, and project documentation.

(viii) **Training and Handover:**

- a. The bidder will provide training to the client's team (at least 50 officials from SOI/State Gov/DOLR etc) on how to use and interpret the delivered data and models, along with a formal handover of all project materials.
- b. Training materials, training session records, and handover documentation

(ix) **Post-Delivery Support:** The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including contact details and response times.

- a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case

may be.

b) The service provider should provide technical hand holding support to the State/ City ground truthing team.

c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contract value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.

d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.

(x) **Others:** Facilitating quality audit, stage approvals and final acceptance by Procuring entity.

B. TECHNOLOGY-2:

(i) **Provision of Ground controls:** This shall include survey control planning, observations, computation, and pre-signaling as required for achieving the technical specifications of the final deliverables.

(ii) **Clearances for flying:** The Service Provider is responsible to obtain necessary clearances from Director General of Civil Aviation, and/or other agencies of Government of India or concerned State Government as may be required to complete the job of flying over the Aol, for data acquisition etc. The client would provide necessary documentation; however, getting clearance would be the entirely the responsibility of the Service Provider. Scope of this activity shall include operational requirements for use of Aerial Vehicle confirming to DGCA guidelines in vogue and for Civil remotely Piloted Aircraft System (RPAS) as per Drone Rules 2021, issued under Gazette Notification dated 25th August 2021 and also in obtaining Unique Identification Number (UIN).

(iii) **Raw Data Acquisition & Pre-processing:** Acquisition of Raw Digital Data by Aerial Platform (manned/unmanned) using Oblique Angle (1 Nadir + 4 Oblique) camera for generating the Digital True Ortho-imagery of 5 cm GSD or better.

a. This shall also include Flight Planning, Sensor Calibration, Flight Execution as per plan, QA/QC for review of flight line alignment, raw data validation for completeness, no data voids, strip matching, pre-processing of onboard GNSS/IMU data for trajectory file and other pre- processing steps needed for point cloud extraction/preparing data for post-processing stage.

b. Scope of this activity shall also include performing responsibilities of Non-Scheduled Operator or certified drone pilot as the case may be for Aerial data acquisition work as required for performing the services. Valid Non-Scheduled Operator's Permit (NSOP) should be held by the firm (as single entity or JV/C) , granted by the Ministry of Civil Aviation, Government of India under applicable rules for such Aerial data acquisition work.

c. The bidder shall ensure that other necessary clearances or regulatory compliances as applicable for such Aerial data acquisition work involving Aerial flying using manned unmanned aerial vehicle/aircraft are obtained from the appropriate agency or Ministry of the Government of India. The bidder shall also ensure that regulatory compliances as applicable for such Aerial data acquisition work including data processing & data handling as per "Guidelines for Acquiring & Producing Geo-spatial data and Geo-spatial data Services

including Maps” by Department of Science & Technology, Government of India.

- d. In case of gap areas, re-flying in gap areas, data processing and data validation is to be carried out.

(iv) **Post Processing for generation of Digital True Ortho-imagery (ORI), Digital Elevation Model (DEM), Digital Terrain Model (DTM) & Digital Surface Model (DSM):**This activity shall include:-

- a. Planning for the Aerial Triangulation (At), Bundle Block Adjustment and final data processing along with a photogrammetry processing report.
- b. Generation of Orthomosaics, DEM, DSM and DTM Creation
- c. Generation of 3D mesh and reality model.

(v) **3D Feature Extraction and GIS Integration**

Description: City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers. This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer based on topographical markers in open file formats such as CityGML format etc.

Deliverables: 3D GIS Vector layers (buildings, utilities, roads) including property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities, and feature extraction report including topological and other checks performed.

- (vi) **QA /QC at various stages** of Project as per technical specifications including validating horizontal and vertical accuracy of ORIs, DEMs, 3D models. Proper versioning and management of data in various Production Cycles. QA/QC reports for data acquisition, processing, final deliverables, and Final validation report and acceptance testing results. This shall include carrying out corrections as per Quality Audit Report by Procuring entity.

(vii) **Data Delivery and Documentation:**

- a. Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP /cityGMLfor GIS layers, etc.).
- b. Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata
- c. Final data package, processing and QA/QC reports, and project documentation.

(viii) **Training and Handover:**

- a. The bidder will provide training to the client’s team (at least 50 officials from SOI/State Gov/DOLR etc) on how to use and interpret the delivered data and models, along with a formal handover of all project materials.

- b. Training materials, training session records, and handover documentation
 - (ix) **Post-Delivery Support:** The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including contact details and response times.
 - a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.
 - b) The service provider should provide technical hand holding support to the State/ City ground truthing team.
 - c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contract value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.
 - d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.
- (x) **Others:** Facilitating quality audit, stage approvals and final acceptance by Procuring entity.

C. TECHNOLOGY-3:

- (i) **Provision of Ground controls:** This shall include survey control planning, observations, computation, and pre-signaling as required for achieving the technical specifications of the final deliverables.
- (ii) **Clearances for flying:** The Service Provider is responsible to obtain necessary clearances from Director General of Civil Aviation and/or other agencies of Government of India or concerned State Government as may be required to complete the job of flying over the Aol, for data acquisition etc. The client would provide necessary documentation; however, getting clearance would be the entirely the responsibility of the Service Provider. Scope of this activity shall include operational requirements for use of Aerial Vehicle confirming to DGCA guidelines in vogue and for Civil Remotely Piloted Aircraft System (RPAS) as per Drone Rules 2021, issued under Gazette Notification dated 25th August 2021 and also in obtaining Unique Identification Number (UIN).
- (iii) **Raw Data Acquisition & Pre-processing:** Acquisition of Raw Digital Data by Aerial Platform (manned/unmanned) using Oblique Angle (1 Nadir + 4 Oblique) Camera and LiDAR Sensor for generating the Digital True Ortho-imagery of 5 cm GSD or better.
 - a. This shall also include Flight Planning, Sensor Calibration, Flight Execution as per plan, QA/QC for review of flight line alignment, raw data validation for completeness, no data voids, strip matching, pre-processing of onboard GNSS/IMU data for trajectory file and other pre- processing steps needed for point cloud extraction/preparing data for post-processing stage.
 - b. Scope of this activity shall also include performing responsibilities of Non-Scheduled Operator or certified drone pilot as the case may be for Aerial data acquisition work as required for performing the services. Valid Non-Scheduled Operator's Permit (NSOP) should be held by the firm (as single entity or JV/C) , granted by the Ministry of Civil Aviation, Government of India under applicable rules for such Aerial data acquisition work.
 - c. The bidder shall ensure that other necessary clearances or regulatory compliances as applicable for such Aerial data acquisition work involving

Aerial flying using manned unmanned aerial vehicle/aircraft are obtained from the appropriate agency or Ministry of the Government of India. The bidder shall also ensure that regulatory compliances as applicable for such Aerial data acquisition work including data processing & data handling as per "Guidelines for Acquiring & Producing Geo-spatial data and Geo-spatial data Services including Maps" by Department of Science & Technology, Government of India.

- d. In case of gap areas, re-flying in gap areas, data processing and data validation is to be carried out.

(iv) **Post Processing for generation of Digital True Ortho-imagery (ORI), Digital Elevation Model (DEM), Digital Terrain Model (DTM) & Digital Surface Model (DSM), 3D Mesh model and 3D reality Model:** This activity shall include:-

- a. Planning for the Aerial Triangulation (At), Bundle Block Adjustment and final data processing along with a photogrammetry processing report.
- b. Generation of Orthomosaics
- c. LiDAR data derived DEM, DSM and DTM Creation
- d. Generation of 3D mesh and reality model.

(v) **3D Feature Extraction and GIS Integration**

Description: City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers. This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer based on topographical markers in open file formats such as CityGML format etc.

Deliverables: 3D GIS Vector layers (buildings, utilities, roads) including property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities, and feature extraction report including topological and other checks performed.

(vi) **QA /QC at various stages** of Project as per technical specifications including validating horizontal and vertical accuracy of ORIs, DEMs and 3D models. Proper versioning and management of data in various Production Cycles. QA/QC reports for data acquisition, processing, final deliverables, and Final validation report and acceptance testing results. This shall include carrying out corrections as per Quality Audit Report by Procuring entity.

(vii) **Data Delivery and Documentation:**

- a. Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP /cityGML for GIS layers, etc.).

- b. Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata
 - c. Final data package, processing and QA/QC reports, and project documentation.
 - (viii) **Training and Handover:**
 - a. The bidder will provide training to the client’s team (at least 50 officials from SOI/State Gov/DOLR etc) on how to use and interpret the delivered data and models, along with a formal handover of all project materials.
 - b. Training materials, training session records, and handover documentation
 - (ix) **Post-Delivery Support:** The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including contact details and response times.
 - a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.
 - b) The service provider should provide technical hand holding support to the State/ City ground truthing team.
 - c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contract value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.
 - d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.
 - (x) **Others:** Facilitating quality audit, stage approvals and final acceptance by Procuring entity.
- 4) Contract Period:** 12 months (current scope of work to be delivered within 6 months. In case variation upto 100%, another 6 months will be timeline for delivery of additional scope of services.)
- 5) Form of BOQ/ Contract –Unit-Rate (Output admeasurement)**
- 6) Deliverables/ Outcomes and Timelines (frequency) thereof:**

Miles stone	Description
1st Work Milestone: Project Planning and Mobilization	Submission of Works Programme on 1 st day of Commencement of the Services.
2nd Work Milestone: Data Acquisition and Processing	1. TECHNOLOGY-1: Delivery of final ORI and DEM/DSM /DTM along with raw data, control/check point data and QCRs for entire area of a Package within 02 months of the achievement of the 1st Work milestone. 2. TECHNOLOGY-2: Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of a Package within 02 months of the achievement of the 1st Work milestone. 3. TECHNOLOGY-3: Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of a Package within 02 months of the achievement of the 1st Work milestone.

<p>3rd Work Milestone: Feature extraction to generate GIS layers.</p>	<p>1. TECHNOLOGY-1: Delivery of final 2D Feature Extraction and GIS layers (using a. ORI and b. digital stereo images) including buildings, public utilities, and other key feature and creation of a 2D topographical property layer based on topographical markers (using a. ORI and b. digital stereo images) in soft copy on a SOI defined Schema along with QCRs for entire area of a Package within 03 months of the achievement of the 2nd Work milestone.</p> <p>2. TECHNOLOGY-2: Delivery of final 3D Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 3D property layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in soft copy on a SOI defined schema along with QCRs for entire area of a Package within 03 months of the achievement of the 2nd Work milestone.</p> <p>3. TECHNOLOGY-3: Delivery of final 3D Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 3D property layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in soft copy on a SOI defined schema along with QCRs for entire area of a Package within 03 months of the achievement of the 2nd Work milestone.</p>
<p>4th Work Milestone: Reporting, Documentation, and Final Acceptance</p>	<p>For all packages, contractor must submit/ perform following within 1 month after completion of 3rd milestone.</p> <ol style="list-style-type: none"> 1. Final Project Report: Comprehensive report summarizing the project activities, outcomes, and final deliverables. Includes all data, models, and QA/QC documentation, 2. Data Handover: Secure handover of all final deliverables to the client, including data files, models, reports, and any associated documentation, 3. Client Training and Support: Providing training to client personnel on how to use and interpret the delivered data and models, and 4. Post-delivery support: Deliverables are Support plan, including contact details and response times. <ol style="list-style-type: none"> a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be. b) The service provider should provide technical hand holding support to the State/ City ground truthing team. c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contract value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period. d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.

7) Facilities and Utilities to be provided by the Employer to service provider at Site:

If needed, Bidder has to establish its own data processing & site office establishments at his own cost. Only space might be provided at SOI GDs, only if available. All other

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

necessary infrastructure and utilities will have to be arranged by the Contractor/Service Provider.

8) Institutional and organisational arrangement for Services

- a) Counterpart Contract Manager (or Contract management Team) of the Procuring Entity: Director of Geospatial Directorate under whose the concerned State (package) comes. The list of directorates and their area of responsibility can be accessed through <https://surveyofindia.gov.in>
- b) Chain of Command for reporting and monitoring: As per the Administrative setup of the geospatial directorate.
- c) Interim/ ultimate beneficiaries(s) of Services: DoLR, MoRD, State Urban Authorities and Survey of India.

9) Statutory and contractual obligations to be complied with by the contractor: as per the tender documents

10) Insurances: As incidental for All field activities.

Schedule VI-1: Services and Activities Schedule

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for proposal for providing Services for Urban Revenue 2D/ 3D Mapping of Towns using Nadir, Multi Oblique angle (4 oblique + 1 Nadir) camera and/or LiDAR sensor on-board an Aerial Platform (Manned/ Unmanned)

(Ref ITB-clause 9.2)

{Note for Procuring Entity: Add additional details notes regarding Services and Activities, which are more relevant here than in 'Background of Services' or which are not covered elsewhere Tender Documents}

Form of BOQ/ Contract		Unit-Rate(Output admeasurement)						
Services and Activities Schedule								
Contract Period		Contract Period will be 12 months.		Extendable by		extendable twice by 3 months at a time		
Tender Title		Request for proposal for providing Services for 2D/ 3D Mapping of urban areas using Nadir, Multi angle (4 oblique + 1 Nadir) camera and/or LiDAR sensor on-board an Aerial Platform (Manned/ Unmanned)		Tender Reference No		T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024		
Service Sr	Activity Sr	Description and Scope of Services; Outcomes, Deliverables, reports	Frequency/ Shifts, Timelines Milestones	Quantum	Units	Minimum Local Content (%)	Service Site/ State	GSTIN
1	2	3	4	5	6	7	8	9
PACKAGE	##	[Name of States (lot wise total area in sqkm) in cluster] or [name of state (lot wise total area in sq km)]						
Schedule	1	TECHNOLOGY-1: Aerial (manned/ unmanned) Data Acquisition using Nadir Camera for generation of Ortho Rectified Imagery, Orthomosaic, DEM/ DSM/DTM; and Generation of 2D and 3D dataset through 2D and Stereo Digitization including property boundary markers like compound wall, fence etc., buildings, public utilities and other urban features(using a. ORI and b. digital stereo images)						
Service 1.1		Data Acquisition and Processing: Delivery of final ORI and DEM/DSM /DTM along with raw data, control/check point data and QCRs for entire area in a Package						
	1.1.1	Provision of Ground controls including check points, Mission planning. Procuring necessary clearances for Operation of Aerial Vehicle including Drones as per DGCA and other extant Regulations of	2 months		Sq km			

		<p>Gol, Flying and Data Acquisition using onboard Nadir Camera in compliances with Requirements. Post Processing for generation of Orthomosaic, DEM, DSM, DTM and quality control of generated deliverables with all other associated works to these activities detailed in Section VI Schedule of Requirements and Section VII Performance Standards and Quality Assurance, Re-flying in Gap areas along with re-processing of the reflight data. Delivery of final ORI and DEM/DSM /DTM along with raw data, control/check point data and QCRs for entire area of subject Package</p>						
Service 1.2		2D and 3D Feature Extraction (using a. ORI and b. digital stereo images), extracting attributes as interpreted from ORI/Stereo model that are useful for preparing urban land records, property assessment and urban planning and integrating them in GIS.						
	1.2.1	<p>2D and stereo feature extraction from the processed data(using a. ORI and b. digital stereo images) and integrate them into a 2D GIS platform to create a features layers including a detailed property layer based on topographical markers.(using a. ORI and b. digital stereo images) Requirements: i. Feature Extraction: Property boundary markers like compound wall, fence etc., buildings, public utilities and other urban features must be accurately. ii. GIS Integration: Attributes as interpreted from ORI/Stereo model</p>	3 months		Sq km			

		<p>that are useful for preparing urban land records, property assessment and urban planning should be extracted and integrated into a GIS database compatible with ArcGIS or other similar platforms including open source platforms.</p> <p>Deliverables: 2D and 3D GIS layers (Property boundary markers like compound wall, fence etc., buildings, public utilities and other urban features).</p> <p>Delivery of final 2D Feature Extraction and GIS layers including buildings, public utilities, and other key feature (using a. ORI and b. digital stereo images) and 1:500 scale map in soft copy on a SOI defined schema along with feature extraction report including topological checks performed and Quality Control Records (QCRs) for entire area of subject Package</p>						
Service 1.3		Data Delivery and Documentation; Training and Handover; and Post Delivery Supports						
	1.3.1	<p>(i) Data Delivery and Documentation:</p> <p>a. Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP for GIS layers, etc.).</p> <p>b. Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures,</p>	1 month					

		<p>and metadata</p> <p>c. Final data package, processing and QA/QC reports, and project documentation</p> <p>(ii) Training and Handover:</p> <p>a. The bidder will provide training to the client’s team on how to use and interpret the delivered data and models, along with a formal handover of all project materials.</p> <p>b. Training materials, training session records, and handover documentation</p> <p>(iii) Post-Delivery Support: The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including contact details and response times.</p> <p>a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.</p> <p>b) The service provider should provide technical hand holding support to the State/ City ground truthing team.</p> <p>c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at</p>						
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		<p>final acceptance of the contract value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.</p> <p>d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.</p> <p>(iv) Others: Facilitating quality audit, stage approvals and final acceptance by Procuring entity.</p>						
Schedule	2	TECHNOLOGY-2: Aerial (manned/ unmanned) Data Acquisition using Oblique Angle (1 Nadir + 4 Oblique) Camera for generation of Orthorectified imagery (ORI), Orthomosaic, DEM/DSM/DTM, 3D textured model/ 3D reality Model; and Generation of 3D GIS Dataset through feature extraction including all buildings and public utilities, etc to generate 3D Property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities.						
Service 2.1		Data Acquisition and Processing: Delivery of final ORI and DEM/DSM /DTM and 3D Mesh and Reality Model along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-2 in the subject Package						
	2.1.1	Provision of Ground controls including check points, Mission planning. Procuring necessary clearances for Operation of Aerial Vehicle including Drones as per DGCA and other extant Regulations of Gol, Flying and Data Acquisition using onboard Oblique Camera (4 Oblique + 1 Nadir)in compliances with Requirements . Post Processing for generation of Orthomosaic, DEM, DSM, DTM and 3D Mesh and reality Model and quality	2 months		Sq km			

		control of generated deliverables with all other associated works to these activities detailed in Section VI Schedule of Requirements and Section VII Performance Standards and Quality Assurance, Re-flying in Gap areas along with re-processing of the reflow data Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of TECHNOLOGY-2 in subject Package						
Service 2.2		3D Feature Extraction and GIS Integration						
	2.2.1	Description: City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers. This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications.	3 months		Sq km			

		<p>All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in open file formats such as CityGML format etc.</p> <p>Deliverables: 3D GIS Vector layers (buildings, utilities, roads) including property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities , and feature extraction report including topological and other checks performed.</p> <p>Delivery of final 3D Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 3D property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in soft copy on a SOI defined schema along with QCRs for entire area of subject Package</p>						
Service 2.3		Data Delivery and Documentation; Training and Handover; and Post Delivery Supports						
	2.3.1	<p>(i) Data Delivery and Documentation:</p> <p>a. Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data,</p>	1 month					

		<p>.geoTIF for orthomosaics, .SHP/cityGML for GIS layers, etc.).</p> <p>b. Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata</p> <p>c. Final data package, processing and QA/QC reports, and project documentation</p> <p>(ii) Training and Handover:</p> <p>a. The bidder will provide training to the client’s team on how to use and interpret the delivered data and models, along with a formal handover of all project materials.</p> <p>b. Training materials, training session records, and handover documentation</p> <p>(iii) Post-Delivery Support: The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including contact details and response times.</p> <p>a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or</p>						
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		<p>both: as the case may be.</p> <p>b) The service provider should provide technical hand holding support to the State/ City ground truthing team.</p> <p>c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contact value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.</p> <p>d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.</p> <p>(iv) Others: Facilitating quality audit, stage approvals and final acceptance by Procuring entity.</p>						
Schedule	3	TECHNOLOGY-3: Aerial (manned/ unmanned) Data Acquisition using Oblique Angle (1 Nadir + 4 Oblique) Camera + LiDAR sensor for generation of Orthorectified imagery (ORI), Orthomosaic, DEM/DSM/DTM, 3D textured model/ 3D realty Model; and Generation of 3D GIS Dataset through feature extraction including all buildings and public utilities, etc to generate 3D Property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities .						
Service 3.1	Data Acquisition and Processing: Delivery of final ORI and DEM/DSM /DTM and 3D Mesh and Reality Model along with raw data, control/check point data and QCRs for entire area of subject Package							
	3.1.1	Provision of Ground controls including check points, Mission planning. Procuring necessary clearances for Operation of Aerial Vehicle including Drones as per DGCA and other extant Regulations of Gol, Flying and Data Acquisition using	2 months		Sq km			

		onboard Oblique Camera (4 Oblique + 1 Nadir) + LiDAR in compliances with Requirements. Post Processing for generation of Orthomosaic, DEM/DSM/DTM derived from LiDAR data, 3D City Model and quality control of generated deliverables with all other associated works to these activities detailed in Section VI Schedule of Requirements and Section VII Performance Standards and Quality Assurance, Re-flying in Gap areas along with re-processing of the reflight data Delivery of final ORI, DEM/DSM/DTM and 3D textured model/ 3D realty Model along with raw data, control/check point data and QCRs for entire area of subject Package						
Service 3.2		3D Feature Extraction and GIS Integration						
	3.2.1	Description: City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers. This shall apply to buildings and other structures such as Roads, Bridges,	3 months		Sq km			

		<p>Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in open file formats such as CityGML format etc.</p> <p>Deliverables: 3D GIS Vector layers (buildings, utilities, roads) including property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities , and feature extraction report including topological and other checks performed.</p> <p>Delivery of final 3D Feature Extraction and GIS layers including buildings, public utilities, and other key feature and creation of a 3D property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in soft copy on a SOI defined schema along with QCRs for entire area of subject Package</p>						
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Service 3.3		Data Delivery and Documentation; Training and Handover; and Post Delivery Supports						
	3.3.1	<p>(i) Data Delivery and Documentation:</p> <p>a. Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP/cityGML for GIS layers, etc.).</p> <p>b. Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata</p> <p>c. Final data package, processing and QA/QC reports, and project documentation</p> <p>(ii) Training and Handover:</p> <p>a. The bidder will provide training to the client's team on how to use and interpret the delivered data and models, along with a formal handover of all project materials.</p> <p>b. Training materials, training session records, and handover documentation</p> <p>(iii) Post-Delivery Support: The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including</p>	1 month					

		<p>contact details and response times.</p> <p>a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.</p> <p>b) The service provider should provide technical hand holding support to the State/ City ground truthing team.</p> <p>c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contact value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.</p> <p>d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.</p> <p>(iv) Others: Facilitating quality audit, stage approvals and final acceptance by Procuring entity.</p>						
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- 1) Required Timelines for Performance of Services:
- 2) Outcomes, Deliverables, reports, timelines, milestones etc.:
- 3) Scope of Services:
- 4) Description/ Scope of Service:
- 5) Frequency, Shifts, Quantum and Length/Duration of Activities:

Section VII: Performance Standards and Quality Assurance

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 9.2)

Note for Bidders: Regarding this Schedule and its sub-schedules, Bidders shall submit the following forms, as relevant for the form of BOQ/ Contract, or if asked:

- 1) Form 3: Performance Standards and Quality Assurance - Compliance
- 2) Form 3.1: Method Statement
- 3) Form 3.2: Work-Plan
- 4) Form 3.3: Personnel Deployment plan
- 5) Form 3.4: Equipment Deployment plan
- 6) Form 3.5: Materials Deployment Plan

Performance Standards and Quality Assurance

1. **Schedule-1: TECHNOLOGY-1: Aerial (manned/ unmanned) Data Acquisition using Nadir Camera for generation of Ortho Rectified Imagery, Orthomosaic, DEM/ DSM/DTM; and Generation of 2D GIS Dataset through feature extraction (using a. ORI and b. digital stereo images) including all buildings and public utilities, etc to generate 2D Property layer based on topographical markers (using a. ORI and b. digital stereo images).**

Service 1.1: **Data Acquisition and Processing:** Delivery of final ORI and DEM/DSM /DTM along with raw data, control/check point data and QCRs for entire area of a Package

Activity 1.1.1

- Provision of Ground controls including check points
 - Ground Control Points must be established and accurately surveyed across the project area to ensure the accuracy of the aerial data.
 - GCPs should be strategically placed and uniformly distributed throughout the project area.
 - Number of GCPs should be as per requirement and at least 5 Check points in each 10 sq km Area. Check points should be spatially well distributed in Area.
 - GCPs must be surveyed using high-precision GNSS equipment with an accuracy of ± 2 cm.
 - The accuracy of the ground control points (base stations & Check Points) will be checked by Network Adjustment Report/Post Processing Report submitted by service provider as deliverables. The Sol may process the GNSS data of 1 base station and Check Points provided in RINEX format for independent check.

- Should more than 5% of the GNSS data that are subjected to external QC fail to meet the specifications the service provider is expected to rectify these problems, and (where necessary to comply with the specification) make fresh GNSS observation at his own cost to achieve the required accuracy.
- GNSS data (Raw and Processed) for all I base station and Check Points to be provided in RINEX format (Receiver Independent Exchange Format).
- GNSS observation log sheets should include the following details:
 - Survey mark id
 - Occupation time & date
 - Antenna height measurements
 - Instrument /antenna types & serial numbers
- The GNSS observation log sheets and raw and processed data sheet should be provided in pdf format or Excel spreadsheet if data is captured digitally.
- For Control/calibration work of Survey, CORS stations and GCP stations established by the Survey of India can be used. However considering project extent, availability of SOI GCP/CORS stations, Flight plan and Sensor calibration requirements, Service provider is required to establish adequate number of Control points in BPA.
- Control Points shall be surveyed in clear, open areas (which typically produce only single LiDAR returns) devoid of vegetation and other vertical artifacts (such as boulders, large riser pipes, and vehicles).
- All control points will be audited by Buyer or its designated representative to ensure independent Quality Assurance (QA) of the survey operations. It is therefore essential that all Control points are physically marked in by any of the following manner
 - Sharply Chiselled Circle and dot mark on any durable, permanent and flat surface like sheetrock, concrete or stone pedestal etc.
 - Star iron picket, with or without concrete
 - Nail and metal plate embedded in permanent pavement or consolidated firm ground.
 - Ramset nail in concrete Or with other similar stable materials
- Control points markings should be made of corrosion resistant materials and placed in such a fashion that the long-term stability and safety of the marks are maximized. In urban areas with sandy soil, it is important to preserve the vertical stability of the mark so it is suggested that in such cases Control point shall be made by deep-seated marks that penetrate the surface soil to a depth that bypasses the zone of seasonal influence.
- The prime considerations when placing new Control point are:
 - The safety of the surveyor and public,
 - The vertical stability of the mark,
 - Clear of HT/LT lines, radio / mobile towers, high frequency dish antennas, radar etc.
 - Free from multipath problems associated with tall features in the vicinity.

- Free from foliage
 - Free from major obstructions / obstacles
 - Easily accessible to the survey team.
 - Open to sky with a clear view towards sky at 15-degree angle with horizontal plain.
- An indicator may be placed adjacent to the Control point, in form of engraving highlighted by oil paint in contrasting colour with engraved surface, or stamping on metal plate or through durable tags, where this will assist in re-locating the Control point and its survival. However, indicators or control point must not be placed where they may present a danger to the public (such as nail or picket on roads or footpaths).
 - Required accuracy of control points $RMSE_z \leq 0.05$ m (for Indian vertical datum) and $RMSE_r = (\sqrt{RMSE_x^2 + RMSE_y^2}) \leq 0.03$ m with respect to Survey of India CORS stations.
 - Every Control Point should have a corresponding ground photograph with the following requirements:
 - Photographs shall be captured at the time of the control point survey.
 - Photographs shall be taken from each of the cardinal points (North, South, East, and West).
 - GPS survey equipment shall be in view so that the surrounding environment is recorded with respect to the point location being collected.
 - Photos shall be taken during daylight hours.
 - Photographs shall be of sufficient spatial resolution to enable interpretation of terrain undulations and vegetative cover surrounding the Control Point for a minimum of 10 feet in all directions surrounding checkpoint.
 - All photographs shall be delivered
 - embedded in a single PDF document, preferably in the ground survey report, or
 - as individual images in sub-directories
 - All images shall be labelled with, or image file names shall include, the Control Point ID.
 - Service Provider is required to demonstrate Accuracy of deliverables using set of checkpoints provided by him. Control points used in the calibration process for data acquisition shall not be used as checkpoints.
 - Required accuracy of check points $RMSE_z \leq 0.1$ m (for Indian vertical datum) and $RMSE_r = (\sqrt{RMSE_x^2 + RMSE_y^2}) \leq 0.06$ m
 - In land covers other than forested and dense urban, the tested checkpoint should have no obstructions above 15 degrees over the horizon.
 - All tested locations will be photographed showing the position of the survey tripod and the ground condition of the surrounding area.

- Checkpoints to be used for DEM evaluation, should not be made on Roof top, Bridge, Culverts or any man made raised platform not part of general topography.
- Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph with the following requirements:
 - Photographs shall be captured at the time of the checkpoint survey.
 - Photographs shall be taken from each of the cardinal points (North, South, East, and West).
 - GPS survey equipment shall be in view so that the surrounding environment is recorded with respect to the point location being collected.
 - Photos shall be taken during daylight hours.
 - Photographs shall be of sufficient spatial resolution to enable interpretation of terrain undulations and vegetative cover surrounding the checkpoint for a minimum of 10 feet in all directions surrounding checkpoint.
 - All photographs shall be delivered
 - embedded in a single PDF document, preferably in the ground survey report, or
 - as individual images in sub-directories
 - All images shall be labeled with, or image file names shall include, the checkpoint ID.
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sol CORS Network, and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model.
- Procuring necessary clearances for Operation of Aerial Vehicle including Drones as per DGCA and other extant Regulations of Gol.
 - The Service Provider is responsible to obtain necessary clearances from Director General of Civil Aviation, and/or other agencies of Government of India or concerned State Government as may be required to complete the job of flying over the Aol, for data acquisition etc. The client would provide necessary documentation; however, getting clearance would be entirely the responsibility of the Service Provider. Scope of this activity shall include operational requirements for use of Aerial Vehicle confirming to DGCA guidelines in vogue and for Civil Remotely Piloted Aircraft System (RPAS) as per Drone Rules 2021, issued under Gazette Notification dated 25th August 2021 and also in obtaining Unique Identification Number (UIN).

- Bidders may propose drones, manned aircraft, or a combination of platforms, depending on the project area and regulatory requirements.
- Mission planning.
 - Bidders must design flight paths to optimize coverage and data quality while adhering to local aviation regulations and safety standards.
 - Sufficient overlap should be kept on both the sides.
- Flying and Data Acquisition onboard using Nadir Camera in compliance with Requirements.
 - The selected bidder shall use aerial platforms such as drones, helicopters, or fixed-wing aircraft equipped with a nadir camera to capture high-resolution imagery and point cloud data across the entire project area.
 - Cameras should capture imagery at a minimum resolution of 150 megapixels (20 MP in the case of UAV), with a field of view of at least 45 degrees and at least 5 cm ground sampling distance (GSD)] to ensure comprehensive coverage of vertical surfaces.
 - It is advisable to conduct the aerial survey in the leaf-off season and avoid monsoon/foggy/cloudy periods.
 - Such period with more cloud cover in the atmosphere and poor visibility shall be avoided for aerial.
 - Data capture shall be avoided in case of medium to heavy fog.
 - There shall not ideally be any clouds between the ground and the aerial platform during data capture. Clouds above the aerial platform will create shadows in the photographs. As a rule of thumb avoid photograph capture when
 - There is 30-40% cloud cover above the platform.
 - There are shadows on more than 5% of an image.
 - To minimize the shadow in the aerial photographs, the sun elevation angle shall be more than 30° at all times.
- Post Processing for generation of Orthomosaic, DEM, DSM, DTM and quality control of generated deliverables with all other associated works to these activities
 - The bidder will process the high-resolution imagery to create orthomosaics
 - File format .TIF for orthomosaics/ORIs, .TIFF for Nadir and or oblique images, .XML for metadata
 - Orthomosaics should be generated with a ground sampling distance (GSD) of 5 cm and should be georeferenced to the project coordinate system.
 - The orthomosaics should be divided into manageable tiles with a standardized naming convention.
 - For ORIs and orthomosaics, RMSE $x,y \leq 10$ cm and $z \leq 25$ cm
 - Visual inspection of the mosaic to check blurred imagery, improper colour balancing, colour bleeding and shadow details, edge mis- matches must be carried out. Orthorectified Images should be clear and sharp in detail with no light streaks, static marks, scratches, ice effects or other noticeable blemishes. The ORI should be free from defects, such as out-of-focus image/photo, and should not contain inconsistencies in tone and/or density. To ensure

consistency, the imagery should be radiometrically and geometrically corrected to enable adjacent files to be displayed simultaneously without obvious distinctions between them. The ORI should have no distortions and smearing and should be seamless edge-matched and of highest quality.

- Horizontal accuracy of the Ortho rectified image will be checked using GNSS coordinate of Check Points.
- Should more than 5% of the ORI that are subjected to external QC fail to meet the specifications laid down in Tender Document, all products will be returned to the service provider for further QA to identify the extent and cause of the problems so established. The service provider will be expected to rectify these problems, and (where necessary to comply with the specification) make new products at his own cost.
- Detailed metadata should include information on the flight parameters, camera settings, and processing steps
- The bidder is responsible for processing the raw imagery data to create detailed digital elevation models (DEMs): Digital Surface Models (DSMs) & digital terrain models (DTMs), and classified point clouds.
- DSMs and DTMs should be generated after DEM cleaning and editing with a resolution of 0.50m with vertical accuracy of 10 cm.
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sol CORS Network Network and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model. Where Geoid Model is available, SOI will provide the Geoid Model.
- File sizes of tiles cannot exceed 1 gigabyte, unless otherwise specified by the Sol. Each file must be organized to facilitate data manipulation and processing.

Service 1.2:2D Feature Extraction (using a. ORI and b. digital stereo images) and GIS Integration

Activity 1.2.1 2D feature extraction from the processed data (using a. ORI and b. digital stereo images) and integrate them into a GIS platform to create a features layers including a detailed property layer based on topographical markers.

- The bidder must extract relevant features from the processed data and integrate them into a GIS platform to create a features layers including a detailed property layer.
- Feature Extraction (using a. ORI and b. digital stereo images): All buildings, utilities, roads, and other relevant infrastructure must be accurately extracted and attributed.
- GIS Integration: The extracted features must be integrated into a GIS database compatible with ArcGIS or other similar platforms including open source platforms.

- Positional accuracy should be within ± 10 cm for GIS layers. File format .SHP, .GDB for GIS data, .KML for geospatial visualization
- Separate GIS layers for buildings, utilities, roads, and other key features should be provided. These layers should be delivered in .SHP, .GDB, or .KML format
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through SoI CORS Network Network and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model. Where Geoid Model is available, SOI will provide the Geoid Model.

Service 1.3: Data Delivery and Documentation; Training and Handover; and Post Delivery Supports

Activity 1.3.1 (i) Data Delivery and Documentation: The bidder must deliver all processed data, models, and reports in the specified formats, along with any necessary metadata and documentation.

1	Digital surface model	<ul style="list-style-type: none"> ● 0.5 m grid Digital Surface Model (DSM) on Orthometric Height (generated with adding SoI Geoid Model) ● Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value. ● 32-bit floating-point GeoTIFF raster format. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
2	Bare-Earth surface (Raster Digital Elevation Model)	<ul style="list-style-type: none"> ● 0.5 m grid bare earth Digital Elevation Model (DEM) on Orthometric Height (generated with adding SoI Geoid Model) ● Depressions (sinks), whether natural or man-made, are not to be filled (as in hydro-conditioning). ● Bridges shall be removed from the bare-earth surface. ● Road or other travel ways over culverts remain intact in the surface. ● Hydro-flattening shall be conducted for natural and man-made water bodies, and water courses. The requirements for hydro-flattening are as follows: <ul style="list-style-type: none"> ● Non-tidal water bodies which have a surface area greater than a 1000 m² shall be flattened. ● Water courses greater 10 m width shall be flattened. ● Flat and level water surface bank-to-bank, with a gradient downhill water surface, following the immediately surrounding terrain.

		<ul style="list-style-type: none"> • The entire water surface edge shall be at or immediately below the surrounding terrain. • Breaklines developed for use in hydro-flattening may also be used to support classification of the point data. Breakline used for generating hydro-flattened DEM shall be provided separately as a shape file. • Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value. • DEM tiles with no edge artifacts or mismatch. A quilted appearance in the overall DEM surface will be cause for rejection of the entire DEM deliverable, whether the variations are caused by differences in processing quality or character among tiles, swaths, lifts, or other artificial divisions. • 32-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below. • DEM shall be rigorously corrected for different categories of vegetation, different heights of built-up areas, etc.
3	Orthophotos	<ul style="list-style-type: none"> • Minimum 8 bit per band Radiometric Resolution in accordance with chosen image format • 0.05 m GSD • Each orthorectified photographs shall have georeferencing information with reference to the specified projection / mapping coordinate system, embedded in its header. • 16-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
Supporting Deliverables		
4	Metadata	<p>Metadata compliant to BIS Metadata standard shall be supplied for the followings:</p> <ul style="list-style-type: none"> • The overall project: An XML file describing the project boundary, the intent of the project, the types of data collected and the various deliverables. • Flightlines for a particular project covering the number of swaths, locations of GNSS/CORS base and control stations preprocessing, and calibration details. • An XML file for each of the tiled deliverables i.e., Classified point data, Bare-earth DEM, Breaklines, Orthophotos, DSM, Intensity Image;
5	Textual reports	<ul style="list-style-type: none"> • All data regarding the specifications of the sensors. • Documents regarding OEM calibration information certification and preventive maintenance schedule

		<ul style="list-style-type: none"> • Reports on flight planning and layout specifications • Reports on Control Point and Checkpoint distribution. • Reports on Survey for providing the Control Point and Checkpoint. • Report of the calibration survey and the documentation on points of calibration. • Report on Data Processing, Swath adjustment and Point classification. • Reports on the planimetric, Altimetric and relative accuracies of LiDAR point data. <ul style="list-style-type: none"> • Reports on the validation of ANPD. • Reports on the accuracy assessment of the bare earth surface. • Reports on the classification accuracy assessment for each of the classes. • Reports on the accuracy assessment of the Orthophoto.
6	Index (in Graphics and Vector file shp, GPKG or kml format)	<ul style="list-style-type: none"> • Locations of the GNSS / CORS stations. • The project extent shall be delivered as maps for each of the delivered datasets. The project extent area shall not include TIN artefacts, and raster NODATA areas. A minimum bounding rectangle of the surveyed area is not acceptable. • A map of all the tiles shall be provided. • A map of all the swaths of Photographic data showing footprint of each exposure shall be provided.
7	Trajectory information	<ul style="list-style-type: none"> • The POS-AV file captured by the Inertial Navigation System (INS), during the aerial survey, shall be delivered in Shape files. The shape file table's must include the date of capture, local start time, local end time and which reference station was used for each trajectory.
8	Smoothed best estimate of trajectory (SBET)	<ul style="list-style-type: none"> • The SBET file shall be supplied in the industry standard format. The contents of the file shall be also delivered in tab separated text file or a schema-based XML file having following informations <ul style="list-style-type: none"> ○ Time ○ Altitude ○ Latitude ○ Longitude ○ Roll ○ Pitch ○ Platform_Heading ○ Wander_Angle ○ X_vel ○ Y_vel ○ Z_vel ○ X_acceleration

		<ul style="list-style-type: none"> ○ Y_acceleration ○ Z_acceleration ○ X_angular_rate ○ Y_angular_rate ○ Z_angular_rate
9	Model key points	<ul style="list-style-type: none"> ● Model Key points (MKP) are a generalized subset of the classified ground points with the Model key point flag as true and represent the minimum number of points required to determine the shape of the ground. ● The subset of the ground points (classification label 2) shall be extracted using one of the industry standard methods in practice. The algorithm followed shall be listed in the data processing reports of the project. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
10	Breaklines	<ul style="list-style-type: none"> ● Delivery of all breaklines collected on or used in support of the work is required to be delivered. This includes breaklines used for bridge and saddle treatments and any additional breaklines required by Buyer or its designated representative. ● Breaklines representing all hydro-flattened features in a project, regardless of the method used for hydro-flattening, are required to be delivered. ● Streams and rivers, as defined in the hydro flattening section of this specification, shall contain a centerline with z-values corresponding to the hydro flattened surface. ● Breakline deliverables shall include or conform to the following procedures and specifications: ● Breaklines developed to the limit of the Buffered Project Area. ● Breaklines delivered in shapefile formats, as PolylineZ and PolygonZ feature classes, as appropriate to the type of feature represented. ● Breakline data shall be in the same CRS as the lidar data. ● Each breakline feature class shall have properly formatted, accurate, and complete georeferenced information stored in the format's standard file system location. ● All features shall be Z- and M-value enabled. ● Breaklines to be delivered as single file. ● File naming as per Data Supply Specifications below.
11	Basic aerial photos	<ul style="list-style-type: none"> ● Aerial photos as captured shall be supplied. Each photograph shall be accompanied with a file mentioning the following data: <ul style="list-style-type: none"> ○ Focal length of the camera ○ X, Y, Z (cartesian coordinates) in ECEF coordinate system of exposure station ○ Easting, Northing and Up (UTM/WGS84) of exposure station

		<ul style="list-style-type: none"> ○ Roll, Pitch and Heading ○ Velocities of the aerial platform in X, Y and Z directions ● File naming as per Data Supply Specifications below.
12	Control Points & Check Points	<ul style="list-style-type: none"> ● GPS data files for all occupation of Control Points & Check Points in excess of 15 min, are to be provided in RINEX V3.02 or later format (Receiver Independent Exchange Format). ● GPS observation log sheets should include the following details: <ul style="list-style-type: none"> ○ Survey mark id ○ Occupation time & date ○ Antenna height measurements ○ Instrument /antenna types & serial numbers ● The GPS observation log sheets should be provided in pdf format or Excel spreadsheet if data is captured digitally. ● Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph ● File naming as per Data Supply Specifications below.
13	Contours	<ul style="list-style-type: none"> ● 0.5 m Contour interval (on Orthometric Height) ● To be delivered in shapefile formats, as PolylineZ. ● Breakline data shall be in the same CRS as the lidar data. ● Each breakline feature class shall have properly formatted, accurate, and complete georeferenced information stored in the format's standard file system location. ● All features shall be Z- and M-value enabled, tagged with respective contour value. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
14	Vector Data	<ul style="list-style-type: none"> ● Vector data to be delivered in .shp
15	Final Map	<ul style="list-style-type: none"> ● Soft Copy Map as per template in GeoPDF

- Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP for GIS layers, etc.).
- Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata.
- Final validation of all deliverables must be conducted before submission to the client, including an acceptance test to confirm that all project requirements have been met.
- A delivery report describing the contents of the data supplied with every data delivery (interim, staged, final).

- Collection Report:
 - Data collection report detailing mission planning and flight logs will be submitted.
- Survey Report:
 - A survey report detailing the collection of all ground control including the following will be submitted:
 - base Ground Control points
 - Check points
- Post Processing Report:
 - Post Processing Report detailing GNSS data, Aerial image processing, generation of Project deliverables will be submitted.
- Feature Extract Report:
 - Feature Extraction of Stage 1 Map with feature table will be submitted.
- QA/QC Report:
 - A QA/QC report, detailing procedures for analysis, accuracy assessment and validation of the following will be submitted.
 - GNSS ground control Point data (Absolute vertical accuracy/relative vertical accuracy)
 - Aerial image processing,
 - ORI, DEM, 3D city Model, 3D GIS Data generation
 - Feature Extraction of Stage 1 Map
 - All reports are to be provided in Word (.doc/.docx) format, Excel spreadsheet (.xls/.xlsx) or appropriate digital format as approved by SOI.
 - The Sol may at its discretion can run the Schema Validation/Topology check program to check the feature extracted map in addition to onscreen examination.

(ii) QA/QC Plan development and Implementation: The bidder is responsible for developing and implementing a comprehensive QA/QC plan to ensure the accuracy and quality of the data and deliverables.

- QA/QC processes must be applied to all data acquisition, processing, and delivery stages. This includes verifying the accuracy of GCPs, validating ORI and DEMs.

- Final Digital True Ortho-images generated under the outsourcing work are required to be accurate, good quality and geometrically correct for the cadastral survey & measurements as per prescribed accuracy and specifications duly following all quality checks and measures at each and every stage/activity of the data generation process.
- The service provider should ensure that all industry standard quality checks as per the norms are carried out in generation of the ortho-images with utmost care and diligence.
- As part of accuracy assessment of the ORI, apart from check points-based checking, it is important to identify & measure the varying lengths in the ORI and these measurements are to be duly compared with their corresponding field measured lengths as part of the checking process. Two sets of measurements should match perfectly otherwise process of generation of ortho-image has to be re-run to achieve perfect matching.
- Service consumer will carry out quality checks at different stages for all Packages i.e. Ground Control Survey planning, observation, Aerial data capturing, Aerial triangulation, DEM/DSM generation, scenewise ORI checking, for seamlessness, tonal balancing, image quality.
- The responsibility of Quality assurance would include adoption of best practices, Latest ASPRS Standards for Aerial Photogrammetry work, Processes and sets of approaches leading to outcomes of quality specified in this Contract shall rest with the Service Provider.
- As part of Quality Assurance, the Service Provider shall submit quality control (or check) measures detailing clearly specified tasks that scrutinizes all, or a sample, of the items issuing during and/or at the end of various stages of processing in order to ensure that the final product is of satisfactory quality. The scrutiny involves review, inspection or quantitative measurement, against well-defined pass/fail criteria.
- The Service Provider shall systematically lodge Quality Control Records (QCRs) which may take various forms like Computer Generated Reports, Inspection notes, Stage Approvals etc. Service Provider shall ensure that every such QCR:
 - Marked with a date
 - Uniquely identifies the item, operation or product to which it relates
 - Identifies the operator who generated the QCR
 - Is counter signed by a supervisor or other independent inspector (for important records)
 - is stored in a well-defined and predictable location so that it can be found easily by others.
- The responsibility for maintaining necessary versions of data during the QA/QC cycle till its final acceptance by Service Consumer shall also rest with Service Provider.
- Service Consumer will carry out Quality Audit to ensure that the QA/QC measures, plan/methodology/arrangements etc. detailed by the Service provider in their Bid

are being properly followed. Service Consumer shall also audit to ensure that the QCRs are being properly maintained.

- The check-points will be well distributed across the dataset. However, checkpoints may be distributed more densely in the vicinity of important features and more sparsely in areas that are of little or no interest.
- Datasets failing the 'Acceptance Test' shall be returned to the Service Provider for rectification.
- The checkpoints will be selected preferably on flat terrain, or on uniformly sloping terrain. Whenever possible, terrain slope steeper than a 20 percent grade will not be selected because horizontal errors will unduly influence the vertical RMSE calculations. Furthermore, checkpoints will not be selected near severe breaks in slope, such as bridge abutments or edges of roads, where subsequent interpolation might be performed with inappropriate TIN or DEM points on the wrong sides of the break lines.
- The service consumer may provide additional check points for testing areas with doubtful accuracy at its discretion.

(ii) Training and Handover:

- The bidder will provide training to the client's team on how to use and interpret the delivered data and models, along with a formal handover of all project materials.
- Training materials, training session records, and handover documentation

(iii) Post-Delivery Support: The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models. Deliverables are Support plan, including contact details and response times.

a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.

b) The service provider should provide technical hand holding support to the State/ City ground truthing team.

c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contact value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.

d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.

(iv) Others: Facilitating quality audit, stage approvals and final acceptance by Procuring entity.

2. Schedule-2: Aerial (manned/ unmanned) Data Acquisition using Oblique Angle (1 Nadir + 4 Oblique) Camera for generation of Orthorectified imagery (ORI), Orthomosaic, DEM/DSM/DTM, 3D textured model/ 3D reality Model; and Generation of 3D GIS Dataset through feature extraction including all

buildings and public utilities, etc to generate 3D Topographical Property layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities.

Service 2.1: **Data Acquisition and Processing:** Delivery of final ORI and DEM/DSM /DTM and 3D Mesh and Reality Model along with raw data, control/check point data and QCRs for entire area of the subject Package

Activity 2.1.1

- Provision of Ground controls including check points
 - Ground Control Points must be established and accurately surveyed across the project area to ensure the accuracy of the aerial data.
 - GCPs should be strategically placed and uniformly distributed throughout the project area.
 - GCPs must be surveyed using high-precision GNSS equipment with an accuracy of ± 2 cm.
 - The accuracy of the ground control points (base stations & Check Points) will be checked by Network Adjustment Report/Post Processing Report submitted by service provider as deliverables. The Sol may process the GNSS data of 1 base station and Check Points provided in RINEX format for independent check.
 - Should more than 5% of the GNSS data that are subjected to external QC fail to meet the specifications the service provider is expected to rectify these problems, and (where necessary to comply with the specification) make fresh GNSS observation at his own cost to achieve the required accuracy.
 - GNSS data (Raw and Processed) for all 1 base station and Check Points to be provided in RINEX format (Receiver Independent Exchange Format).
 - GNSS observation log sheets should include the following details:
 - Survey mark id
 - Occupation time & date
 - Antenna height measurements
 - Instrument /antenna types & serial numbers
 - The GNSS observation log sheets and raw and processed data sheet should be provided in pdf format or Excel spreadsheet if data is captured digitally.
 - For Control/calibration work of Survey, CORS stations and GCP stations established by the Survey of India can be used. However considering project extent, availability of SOI CORS stations, Flight plan and Sensor calibration requirements, Service provider is required to establish adequate number of Control points in BPA.
 - Control Points shall be surveyed in clear, open areas (which typically produce only single lidar returns) devoid of vegetation and other vertical artifacts (such as boulders, large riser pipes, and vehicles).

- All control points will be audited by Buyer or its designated representative to ensure independent Quality Assurance (QA) of the survey operations. It is therefore essential that all Control points are physically marked in by any of the following manner
 - Sharply Chiselled Circle and dot mark on any durable, permanent and flat surface like sheetrock, concrete or stone pedestal etc.
 - Star iron picket, with or without concrete
 - Nail and metal plate embedded in permanent pavement or consolidated firm ground.
 - Ramset nail in concrete Or with other similar stable materials
- Control points markings should be made of corrosion resistant materials and placed in such a fashion that the long-term stability and safety of the marks are maximized. In urban areas with sandy soil, it is important to preserve the vertical stability of the mark so it is suggested that in such cases Control point shall be made by deep-seated marks that penetrate the surface soil to a depth that bypasses the zone of seasonal influence.
- The prime considerations when placing new Control point are:
 - The safety of the surveyor and public,
 - The vertical stability of the mark,
 - Clear of HT/LT lines, radio / mobile towers, high frequency dish antennas, radar etc.
 - Free from multipath problems associated with tall features in the vicinity.
 - Free from foliage
 - Free from major obstructions / obstacles
 - Easily accessible to the survey team.
 - Open to sky with a clear view towards sky at 15-degree angle with horizontal plain.
- An indicator may be placed adjacent to the Control point, in form of engraving highlighted by oil paint in contrasting colour with engraved surface, stamping on metal plate or through durable tags, where this will assist in re-locating the Control point and its survival. However, indicators or control point must not be placed where they may present a danger to the public (such as nail or picket on roads or footpaths).
- Required accuracy of control points $RMSE_z \leq 0.05$ m (for Indian vertical datum) and $RMSE_r = (\sqrt{RMSE_x^2 + RMSE_y^2}) \leq 0.03$ m with respect to Survey of India GCPs/CORS stations.
- Every Control Point should have a corresponding ground photograph with the following requirements:
 - Photographs shall be captured at the time of the control point survey.
 - Photographs shall be taken from each of the cardinal points (North, South, East, and West).

- GPS survey equipment shall be in view so that the surrounding environment is recorded with respect to the point location being collected.
 - Photos shall be taken during daylight hours.
 - Photographs shall be of sufficient spatial resolution to enable interpretation of terrain undulations and vegetative cover surrounding the Control Point for a minimum of 10 feet in all directions surrounding checkpoint.
 - All photographs shall be delivered
 - embedded in a single PDF document, preferably in the ground survey report, or
 - as individual images in sub-directories
- All images shall be labeled with, or image file names shall include, the Control Point ID.
- Service Provider is required to demonstrate Accuracy of deliverables using set of checkpoints provided by him. Control points used in the calibration process for data acquisition shall not be used as checkpoints.
- Required accuracy of check points $RMSE_z \leq 0.10$ m (for Indian vertical datum) and $RMSE_r = (\sqrt{RMSE_x^2 + RMSE_y^2}) \leq 0.06$ m
- In land covers other than forested and dense urban, the tested checkpoint should have no obstructions above 15 degrees over the horizon.
- All tested locations will be photographed showing the position of the survey tripod and the ground condition of the surrounding area.
- Checkpoints to be used for DEM evaluation, should not be made on Roof top, Bridge, Culverts or any man made raised platform not part of general topography.
- Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph with the following requirements:
 - Photographs shall be captured at the time of the checkpoint survey.
 - Photographs shall be taken from each of the cardinal points (North, South, East, and West).
 - GPS survey equipment shall be in view so that the surrounding environment is recorded with respect to the point location being collected.
 - Photos shall be taken during daylight hours.
 - Photographs shall be of sufficient spatial resolution to enable interpretation of terrain undulations and vegetative cover surrounding the checkpoint for a minimum of 10 feet in all directions surrounding checkpoint.
 - All photographs shall be delivered
 - embedded in a single PDF document, preferably in the ground survey report, or
 - as individual images in sub-directories

- All images shall be labeled with, or image file names shall include, the checkpoint ID.
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sot GCP library and CORS Network and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model.
- Procuring necessary clearances for Operation of Aerial Vehicle including Drones as per DGCA and other extant Regulations of GoI,
 - The Service Provider is responsible to obtain necessary clearances from Director General of Civil Aviation and/or other agencies of Government of India or concerned State Government as may be required to complete the job of flying over the Aol, for data acquisition etc. The client would provide necessary documentation; however, getting clearance would be entirely the responsibility of the Service Provider. Scope of this activity shall include operational requirements for use of Aerial Vehicle confirming to DGCA guidelines in vogue and for Civil Remotely Piloted Aircraft System (RPAS) as per Drone Rules 2021, issued under Gazette Notification dated 25th August 2021 and also in obtaining Unique Identification Number (UIN).
 - Bidders may propose drones, manned aircraft, or a combination of platforms, depending on the project area and regulatory requirements.
- Mission planning.
 - Bidders must design flight paths to optimize coverage and data quality while adhering to local aviation regulations and safety standards.
 - Sufficient overlap should be kept on both the sides
- Flying and Data Acquisition using onboard Oblique Camera (4 Oblique + 1 Nadir) in compliance with Requirements.
 - The selected bidder shall use aerial platforms such as drones, helicopters, or fixed-wing aircraft equipped with oblique angle cameras to capture high-resolution imagery and point cloud data across the entire project area.
 - Cameras should capture imagery at a minimum resolution of 150 megapixels (20 MP in the case of UAV), with a field of view of at least 45 degrees and at least 5 cm ground sampling distance (GSD)] to ensure comprehensive coverage of vertical surfaces.
 - It is advisable to conduct the aerial survey in the leaf-off season (October to March) and avoid monsoon periods.
 - Late December to January shall be avoided for aerial survey due to more cloud cover in the atmosphere, unless visibility is normal.
 - Data capture shall be avoided in case of medium to heavy fog.

- There shall not ideally be any clouds between the ground and the aerial platform during data capture. Clouds above the aerial platform will create shadows in the photographs. As a rule of thumb avoid photograph capture when
 - There is 30-40% cloud cover above the platform.
 - There are shadows on more than 5% of an image.
- To minimize the shadow in the aerial photographs, the sun elevation angle shall be more than 30° at all times.
- Post Processing for generation of Orthomosaic, 3D Models, DEM, DSM, DTM and quality control of generated deliverables with all other associated works to these
 - The bidder will process the high-resolution imagery to create orthomosaics
 - File format .TIF for orthomosaics/ORIs, .JPG/.TIFF for Nadir and or oblique images, .XML for metadata
 - Orthomosaics should be generated with a ground sampling distance (GSD) of 5 cm and should be georeferenced to the project coordinate system.
 - The orthomosaics should be divided into manageable tiles with a standardized naming convention.
 - For ORIs and orthomosaics, $RMS_{x,y} \leq 10$ cm and $z \leq 25$ cm
 - Visual inspection of the mosaic to check blurred imagery, improper colour balancing, colour bleeding and shadow details, edge mismatches must be carried out. Orthorectified Images should be clear and sharp in detail with no light streaks, static marks, scratches, ice effects or other noticeable blemishes. The ORI should be free from defects, such as out-of-focus image/photo, and should not contain inconsistencies in tone and/or density. To ensure consistency, the imagery should be radiometrically and geometrically corrected to enable adjacent files to be displayed simultaneously without obvious distinctions between them. The ORI should have no distortions and smearing and should be seamless edge-matched and of highest quality.
 - Horizontal accuracy of the Ortho rectified image will be checked using GNSS coordinate of Check Points.
 - Should more than 5% of the ORI that are subjected to external QC fail to meet the specifications laid down in Tender Document, all products will be returned to the service provider for further QA to identify the extent and cause of the problems so established. The service provider will be expected to rectify these problems, and (where necessary to comply with the specification) make new products at his own cost.
 - Detailed metadata should include information on the flight parameters, camera settings, and processing steps
 - The bidder is responsible for processing the raw imagery data to create detailed digital elevation models (DEMs): Digital Surface Models (DSMs) & digital terrain models (DTMs), and classified point clouds.
 - DSMs and DTMs should be generated after DEM cleaning and editing with a resolution of 0.5m with vertical accuracy of 25 cm.

- A detailed 3D city model should be generated, incorporating buildings, terrain, and other infrastructure. The model should be delivered in .OBJ, .FBX, or .3DS format
- The 3D models should be textured using the captured imagery, providing realistic representations of the buildings and terrain.
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sol CORS Network and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model.
- File sizes of tiles cannot exceed 1 gigabyte, unless otherwise specified by the Sol. Each file must be organized to facilitate data manipulation and processing.

Service 2.2: 3D Feature Extraction and GIS Integration

Activity 2.2.1 City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers.

- The bidder must extract relevant features in 3D environment from the processed data and integrate them into a GIS platform to create a 3D city model and a detailed property layer.
- 3D Feature Extraction: This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD1 specifications.
- GIS Integration: The extracted features must be integrated into a GIS database compatible with ArcGIS or other similar platforms including open source platforms. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Topographical Property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in open file formats such as CityGML format etc.
- Positional accuracy should be within ± 10 cm for GIS layers. File format .SHP, .GDB for GIS data, .KML for geospatial visualization
- Separate GIS layers for buildings, utilities, roads, and other key features should be provided. These layers should be delivered in .SHP, .GDB, or .KML format
- A detailed 3D city model should be delivered in .OBJ, .FBX, or .3DS format
- All deliverables must conform to the following projection, datum, and coordinate system

- Projection: Universal Transverse Mercator projection.
- Horizontal datum: The World Geodetic Datum 84 (WGS84)
- Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through SoI GCP library and CORS Network and Indian Vertical Datum maintained by SOI realized through SOI’s Height Benchmarks or Geoid Model. Where Geoid Model is available.

Service 2.3: Data Delivery and Documentation; Training and Handover; and Post Delivery Supports

Activity 2.3.1

(i) Data Delivery and Documentation: The bidder must deliver all processed data, models, and reports in the specified formats, along with any necessary metadata and documentation.

1	Digital surface model	<ul style="list-style-type: none"> ● 0.5 m grid Digital Surface Model (DSM) on Orthometric Height (generated with adding SoI Geoid Model) ● Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value. ● 32-bit floating-point GeoTIFF raster format. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
2	Bare-Earth surface (Raster Digital Elevation Model)	<ul style="list-style-type: none"> ● 0.50 m grid bare earth Digital Elevation Model (DEM) on Orthometric Height (generated with adding SoI Geoid Model) ● Depressions (sinks), whether natural or man-made, are not to be filled (as in hydro-conditioning). ● Bridges shall be removed from the bare-earth surface. ● Road or other travel ways over culverts remain intact in the surface. ● Hydro-flattening shall be conducted for natural and man-made water bodies, and water courses. The requirements for hydro-flattening are as follows: <ul style="list-style-type: none"> ● Non-tidal water bodies which have a surface area greater than a 1000 m² shall be flattened. ● Water courses greater 10 m width shall be flattened. ● Flat and level water surface bank-to-bank, with a gradient downhill water surface, following the immediately surrounding terrain. ● The entire water surface edge shall be at or immediately below the surrounding terrain.

		<ul style="list-style-type: none"> • Breaklines developed for use in hydro-flattening may also be used to support classification of the point data. Breakline used for generating hydro-flattened DEM shall be provided separately as a shape file. • Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value. • DEM tiles with no edge artifacts or mismatch. A quilted appearance in the overall DEM surface will be cause for rejection of the entire DEM deliverable, whether the variations are caused by differences in processing quality or character among tiles, swaths, lifts, or other artificial divisions. • 32-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below. • DEM shall be rigorously corrected for different categories of vegetation, different heights of built-up areas, etc.
3	Orthophotos	<ul style="list-style-type: none"> • Minimum 8 bit per band Radiometric Resolution in accordance with chosen image format • 0.05 m GSD • Each orthorectified photographs shall have georeferencing information with reference to the specified projection / mapping coordinate system, embedded in its header. • 16-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
Supporting Deliverables		
4	Metadata	<p>Metadata compliant to Indian NSDI Metadata standard 2.0 shall be supplied for the followings:</p> <ul style="list-style-type: none"> • The overall project: An XML file describing the project boundary, the intent of the project, the types of data collected and the various deliverables. • Flightlines for a particular project covering the number of swaths, locations of GNSS/CORS base and control stations preprocessing, and calibration details. • An XML file for each of the tiled deliverables i.e., Classified point data, Bare-earth DEM, Breaklines, Orthophotos, DSM, Intensity Image;
5	Textual reports	<ul style="list-style-type: none"> • All data regarding the specifications of the sensors. • Documents regarding OEM calibration information certification and preventive maintenance schedule • Reports on flight planning and layout specifications • Reports on Control Point and Checkpoint distribution.

		<ul style="list-style-type: none"> • Reports on Survey for providing the Control Point and Checkpoint. • Report of the calibration survey and the documentation on points of calibration. • Report on Data Processing, Swath adjustment and Point classification. • Reports on the planimetric, Altimetric and relative accuracies of LiDAR point data. <ul style="list-style-type: none"> • Reports on the validation of ANPD. • Reports on the accuracy assessment of the bare earth surface. • Reports on the classification accuracy assessment for each of the classes. • Reports on the accuracy assessment of the Orthophoto.
6	Index (in Graphics and Vector file shp, GPKG or kml format)	<ul style="list-style-type: none"> • Locations of the GNSS / CORS stations. • The project extent shall be delivered as maps for each of the delivered datasets. The project extent area shall not include TIN artefacts, and raster NODATA areas. A minimum bounding rectangle of the surveyed area is not acceptable. • A map of all the tiles shall be provided. • A map of all the swaths of LiDAR data showing overlap shall be provided. • A map of all the swaths of Photographic data showing footprint of each exposure shall be provided.
7	Trajectory information	<ul style="list-style-type: none"> • The POS-AV file captured by the Inertial Navigation System (INS), during the aerial survey, shall be delivered in Shape files. The shape file table's must include the date of capture, local start time, local end time and which reference station was used for each trajectory.
8	Smoothed best estimate of trajectory (SBET)	<ul style="list-style-type: none"> • The SBET file shall be supplied in the industry standard format. The contents of the file shall be also delivered in tab separated text file or a schema-based XML file having following information <ul style="list-style-type: none"> ○ Time ○ Altitude ○ Latitude ○ Longitude ○ Roll ○ Pitch ○ Platform_Heading ○ Wander_Angle ○ X_vel ○ Y_vel ○ Z_vel ○ X_acceleration

		<ul style="list-style-type: none"> ○ Y_acceleration ○ Z_acceleration ○ X_angular_rate ○ Y_angular_rate ○ Z_angular_rate
9	Classified point cloud	<ul style="list-style-type: none"> ● Classification of the point cloud shall be conducted on a fully calibrated, adjusted to ground data and shall be classified tile wise. ● The classified data shall be provided as LAS files in tiles. The tiles shall be non-overlapping. The minimum classification scheme as listed in Table 1 shall be used. ● All LAS files shall contain correct and properly formatted georeferenced information in their headers. ● The point data would contain x, y and z coordinates, Return number, the intensity (at native radiometric resolution) and GPS times recorded as adjusted GPS time, at a precision sufficient to allow unique timestamps for each pulse. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
10	Model key points	<ul style="list-style-type: none"> ● Model Key points (MKP) are a generalized subset of the classified ground points with the Model key point flag as true and represent the minimum number of points required to determine the shape of the ● ground. ● The subset of the ground points (classification label 2) shall be extracted using one of the industry standard methods in practice. The algorithm followed shall be listed in the data processing reports of the project. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
11	Breaklines	<ul style="list-style-type: none"> ● Delivery of all breaklines collected on or used in support of the work is required to be delivered. This includes breaklines used for bridge and saddle treatments and any additional breaklines required by Buyer or its designated representative. ● Breaklines representing all hydro-flattened features in a project, regardless of the method used for hydro-flattening, are required to be delivered. ● Streams and rivers, as defined in the hydro flattening section of this specification, shall contain a centerline with z-values corresponding to the hydro flattened surface. ● Breakline deliverables shall include or conform to the following procedures and specifications: ● Breaklines developed to the limit of the Buffered Project Area. ● Breaklines delivered in shapefile formats, as PolylineZ and PolygonZ feature classes, as appropriate to the type of feature represented.

		<ul style="list-style-type: none"> • Breakline data shall be in the same CRS as the lidar data. • Each breakline feature class shall have properly formatted, accurate, and complete georeferenced information stored in the format's standard file system location. • All features shall be Z- and M-value enabled. • Breaklines to be delivered as single file. • File naming as per Data Supply Specifications below.
12	Basic aerial photos	<ul style="list-style-type: none"> • Aerial photos as captured shall be supplied. Each photograph shall be accompanied with a file mentioning the following data: <ul style="list-style-type: none"> ○ Focal length of the camera ○ X, Y, Z (cartesian coordinates) in ECEF coordinate system of exposure station ○ Easting, Northing and Up (UTM/WGS84) of exposure station ○ Roll, Pitch and Heading ○ Velocities of the aerial platform in X, Y and Z directions • File naming as per Data Supply Specifications below.
13	Control Points & Check Points	<ul style="list-style-type: none"> • GPS data files for all occupation of Control Points & Check Points in excess of 15 min, are to be provided in RINEX V3.02 or later format (Receiver Independent Exchange Format). • GPS observation log sheets should include the following details: <ul style="list-style-type: none"> ○ Survey mark id ○ Occupation time & date ○ Antenna height measurements ○ Instrument /antenna types & serial numbers • The GPS observation log sheets should be provided in pdf format or Excel spreadsheet if data is captured digitally. • Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph • File naming as per Data Supply Specifications below.
14	Contours	<ul style="list-style-type: none"> • 0.5 m Contour interval (on Orthometric Height) • To be delivered in shapefile formats, as PolylineZ. • Breakline data shall be in the same CRS as the lidar data. • Each breakline feature class shall have properly formatted, accurate, and complete georeferenced information stored in the format's standard file system location. • All features shall be Z- and M-value enabled, tagged with respective contour value. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
15	Vector Data	<ul style="list-style-type: none"> • In cityGML or smiliar 3D Model file formats

16	Final Map	<ul style="list-style-type: none">• Soft Copy Map as per template in GeoPDF
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- Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP/cityGML for GIS layers, etc.).
- Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata.
- Final validation of all deliverables must be conducted before submission to the client, including an acceptance test to confirm that all project requirements have been met.
- A delivery report describing the contents of the data supplied with every data delivery (interim, staged, final).
 - Collection Report :
 - Data collection report detailing mission planning and flight logs will be submitted.
 - Survey Report:
 - A survey report detailing the collection of all ground control including the following will be submitted:
 - base Ground Control points
 - Check points
 - Post Processing Report:
 - Post Processing Report detailing GNSS data, Aerial image processing, generation of Project deliverables will be submitted.
 - Feature Extract Report:
 - Feature Extraction of Stage 1 Map with feature table will be submitted.
 - QA/QC Report:
 - A QA/QC report, detailing procedures for analysis, accuracy assessment and validation of the following will be submitted.
 - GNSS ground control Point data (Absolute vertical accuracy/relative vertical accuracy)
 - Aerial image processing,
 - ORI , DEM, 3D city Model, 3D GIS Data generation
 - Feature Extraction of Stage 1 Map
- All reports are to be provided in Word (.doc/.docx) format, Excel spreadsheet (.xls/.xlsx) or appropriate digital format as approved by SOI.

- The Sol may at its discretion can run the Schema Validation/Topology check program to check the feature extracted map in addition to onscreen examination.

(ii) QA/QC Plan development and Implementation: The bidder is responsible for developing and implementing a comprehensive QA/QC plan to ensure the accuracy and quality of the data and deliverables.

- QA/QC processes must be applied to all data acquisition, processing, and delivery stages. This includes verifying the accuracy of GCPs, validating ORI and DEMs.
- Final Digital True Ortho-images generated under the outsourcing work are required to be accurate, good quality and geometrically correct for the cadastral survey & measurements as per prescribed accuracy and specifications duly following all quality checks and measures at each and every stage/activity of the data generation process.
- The service provider should ensure that all industry standard quality checks as per the norms are carried out in generation of the ortho-images with utmost care and diligence.
- As part of accuracy assessment of the ORI, apart from check points-based checking, it is important to identify & measure the varying lengths in the ORI and these measurements are to be duly compared with their corresponding field measured lengths as part of the checking process. Two sets of measurements should match perfectly otherwise process of generation of ortho-image has to be re-run to achieve perfect matching.
- Service consumer will carry out quality checks at different stages for all packages i.e. Ground Control Survey planning, observation, Aerial data capturing, Aerial triangulation, DEM/DSM generation, scenewise ORI checking, for seamlessness, tonal balancing, image quality.
- The responsibility of Quality assurance would include adoption of best practices, Latest ASPRS Standards for Aerial Photogrammetry work, Processes and sets of approaches leading to outcomes of quality specified in this Contract shall rest with the Service Provider.
- As part of Quality Assurance, the Service Provider shall submit quality control (or check) measures detailing clearly specified tasks that scrutinizes all, or a sample, of the items issuing during and/or at the end of various stages of processing in order to ensure that the final product is of satisfactory quality. The scrutiny involves review, inspection or quantitative measurement, against well-defined pass/fail criteria.
- The Service Provider shall systematically lodge Quality Control Records (QCRs) which may take various forms like Computer Generated Reports, Inspection notes, Stage Approvals etc. Service Provider shall ensure that every such QCR:
 - Marked with a date
 - Uniquely identifies the item, operation or product to which it relates
 - Identifies the operator who generated the QCR
 - Is counter signed by a supervisor or other independent inspector (for important records)
 - Is stored in a well-defined and predictable location so that it can be found easily

by others.

- The responsibility for maintaining necessary versions of data during the QA/QC cycle till its final acceptance by Service Consumer shall also rest with Service Provider.
- Service Consumer will carry out Quality Audit to ensure that the QA/QC measures, plan/methodology/arrangements etc. detailed by the Service provider in their Bid are being properly followed. Service Consumer shall also audit to ensure that the QCRs are being properly maintained.
- The check-points will be well distributed across the dataset. However, checkpoints may be distributed more densely in the vicinity of important features and more sparsely in areas that are of little or no interest.
- Datasets failing the 'Acceptance Test' shall be returned to the Service Provider for rectification.
- The checkpoints will be selected preferably on flat terrain, or on uniformly sloping terrain. Whenever possible, terrain slope steeper than a 20 percent grade will not be selected because horizontal errors will unduly influence the vertical RMSE calculations. Furthermore, checkpoints will not be selected near severe breaks in slope, such as bridge abutments or edges of roads, where subsequent interpolation might be performed with inappropriate TIN or DEM points on the wrong sides of the break lines.
- The service consumer may provide additional check points for testing areas with doubtful accuracy at its discretion.
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(ii) Training and Handover:

- The bidder will provide training to the client's team on how to use and interpret the delivered data and models, along with a formal handover of all project materials.
- Training materials, training session records, and handover documentation

(iii) Post-Delivery Support: The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models.

Deliverables are Support plan, including contact details and response times.

a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.

b) The service provider should provide technical hand holding support to the State/ City ground truthing team.

c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contact value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.

d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.

(iv) Others: Facilitating quality audit, stage approvals and final acceptance by Procuring entity.

3. Schedule-3: Aerial (manned/ unmanned) Data Acquisition using Oblique Angle (1 Nadir + 4 Oblique) Camera + LiDAR sensor for generation of Orthorectified imagery (ORI), Orthomosaic, DEM/DSM/DTM, 3D textured model/ 3D reality Model; and Generation of 3D GIS Dataset through feature extraction including all buildings and public utilities, etc to generate 3D Topographical Property layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities .

Service 3.1: **Data Acquisition and Processing:** Delivery of final ORI and DEM/DSM /DTM and 3D Mesh and Reality Model along with raw data, control/check point data and QCRs for entire area of subject Package

Activity 3.1.1

- Provision of Ground controls including check points
 - Ground Control Points must be established and accurately surveyed across the project area to ensure the accuracy of the aerial data.
 - GCPs should be strategically placed and uniformly distributed throughout the project area.
 - GCPs must be surveyed using high-precision GNSS equipment with an accuracy of ± 2 cm.
 - The accuracy of the ground control points (base stations & Check Points) will be checked by Network Adjustment Report/Post Processing Report submitted by service provider as deliverables. The SOI may process the GNSS data of 1 base station and Check Points provided in RINEX format for independent check.
 - Should more than 5% of the GNSS data that are subjected to external QC fail to meet the specifications the service provider is expected to rectify these problems, and (where necessary to comply with the specification) make fresh GNSS observation at his own cost to achieve the required accuracy.
 - GNSS data (Raw and Processed) for all 1 base station and Check Points to be provided in RINEX format (Receiver Independent Exchange Format).
 - GNSS observation log sheets should include the following details:
 - Survey mark id
 - Occupation time & date
 - Antenna height measurements
 - Instrument /antenna types & serial numbers
 - The GNSS observation log sheets and raw and processed data sheet should be provided in pdf format or Excel spreadsheet if data is captured digitally.
 - For Control/calibration work of Survey, CORS stations and GCP stations established by the Survey of India can be used. However considering project extent, availability of SOI GCP/CORS stations, Flight plan and Sensor calibration requirements, Service provider is required to establish adequate number of Control points in BPA.

- Control Points shall be surveyed in clear, open areas (which typically produce only single lidar returns) devoid of vegetation and other vertical artifacts (such as boulders, large riser pipes, and vehicles).
- All control points will be audited by Buyer or its designated representative to ensure independent Quality Assurance (QA) of the survey operations. It is therefore essential that all Control points are physically marked in by any of the following manner
 - Sharply Chiselled Circle and dot mark on any durable, permanent and flat surface like sheetrock, concrete or stone pedestal etc.
 - Star iron picket, with or without concrete
 - Nail and metal plate embedded in permanent pavement or consolidated firm ground.
 - Ramset nail in concrete Or with other similar stable materials
- Control points markings should be made of corrosion resistant materials and placed in such a fashion that the long-term stability and safety of the marks are maximized. In urban areas with sandy soil, it is important to preserve the vertical stability of the mark so it is suggested that in such cases Control point shall be made by deep-seated marks that penetrate the surface soil to a depth that bypasses the zone of seasonal influence.
- The prime considerations when placing new Control point are:
 - The safety of the surveyor and public,
 - The vertical stability of the mark,
 - Clear of HT/LT lines, radio / mobile towers, high frequency dish antennas, radar etc.
 - Free from multipath problems associated with tall features in the vicinity.
 - Free from foliage
 - Free from major obstructions / obstacles
 - Easily accessible to the survey team.
 - Open to sky with a clear view towards sky at 15-degree angle with horizontal plain.
- An indicator may be placed adjacent to the Control point, in form of engraving highlighted by oil paint in contrasting colour with engraved surface, stamping on metal plate or through durable tags, where this will assist in re-locating the Control point and its survival. However, indicators or control point must not be placed where they may present a danger to the public (such as nail or picket on roads or footpaths).
- Required accuracy of control points $RMSE_z \leq 0.05$ m (for Indian vertical datum) and $RMSE_r = (\sqrt{RMSE_x^2 + RMSE_y^2}) \leq 0.03$ m with respect to Survey of India GCPs/CORS stations.
- Every Control Point should have a corresponding ground photograph with the following requirements:
 - Photographs shall be captured at the time of the control point survey.

- Photographs shall be taken from each of the cardinal points (North, South, East, and West).
 - GPS survey equipment shall be in view so that the surrounding environment is recorded with respect to the point location being collected.
 - Photos shall be taken during daylight hours.
 - Photographs shall be of sufficient spatial resolution to enable interpretation of terrain undulations and vegetative cover surrounding the Control Point for a minimum of 10 feet in all directions surrounding checkpoint.
 - All photographs shall be delivered
 - embedded in a single PDF document, preferably in the ground survey report, or
 - as individual images in sub-directories
- All images shall be labeled with, or image file names shall include, the Control Point ID.
 - Service Provider is required to demonstrate Accuracy of deliverables using set of checkpoints provided by him. Control points used in the calibration process for data acquisition shall not be used as checkpoints.
 - Required accuracy of check points $RMSE_z \leq 0.10$ m (for Indian vertical datum) and $RMSE_r = (\sqrt{RMSE_x^2 + RMSE_y^2}) \leq 0.06$ m
 - In land covers other than forested and dense urban, the tested checkpoint should have no obstructions above 15 degrees over the horizon.
 - All tested locations will be photographed showing the position of the survey tripod and the ground condition of the surrounding area.
 - Checkpoints to be used for DEM evaluation, should not be made on Roof top, Bridge, Culverts or any man made raised platform not part of general topography.
 - Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph with the following requirements:
 - Photographs shall be captured at the time of the checkpoint survey.
 - Photographs shall be taken from each of the cardinal points (North, South, East, and West).
 - GPS survey equipment shall be in view so that the surrounding environment is recorded with respect to the point location being collected.
 - Photos shall be taken during daylight hours.
 - Photographs shall be of sufficient spatial resolution to enable interpretation of terrain undulations and vegetative cover surrounding the checkpoint for a minimum of 10 feet in all directions surrounding checkpoint.
 - All photographs shall be delivered

- embedded in a single PDF document, preferably in the ground survey report, or
- as individual images in sub-directories
 - All images shall be labeled with, or image file names shall include, the checkpoint ID.
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sol GCP library and CORS Network; and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model. Where Geoid Model is available, SOI will provide the Geoid Model.
- Procuring necessary clearances for Operation of Aerial Vehicle including Drones as per DGCA and other extant Regulations of GoI,
 - The Service Provider is responsible to obtain necessary clearances from Director General of Civil Aviation and/or other agencies of Government of India or concerned State Government as may be required to complete the job of flying over the Aol, for data acquisition etc. The client would provide necessary documentation; however, getting clearance would be entirely the responsibility of the Service Provider. Scope of this activity shall include operational requirements for use of Aerial Vehicle confirming to DGCA guidelines in vogue and for Civil Remotely Piloted Aircraft System (RPAS) as per Drone Rules 2021, issued under Gazette Notification dated 25th August 2021 and also in obtaining Unique Identification Number (UIN).
 - Bidders may propose drones, manned aircraft, or a combination of platforms, depending on the project area and regulatory requirements.
- Mission planning.
 - Bidders must design flight paths to optimize coverage and data quality while adhering to local aviation regulations and safety standards.
- Flying and Data Acquisition using onboard Oblique Camera (4 Oblique + 1 Nadir) + LiDAR in compliances with Requirements
 - The selected bidder shall use aerial platforms such as drones, helicopters, or fixed-wing aircraft equipped with oblique angle cameras to capture high-resolution imagery and point cloud data across the entire project area.
 - Cameras should capture imagery at a minimum resolution of 150 megapixels (20 MP in the case of UAV), with a field of view of at least 45 degrees and at least 5 cm ground sampling distance (GSD)] to ensure comprehensive coverage of vertical surfaces.
 - LiDAR sensor should have a frequency of minimum of 1 MHz with vertical accuracy within ± 10 cm and horizontal accuracy within ± 5 cm.
 - LiDAR sensors must be capable of capturing high-density point clouds with a minimum point density of minimum 10 points per square meter.

- Post Processing for generation of Orthomosaic, 3D Models, DEM, DSM, DTM and quality control of generated deliverables with all other associated works to these activities detailed in Section VI Schedule of Requirements and Section VII Performance Standards and Quality Assurance.
 - The bidder will process the high-resolution imagery to create orthomosaics
 - File format .TIF for orthomosaics/ORIs, .JPG/.TIFF for Nadir or oblique images, .XML for metadata
 - Orthomosaics should be generated with a ground sampling distance (GSD) of 5 cm and should be georeferenced to the project coordinate system.
 - The orthomosaics should be divided into manageable tiles with a standardized naming convention.
 - For ORIs and orthomosaics, RMSE $x,y \leq 10$ cm and $z \leq 25$ cm
 - Visual inspection of the mosaic to check blurred imagery, improper colour balancing, colour bleeding and shadow details, edge mis- matches must be carried out. Orthorectified Images should be clear and sharp in detail with no light streaks, static marks, scratches, ice effects or other noticeable blemishes. The ORI should be free from defects, such as out-of-focus image/photo, and should not contain inconsistencies in tone and/or density. To ensure consistency, the imagery should be radiometrically and geometrically corrected to enable adjacent files to be displayed simultaneously without obvious distinctions between them. The ORI should have no distortions and smearing and should be seamless edge-matched and of highest quality.
 - Horizontal accuracy of the ortho rectified image will be checked using GNSS coordinate of Check Points.
 - Should more than 5% of the ORI that are subjected to external QC fail to meet the specifications laid down in Tender Document, all products will be returned to the service provider for further QA to identify the extent and cause of the problems so established. The service provider will be expected to rectify these problems, and (where necessary to comply with the specification) make new products at his own cost.
 - Detailed metadata should include information on the flight parameters, camera settings, and processing steps
 - The bidder is responsible for processing the LiDAR data to create detailed digital elevation models (DEMs): Digital Surface Models (DSMs) & digital terrain models (DTMs), and classified point clouds.
 - The point cloud data of LiDAR must be classified into categories such as ground, buildings, vegetation, and utilities, with an accuracy of 95%.
 - The point cloud must be delivered in .LAS format.
 - DSMs and DTMs should be generated after DEM cleaning and editing with a resolution of 0.50 m with vertical accuracy of 10 cm.
 - A detailed 3D city model should be generated, incorporating buildings, terrain, and other infrastructure. The model should be delivered in .OBJ, .FBX, or .3DS format

- The 3D models should be textured using the captured imagery, providing realistic representations of the buildings and terrain.
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)
 - Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sol GCP library and CORS Network. and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model. Where Geoid Model is available, SOI will provide the Geoid Model.
- File sizes of tiles cannot exceed 1 gigabyte, unless otherwise specified by the Sol. Each file must be organized to facilitate data manipulation and processing.

Service 3.2: 3D Feature Extraction and GIS Integration

Activity 3.2.1 City/Town Level of Detail (LoD)-1 detailing is to be realised for creating 3D vector Model. For each building or structure, the geometrically simplified external structure should be depicted through horizontal or vertical outer surfaces with vertical distribution of space (i.e. floors), along with simplified roof structures and permanent rooftop structure, based on topographical markers.

- The bidder must extract relevant features in 3D environment from the processed data and integrate them into a GIS platform to create a 3D city model and a detailed property layer.
- 3D Feature Extraction: This shall apply to buildings and other structures such as Roads, Bridges, Flyover, Tunnels, Railways, Mono, Metro Street lights, Traffic signals, Water bodies, Trees, Landscapes, Open spaces, Airports, Gardens, Slum and all other features having height with reference to Aerial data complying with LoD-1 specifications.
- GIS Integration: The extracted features must be integrated into a GIS database compatible with ArcGIS or other similar platforms including open source platforms. All topographical 3D vector layers including all buildings and public utilities, etc to generate 3D Property layer layer with horizontal and vertical splitting based on topographical markers and/or property model provided by district authorities in open file formats such as CityGML format etc.
- Positional accuracy should be within ± 10 cm for GIS layers. File format .SHP, .GDB for GIS data, .KML for geospatial visualization
- Separate GIS layers for buildings, utilities, roads, and other key features should be provided. These layers should be delivered in .SHP, .GDB, or .KML format
- A detailed 3D city model should be delivered in .OBJ, .FBX, or .3DS format
- All deliverables must conform to the following projection, datum, and coordinate system
 - Projection: Universal Transverse Mercator projection.
 - Horizontal datum: The World Geodetic Datum 84 (WGS84)

- Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through SoI GCP library and CORS Network. and Indian Vertical Datum maintained by SOI realized through SOI’s Height Benchmarks or Geoid Model. Where Geoid Model is available, SOI will provide the Geoid Model.

Service 3.3: Data Delivery and Documentation; Training and Handover; and Post Delivery Supports

Activity 3.3.1

(i) Data Delivery and Documentation: The bidder must deliver all processed data, models, and reports in the specified formats, along with any necessary metadata and documentation.

1	Digital surface model	<ul style="list-style-type: none"> ● 0.5 m grid Digital Surface Model (DSM) on Ellipsoidal Height as well as on Orthometric Height (generated with adding SoI Geoid Model) ● The DSM should be generated from the “first return” LiDAR data. This will include ground and non-ground points such as vegetation and buildings. ● Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value. ● 32-bit floating-point GeoTIFF raster format. ● Delivery in seamless tiles, as per Data Supply Specifications below. ● File naming as per Data Supply Specifications below.
2	Bare-Earth surface (Raster Digital Elevation Model)	<ul style="list-style-type: none"> ● 0.5 m grid bare earth Digital Elevation Model (DEM) on Ellipsoidal Height as well as on Orthometric Height (generated with adding SoI Geoid Model) ● The DEM should be generated from the All ground-classified LiDAR points not flagged as withheld. ● Bare-earth LiDAR points (serving as mass points) that are in close proximity to any breakline shall be classified as Ignored Ground (class 20) and shall be excluded from the DEM generation process. This process prevents unnatural surface artifacts from being created between LiDAR points and breakline vertices. The proximity threshold for reclassification as Ignored Ground, in general shall not exceed twice the ANPS. ● Depressions (sinks), whether natural or man-made, are not to be filled (as in hydro-conditioning). ● Bridges shall be removed from the bare-earth surface. ● Road or other travel ways over culverts remain intact in the surface. ● Hydro-flattening shall be conducted for natural and man-made water bodies, and water courses. The requirements for hydro-flattening are as follows:

		<ul style="list-style-type: none"> • Non-tidal water bodies which have a surface area greater than a 1000 m² shall be flattened. • Water courses greater 10 m width shall be flattened. • Flat and level water surface bank-to-bank, with a gradient downhill water surface, following the immediately surrounding terrain. • The entire water surface edge shall be at or immediately below the surrounding terrain. • Hydro-flattening should not make any changes to the geometry of the originally computed LiDAR points. Breaklines developed for use in hydro-flattening may also be used to support classification of the point data. Breakline used for generating hydro-flattened DEM shall be provided separately as a shape file. • Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value. • DEM tiles with no edge artifacts or mismatch. A quilted appearance in the overall DEM surface will be cause for rejection of the entire DEM deliverable, whether the variations are caused by differences in processing quality or character among tiles, swaths, lifts, or other artificial divisions. • 32-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below. • DEM shall be rigorously corrected for different categories of vegetation, different heights of built-up areas, etc.
3	Orthophotos	<ul style="list-style-type: none"> • Minimum 8 bit per band Radiometric Resolution in accordance with chosen image format • 0.05 m GSD • Each orthorectified photographs shall have georeferencing information with reference to the specified projection / mapping coordinate system, embedded in its header. • 16-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
4	Contours	<ul style="list-style-type: none"> • 0.5 m Contour interval (on Orthometric Height) • To be delivered in shapefile formats, as PolylineZ. • Breakline data shall be in the same CRS as the lidar data. • Each breakline feature class shall have properly formatted, accurate, and complete georeferenced information stored in the format’s standard file system location. • All features shall be Z- and M-value enabled, tagged with respective contour value.

		<ul style="list-style-type: none"> • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
Supporting Deliverables		
5	Metadata	<p>Metadata compliant to Indian NSDI Metadata standard 2.0 shall be supplied for the followings:</p> <ul style="list-style-type: none"> • The overall project: An XML file describing the project boundary, the intent of the project, the types of data collected and the various deliverables. • Flightlines for a particular project covering the number of swaths, locations of GNSS/CORS base and control stations preprocessing, and calibration details. • An XML file for each of the tiled deliverables i.e., Classified point data, Bare-earth DEM, Breaklines, Orthophotos, DSM, Intensity Image;
6	Textual reports	<ul style="list-style-type: none"> • All data regarding the specifications of the sensors. • Documents regarding OEM calibration information certification and preventive maintenance schedule • Reports on The flight planning and layout specifications • Reports on the Control Point and Checkpoint distribution. • Reports on Survey for providing the Control Point and Checkpoint. • Report of the calibration survey and the documentation on points of calibration. • Report on Data Processing, Swath adjustment and Point classification. • Reports on the planimetric, Altimetric and relative accuracies of LiDAR point data. <ul style="list-style-type: none"> • Reports on the validation of ANPD. • Reports on the accuracy assessment of the bare earth surface. • Reports on the classification accuracy assessment for each of the classes. • Reports on the accuracy assessment of the Orthophoto.
7	Index (in Graphics and Vector file shp, GPKG or kml format)	<ul style="list-style-type: none"> • Locations of the GNSS / CORS stations. • The project extent shall be delivered as maps for each of the delivered datasets. The project extent area shall not include TIN artefacts, and raster NODATA areas. A minimum bounding rectangle of the surveyed area is not acceptable. • A map of all the tiles shall be provided. • A map of all the swaths of LiDAR data showing overlap shall be provided.

		<ul style="list-style-type: none"> • A map of all the swaths of Photographic data showing footprint of each exposure shall be provided.
8	Trajectory information	<ul style="list-style-type: none"> • The POS-AV file captured by the Intertial Navigation System (INS), during the aerial survey, shall be delivered in Shape files. The shape file table's must include the date of capture, local start time, local end time and which reference station was used for each trajectory.
9	Smoothed best estimate of trajectory (SBET)	<ul style="list-style-type: none"> • The SBET file shall be supplied in the industry standard format. The contents of the file shall be also delivered in tab separated text file or a schema-based XML file having following information <ul style="list-style-type: none"> ○ Time ○ Altitude ○ Latitude ○ Longitude ○ Roll ○ Pitch ○ Platform_Heading ○ Wander_Angle ○ X_vel ○ Y_vel ○ Z_vel ○ X_acceleration ○ Y_acceleration ○ Z_acceleration ○ X_angular_rate ○ Y_angular_rate ○ Z_angular_rate
10	Classified point cloud	<ul style="list-style-type: none"> • Classification of the point cloud shall be conducted on a fully calibrated, adjusted to ground data and shall be classified tile wise. • The classified data shall be provided as LAS files in tiles. The tiles shall be non-overlapping. The minimum classification scheme as listed in Table 1 shall be used. • All LAS files shall contain correct and properly formatted georeferenced information in their headers. • The point data would contain x, y and z coordinates, Return number, the intensity (at native radiometric resolution) and GPS times recorded as adjusted GPS time, at a precision sufficient to allow unique timestamps for each pulse. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
11	Model key points	<ul style="list-style-type: none"> • Model Key points (MKP) are a generalized subset of the classified ground points with the Model key point flag as true and represent the minimum number of points required to determine the shape of the

		<ul style="list-style-type: none"> • ground. • The subset of the ground points (classification label 2) shall be extracted using one of the industry standard methods in practice. The algorithm followed shall be listed in the data processing reports of the project. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below.
12	Breaklines	<ul style="list-style-type: none"> • Delivery of all breaklines collected on or used in support of the work is required to be delivered. This includes breaklines used for bridge and saddle treatments and any additional breaklines required by Buyer or its designated representative. • Breaklines representing all hydro-flattened features in a project, regardless of the method used for hydro-flattening, are required to be delivered. • Streams and rivers, as defined in the hydro flattening section of this specification, shall contain a centerline with z-values corresponding to the hydro flattened surface. • Breakline deliverables shall include or conform to the following procedures and specifications: <ul style="list-style-type: none"> • Breaklines developed to the limit of the Buffered Project Area. • Breaklines delivered in shapefile formats, as PolylineZ and PolygonZ feature classes, as appropriate to the type of feature represented. • Breakline data shall be in the same CRS as the lidar data. • Each breakline feature class shall have properly formatted, accurate, and complete georeferenced information stored in the format's standard file system location. • All features shall be Z- and M-value enabled. • Breaklines to be delivered as single file. • File naming as per Data Supply Specifications below.
13	Basic aerial photos	<ul style="list-style-type: none"> • Aerial photos as captured shall be supplied. Each photograph shall be accompanied with a file mentioning the following data: <ul style="list-style-type: none"> ○ Focal length of the camera ○ X, Y, Z (cartesian coordinates) in ECEF coordinate system of exposure station ○ Easting, Northing and Up (UTM/WGS84) of exposure station ○ Roll, Pitch and Heading ○ Velocities of the aerial platform in X, Y and Z directions • File naming as per Data Supply Specifications below.
14	Control Points & Check Points	<ul style="list-style-type: none"> • GPS data files for all occupation of Control Points & Check Points in excess of 15 min, are to be provided in RINEX V3.02 or later format (Receiver Independent Exchange Format).

		<ul style="list-style-type: none"> ● GPS observation log sheets should include the following details: <ul style="list-style-type: none"> ○ Survey mark id ○ Occupation time & date ○ Antenna height measurements ○ Instrument /antenna types & serial numbers ● The GPS observation log sheets should be provided in pdf format or Excel spreadsheet if data is captured digitally. ● Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph ● File naming as per Data Supply Specifications below.
15	Vector Data	<ul style="list-style-type: none"> ● In cityGML or smiliar 3D Model file formats
16	Final Map	<ul style="list-style-type: none"> ● Soft Copy Map as per template in GeoPDF

- Data formats: All deliverables must be provided in formats specified by the client (e.g., .LAS for point cloud data, .geoTIF for orthomosaics, .SHP/cityGML for GIS layers, etc.).
- Documentations: Comprehensive documentation must accompany the data, including processing methodologies, QA/QC procedures, and metadata.
- Final validation of all deliverables must be conducted before submission to the client, including an acceptance test to confirm that all project requirements have been met.
- A delivery report describing the contents of the data supplied with every data delivery (interim, staged, final).
 - Collection Report :
 - Data collection report detailing mission planning and flight logs will be submitted.
 - Survey Report:
 - A survey report detailing the collection of all ground control including the following will be submitted:
 - base Ground Control points
 - Check points
 - Post Processing Report:
 - Post Processing Report detailing GNSS data, Aerial image processing, generation of Project deliverables will be submitted.
 - Feature Extract Report:
 - Feature Extraction of Stage 1 Map with feature table will be submitted.
 - QA/QC Report:

- A QA/QC report, detailing procedures for analysis, accuracy assessment and validation of the following will be submitted.
 - GNSS ground control Point data (Absolute vertical accuracy/relative vertical accuracy)
 - Aerial image processing,
 - ORI , DEM, 3D city Model, 3D GIS Data generation
 - Feature Extraction of Stage 1 Map
- All reports are to be provided in Word (.doc/.docx) format, Excel spreadsheet (.xls/.xlsx) or appropriate digital format as approved by SOI.
- The Sol may at its discretion can run the Schema Validation/Topology check program to check the feature extracted map in addition to onscreen examination.

(ii) QA/QC Plan development and Implementation: The bidder is responsible for developing and implementing a comprehensive QA/QC plan to ensure the accuracy and quality of the data and deliverables.

- QA/QC processes must be applied to all data acquisition, processing, and delivery stages. This includes verifying the accuracy of GCPs, validating ORI and DEMs.
- Final Digital True Ortho-images generated under the outsourcing work are required to be accurate, good quality and geometrically correct for the cadastral survey & measurements as per prescribed accuracy and specifications duly following all quality checks and measures at each and every stage/activity of the data generation process.
- The service provider should ensure that all industry standard quality checks as per the norms are carried out in generation of the ortho-images with utmost care and diligence.
- As part of accuracy assessment of the ORI, apart from check points-based checking, it is important to identify & measure the varying lengths in the ORI and these measurements are to be duly compared with their corresponding field measured lengths as part of the checking process. Two sets of measurements should match perfectly otherwise process of generation of ortho-image has to be re-run to achieve perfect matching.
- Service consumer will carry out quality checks at different stages for all Packages i.e. Ground Control Survey planning, observation, Aerial data capturing, Aerial triangulation, DEM/DSM generation, scenewise ORI checking, for seamlessness, tonal balancing, image quality.
- The responsibility of Quality assurance would include adoption of best practices, Latest ASPRS Standards for Aerial Photogrammetry work, Processes and sets of approaches leading to outcomes of quality specified in this Contract shall rest with the Service Provider.
- As part of Quality Assurance, the Service Provider shall submit quality control (or check) measures detailing clearly specified tasks that scrutinizes all, or a sample, of the items issuing during and/or at the end of various stages of processing in order to ensure that

the final product is of satisfactory quality. The scrutiny involves review, inspection or quantitative measurement, against well-defined pass/fail criteria.

- The Service Provider shall systematically lodge Quality Control Records (QCRs) which may take various forms like Computer Generated Reports, Inspection notes, Stage Approvals etc. Service Provider shall ensure that every such QCR:
 - Marked with a date
 - Uniquely identifies the item, operation or product to which it relates
 - Identifies the operator who generated the QCR
 - Is counter signed by a supervisor or other independent inspector (for important records)
 - Is stored in a well-defined and predictable location so that it can be found easily by others.
- The responsibility for maintaining necessary versions of data during the QA/QC cycle till its final acceptance by Service Consumer shall also rest with Service Provider.
- Service Consumer will carry out Quality Audit to ensure that the QA/QC measures, plan/methodology/arrangements etc. detailed by the Service provider in their Bid are being properly followed. Service Consumer shall also audit to ensure that the QCRs are being properly maintained.
- The check-points will be well distributed across the dataset. However, checkpoints may be distributed more densely in the vicinity of important features and more sparsely in areas that are of little or no interest.
- Datasets failing the 'Acceptance Test' shall be returned to the Service Provider for rectification.
- The checkpoints will be selected preferably on flat terrain, or on uniformly sloping terrain. Whenever possible, terrain slope steeper than a 20 percent grade will not be selected because horizontal errors will unduly influence the vertical RMSE calculations. Furthermore, checkpoints will not be selected near severe breaks in slope, such as bridge abutments or edges of roads, where subsequent interpolation might be performed with inappropriate TIN or DEM points on the wrong sides of the break lines.
- The service consumer may provide additional check points for testing areas with doubtful accuracy at its discretion.

(iii) Training and Handover:

- The bidder will provide training to the client's team on how to use and interpret the delivered data and models, along with a formal handover of all project materials.
- Training materials, training session records, and handover documentation

(iv) Post-Delivery Support: The bidder must offer post-delivery technical support for a specified period to address any issues or queries related to the delivered data and models.

Deliverables are Support plan, including contact details and response times.

a) The service provider should assist for multiple iterations & corrections as required and for defect rectification in the ORI or in the feature extraction or both: as the case may be.

b) The service provider should provide technical hand holding support to the State/ City ground truthing team.

c) Accordingly, the milestone-4 payment of 10% and remaining 5 % at final acceptance of the contact value would be released to the service provider only after the completion of field survey and draft map prepared before inviting objections within the contract period.

d) If the field survey is prolonged beyond the period of contract, payment of 5% of the contract value shall be paid per year and if the period is less than a year it would be paid on pro-rata basis per month.

(iv) Others: Facilitating quality audit, stage approvals and final acceptance by Procuring entity.

NOTE: For All Clusters/States, The Defects Liability Period will be 3 years from the date of issuance of Completion Certificate (GCC11.6).

4. DETAILS OF FINAL DELIVERABLES AND DATA SUPPLY SPECIFICATIONS

[Applicable as per the Scope of Each PACKAGE]

	Description of Deliverables	Specifications
1	Processed LiDAR Data	File naming requirements of Survey of India (Sol) mentioned below
	Classified Point Cloud	<p>Classification of point cloud data shall adhere to the scheme recommended by ASPRS. The LiDAR point classes to be delivered according to this scheme are defined by the classification level specified Table 1.</p> <ul style="list-style-type: none"> • All the points, which are not flagged as withheld and fall within the classification scheme (Table 1) shall be properly classified. • No points in the classified LAS point cloud deliverable may remain assigned to Class = 0 unless these points are flagged as withheld. • No classification code may be used to identify points as overlap point. • Points classified as water will only be checked when associated with a breakline. • If overlap points are required to be differentiated specifically as one of the requirements of the project, they shall only be identified using the overlap flag, as defined in LAS v1.4. • Any other techniques as mutually agreed upon

		<ul style="list-style-type: none"> • It is required that due diligence in the classification process will produce data that meet the following test: • Within any 1 km × 1 km area, no more than prescribed threshold (corresponding to Level of Classification defined for class in Table 1) of (non-withheld) points shall possess a demonstrably erroneous classification value. • The Service providers submit documentary evidence of check of classification accuracy with a detailed note about how it is checked and assured. • Buyer or his designated representative may perform detailed visual inspections of individual classified scan line profiles with reference to ORI to independently check if classification standards have been achieved for the specified classes. • Point classification is to be consistent across the entire project. There shall not be the noticeable variations in the character, texture, or quality of the classification between tiles, swaths, flights, or other non-natural divisions. • The classes required for the LiDAR point clouds and their classification levels L1 to L4, is given in Table 1. <p>The LiDAR point cloud should be classified into various categories such as ground, buildings, vegetation, and utilities The point cloud must be delivered in .LAS format.</p>
	<p>Orthorectification</p>	<ul style="list-style-type: none"> • The digital elevation data required for orthorectification shall be produced from the LiDAR data. Also, Digital elevation model (DEM) derived from LiDAR data shall be of sufficient quality and accuracy for orthorectification purposes. • The process of rectification shall involve a solution of the appropriate photogrammetric equations for each pixel in the output photograph. Therefore, along with the tie points, the other intermediate points shall also be involved to solve photogrammetric equations. • Practice to solve photogrammetric equations at anchor points only and then warp the content of the original photograph between the tie points, will not be accepted.

	<ul style="list-style-type: none"> • The orthophotos shall be seamlessly edge-matched. To ensure consistency, the photographs shall be radiometrically and geometrically corrected to enable adjacent files to be displayed seamlessly. • Minimization of photograph distortions and smearing shall be targeted. The presence of warped and misaligned above ground transportation features is not acceptable. However, misalignment of such features shall be more than 0.3 m. • All images should be clear and sharp in detail with no light streaks, static marks, scratches, or other noticeable blemishes. The imagery should be free from defects, such as out-of-focus imagery, and should not contain inconsistencies in tone and/or density between individual orthos and/or adjacent sheets. To ensure consistency, the imagery should be radiometrically and geometrically corrected to enable adjacent files to be displayed simultaneously without obvious distinctions between them.
Digital Elevation Model (DEM):	<p>A high-resolution DEM should be created from the LiDAR data, delivered in .TIF or .IMG format. The DEM should have a minimum resolution of 0.5m with vertical accuracy of 25 cm</p> <p>Absolute Altimetric accuracy for Digital Elevations Models (DEM) for Indian vertical datum shall be</p> <ul style="list-style-type: none"> ○ $RMSE_z$ (non- vegetated) ≤ 0.250 m
Digital Terrain Model (DTM)	<p>A DTM should also be provided, showing the bare earth surface, excluding buildings and vegetation. The DTM should be delivered in .TIF or .IMG format with the same resolution as the DEM with vertical accuracy of 25 cm</p>
Metadata:	<p>Accompanying metadata should describe the data collection process, sensor specifications, and any processing steps taken. .XML for metadata</p>

2	GNSS Data for occupations of base-stations and Check Points	<ol style="list-style-type: none"> i. GPS data files for all occupation of Control Points & Check Points in excess of 15 min, are to be provided in RINEX V3.02 or later format (Receiver Independent Exchange Format). ii. GPS observation log sheets should include the following details: <ol style="list-style-type: none"> a. Survey mark id b. Occupation time & date c. Antenna height measurements d. Instrument /antenna types & serial numbers iii. The GPS observation log sheets should be provided in pdf format or Excel spreadsheet if data is captured digitally. iv. Every checkpoint used to assess absolute vertical accuracy shall have a corresponding ground photograph v. File naming as per Data Supply Specifications below.
3	Aerial Imagery and Orthomosaics	File format .TIF for orthomosaics, .JPG/.TIFF for Nadir and or oblique images, .XML for metadata
	Orthomosaics	<ul style="list-style-type: none"> • Minimum 8 bit per band Radiometric Resolution in accordance with chosen image format • 0.05 m GSD • Each orthomosaics and orthorectified photographs shall have georeferencing information with reference to the specified projection / mapping coordinate system, embedded in its header. • 16-bit floating-point GeoTIFF raster format. • Delivery in seamless tiles, as per Data Supply Specifications below. • File naming as per Data Supply Specifications below. <ul style="list-style-type: none"> • RMSE_r of orthophoto shall be computed using the field observed coordinates of sharp features such as footprints of corners of buildings and boundary walls, Zebra crossing, sharp intersections of pathways etc or of well-designed targets, which can be identified in orthophoto data sharply. Please note that top of vertical artifacts such as Buildings, Boundary walls, Parapets etc might be affected due to relief displacement in Orthophoto, hence only those corners of such structures to be used where their base on ground, is clearly visible in orthophoto.

	<ul style="list-style-type: none"> The test sites for determining $RMSE_r$ shall be spread across the study area and could be same as those used for vertical RMSE. $RMSE_x = \sqrt{\frac{\sum_{i=1}^n (X_i - X_i^{ref})^2}{n}}$ $RMSE_y = \sqrt{\frac{\sum_{i=1}^n (Y_i - Y_i^{ref})^2}{n}}$ $RMSE_r = \sqrt{RMSE_x^2 + RMSE_y^2}$ <ul style="list-style-type: none"> $Accuracy_r = RMSE_r \times 1.7308$ $Accuracy_r \leq \pm 10 \text{ cm.}$
Oblique Imagery	Oblique angle images should be provided in .JPG or .TIFF format with appropriate geotags. The oblique imagery should be having the same specifications as mentioned for orthomosaics. Horizontal accuracy ($Accuracy_r$) should be within $\pm 10 \text{ cm}$
Data Tiles:	<p>Data tiling should be done as follow:</p> <ul style="list-style-type: none"> 1km x 1km tiles based on UTM coordinates with origins that align with the zero (0) origin of the UTM Zone. The origin of the tile must be placed on a whole metre coordinate value of the south west corner of each tile. A Tile Index is to be provided by the service provider in shape file format. The tile name as specified above must be included as an attribute in the Tile Index file.
Metadata	<p>Metadata compliant to Indian NSDI Metadata standard 2.0 shall be supplied for the followings:</p> <ul style="list-style-type: none"> The overall project: An XML file describing the project boundary, the intent of the project, the types of data collected and the various deliverables. Flightlines for a particular project covering the number of swaths, locations of GNSS/CORS base and control stations preprocessing, and calibration details. An XML file for each of the tiled deliverables i.e., Classified point data, Bare-earth DEM, Breaklines, Orthophotos, DSM, etc.

4	3D City Model	Models should accurately depict building facades, roofs, and other features with a detail level consistent with the captured data. File format .OBJ, .FBX, .3DS for 3D models, .SHP/.GDB for GIS layers.
	3D Model Files	A detailed 3D city model should be generated, incorporating buildings, terrain, and other infrastructure. The model should be delivered in .OBJ, .FBX, or .3DS format
	Textured Models	The 3D models should be textured using the captured imagery, providing realistic representations of the buildings and terrain.
	GIS Integration	The 3D models should be compatible with GIS software and be integrated into a GIS database, delivered in a format such as .SHP or .GDB
5	Feature Extraction and GIS Data	2D and 3D Features using a. ORI and b. digital stereo images (TECHNOLOGY-1) and 3D Models extracted (TECHNOLOGY 2 & 3) -Positional accuracy should be within ± 10 cm for GIS layers. File format .SHP, .geopackage/similar for GIS data, .KML, .cityGML for geospatial visualization
	Extracted GIS Layers (For all Technologies)	Separate GIS layers for buildings, utilities, roads, and other key features should be provided. These layers should be delivered in .SHP, .geopackage/or similar, or .KML or cityGML open formats
	Attribute Data(interpreted from ORI & Models)	Each feature should have associated attribute data, such as height, area, and type, provided in a compatible database open format
	Property Boundary Markers	A 2D/3D property boundary marker layers (using a. ORI and b. digital stereo images) (TECHNOLOGY-1)/3D (TECHNOLOGY-2 & TECHNOLOGY-3) topographical property layer based on topographical markers should be delivered in .SHP, geopackage, cityGML open formats
6	CRS & Size	All deliverables must conform to the following projection, datum, and coordinate system <ul style="list-style-type: none"> • Projection: Universal Transverse Mercator projection. • Horizontal datum: The World Geodetic Datum 84 (WGS 84) • Vertical datum: The World Geodetic Datum 84 (Ellipsoidal datum), realized through Sol CORS Network and Indian Vertical Datum maintained by SOI realized through SOI's Height Benchmarks or Geoid Model. Where Geoid Model is available, SOI will provide the Geoid.

		<ul style="list-style-type: none"> • File sizes of tiles cannot exceed 1 gigabyte, unless otherwise specified by the Sol. Each file must be organized to facilitate data manipulation and processing.
9	Data Delivery Reports	<p>A delivery report describing the contents of the data supplied with every data delivery (interim, staged, final).</p> <ul style="list-style-type: none"> • All data regarding the specifications of the sensors. • Documents regarding OEM calibration information certification and preventive maintenance schedule • Reports on The flight planning and layout specifications • Reports on the Control Point and Checkpoint distribution. • Reports on Survey for providing the Control Point and Checkpoint. • Report of the calibration survey and the documentation on points of calibration. • Report on Data Processing, Swath adjustment and Point classification. • Reports on the planimetric, Altimetric and relative accuracies of LiDAR point data. <ul style="list-style-type: none"> • Reports on the validation of ANPD. • Reports on the accuracy assessment of the bare earth surface. • Reports on the classification accuracy assessment for each of the classes. • Reports on the accuracy assessment of the Orthophoto.
10	Delivery Media	<ul style="list-style-type: none"> i. Data should be delivered on External Hard Drive of 20TB. It is also required to be uploaded on Sol cloud as and when ready. ii. Data deliveries should be clearly labelled with Name of Service Provider, date of supply and list of contents.

11	Report Formats	All reports are to be provided in Word (.doc/.docx) format, Excel spreadsheet (.xls/.xlsx) or appropriate digital format as approved by SOI.	
12	File naming	Trajectory files	ProjectNameYYYY- TRJ _UTMzz.abc
		Raw point cloud files	ProjectNameYYYY- UNC -DAT-SWT-UTMzz. las
		Classified point cloud files	ProjectNameYYYY-CL-DAT_xxyyyy_UTMzz_www w_hhhh. las
		Model key point data and single class point clouds	ProjectNameYYYY-CL-CLS-DAT_xxyyyy_UTMzz_www w_hhhh. las
		LiDAR intensity and other derived photographs	ProjectNameYYYY-TYP-GSD- xyyyy_UTMzz_www_h hhh. tif
		Other datasets	ProjectNameYYYY-TYP_UTMzz.abc
		Aerial photographs	ProjectNameYYYY-TYP-FLT_FRM. tif
		Key of variables	
		ProjectName	A meaningful description of the total survey area such as DELHI-ARVLI
		YYYY	Year of survey such as 2024
		CL	Classification Level (Levels can be 1, 2, 3 and 4) such as C1,C2,C3 and C4
		CLS	Class such as BLD: Building; MKP: Model keypoints; GND: Ground; LVE, MVE, HVE: Low, medium or high vegetation

		DAT	Datum such as ELL: Ellipsoidal, MSL: Orthometric
		SWT	Swath number (1 file per swath) such as 001,002,.....n
		TYP	INT: Intensity photographs; RGB/RGBI: RGB photographs ;DEM / DSM / CHM / CCM: LiDAR elevation data derived photographs; ORT: Orthophoto Breakline – BRK; BDR – Project boundary; FGT – Swath bounds; TIL – Tile bounds; CNT – Contour
		FLT	Flight line number such as 074
		FRM	Frame number such as 002
		xxxxxxx	Easting and northing value (whole kilometers) of the south- west corner of the tile, such as 4806558 (480,000mE) (6558,000mN)
		UTMzz	UTM zone of the file such as UTM44
		wwww	Width of the tile in whole kilometres such as 0050

		hhhh	Height of the tile in whole kilometres 0034
		.abc	File types: .out – Applanix SBET file .pos – POS-AV file .xml – Trajectory in XML .txt – Trajectory in text file .gml – Geography markup language .kml – Keyhole markup language .gpkg – Geopackage .xml – XML

Table 1 Classification scheme for LiDAR point clouds and Classification Level Required

Value	Point Class	Description	Required classes	Classification Level Required (Specified accuracy range in %)			
				L1 (<90)	L2 (90-95)	L3 (95-98)	L4 (>98)
0	Unclassified	Created, never classified	<input checked="" type="checkbox"/>				
1	Default	Unclassified	<input checked="" type="checkbox"/>				
2	Ground	Bare ground	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
3	Low vegetation	0 - 0.3m (essentially sensor noise)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
4	Medium vegetation	0.3 - 2m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
5	High Vegetation	> 2m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
6	Building's Structure	Buildings, houses, sheds, silos etc.	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
7	Low Point (Noise)	Spurious low point returns	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
8	Reserved		<input checked="" type="checkbox"/>				
9	Water	Any point in water	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
10	Rail		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

11	Road Surface		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
12	Reserved		<input checked="" type="checkbox"/>				
13	Wire - Guard (Shield)	e.g. ground wires structure	<input checked="" type="checkbox"/>				
14	Wire - Conductor (Phase)		<input checked="" type="checkbox"/>				
15	Transmission Tower		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
16	Wire-structure Connector	e.g. Insulator	<input checked="" type="checkbox"/>				
17	Bridge Deck		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
18	High Noise		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
19	Overhead Structure	e.g., conveyors, mining equipment, traffic lights	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
20	Ignored ground	Typically breakline proximity	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
21	Snow	if present and identifiable	<input checked="" type="checkbox"/>				
22	Temporal exclusion	Features excluded due to changes over time between data sources - e.g., water levels, landslides, permafrost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
13-63	Reserved		<input checked="" type="checkbox"/>				
64-255	User definable		<input checked="" type="checkbox"/>				

5. PROJECT PLANNING AND REPORTING SPECIFICATIONS AND QUALITY ASSURANCE SPECIFICATIONS

Quality Control/ Quality Assurance (QC/QA) of the Processed/ derived data from Aerial flying is primarily the responsibility of the Service Provider. The Survey of India may perform additional QC/QA testing if needed. Pragmatic QA specifications would need be agreed by the Service Provider with the Survey of India (Sol) in regard to intermediate steps of Aerial data acquisition and post-processed Aerial data. The derived products will be evaluated for spatial accuracy and general conformation to prescribed requirements.

6. QUALITY ASSURANCE REPORT SPECIFICATIONS

I FOR GROUND CONTROL POINT & CHECKPOINTS		
Sl. no	Description	Specifications
1.	Horizontal Accuracy	<ul style="list-style-type: none"> Required accuracy of control points $RMSE_r = \sqrt{RMSE_x^2 + RMSE_y^2} \leq 0.03$ m with respect to Survey of India GCPs/CORS stations. Required accuracy of check points $RMSE_r = \sqrt{RMSE_x^2 + RMSE_y^2} \leq 0.06$ m
2.	Procedure	<p>The accuracy of the ground control points (base stations & Check Points) will be checked by Network Adjustment Report / Post Processing Report submitted by service provider as deliverables. The Sol may process the GNSS data of base station and Check Points provided in RINEX format for independent check.</p> <p>Should more than 5% of the GNSS data that are subjected to external QC fail to meet the specifications the service provider is expected to rectify these problems, and (where necessary to comply with the specification) make fresh GNSS observation at his own cost to achieve the required accuracy.</p>
3	Numbers	Ground control points as per requirement and at least 5 Check points in each 10 sq km Area. Check points should be spatially well distributed in Area.
II FOR ORTHORECTIFIED IMAGE, Orthomosaic and, 3D Realty and vector Model		
1	Horizontal and vertical accuracy and GSD	(a) GSD 5cm or better (b) $RMSE_{x,y} \leq 10$ cm and $z \leq 25$ cm (wrt WGS84 using SOI's CORS Network for Horizontal and Indian Vertical Datum)
	Procedure	a) Visual inspection of the mosaic to check blurred imagery, improper colour balancing, colour bleeding and shadow details, edge mis-matches. Orthorectified Images should be clear and sharp in detail with no light streaks, static marks, scratches, ice effects or other noticeable blemishes. The ORI should be free from defects, such as out-of-focus image/photo, and should not contain inconsistencies in tone and/or density. To ensure consistency, the imagery should be radiometrically and geometrically corrected to enable adjacent files to be displayed

		<p>simultaneously without obvious distinctions between them. The ORI should have no distortions and smearing and should be seamless edge-matched and of highest quality.</p> <p>b) Planimetric Accuracy</p> <ul style="list-style-type: none"> • RMSE_r of LiDAR point data shall be computed using the field observed coordinates of sharp features such as corners of buildings and boundary walls, Zebra crossing, etc or of well-designed targets, which can also be identified in LiDAR point cloud with or without the use of intensity data. • RMSE_r of orthophoto shall be computed using the field observed coordinates of sharp features such as footprints of corners of buildings and boundary walls, Zebra crossing, sharp intersections of pathways etc or of well-designed targets, which can be identified in orthophoto data sharply. Please note that top of vertical artifacts such as Buildings, Boundary walls, Parapets etc might be affected due to relief displacement in Orthophoto, hence only those corners of such structures to be used where their base on ground, is clearly visible in orthophoto. • The test sites for determining RMSE_r shall be spread across the study area and could be same as those used for vertical RMSE. • $RMSE_x = \sqrt{\frac{\sum_{i=1}^n (X_i - X_i^{ref})^2}{n}}$ • $RMSE_y = \sqrt{\frac{\sum_{i=1}^n (Y_i - Y_i^{ref})^2}{n}}$ • $RMSE_r = \sqrt{RMSE_x^2 + RMSE_y^2}$ • $Accuracy_r = RMSE_r \times 1.7308$ <p>Where X_i and Y_i are x and y coordinates of sharp features or target identified in LiDAR point cloud or Orthophoto (as applicable) corresponds to <i>i</i>th checkpoint and X_i^{ref} and Y_i^{ref} are x and y coordinates of <i>i</i>th checkpoint.</p>
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		<p>c) Altimetric Accuracy</p> <ul style="list-style-type: none">• Altimetric accuracy assessment of all deliverables will be assessed for Indian vertical datum height accuracy.• RMSE_z shall be determined using check points on available land cover/land use classes. The most common land cover categories are as follows:<ul style="list-style-type: none">○ Open terrain (sand, rock, dirt, ploughed fields, lawns, golf courses).○ Urban areas with dense man-made structures.○ Tall weeds and crops.○ Brush lands and low trees.○ Forested areas fully covered by trees.• The classes 1 and 2 shall be used for NVA while others for VVA.• In a given AoI of size less than or equal to 200 km², there shall be at least 4 test sites well distributed over entire area. In a single test site, 20 checkpoints shall be selected. AoI above 200 Km², one test site shall be added for every 50 km². Distribution of test sites in each class shall be divided proportionally. For example, if a project site is 1000 km², of which 400 km² is covered by classes 1 and 2 and rest by classes 3 to 5, there shall be 8 test sites for classes 1 and 2 and 12 test sites for classes 3 to 5. Each test site will have a minimum of 20 checkpoints.• Test sites must be established to adequately cover the full extent of the survey area (AOI) and be representative of the project area landscape, covering entire extent of area. Hence number of test sites can be increased to cover AOI uniformly.• RMSE_z of the LiDAR point data shall be determined by creating a triangulated irregular network (TIN) of the ground class LiDAR data points after filtering out the outliers.• RMSE_z of the DEM shall be determined from final bare-earth surface.• Using the planimetric coordinates of the <i>i</i>th check points and the TIN or Bare earth Surface (as applicable), the Z-coordinate of the location shall be determined as Z_i, whereas Z_i^{ref} shall be altimetric coordinate of the <i>i</i>th checkpoint.
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		<ul style="list-style-type: none"> $RMSE_z = \sqrt{\frac{\sum_{i=1}^n (Z_i - Z_i^{ref})^2}{n}}$ Where n – Total number of check points.
III FOR GIS READY VECTOR DATA BASE stage 1.0 Map		
	Procedure	<p>Visual (Onscreen) inspection of the Feature extracted Stage 1.0 Map will be carried to check following:</p> <ul style="list-style-type: none"> Whether the map is on correct Projection and Datum and scale? Whether the map is on correct Sol Schema? Whether all the features are digitized as per schema or there is any omission? Whether all the features are digitized in correct geometry (Point, Line & Area) as per features? Whether all the features are digitized in correct feature class and sub category? Whether the map is digitized at sufficient zoom level? Feature shall be extracted as specified by Sol team based on accuracy requirement of Resulting Map Whether the feature/ attribute table is correct and complete as per Sol schema or as per requirement of State authorities? Whether the map sheet is on correct Sol template for printing? Whether the Sheet No., Administrative Index and Sheet Index is correct on map sheet in .mxd/pdf format Whether print is on correct scale and coloring scheme
	Validation	The Sol may at its discretion can run the Schema Validation/Topology check program to check the feature extracted map in addition to onscreen examination.

7. Additional Specific QA/QC Parameters

1. LiDAR Data

Accuracy and Precision:

- **Vertical Accuracy:** Verify that vertical measurements are within ± 25 cm of ground truth.
- **Horizontal Accuracy:** Ensure horizontal measurements are within ± 10 cm of ground truth.
- **Point Density:** Confirm that the point density meets the minimum requirement of 10 points per square meter.

Classification and Filtering:

- **Classification Accuracy:** Check the accuracy of classification for ground, vegetation, buildings, and other categories. Perform random sampling and validation.
- **Noise Filtering:** Ensure that noise and outliers have been appropriately removed from the point cloud.

Data Completeness:

- **Coverage:** Verify that the entire project area is covered with no gaps in the data.
- **Overlap:** Ensure that data from overlapping flight passes are correctly integrated.

Quality Checks:

- **Point Cloud Visualization:** Inspect point clouds visually to identify any anomalies or inconsistencies.
- **Consistency Checks:** Compare LiDAR data with existing maps or reference datasets to verify consistency.

Imagery Data

Geometric Accuracy:

- **Orthorectification Accuracy:** Ensure that orthophotos are accurately rectified, with geometric distortions minimized. Validate against ground control points (GCPs).
- **Spatial Resolution:** Confirm that imagery meets the required spatial resolution of 5 cm per pixel.

Image Quality:

- **Sharpness and Clarity:** Verify that images are sharp and clear, with no blurring or distortion.
- **Color Consistency:** Check for color consistency across the image mosaic to avoid visible seams.

Coverage and Overlap:

- **Image Coverage:** Ensure that the entire project area is covered without gaps.
- **Overlap:** Validate that the image overlap meets the specified requirements i

Quality Checks:

- **Visual Inspection:** Conduct visual inspections of imagery to identify and address any issues.
- **Error Correction:** Document and correct any identified errors or issues in the imagery.

3D Models

Accuracy and Detail:

- **Model Accuracy:** Verify that 3D models are accurate and align with LiDAR and imagery data. Perform checks against known ground control points.
- **Detail and Resolution:** Ensure that the level of detail in 3D models meets the project specifications, including accurate representation of terrain and structures.

Integration and Fusion:

- **Data Integration Accuracy:** Confirm that LiDAR and imagery data are correctly fused in 3D models, with seamless integration and no visible inconsistencies.
- **Texture Mapping:** Validate that textures are correctly applied to 3D models, enhancing realism without distortions.

Quality Checks:

- **Model Visualization:** Inspect 3D models visually to ensure accuracy and completeness.
- **Comparison with Reference Data:** Compare models with existing reference data to verify accuracy and consistency.

Data Integration and Delivery

Data Fusion:

- **Consistency Checks:** Verify that LiDAR and imagery data are consistently integrated, with no misalignment or data discrepancies.
- **Resolution Matching:** Ensure that data from different sources are matched to a consistent resolution.

Metadata and Documentation:

- **Completeness:** Check that all required metadata and documentation are complete and accurately describe the data and processing methods.
- **Accuracy:** Verify that metadata accurately reflects sensor specifications, acquisition parameters, and processing details.

Delivery Quality:

- **Format Compliance:** Ensure that all deliverables are provided in the specified formats such as, LAS/LAZ for LiDAR, GeoTIFF for imagery, OBJ/FBX for 3D models).
- **File Integrity:** Verify that files are not corrupted and are accessible without errors.

Final Review:

- **Employer Feedback:** Address any issues or feedback from the client during the final review of deliverables.
- **Acceptance Criteria:** Ensure that all deliverables meet the acceptance criteria outlined in the contract and project specifications.

8. RESPONSIBILITIES

Service Provider Responsibilities

- a) The Service Provider will have the responsibility to provide necessary documentation for obtaining clearance from GoI agencies for flying over the survey area, acquiring and processing Aerial data including QA/QC, and delivery of raw and processed products to Survey of India. However all requisite clearances for Aerial Flying and Drone/RPAS equipment type as per Drone Rule 2021 from appropriate authority will be responsibility of Service provider.
- b) The Service Provider shall set up a local office in Sol GDC for coordinating flying and data acquisition, and processing, and interaction with the Sol. Necessary infrastructure for office and technical work will be created in the local office.
- c) The Service Provider will have the responsibility to ensure compliance of DGCA issued guidelines for Requirements for Operation of Civil Remotely Piloted Aircraft System(RPAS) or other Aerial Vehicle, sensors used for Data Acquisition

Employer Responsibilities

- Facilitates clearance of applications and liaison with concerned authority for Drone flying activity.
- Facilitation of interactions with GoI agencies and with state agencies if needed.
- The employer (Survey of India) shall facilitate Static observation data of CORS network for Ground Control.
- Release of funds and review of reports according to the agreed schedule.
- Constitution of a Technical Committee to support for interaction with the Service Provider on technical issues through the contract period, and in reviewing reports and recommending follow-on actions, QA/QC and for evaluating digital products prior to acceptance.
- The Survey of India shall nominate suitable officer to coordinate the activities, and provide necessary interaction at appropriate times to avoid any disturbance and loss of time for carrying out the assignment.
- Notification for entry to the land for surveying & authorization letter to civil authorities shall be given to the Service Provider.
- Any other facilities mutually agreed upon by employer and the Service Provider.

Responsibility of the Urban Local Body (ULB)

The Urban Local Body (ULB) plays a crucial role in the successful execution of the 3D mapping project. Their responsibilities are outlined below:

1.2 Ground Validation and Ground Truthing

- **Facilitation and Coordination:**
 - The ULB is responsible for facilitating ground validation and ground truthing activities. This includes providing access to local data, maps, and existing infrastructure information.
 - The ULB must coordinate with the selected bidder to ensure smooth and timely execution of ground validation activities.
- **Support in Ground Truthing:**
 - The ULB will provide local knowledge and resources to assist in the ground truthing process. This may include providing personnel, access to restricted areas, and logistical support.
 - The ULB will ensure that the ground truthing data collected is accurate, and it will validate this data in collaboration with the bidder.

1.3 Data Sharing and Access

- **Provision of Existing Data:**
 - The ULB will provide the bidder with access to existing spatial data, cadastral maps, utility maps, and any other relevant information that may aid in the 3D mapping project.
 - The ULB will ensure that the data provided is up-to-date and accurate, and will notify the bidder of any limitations or discrepancies.
- **Access to Public Utilities and Infrastructure:**
 - The ULB will facilitate access to public utilities and infrastructure for the purpose of data collection and validation. This includes coordinating with utility companies, infrastructure departments, and other relevant entities.

1.4 Compliance and Regulatory Approvals

- **Ensuring Compliance:**
 - The ULB will ensure that all activities related to the 3D mapping project comply with local laws, regulations, and guidelines. This includes obtaining any necessary permits, clearances, and approvals.
 - The ULB will work closely with the bidder to ensure that all regulatory requirements are met throughout the project.
- **Regulatory Approvals:**
 - The ULB will assist the bidder in obtaining any required regulatory approvals for data acquisition, especially in restricted or sensitive areas.
 - The ULB will liaise with relevant government agencies to expedite the approval process and ensure that the project timelines are adhered to.

1.5 Final Review and Acceptance

- **Review of Deliverables:**
 - The ULB will participate in the review and acceptance of the final deliverables, including the 3D city model, GIS data layers, and other project outputs.
 - The ULB will validate that the deliverables meet the specified accuracy and quality standards before final acceptance.
- **Sign-Off on Project Completion:**
 - The ULB will provide formal sign-off on the completion of the project, indicating that all deliverables have been satisfactorily received and that the project objectives have been met.
 - The ULB will also ensure that all data and documentation are handed over to the relevant departments for future use and reference

Schedule VII-1: Method Statement

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 9.2)

Method Statement Components for the Bid

[TECHNOLOGY WISE MUST BE SUBMITTED for each package]

1. Introduction

- **Project Overview:**
 - Brief description of the project scope, objectives, and key deliverables.
- **Purpose of the Method Statement:**
 - Explanation of the purpose of the method statement in demonstrating the bidder's understanding and approach to the project.
- **Company Background:**
 - Overview of the bidder's company, including relevant experience and expertise.

2. Work Methodology

- **Detailed Work Plan:**
 - Step-by-step explanation of how the work will be executed, including the sequence of operations.
 - **Data Acquisition:**
 - Description of the methods and technologies (drones, manned aircraft, LiDAR, cameras) to be used for data collection.
 - Details on flight planning, area coverage, sensor calibration, and data capture process.
 - Procedures for ground validation and ground truthing, including coordination with Urban Local Bodies.
 - **Data Processing:**
 - Methodology for processing collected data, including LiDAR data classification, photogrammetry, and GIS integration.
 - Workflow for feature extraction, 3D modeling, and creation of the final 3D property layer.
 - Quality control measures during data processing.
 - **Data Delivery:**
 - Plan for delivering processed data, models, and GIS layers, including formats, timelines, and submission protocols.
 - **Ground Validation:**
 - Specific approach to ground validation and truthing, and the role of the Urban Local Bodies in this process.

- **Resource Allocation:**
 - Description of the human resources, equipment, and software that will be allocated to the project.
 - Explanation of roles and responsibilities of key personnel involved in the project.

3. Quality Assurance and Quality Control (QA/QC)

- **QA/QC Plan:**
 - Detailed plan outlining the quality control processes that will be implemented at each stage of the project.
 - Description of the quality standards to be followed and how compliance will be ensured.
 - Procedures for identifying, documenting, and rectifying errors or inconsistencies in data.
- **Reporting:**
- Format and frequency of QA/QC reports to be submitted to the client.

4. Health, Safety, and Environmental (HSE) Considerations

- **Safety Protocols:**
 - Description of safety measures and protocols to be followed during data acquisition and other field activities.
 - Risk assessment and mitigation strategies for aerial operations and other project-related activities.
- **Environmental Impact:**
 - Consideration of environmental factors and how they will be managed to minimize impact.
 - Procedures for compliance with local environmental regulations and guidelines.

5. Risk Management

- **Risk Identification:**
 - Identification of potential risks associated with the project, including technical, operational, and external risks.
- **Risk Mitigation:**
 - Strategies and contingency plans to mitigate identified risks.
- **Risk Monitoring:**
 - Procedures for ongoing risk assessment and management throughout the project lifecycle.

6. Communication and Coordination

- **Internal Communication:**
 - Plan for communication and coordination within the project team, including regular meetings and updates.
- **Client Communication:**
 - Strategy for communication with the client, including progress reports, meetings, and addressing client feedback.
- **Stakeholder Engagement:**
 - Approach to engaging with external stakeholders, including Urban Local Bodies, regulatory authorities, and community representatives.

7. Project Schedule

- **Timeline:**
 - Detailed project schedule, including key milestones, deadlines, and deliverables.
- **Phased Approach:**
 - If applicable, description of the project phases and how work will be segmented to ensure timely completion.
- **Contingency Planning:**
 - Plan for handling delays or unforeseen issues that may impact the project timeline.

8. Compliance with Legal and Regulatory Requirements

- **Regulatory Compliance:**
 - Description of how the project will comply with relevant laws, regulations, and standards, including aviation regulations for aerial platforms.
- **Permits and Approvals:**
 - List of permits and approvals required for the project, and the process for obtaining them.
- **Data Privacy and Security:**
 - Measures to ensure the protection of sensitive data and compliance with data privacy laws.

9. Conclusion

- **Summary:**
 - Recap of the proposed approach and commitment to delivering high-quality results.
- **Value Proposition:**
 - Highlight the unique strengths and value that the bidder brings to the project

Schedule VII-2: Work-Plan

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 9.2)

1. Resource Deployment

- (i) Activity wise Effort Estimate viz. Raw Data Acquisition, Provision of Ground Control, Post-Processing, Generation of ORI, DEM and 2D / 3D GIS data.
- (ii) Activity wise expected out-turns
- (iii) Manpower resources proposed based on effort estimate calculation & expected out-turns for all the activities
- (iv) Details of resource deployment for Internal QA/QC by the bidder shall also be provided.
- (v) Number of shifts proposed
- (vi) Quantity of equipment (Aerial Vehicle /Drone fitted with on-board GNSS, Lidar sensor, Oblique angle Camera), instruments, hardware and software for every activity

2. Time Schedule

- (i) Bidder shall provide outline the time-schedule of activities, their phasing and interrelations, milestones and delivery plan.
 - (ii) Bidder shall provide details of resource deployment in similar services performed by them in previous projects to justify that the proposed work plan from their previous experience
 - (iii) The work-plan, schedule and resource deployment has to be submitted separately for different Packages clearly bringing out the details of resources/works that are clubbed (if any).
3. In case of JV/C and sub-contracting for permitted activities, the division of responsibility to each member should be clearly spelt out.
 4. Bidder shall provide details of resource deployment in similar services performed by them in previous projects to justify that the proposed work plan from their previous experience
 5. If the bidder has quoted for multiple Package/States (say 2 Package or 4 states), the work-plan & schedule has to be submitted separately for package containing Group of states/states (say 2 package/4states). The resource deployment of such proposals of the package shall clearly bring out the details of resources that are clubbed (if any).

Schedule VII-3: Critical Materials Schedule

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 9.2)

Note to the Bidder: Fuel, materials, and consumables required for equipment operation and maintenance are not included here but shall be included in his quoted rate in Equipment Schedule Cost Breakup in Financial Bid. Cost of Non-critical miscellaneous materials (e.g., Safety/ Personnel/ Hygiene Material for Personnel) are not included here but may be included as lumpsum per month in the Material Schedule Cost Breakup in the Financial Bid.

Critical Material Schedule				
Item Sr	Description/ Category	Specifications/ Capacity/ Condition and Age	Location	Quantity per Service/ per day or shift/ per personnel/ per location
1	2	3	5	6
1.				
2.				
3.				
4.				
5.				

Section VIII: Qualification Criteria

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

(Ref ITB-clause 9.2)

Note for Bidders: Regarding this Schedule, Bidders shall submit the following forms, considering necessary for the stipulated form of BOQ/ Contract.

- 1) Form 4: Qualification Criteria - Compliance
- 2) Form 4.1: Performance Statement
- 3) Form 4.2: Non-performance, Litigation Statement
- 4) Form 4.3: Financial Capability Statements
- 5) Form 3.3: Personnel Deployment Plan
- 6) Form 3.4: Equipment Deployment plan

Relevant Date when the specified period ends for different supporting reports shall be:

- 1) For all annual reports, periods mentioned are ending with the financial 31st March 2024
- 2) For other statements, periods mentioned end on the month before the last date of bid submission.

Criteria 1 - Experience and Past Performance, General/ Mandatory Eligibility Requirement:	Relevant variables	Please submit evidence in
<p>a) Similar Experience: Completed or substantially (at least α payments received) completed similar works during last β years should be either of the following: -</p> <ol style="list-style-type: none"> i) Bidders may quote for one or more Packages or for all the Packages. To ensure the bidder has the necessary experience and financial capacity, the following work experience criteria based on the value of projects are applicable for each Package they choose to bid ii) Package-Specific Work Experience Based on Value: The bidder must have successfully completed one or more no. of projects of similar nature and scope for each Package they are bidding for, with a minimum cumulative project value of 50 lakh for the Package being bid on. <p>These projects should involve:</p> <ol style="list-style-type: none"> 1) For Packages of Technology-1: <ol style="list-style-type: none"> a. Aerial imagery capture b. Aerial imagery processing c. 2D and Stereo Digitisation 	<p>$\alpha = 80\%$</p> <p>$\beta = 5 \text{ years}$</p>	<p>Form 4.1: Performance Statement.</p>

<p>2) For Packages of Technology-2:</p> <ul style="list-style-type: none"> a. Aerial imagery capture b. Aerial imagery processing c. 3D Reality Model with 3D vector Model (LoD-1 or better) <p>3) For Packages of Technology-3:</p> <ul style="list-style-type: none"> a. Aerial imagery and LiDAR data capture b. Aerial imagery and LiDAR data processing c. 3D Reality Model with 3D vector Model (LoD-1 or better) Integration of LiDAR and imagery data into GIS platforms iii) Work experience certificate from bonafied agency/organization/firm etc. should be submitted in support of the claim. iv) Certificate from the private individual shall not be accepted. 		
<p>b) Non performing Contracts and Litigation: Bidder shall furnish documentary evidence to demonstrate that.</p> <ul style="list-style-type: none"> i) Non-performance of a contract did not occur within the last γ years, based on all fully settled disputes or litigation information. ii) Financial implications of all pending litigation shall in total not exceed δ of the Bidder's net worth. iii) Failure to sign a contract after receiving a notice of award has not occurred in the past ϵ years. 	<p>$\gamma = 5$</p> <p>$\delta = 10\%$</p> <p>$\epsilon = 5$</p>	<p>Form 4.2: Non-performance, Litigation Statement</p>
<p>c) General/Mandatory Eligibility criteria</p> <ul style="list-style-type: none"> i) The bidder must be either a registered sole proprietorship I partnership firm or a Company Registered under the Indian Companies Act, 1956/2013 and should be operational minimum for last 3 years in the field of operation as listed in Section-VI schedule of requirements above. ii) The Bidder/Lead Partner should have ISO 9001:2015(QMS), ISO 27001:2013 (ISMS) & CMMI Level3 certificate for any one / more of the following services: Consulting and Implementation Services in the Field of Aerial Data Acquisition ,Geospatial Solutions Including GIS Applications, Data Creation Using Imagery, Photogrammetry, Specialized 		<ul style="list-style-type: none"> i. Registration Certificate ii. Valid copy of the Certificates: ISO 9001:2005 ISO 27001:2013 CMM Level 3

<p>Surveys, Drone / UAV Surveys, 3D Laser Scanning & Modelling, GPR, Engineering Survey, Analysis etc.</p> <p>iii) The bidder or OEM must have office and firm arrangement in India to provide support as well as comprehensive management of work. The bidder should have at least one registered and physically verifiable office in any one city where Sol Geo-Spatial Directorate is located.</p> <p>iv) Bidder should have a valid GST registration</p> <p>v) The Bidder should not have been banned/ Black listed by any Central/ State Govt. and public sector Organization and nay court of law or under a declaration of ineligibility for corrupt and fraudulent practice during the submission and evaluation of the bid.</p> <p>vi) Bidder abides to adhere the following Major Labor Laws in India applicable to Establishment:</p> <p>(i) Workmen Compensation Act1923</p> <p>(ii)Payment of Gratuity Act 1972</p> <p>(iii)Employees P.F. and Miscellaneous Provision Act 1952</p> <p>(iv)Maternity Benefit Act 1951</p> <p>(v)Contract Labor (Regulation & Abolition) Act 1970</p> <p>(vi)Minimum Wages Act 1948</p> <p>(vii)Payment of Wages Act 1936</p> <p>(viii)Equal Remuneration Act 1979</p> <p>(ix)Industrial Disputes Act 1947</p> <p>(x)Industrial Employment (Standing Orders) Act 1946</p> <p>(xi)Child Labor (Prohibition &Regulation) Act 1986</p> <p>(xii)Certificate of self-certification from DST website</p>		<p>iii. Bidder to provide the certificate and address proof</p> <p>iv. Bidder to provide the certificate and address proof</p> <p>v. Bidder to provide undertaking</p> <p>vi. Bidder to provide Certificate/ undertaking</p> <p>vii. Bidder to</p>
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<p>(xiii) Any other laws/guidelines applicable for service provider for provisioning Scope of Work of this RFP</p> <p>vii) Undertaking to abide by Geospatial Guidelines, 2021 of Government of India.</p> <p>viii) The Bidder should have valid ESI registration certificate or employee group registration certificate as applicable</p> <p>ix) The bidder should submit the details of agreements entered into with various manufacturers/partners for the equipment and providing services and their experience to meet the qualification & experience criterion for the turn-key solution</p> <p>x) The figures for each of the partners of a joint venture/consortium shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of ITB however, for a joint venture to qualify the partner in charge must meet at least 70 percent of those minimum criteria for an individual Bidder and other partner at least 40% of the criteria. Failure to comply with this requirement will result in rejection of the joint venture's/Consortium's Bid.</p>		<p>provide undertaking</p> <p>viii. Bidder to provide Certificate.</p> <p>ix. In a relevant format</p> <p>x. In a relevant format</p>
Criteria 2 – Performance Capability FOR EACH PACKAGE		
<p>a) Key Personnel: Bidder shall furnish documentary evidence that it would deploy (employed, hired) Key Personnel (as stipulated in Section VIII-1 below) needed to perform the Service to the specified performance standards.</p>		<p>Form 3.3: Personnel Deployment Plan</p>
<p>b) Critical Equipment: Bidder shall furnish documentary evidence that it would deploy (own, hire, lease) Critical Equipment (as stipulated in Section VIII-2 below) needed to perform the Service to the specified performance standards.</p>		<p>Form 3.4: Equipment Deployment Plan</p>
<p>c) Demonstration:</p> <p>a. Data Acquisition by Unmanned Aerial Vehicles and processing: 5 sqkm of area will be given for field demonstration. Each bidder</p>		<p>MANDATORY. Bidders who fail to demonstrate the capability of executing the</p>

<p>should demonstrate data acquisition for all three methods as per TECHNOLOGY-1, 2&3. The output product should meet the Schedule of requirements.</p> <p>b. For bidders who are proposing Manned Aerial Aircrafts as platforms, they will have to demonstrate the processing and data generation capabilities to meet the Schedule of requirements.</p> <p>c. 2D/3D feature Extraction: Bidders will be required to generate 2D/3D feature extracted GIS data as per schedule of requirement.</p> <p>d. Submission of QCRs</p>		<p>various activities of this RFP for a particular TECHNOLOGY will be declared technically non-responsive for Packages of that Package.</p>
<p>d) Site Inspection</p>		<p>Bidders who demonstrate the capability of executing the various activities of this RFP as per point c above, the Procuring entity will visit their office/production center/warehouse use for ascertaining the veracity of the proposed key personnel and equipments.</p>
<p>Criteria 3 - Financial Capability FOR EACH PACKAGE</p>		
<p><i>Note: Bidder shall furnish documentary evidence to demonstrate his current Financial Capability and demonstrate it as per the following sub-criteria.</i></p> <p>a) Financial Viability</p>	<p>ζ= 1(one)</p>	<p>Form 4.3: Financial Capability Statements</p>

<p>i) The average coefficient of Current ratio (Current Assets / Current Liabilities): Greater than ζ</p>	<p>$\eta = 50\%$</p>	
<p>ii) The average coefficient of Debt ratio (Total Debt / Total Assets): Less than η</p>	<p>$\vartheta = ₹ 5 \text{ crores}$</p>	
<p>b) Turnover: Minimum average annual turnover of at least ϑ of the advertised value of this tender, at least κ of which should be from Service Contracts], calculated as total certified payments received for contracts in progress or completed, within the last λ years., and</p>	<p>$\kappa = 50\%$</p> <p>$\lambda = 3$</p>	
<p>c) Financial Liquidity:</p>	<p>$\mu = ₹ 1 \text{ crore}$</p>	
<p>i) Access to Funds: Bidder should have access to or has available liquid assets, lines of credit and other financial means, other than any contractual advance payments, to meet μ cash flow net of applicant's commitments in this period for other contracts.</p>	<p>$\xi = 30\%$</p>	
<p>ii) The net worth: The Net worth of Bidder firm (or principal of authorised representative) should not be negative on 'The Relevant Date' and should not have eroded by more than ξ in the last 3 years.</p>		

Note to Bidder:

- 1) *The audited balance sheet and/or banking reference certified by a chartered accountant with stamp, signature and UDIN number shall be submitted by Bidder along with the bid. Banking reference (from a Scheduled Bank in India, and it should not be more than 3 months old as on date of bid submission) should contain in clear terms the amount that the bank shall be in a position to lend for this work to the applicant/ member of the Joint Venture/ Consortium. If the Current Net Assets (as seen from the Balance Sheets) are negative, only the Banking references shall be considered. Otherwise, the aggregate of the Current Net Assets and submitted Banking references shall be considered for working out the Liquidity. Failure to submit any of the two documents as evidence of financial capacity may result in the rejection of the bid. The statement must be counter-signed by an authorized representative of the Bidder.*
- 2) *Subcontractors' experience and resources shall not be considered in determining the Bidder's compliance with the qualifying criteria unless otherwise stated in the Qualification Requirements above.*

Section VIII-1: Key Personnel Schedule

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Note for Bidders: Fill up Form 3.3 Personnel Deployment Plan regarding this Schedule where besides key personnel, he shall also quote the number of non-key staff required category-wise to perform the Services to the required performance standards and quality.

Following is an estimate of the minimum number of key personnel necessary to perform the services to the required performance standards and quality. Bidder, if deemed necessary, may quote more numbers of key personnel. Following is an estimate of the minimum number of key personnel necessary to perform the services to the required performance standards and quality. Bidder, if deemed necessary, may quote more numbers of key personnel.

Key Personnel Schedule				
Tender Title				
Tender Reference No		T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024		
Sr	Position/ Location- Responsibility	Qualification/ Certification/ Licence/ Training	Work Experience in similar position & Projects (Yr.)	Minimum number of personnel required for each package
1	2	3	4	5
1	Project Manager - Overall project management, coordination with the client, and ensuring project milestones are met.	Minimum of a Bachelor's degree in Civil engineering, Geospatial Science/Engineering, or any other branch of engineering or MBA with specialization in Project management	Minimum of 5 years of experience in managing geospatial projects, with at least 2 projects involving LiDAR and/or aerial imagery data acquisition and processing.	1
2	LiDAR Specialist - Overseeing LiDAR data collection, processing, classification, and quality control.	Minimum of a Bachelor's degree in Civil or any other engineering or Geospatial Science/ Engineering, or Remote Sensing Engineering, or a related field of science (maths/physics), or	<ul style="list-style-type: none"> o Minimum of 3 years of experience in LiDAR data acquisition, processing, and analysis. o Hands-on experience with LiDAR data processing software such as Terrasolid or Leica 	2

		Diploma in Engineering	Cyclone.	
3	Photogrammetry Specialist - Overseeing image acquisition, orthorectification, mosaicking, and 3D model creation.	Minimum of a Bachelor's degree in Civil or any other engineering or Geospatial Science/ Engineering, or Remote Sensing Engineering, or a related field of science (maths/physics) or Diploma in Engineering	<ul style="list-style-type: none"> o Minimum of 3 years of experience in aerial imagery processing, orthorectification, and 3D modeling. o Proficiency in software like Agisoft Metashape, Pix4D, or similar software. 	2
4	UAV/Drone /Air Craft Pilot (if drones are used) Planning and executing UAV flights for data acquisition, ensuring safety and compliance with regulations.	Should be a Graduate from a government recognized institute and should be a Certified UAV/Drone/Aircraft pilot with a valid license from the relevant authority (DGCA or equivalent).	Minimum of 1 years (for UAV: at least 1 UAV pilot out of 3 should have 1 year of experience) of experience in flying drones / Aircraft for geospatial data collection.	3 UAV/Drones Pilots for each package; and 1 Aircraft Pilot for 4 packages
5	Data Processing Technician for generation of ORI, DSM and 3D Mesh Model- Handling data preprocessing, quality checks, and preparing datasets for further analysis.	Minimum a Bachelor's degree in Civil or any other engineering or Geospatial Science/ Engineering, or Remote Sensing Engineering, or a related field of science (maths/physics) or Diploma in Engineering	Minimum of 3 years of experience in processing large geospatial datasets. Proficiency in data processing tools and techniques, especially for LiDAR and aerial imagery.	5
6	Data Processing Technician for 3D Model Digitisation	Minimum a Bachelor's degree in Civil or any other engineering or	Minimum of 3 years of experience in processing large geospatial	20

	- Handling data preprocessing, quality checks, and preparing datasets for further analysis.	Geospatial Science/ Engineering, or Remote Sensing Engineering, or a related field of science (maths/physics) or Diploma in Engineering	datasets. Proficiency in data processing tools and techniques, especially for LiDAR and aerial imagery.	
8	Quality Assurance/Quality Control (QA/QC) Specialist - Conducting quality checks on data, ensuring compliance with project specifications, and generating QA/QC reports.	Minimum a Bachelor's degree in Civil or any other engineering or Geospatial Science/ Engineering, or Remote Sensing Engineering, or a related field of science (maths/physics) or Diploma in Engineering; and Certifications in quality management systems (e.g., ISO 9001).	Minimum of 3 years of experience in QA/QC, specifically in geospatial data projects.	5
8	Ground Control Team (Surveyors) - Establishing ground control points, ensuring accuracy for LiDAR and imagery data alignment.	Minimum a Bachelor's degree in Civil or any other engineering or Geospatial Science/ Engineering, or Remote Sensing Engineering, or a related field of science (maths/physics) or Diploma in Engineering	Minimum of 3 years of experience in ground control point surveying, with proficiency in using GPS/GNSS equipment.	8

Section VIII-2: Critical Equipment Schedule

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Note for Bidders: Fill upForm3.4: Equipment Deployment Plan regarding this Schedule. Following is an estimate of the minimum number of Critical Equipment considered necessary to perform the services to the performance standards and quality prescribed. The bidder may deploy additional essential or other equipment. Personnel required for operation (Drivers, operators, helpers) of equipment must be included as personnel in Form3.3: Personnel Deployed. Cost for fuel, materials, consumables required for operation and maintenance of equipment shall be included in the rates quoted for Equipment Schedule in the Financial Bid.

Equipment Schedule				
Tender Title				
Tender Reference No		T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024		
Equipment Sr	Description/ Category	Specifications/ Capacity/ Condition and Age	Ownership Detail (Owned or leased)	Minimum Number to be Deployed per package
1	2	3	5	6
1	Aerial vehicle /Professional survey grade PPK enabled UAS/Drone (Type certified) fitted or available with a. Nadir Camera b. Multi Angle Camera (4 Oblique + 1 Nadir) c. Lidar sensor			3 Drones per packages / 1 Air Craft per 4 packages
2	Dual Frequency GNSS receivers/ RTK rover			8
3	Data Storage and Transfer			100TB

4	LiDAR Data Processing Software			3
5	Photogrammetry/ Imagery Processing Software for creation of ORI, DSM and 3D Mesh			5
6	Software for 3D Model Digitisation			20
7	Compatible GIS Software for QA/QC of deliverables			5
8	Data Management and Delivery Software			2

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –
T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

BIDDING FORMS

Form 1: Bid Form (Covering Letter)

(Ref ITB-clause 9.2)

(To be submitted as part of Technical bid, along with supporting documents, if any)

(on Bidder's Letter-head)

(Strike out alternative phrases not relevant to you)

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

To

The President of India, through

Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Ref: Your Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Sir/ Madam

Having examined the abovementioned Tender Document, we, the undersigned, hereby submit/ upload our Techno-commercial and Financial bid (Price Schedule) for the performance of Services and incidental Goods/ Works in conformity with the said Tender Documents.

(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)

1) **Our Credentials:**

a) We are submitting this bid -

- on our behalf, and there are no agents/ dealers involved in this tender, and hence no agency agreement or payments/ commissions/ gratuity is involved. Our company law and taxation regulatory requirements and authorization for signatories and related documents are submitted in Form 1.1 (Bidder Information).

Or

- as agents/ associates of our foreign principals. Our foreign principal's law and taxation regulatory requirements and authorization for signatories and related documents are submitted in Form1.4 (Declaration by Agents/ Associates of Foreign Principals).

- b) We..... hereby certify that We/ Our Principals M/sare a firm of proven, established, and reputed Service Provider having Experience, past performance, Personnel, Machinery and Financial capability, with offices at -----.

2) Our Eligibility and Qualifications to participate

We comply with all the eligibility criteria stipulated in this Tender Document, and the relevant declarations are made along with documents in Form 1.2 of this bid-form. We fully meet the qualification criteria stipulated in this Tender Document, and the relevant details are submitted along with documents in Form 4: 'Qualification Criteria - Compliance. We authorise the Procuring Entity to contact our Banker to seek references and clarifications.

3) Our Bid to deliver Services:

We offer to deliver the subject Services of requisite Performance Standards and within Delivery Schedules in conformity with the Tender Document. The relevant details are submitted in Form 2: 'Schedule of Requirements - Compliance and Form3: 'Performance Standards and Quality Assurance - Compliance' (and its sub-forms).

4) Prices:

We hereby offer to perform the Services at our lowest prices and rates mentioned in the separately uploaded Price-Schedule. It is hereby confirmed that the prices quoted therein by us are:

- (a) based on terms of delivery and delivery schedule confirmed by us; and
- (b) Cost break-up of the quoted cost, showing inter-alia costs (including taxes and duties thereon) of all the included incidental Goods/ Works considered necessary to make the proposal self-contained and complete, has been indicated therein, and
- (c) based on the terms and mode of payment as stipulated in the Tender Document. We have understood that if we quote any deviation to terms and mode of payment, our bid is liable to be rejected as nonresponsive, and
- (d) The prices in this offer have been arrived at independently, without restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:
 - iv) those prices; or
 - v) the intention to submit an offer; or
 - vi) the methods or factors used to calculate the prices offered.
- (e) The prices in this offer have neither been nor shall be knowingly disclosed by us, directly or indirectly, to any other bidder or competitor before bid opening or contract award unless otherwise required by law.

5) Affirmation to terms and conditions of the Tender Document:

We have understood the complete terms and conditions of the Tender Document. We accept and comply with these terms and conditions without reservations, although we are not signing and submitting some of the sections of the Tender Document. Deviations, if any, are submitted by us in Form 5: 'Terms and Conditions - Compliance'.

6) Bid Securing Declaration

We have submitted the Bid Securing Declaration (BSD, in lieu of Bid Security) in stipulated format vide Form 7: 'Documents Relating to bid security'.

7) Abiding by the Bid Validity

We agree to keep our bid valid for acceptance for a period upto -----, as required in the Tender Document, or for a subsequently extended period, if any, agreed to by us, and are aware of penalties in this regard stipulated in the Tender Document in case we fail to do so.

8) Non-tempering of Downloaded Tender Document and Uploaded Scanned Copies

We confirm that we have not changed/ edited the contents of the downloaded Tender Document. We realise that any such change noticed at any stage, including after the contract award, shall be liable to punitive action in this regard stipulated in the Tender Document. We also confirm that scanned copies of documents/ affidavits/ undertakings uploaded along with our Technical bid are valid, true, and correct to the best of our knowledge and belief. If any dispute arises related to the validity and truthfulness of such documents/ affidavits/ undertakings, we shall be responsible for the same. Upon accepting our Financial bid, we undertake to submit for scrutiny, on-demand by the Procuring Entity, originals, and self-certified copies of all such certificates, documents, affidavits/ undertakings.

9) A Binding Contract:

We further confirm that, if our bid is accepted, all such terms and conditions shall continue to be acceptable and applicable to the resultant contract, even though some of these documents may not be included in the contract Documents submitted by us. We do hereby undertake that, until a formal Contract is signed or issued, this bid, together with your written Letter of Award, shall constitute a binding contract between us.

10) Performance Guarantee and Signing the contract

We further confirm that, if our bid is accepted, we shall provide you with performance security of the required amount stipulated in the Tender Document for the due performance of the contract. We are fully aware that in the event of our failure to deposit the required security amount and/ or failure to execute the agreement, the Procuring Entity has the right to avail any or all punitive actions laid down in this regard, stipulated in the Tender Document.

11) Signatories:

We confirm that we are duly authorized to submit this bid and make commitments on behalf of the Bidder. Supporting documents are submitted in Form 1.1 annexed herewith. We acknowledge that our digital/digitized signature is valid and legally binding.

12) Rights of the Procuring Entity to Reject bid(s):

We further understand that you are not bound to accept the lowest or any bid you may receive against your above-referred Tender Document.

.....

(Signature with date)

.....

(Name and designation)

Request for Proposal for Non-consultancy Servicesproviding Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

Duly authorized to sign bid for and on behalf of

[name & address of Bidder and seal of company]

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 1.1: Bidder Information

(Ref ITB-clause 9.2)

(To be submitted as part of Technical bid)

(on Company Letter-head)

(Along with supporting documents, if any)

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____

Date.....

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Note: Fill this Form for Bidder and each member of a joint venture/consortium or other association that is a party to Bidder following the instructions indicated below. No alterations to its format shall be permitted, and no substitutions shall be accepted. Bidder shall enclose certified copies of the documentary proof/ evidence to substantiate the corresponding statement wherever necessary and applicable. Bidder's wrong or misleading information shall be treated as a violation of the Code of Integrity. Such Bids shall be liable to be rejected as nonresponsive, in addition to other punitive actions provided for such misdemeanours in the Tender Document.

(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)

1) Bidder/ Contractor particulars:

- a) Name of the Company:.....
- b) Corporate Identity No. (CIN):
- c) Registration, if any, with The Procuring Entity:
- d) GeM Supplier ID (if registered with GeM, it is mandatory at the time of placement of Contract)
- e) Place of Registration/ Principal place of business"
- f) Complete Postal Address:
- g) Pin code/ ZIP code:
- h) Telephone nos. (with country/ area codes):
- i) Mobile Nos.: (with country/ area codes):
- j) Contact persons/ Designation:
- k) Email IDs:

Submit documents to demonstrate eligibility as per NIT-clause 3 and ITB-clause 3.2 - A self-certified copy of registration certificate – in case of a partnership firm – Deed of Partnership; in case of Company – Notarized and certified copy of its Registration; and in case of Society – its Byelaws and registration certificate of the firm.

2) Taxation Registrations:

- a) PAN number:

Request for Proposal for Non-consultancy Servicesproviding Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

- b) Type of GST Registration as per the Act (Normal Taxpayer, Composition, Casual Taxable Person, SEZ, etc.):
- c) GSTIN number: in Contractor and Service Site States
- d) Registered/ Certified Offices from where the Services would be supported and Place of Service Site for GST Purpose:
- e) Contact Names, Nos. & email IDs for GST matters (Please mention primary and secondary contacts):

Documents to be submitted: Self-attested Copies of PAN card and GSTIN Registration.

3) Trade Registrations and Licences

We have the following registrations/ licences required for the performance of this Service (tick as applicable). Authenticated copies of these are enclosed herewith:

- EPF
- ESI
- Labour Licence
- Private Security Agency under relevant Act
- Any other required -----.

4) Authorization of Person(s) signing the bid on behalf of the Bidder

- a) Full Name: _____
- b) Designation: _____
- c) Signing as:

- A sole proprietorship firm. The person signing the bid is the sole proprietor/ constituted attorney of the sole proprietor,
- A partnership firm. The person signing the bid is duly authorized being a partner to do so, under the partnership agreement or the general power of attorney,
- A company. The person signing the bid is the constituted attorney by a resolution passed by the Board of Directors or in pursuance of the Authority conferred by Memorandum of Association.
- A Society. The person signing the bid is the constituted attorney.

Documents to be submitted: Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution

5) Bidder's Authorized Representative Information

- a) Name:
- b) Address:
- c) Telephone/ Mobile numbers:
- d) Email Address:

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of

[name & address of Bidder and seal of company]

DA: As above

Form 1.2: Eligibility Declarations

(Ref ITB-clause 9.2)

(To be submitted as part of Technical bid)

(On Company Letter-head)

(Along with supporting documents, if any)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note: Fill this Form for Bidder and each member of a joint venture/consortium or other association that is a party to Bidder. The list below is indicative only. You may attach more documents as required to confirm your eligibility criteria.]

Eligibility Declarations

(Please tick appropriate boxes or cross out any declaration not applicable to the bidder)

We hereby confirm that we comply with all the stipulations of NIT-clause 3 and ITB-clause 3.2 and declare as under and shall provide evidence of our continued eligibility to the Procuring Entity as may be requested:

- 1) **Legal Entity of Bidder:** _____
- 2) **Bidder/ Agent Status:** _____
- 3) We solemnly declare that we (including our affiliates or subsidiaries or constituents):
 - (a) are not insolvent, in receivership, bankrupt or being wound up, not have our affairs administered by a court or a judicial officer, not have our business activities suspended and are not the subject of legal proceedings for any of these reasons;
 - (b) (including our Contractors/ subcontractors for any part of the contract):
 - i) Do not stand declared ineligible/ blacklisted/ banned/ debarred by the Procuring Organisation or its Ministry/ Department from participation in its Tender Processes; and/ or
 - ii) Are not convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for offences mentioned in Tender Document in this regard. We have neither changed our name nor created a new "Allied Firm", consequent to the above disqualifications.
 - (c) Do not have any association (as bidder/ partner/ Director/ employee in any capacity) with such retired public official or near relations of such officials of Procuring Entity, as counter-indicated, in the Tender Document.

- (d) We certify that we fulfil any other additional eligibility condition if prescribed in Tender Document.
- (e) We have no conflict of interest, which substantially affects fair competition. The prices quoted are competitive and without adopting any unfair/ unethical/ anti-competitive means. No attempt has been made or shall be made by us to induce any other bidder to submit or not to submit an offer to restrict competition.

4) Restrictions on procurement from bidders from a country or countries, or a class of countries under Rule 144 (xi) of the General Financial Rules 2017:

“We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries, and solemnly certify that we fulfil all requirements in this regard and are eligible to be considered. We certify that:

- a) *we are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed). and;*
- b) *we shall not subcontract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.*

5) MSME Status:

Having read and understood the Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 (as amended and revised till date), and solemnly declare the following:

- a) We are - Micro/ Small/ Medium Enterprise/ SSI/ Govt. Deptt. /PSU/ Others:.....
- b) We attach herewith, Udhyaam Registration Certificate with the Udhyaam Registration Number as proof of our being MSE registered on the Udhyaam Registration Portal. The certificate is the latest up to the deadline for submission of the bid.
- c) Whether Proprietor/ Partner belongs to SC/ ST or Women category. (Please specify names and percentage of shares held by SC/ ST Partners):.....

6) Start-up Status

we confirm that we are/ are not a Start-up entity as per the definition of the Department of Promotion of Industrial and Internal Trade – DPIIT.

7) Make in India Status:

Having read and understood the Public Procurement (Preference to Make in India PPP - MII) Order, 2017 (as amended and revised till date) and related notifications from the relevant Nodal Ministry/ Department, and solemnly declare the following:

a) Self-Certification for the category of suppliers:

(Provide a certificate from statutory auditors/ cost accountant in case of Tenders above Rs 10 Crore for Class-I or Class-II Local Suppliers).Details of local content and location(s) at which value addition is made are as follows:

Local Content and %age	
Location(s) of value addition	

Therefore, we certify that we qualify for the following category of the supplier (tick the appropriate category):

Class-I Local Supplier/

Class-II Local Supplier/

Non-Local Supplier.

b) We also declare that.

There is no country whose bidders have been notified as ineligible on a reciprocal basis under this order for the offered Services, or

We do not belong to any Country whose bidders are notified as ineligible on a reciprocal basis under this order for the offered Services.

8) Self-Declaration by Indian Agents of Foreign Principals

a) Self-attested documentary evidence about their identity (PAN, Aadhar Card, GSTIN registration, proof of address etc.), business details (ownership pattern and documents, type of firm, year of establishment, sister concerns etc.) to establish that they are a bonafide business as per Indian Laws – are submitted as part of Form 1.3 annexed herewith.

(c) Agency Agreement shall be submitted with Form 1.3. It shall cover

i) the precise relationship, services to be rendered, mutual interests in business - generally and/ or specifically for the tender and

ii) any payment the agent or associate receives in India or abroad from the foreign principal, whether a commission or a general retainer fee.

b) Our Foreign principals, explicitly authorizing us to make an offer in response to the tender, either directly or in association with them, are listed in Form 1.3 annexed herewith. That also indicates their name, address, nationality, status (i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal).

c) The amount of commission/ remuneration included in the price (s) quoted by Bidder for agents or associated bidder is detailed in Form 1.3.

d) Confirmation is given in Form 1.3 herewith from the foreign principals that the commission/ remuneration, reserved for Bidder in the quoted price(s), if any, shall be paid by the Procuring Entity in India, in equivalent Indian Rupees on satisfactory completion of the Project or delivery of Services.

9) Penalties for false or misleading declarations:

We hereby confirm that the particulars given above are factually correct and nothing is concealed and undertake to advise any future changes to the above details. We understand that any wrong or misleading self-declaration would violate the Code of Integrity and attract penalties as mentioned in this Tender Document.

.....

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of

.....

.....

[name & address of Bidder and seal of company]

DA: As in Sr 9 to 13 above, as applicable

*Note: This Form should be jointly signed by the Bidder and each member of a joint venture/
Consortium.*

Request for Proposal for Non-consultancy Servicesproviding Services for 2D/ 3D Urban Mapping of Urban Areas –
T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

Form 1.3: Declaration by Agents/ Associates of Foreign Principals

Deleted

Form 2: Schedule of Requirements - Compliance

Services and Activities Schedule

(Ref ITB-clause 9.2, Schedule VI-1: Services and Activities Schedule)

(To be submitted as part of Technical bid)

(Along with supporting documents, if any)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024; Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Contract Period->		Contract Period will be 12 months.	Contract Period Extendable by ->			extendable twice by 3 months at a time				
Service Sr	Activity Sr	Description and Scope of Services; Outcomes, Deliverables, reports	Frequency/ Shifts, Timelines Milestones	Quantum	Units	Local Content (%)	HSN Code	⁶ GST %	Service Site/ State	Bidder's GSTIN
1	2	3	4	5	6	7				
Schedule	1	<i>[Description of Schedule]</i>								

⁶ Mention total % and breakup into CGST, SGST, IGST, Cess etc.

Request for Proposal for Non-consultancy Servicesproviding Services for 2D/ 3D Urban Mapping of Urban Areas –
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Service 1.1		<i>[Description of Service]</i>								
	1.1.1									
	1.1.2									
	1.1.3									
Service 1.2		<i>[Description of Service]</i>								
	1.2.1									
	1.2.2									
	1.2.3									

Service Sr	Activity Sr	Description and Scope of Services; Outcomes, Deliverables, reports	Frequency/ Shifts, Timelines Milestones	Quantum	Units	Local Content (%)	HSN Code	⁷ GST %	Service Site/ State	Bidder's GSTIN
1	2	3	4	5	6	7				
Schedule	2	<i>[Description of Schedule]</i>								
Service 2.1		<i>[Description of Service]</i>								
	2.1.1									
	2.1.2									
	2.1.3									
Service 2.2		<i>[Description of Service]</i>								
	2.2.1									
	2.2.2									
	2.2.3									

Note: Bidders must fill up this Form regarding 'Services and Activities Schedule' in Section VI: 'Schedule of Requirements' maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard. Include details:

- 1) Description/ Scope of Service (indicate what is (and more important – what is not) included in the Services and conditions under which Services are to be performed);
- 2) Outcomes, Deliverables, reports etc
- 3) Frequency/ Quantum/ Length & Duration of Activities

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

⁷ Mention total % and breakup into CGST, SGST, IGST, Cess etc.

Deviations from Schedule of Requirements

(Ref ITB-clause 9.2, Schedule VI: Schedule of Requirements)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
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Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: Highlight in this Form any deviations, if any, from Section VI: Schedule of Requirements, Background and Services and Activities Schedule. For clarity, you may add your Background.

Sl. No.	Ref of Tender Document Section, Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all requirements detailed in Section VI: Schedule of Requirements, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognized and shall be null and void.

.....

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of

.....

[name & address of Bidder and seal of company]

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 3: Performance Standards and Quality Assurance - Compliance

(Ref ITB-clause 9.2, Schedule VII: Performance Standards and Quality Assurance)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: Also highlight deviations from Section VII: Performance and Quality Assurance requirements maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard.

Sl. No.	Ref of Performance Standards and Quality Assurance Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all Performance Standards and Quality Assurance requirements in the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognised and shall be null and void.

.....
 (Signature with date)

.....
 (Name and designation)

Duly authorized to sign bid for and on behalf of

.....
 [name & address of Bidder and seal of company]

DA: Relevant documents like technical data, literature, drawings, and other documents

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 3.1: Method Statement

(Ref ITB-clause 9.2, Schedule VII-1: Method Statement)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders:

- 1) Bidders must detail the method of performing the activity, indicating quantum and type of - personnel, equipment, and materials to be used. Indicate supervision, reports/ reporting procedure, performance parameters/ specification – target and measurements, documentation, quality control records, and any other relevant detail to distinguish your performance from other bidders. Also indicate complaint redressal procedures and response times. In case of JV/C and Sub Contracting, this must include all the activities being performed by the Bidder, JV/C partners and Sub contractor highlighting the roles and responsibilities of each of them.
- 2) Bidders must demonstrate a complete understanding of the scope, nature and resources needed to deliver the Services.
- 3) The responsibilities of each member
- 4) The Method Statement shall, therefore, include, but shall not necessarily be limited to, the following:
 - 5) *Description of the Bidder's proposed programming and sequencing of all main activities, identifying those for which timing may be critical.*
 - i. *Description of the measures included in the bid, which shall be implemented to achieve the performance standards and quality of execution required under the contract*
 - ii. *If the Tender Document so require a proposed Service Level Agreement shall also be included – inappropriate details/ format*
 - iii. *Description of arrangements to ensure compliance with the environmental, social, gender, health and safety requirements called for in the Tender Document, which the Bidder proposes to adopt and has included in the bid*
 - iv. *Commentary on the Procurement Entity's Requirements, including the status of the information available and relevant issues for the Works, detailing how the critical requirements shall be achieved.*
 - v. *Method Statement must be supplemented by information in Work Plan. Personnel Deployment Plan; Equipment Deployment Plan and Materials Deployment Plan*
 - vi. *Anything else, as may be appropriate.*

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form3.2: Work-Plan

(Ref ITB-clause 9.2, Schedule VII-2: Work Plan)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: Show the timelines and milestones of performance and delivery of activities, bringing out the dependencies and sequencing of activity. Work Plan may be preferably in a Gantt Chart format. In case of JV/C and Sub Contracting, this must include all the activities being performed by the Bidder, JV/C partners and Sub contractor highlighting the roles and responsibilities of each of them.

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 3.3: Personnel Deployment Plan

(Ref ITB-clause 9.2, Schedule VIII-1: Key Personnel Schedule)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: If so desired in Schedule VIII-1, indicate key Personnel (Managers/ Supervisors/ Executives/ Specialists/ Technicians) and the number of non-key staff required to perform the services to the required performance standards and quality. Bidder shall quote the cost of these personnel in Personnel Schedule Cost Breakup in the Financial Bid. Also, include personnel required for operation and maintenance of equipment (listed in the equipment schedule). Cost of Safety/ Personnel/ Hygiene Material for Personnel are to be included as lumpsum per month (along with other Non-critical miscellaneous materials) in the Material Schedule Cost Breakup in the Financial Bid. In case of JV/C and Sub Contracting, this must include all the key personnel of the bidder/JV/C partner/Subcontractor who will be performing the activities as per roles and responsibilities proposed in the bid.

A. Key Personnel

Note to Bidders: Highlight any deviations from Section VIII-1: Key Personnel Schedule. Bidder shall provide adequate information to demonstrate that it can meet the requirements for the key personnel listed in Section VIII-1: Key Personnel Schedule. At a minimum, CVs must be provided for the Key Personnel for the following positions, using the forms provided for that purpose:

No.	Position/ Location	Man- Months	Name	Qualification/ Certification/ Licence/ Training	Work Experience in a similar position in similar Projects (Yr.)	Work Experienc e Total (Yr.)
1						
2						
3						
4						
5						

CVs of Key Personnel

Name of Bidder		
Position		
Personnel information	Name:	Date of birth:
	Qualification/ Certification/ Licence/ Training	
Present employment	Name of employer:	
	Address of employer:	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer
Summarize professional experience over the last 10 years, in reverse chronological order. Indicate technical and managerial experience relevant to the project.		
From	To	Company / Project / Position / Relevant technical and management experience

B. Non-key Personnel

Sr. No.	Staff Category	Skill/ Experience/ Qualification	Nos to be Deployed/ Location	Man-Months
1				
2				
3				
4				
5				
6				

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 3.4: Critical Equipment Deployment Plan

(Ref ITB-clause 9.2, Schedule VIII-2: Critical Equipment Schedule);

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
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Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: If so desired in Schedule VIII-2, indicate the minimum number of Critical Equipment considered necessary to perform the services to the performance standards and quality prescribed. The bidder may deploy additional essential or other equipment. Bidder shall quote the cost of these equipment in Equipment Schedule Cost Breakup in the Financial Bid. Personnel (Drivers, operators, helpers) required to operate the equipment should be included in the Personnel Schedule. The cost of Fuel, materials & consumables required for operation and maintenance of equipment must be included in the rate quoted in the Equipment Schedule Cost Breakup in the Financial Bid. In case of JV/C and Sub Contracting, this must include all the critical equipment to be deployed by the bidder/JV/C partner/Subcontractor for the activities as proposed in the bid.

Critical Equipment Deployment Schedule				
Equipment Sr	Description/ Category	Specifications/ Capacity/ Condition and Age	Ownership Details (owned/leased)	Number proposed to be Deployed / Locations
1	2	3	5	6
Critical Equipment Deployment Plan				
1.				
2.				
Other Equipment Deployment Plan				
1.				
2.				
3.				

[Highlight any deviations from Section VIII-2: Critical Equipment Schedule]

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 3.5: Critical Materials Deployment Plan

(Ref ITB-clause 9.2, Schedule VII-3: Critical Material Schedule)

(To be submitted as part of Technical bid)

(Along with supporting documents, if any)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: If so desired in Schedule VII-3, list materials critical for the performance of services to the required quality and standards. Bidder shall quote the cost of these materials in Materials Schedule Cost Breakup in the Financial Bid. Non-critical miscellaneous materials (e.g., Safety/ Personnel/ Hygiene Material for Personnel) are not to be included here, but the cost thereof may be included as lumpsum per month in the Material Schedule Cost Breakup in the Financial Bid.

Critical Material Deployment Schedule				
Item Sr	Description/ Category	Specifications/ Capacity/ Condition and Age	Location	Quantity per Service/ per day or shift/ per personnel/ per location
1	2	3	5	6
1.				
2.				
3.				
4.				
5.				

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 4: Qualification Criteria- Compliance

(Ref ITB-clause 9.2, Schedule VIII: Qualification Criteria)

(To be submitted as part of Technical bid)

(Along with supporting documents, if any)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidder: Furnish stipulated documents in support of the fulfilment of qualifying criteria. The list below is indicative only. You may attach more documents as required. On-submission or incomplete submission of documents may lead to rejection of the bid as nonresponsive. Also highlight in this form deviations, if any, from Section VIII: Qualification Criteria.

Summary of Response to Qualification Criteria

Criteria 1 - Experience and Past Performance:	Summary
1) Similar Experience (as per Form 4.1):Number of service contracts (at least [80] percent completed)of a nature and complexity equivalent to the Services over the last [5] years	
2) Nonperforming Contracts and Litigation: (as perform 4.2) a) Number of non-performance of contracts within the last five (5) years i) Value of All pending litigation as a percentage of the Bidder's net worth. ii) The number of occurrences of failure to sign a contract after receiving a notice of award in the past five (5) years	
Criteria 2 – Performance Capability	
3) Key Personnel: Capability to deploy Key Personnel needed to perform the Service to the specified performance standards. (Details given in Form 3.3)	Yes/ No
4) Critical Equipment: Capability to deploy (own, hire, lease) Critical Equipment needed to perform the Service to the specified performance standards. (Details given in Form 3.4)	Yes/ No

Criteria 3 - Financial Capability: (as perform 4.3)	
5) Financial Ratios a) The average coefficient of the Current ratio b) The average coefficient of Debt ratio 6) Average Turnover: Within last (3) years 7) Financial Liquidity: a) Overall cash flow requirements for this Contract and our current commitments b) Access to cash-flow	

Note: Bidders shall provide such evidence of their continued qualification to perform the Services (including any changes in their litigation history) in a manner satisfactory to the Procuring Entity, as the Procuring Entity may reasonably request at any time before the award of contract.

8) Documents Attached supporting the compliance to qualification criteria:

Sr	Document Attached, duly filled, signed, and copies self-attested
1	
2	
3	

.....
(Signature with date)

.....
(Name and designation)

Duly authorized to sign bid for and on behalf of

.....
[name & address of Bidder and seal of company]

DA: As above, if any

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 4.1: Performance Statement

Statement of Performance of Services During Last Five Years and Outstanding Current Orders
 (Ref ITB-clause 9.2, Schedule VIII: Qualification Criteria)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder’s Name _____

[Address and Contact Details]

Bidder’s Reference No. _____ Date.....

Note to Bidder: Bidder must fill in this form to prove conformance to Criteria 1 – Experience and Past Performance in Section VIII – Qualification Criteria. Mention contracts in which Bidder is or has been a party, whether as a Service Provider, affiliate, associate, subsidiary, Subcontractor, or any other role. The list below is indicative only. You may attach more documents as required to showcase your past performance. Add additional details not covered elsewhere in your bid in this regard. Statements and Documents may be mentioned/ attached here. Bidder and each member of a Joint Venture/Consortium making up a Bidder must submit this form.

Contracting Entity – Name and Address	Contract Title, Number and Date	Role in Contract	The total value of the order	Status as on date ----

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of

.....

.....

[name & address of Bidder and seal of company]

DA: Performance records/ contracts

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 4.2 Non-performance, Litigation Statement

(Ref ITB-clause 9.2, Schedule VIII: Qualification Criteria)

(To be submitted as part of Technical bid)

(On Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: Fill this Form for Bidder and each member of a joint venture/ consortium or other association that is a party to Bidder to highlight conformance to Criteria 1(b): Nonperforming Contracts and Litigation. The list below is indicative only. You may attach more documents as required. Add additional details not covered elsewhere in your bid in this regard.

Non-Performing Contracts as per Criteria 1 (b) Section VIII, Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur during the five years before the deadline for the bid submission as per the above criteria			
Or			
<input type="checkbox"/> Contract(s) not performed during the five years before the deadline for the bid submission as per the above criteria are listed below			
Year	Non performed a portion of the contract	Contract Identification	Total Contract Amount
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract identification: <i>[indicate complete contract title, number, and any other identification]</i> Name of institution: <i>[insert full name]</i> Address of institution: <i>[insert street/city/country]</i> Reason(s) for non-performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Current and Past Proceedings, Litigation, Arbitration, Actions, Claims, Investigations and Disputes, the process or outcome of which the Procuring Entity could reasonably interpret may impact or have the potential to impact the financial or operational condition of Bidder in a manner that may adversely

affect the Bidder’s ability to satisfy any of its obligations under the contract as per Section VIII.

Qualification Criteria

Note: Bidder and each member of a Joint Venture/Consortium making up a Bidder must complete this table

No **Or** Yes

If Yes, Describe:

Year	Matter in Dispute	Contract Identification	Value of Award (Actual or Potential) Against Bidder
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract identification: <i>[indicate complete contract title, number, and any other identification]</i> Name of institution: <i>[insert full name]</i> Address of institution: <i>[insert street/city/country]</i> Reason(s) for non-performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 4.3 Financial Capability Statements

(Ref ITB-clause 9.2, Schedule VIII: Qualification Criteria)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note to Bidders: Fill this Form for Bidder and each member of a joint venture/ consortium or other association that is a party to Bidder to highlight conformance to Criteria 3: Financial Capability. The list below is indicative only. You may attach more documents as required. Add additional details not covered elsewhere in your bid in this regard.

Form 4.3.1: Financial Statements and Ratios

Note: Each Bidder or member of a Joint Venture/Consortium making up a Bidder must fill in this form.

Financial Data for Previous Three (3) Years			
	Year 1:	Year 2:	Year 3:
Information from Balance Sheet			
Total Assets			
Total Liabilities			
Net Worth			
Current Assets			
Current Liabilities			
Information from Income Statement			
Total Revenues			
Profits Before Taxes			
Profits After Taxes			
Financial Ratios (Bidders to fill this table. The Procuring Entity shall verify during the review process)			
Current Ratio			
Debt Ratio			

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

- Attached are copies of financial statements (either audited financial statements supported by audit letters or certified financial statements supported by tax returns) as indicated above, complying with the following conditions.
- All such documents reflect the financial situation of Bidder or a member of a Joint venture/ consortium or other Association and not a sister or parent company.
 - A Chartered accountant must audit historical financial statements.
 - Historical financial statements must be complete, including all notes to the financial statements.
 - Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form 4.3.2: Average Annual Turnover

(Ref ITB-clause 9.2)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note: Each Bidder or member of a Joint Venture/Consortium making up a Bidder must fill in these forms.

Annual Turnover Data for the Last Three (3) Years (Services only)	
Year	Turnover Amount
Average Annual Construction Turnover	

Form 4.3.3: Financial Resources

(Ref ITB-clause 9.2, Schedule VIII: Qualification Criteria)

(To be submitted as part of Technical bid)

(Along with supporting documents, if any)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note: Each Bidder or member of a Joint Venture/Consortium making up a Bidder must fill in this form, specifying proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total cash flow demands of the subject Contract or contracts as indicated in Section VII: Qualification Criteria.

No.	Source of Financing	Amount (Rs Lakh)
1		
2		
3		
4		

Note: Attach Supporting Documents – i.e., Statement from Bankers etc.

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 4.3.4: Current Contract Liabilities/ Works in Progress

(Ref ITB-clause 9.2, Schedule VIII: Qualification Criteria)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Note: Each Bidder and each member of a Joint Venture/Consortium making up a Bidder should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Title, No., and date of Contract	Contracting Entity; contact details	Value of outstanding work Rs Lakh	Estimated completion date	Avg monthly invoicing over last six months (Rs Lakh)
Total Monthly Commitment				

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 5: Terms and Conditions- Compliance

(Ref ITB-clause 9.2)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
 Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Note to Bidders: Fill up this Form regarding Terms and Conditions in the Tender Document, maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard.

Sl. No.	Ref of Tender Document Section, Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all terms and conditions of the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognised and shall be null and void.

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of

.....

[name & address of Bidder and seal of company]

DA: If any, at the option of the Bidder.

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 6: Check list for Bidders

(Ref ITB-clause 9.2)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

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Note to Bidders: This check-list is merely to help the bidders to prepare their bids, it does not over-ride or modify the requirement of the tender. Bidders must do their own due diligence also.

Sr	Documents submitted, duly filled, signed	Yes/ No/ NA
1.	Form 1.- bid Form (to serve as covering letter and declarations applicable for both the Techno-commercial and Financial bid)	
2.	Form 1.1: Bidder Information along with Power of attorney and Registration Certificates etc.	
3.	Form 1.2: Eligibility Declarations, along with supporting documents	
3.a	Self-attested copy of Registration certificate for bidders/ subcontractors from restricted neighbouring countries	
3.b	Self-attested copy of MSME registration	
3.c	Self-attested copy of Start-up registration/ status	
3.d	Self-attested copy of the certificate of Local Supplier Status for Make in India policy, from auditors/ cost accountant in case of Tenders above Rs 10 Crore	
3.e	Incase of JV/ Consortium, Legally binding Agreement or Letter of Intent for entering into legally binding agreement for this bid	
4.	If applicable, Form 1.3: Declaration by Agents/ Associates of Foreign Principals	
4.a	Self-attested copy of Registration certificates etc., of the agent/ dealer.	
4.b	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign Form 1.3 of Agent Dealer	
5.	Form 2: Schedule of Requirements - Compliance	
6.	Form 3: Performance Standards and Quality Assurance - Compliance	

Sr	Documents submitted, duly filled, signed	Yes/ No/ NA
6.a	Form 3.1, 3.2, 3.3, 3.4, and 3.5 to support Form 3	
7.	Form 4: Qualification Criteria - Compliance	
7.a	Form 4.1, 4.2, 4.3 to support Form 4	
8.	Form 5: Terms and Conditions - Compliance	
9.	Form 6: This Checklist	
10.	Form 7: Documents relating to Bid Security	
11.	If applicable, Form 8: Duly signed Integrity Pact, If stipulated in AITB.	

12.	Price Schedule (BOQ) Excel Sheet downloaded from the Portal and filled and uploaded	
13.	Any other requirements, if stipulated in TIS/ AITB; or if considered relevant by the Bidder	

.....

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of.....

[name & address of Bidder and seal of company]

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 7: Documents Relating To Bid Security

(Ref ITB-clause 9.2)

Note: Submit as Form 7 as part of Technical bid, a Bid Securing Declaration In lieu of bid security in the following format. Bidders exempted from submission of bid security are also required to submit this.

Bid Securing Declaration

(on Company Letter-head)

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

To

The President of India, through

Head of Procurement

Procuring Organisation

[Complete address of the Procuring Entity]

Ref: Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
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Sir/ Madam

We, the undersigned, solemnly declare that:

We understand that according to the conditions of this Tender Document, the bid must be supported by a Bid Securing Declaration in lieu of Bid Security.

We unconditionally accept the conditions of this Bid Securing Declaration. We understand we shall stand automatically suspended from being eligible for bidding in any tender in Procuring Organisation for 2 years from the date of opening of this bid if we breach our obligation(s) under the tender conditions if we:

- 1) withdraw/ amend/ impair/ derogate, in any respect, from our bid, within the bid validity; or
- 2) being notified within the bid validity of the acceptance of our bid by the Procuring Entity:
 - (a) refused to or failed to produce the original documents for scrutiny or the required Performance Security within the stipulated time under the conditions of the Tender Document.
 - (b) Fail or refuse to sign the contract.

We know that this bid-Securing Declaration shall expire if the contract is not awarded to us, upon:

- 1) receipt by us of your notification
 - (a) of cancellation of the entire tender process or rejection of all bids or
 - (b) of the name of the successful bidder or
- 2) forty-five days after the expiration of bid validity any extension to it.

(Signature with date)

.....

(Name and designation)

Duly authorized to sign bid for and on behalf of.....

[name & address of Bidder and seal of company]

Dated on day of [insert date of signing]

Place.....[insert place of signing]

DA:.....

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Form 8: Integrity Pact

(If stipulated in TIS, ref Claus 8.2.1 of ITB)

(To be signed on Plain Paper)

(To be submitted as part of Technical bid)

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

This Agreement (hereinafter called the Integrity Pact) is made on _____ day of the month of _____ 202__ at _____, India.

BETWEEN

Procuring Organisation, ----- through Head of the Procuring Organisation, for and on behalf of President of India (hereinafter called the “The Principal”, which expression shall mean and include unless the context otherwise requires, his successors in office and assigns) of the First Part

AND

M/ s. _____ (hereinafter called the “The Bidder/ Contractor” which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

PREAMBLE

‘The Principal’ intends to award, under laid down organizational procedures, contract/ s for _____, ‘The Principal’ values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and/ or Contractor(s).

In order to achieve these goals, the Principal shall appoint Independent External Monitors (IEMs) who shall monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the ‘The Principal’

(1) ‘The Principal’ commits itself to take all measures necessary to prevent corruption and to observe the following principles: -

- a. No employee of the Principal, personally or through family members, shall in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- b. The Principal shall, during the tender process, treat all Bidder(s) with equity and reason. The Principal shall in particular, before and during the tender process, provide to all Bidder(s) the same information and shall not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

c. The Principal shall exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees, which is a criminal offence under the IPC/ PC Act, or if there be a substantive suspicion in this regard, the Principal shall inform the Chief Vigilance Officer and in addition, can initiate disciplinary actions.

Section 2 - Commitments of the 'Bidder/ Contractor'

(1) The 'Bidder/ Contractor' commit themselves to take all measures necessary to prevent corruption. The 'Bidder/ Contractor' commit themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The 'Bidder/ Contractor' shall not, directly or through any other person or firm, offer, promise, or give to any of the Principal's employees involved in the tender process or the execution of the contract, or to any third person any material or other benefit which he is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The 'Bidder/ Contractor' shall not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the tender process.

c. The 'Bidder/ Contractor' shall not commit any offence under the relevant IPC/ PC Act; further, the 'Bidder/ Contractor' shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals, and business details, including information contained or transmitted electronically.

d. The 'Bidder/ Contractor' of foreign origin shall disclose the name and address of the Agents/ representatives in India if any. Similarly, the Bidder/ Contractors of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder/ Contractor. Further, as mentioned in the Guidelines, all the payments made to the Indian agent/ representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is placed in Appendix to this agreement.

e. The 'Bidder/ Contractor' shall, when presenting their bid, disclose any and all payments made, is committed to, or intends to make to agents, brokers, or any other intermediaries in connection with the award of the contract.

f. Bidder/ Contractor who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2) The 'Bidder/ Contractor' shall not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the 'Bidder/ Contractor', before award or during execution, has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the 'Bidder/ Contractor' from the tender

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process or take action as per the procedure mentioned in the “Guidelines on Banning of business dealings”.

Section 4 - Compensation for Damages

- (1) If the Principal has disqualified the ‘Bidder/ Contractor’ from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from ‘Bidder/ Contractor’ the damages equivalent to Earnest Money Deposit/ Bid Security.
- (2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the contractor liquidated damages of the contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

- (1) Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.
- (2) If Bidder makes an incorrect statement on this subject, he can be disqualified from the tender process, or action can be taken as per the procedure mentioned in “Guidelines on Banning of business dealings”.

Section 6 - Equal treatment of all Bidders/ Contractors/ Subcontractors

- (1) In the case of Sub-contracting, the Principal Contractor shall take responsibility for the adoption of the Integrity Pact by the Sub-contractor.
- (2) The Principal shall enter into agreements with identical conditions as this one with all Bidders and Contractors.
- (3) The Principal shall disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 - Criminal charges against violating Bidder(s)/ Contractor(s)/ Subcontractor(s)

If the Principal obtains knowledge of the conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal shall inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

- (1) The Principal appoints a competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively whether and to what extent the parties comply with the obligations under this agreement.
- (2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. The Monitor would have access to all Contract documents whenever required. It shall be obligatory for him/ her to treat the information and documents of the Bidders/ Contractors as confidential. He/she reports to the Head of the Procuring Organisation.

(3) The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal, including that provided by the contractor. The contractor shall also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.

(4) The Monitor is under contractual obligation to treat the information and documents of the Bidder/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform the Head of the Procuring Organisation and recuse himself/ herself from that case.

(5) The Principal shall provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the contractor. The parties offer the Monitor the option to participate in such meetings.

(6) As soon as the Monitor notices, or believes to have noticed, a violation of this agreement, he shall so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can, in this regard, submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action, or tolerate action.

(7) The Monitor shall submit a written report to the Head of the Procuring Organisation within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(8) If the Monitor has reported to Head of the Procuring Organisation, a substantiated suspicion of an offence under relevant IPC/ PC Act, and Head of the Procuring Organisation has not, within the reasonable time, taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the contractor 12 months after the last payment under the contract and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above unless it is discharged/ determined by the Head of the Procuring Organisation.

Section 10 - Other provisions

(1) This agreement is subject to Indian Law. The place of performance and jurisdiction is the Registered Office of the Principal, i.e., New Delhi.

(2) Changes and supplements, as well as termination notices, need to be made in writing. Side agreements have not been made.

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(3) If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties shall strive to come to an agreement with their original intentions.

(5) Issues like Warranty/ Guarantee etc., shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Appendix, the Clause in the Integrity Pact shall prevail.

For and on behalf of the Principal

(Name of the Officer and Designation)

(Office Seal)

For and on behalf of 'Bidder/ Contractor.'

(Name of the Officer and Designation)

(Office Seal)

For and on behalf of the Principal

Place

Date

Witness 1:

(Name & Address)

Witness 2:

(Name & Address)

Note: This *Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.*

Appendix to Integrity Pact

Guidelines for Indian Agents of Foreign Suppliers

1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with 'The Principal' shall apply for registration in the registration form with the appropriate unit.

1.1 Registered agents shall file an authenticated Photostat copy duly attested by a Notary Public/ Original certificate of the Principal confirming the agency agreement. It should cover - the precise relationship, services to be rendered, mutual interests in business - generally and/ or specifically for the tender. Any commission/ remuneration/ salary/ retainership, which the agent or associate receives in India or abroad from the Principal, whether should be brought on record in the Agreement and be made explicit.

1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary, or a retainer, a written declaration to this effect should be submitted by the party (i.e., Principal) before finalizing the order.

2.0 Disclosure of particulars of agents/ representatives in India, if any.

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Survey of India
Department of Science & Technology

2.1 Bidders of Foreign nationality shall furnish the following details in their offers:

2.1.1 The 'Bidder/ Contractor' of foreign origin shall disclose the name and address of the agents/ representatives in India, if any and the extent of authorization and authority given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is an existing Company and details of the same shall be furnished.

2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.

2.1.3 Confirmation of Bidder that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by 'The Principal' in Indian Rupees only.

2.2 Bidders of Indian Nationality shall furnish the following details in their offers:

2.2.1 The 'Bidder/ Contractor' of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal authorizing the agent specifically to make an offer in India in response to tender either directly or through the agents/ representatives.

2.2.2 The amount of commission/ remuneration included in the price (s) quoted by Bidder for himself.

2.2.3 Confirmation of the foreign principals of Bidder that the commission/ remuneration, if any, reserved for Bidder in the quoted price(s), may be paid by 'The Principal' in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Services.

2.3 In either case, in the event of contract materializing, the terms of payment shall provide for payment of the commission/ remuneration, if any, payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.

2.4 Failure to furnish correct and detailed information as called for in clauses above shall render the concerned bid liable to rejection or, in the event of a contract materializing, the same liable to termination by 'The Principal'. Besides this, there would be a penalty of banning business dealings with 'The Principal' or damage or payment of a named sum.

FORMATS

Format 1: Contract Form

(Ref ITB-clause13.2)

The President of India, through

Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Contract No..... dated.....

To

Contractor [Write Name]

Unique GeM Supplier ID:.....

[Complete address of the contractor]

Subject: -----

Ref:1. *This office' Letter of Award No..... dated*

2. *This office Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024; Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor, dated..... and subsequent Amendment No....., dated..... (If any). (Hereinafter referred to as 'the Tender Document')*

3. *Your Tender No..... dated..... and subsequent communication(s)/ Revised Offer No..... dated (If any), exchanged between you and this office in connection with this tender. (Hereinafter referred to as 'Your Offer')*

Dear Sir/ Madam,

Your bid referred above, read with subsequent letters mentioned above, for the Services stipulated in the Schedules annexed herewith, have been accepted. Terms and conditions in this Contract and the documents listed in the clause below shall apply.

2. Terms and conditions in the documents mentioned under Reference no: 1, 2 and 3 above (including General and Special Conditions of Contract) shall also be part of this contract.

Note: The words, expressions, definitions, and abbreviations used in this Contract shall have the same meanings as are respectively assigned to them in the General Condition of Contract of 'the Tender Document'.

(Signature, name and address of [Procuring Entity]'s authorized, official)

For and on behalf of.....

Received and accepted this Contract

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

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(Signature, name, and address of the contractor's executive duly authorized to sign on behalf of the contractor)

For and on behalf of

(Name and address of the contractor)

.....

(Seal of the contractor) Place: _____ Date:

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Format 1.1: Description of Services

To,

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Contract No _____; Date _____

Contractor's Name _____

[Address and Contact Details]

*[Give detailed descriptions of the Services to be provided, dates for delivery, place of performance, specific tasks to be approved Procuring Entity, etc. This Description of Services is based on Section VI: Schedule of Requirements in the Tender Document and **incorporates changes agreed upon during evaluation**. It must be noted that this Description of Services takes precedence over the Service Provider's bid, so any changes recommended or requested by the Service Provider do not alter the Services the Service Provider is required to perform **unless agreed to during evaluation and incorporated into this Description of Services.**]*

In the event of any inconsistency between this Description of Services and the 'bid', the priority of interpretation shall be given to this Description of Services.

This format shall cover all details from Sections VI and VII; Forms 2; 3; 3.1; 3.2 of the bid.

Note: This Form should be jointly signed by the Bidder and each member of a joint venture/ Consortium.

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

Format 1.1.1: Personnel Deployment Plan

To,

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Contract No _____; Date _____

Contractor's Name _____

[Address and Contact Details]

[List all Personnel and Subcontractors to be deployed in the delivery of the Services, with position, job description and minimum qualifications as per the Schedule of Requirements/ bid]

Format 1.1.2: Equipment Deployment Plan

To,

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Contract No _____; Date _____

Contractor’s Name _____

[Address and Contact Details]

[List all Equipment to be deployed in the delivery of the Services, as per the Schedule of Requirements/ bid]

Request for Proposal for Non-consultancy Services providing Services for 2D/ 3D Urban Mapping of Urban Areas –

T-1590/1147-Project (NAKSHA)_DoLR/ Comp_25313 dated 10/10/2024

Format 1.1.3: Materials Deployment Plan

To,

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;

Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Contract No _____; Date _____

Contractor's Name _____

[Address and Contact Details]

[List all Materials to be deployed in the delivery of the Services, as per the Schedule of Requirements/ bid]

Format 1.2 Price Schedule

To,

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Contract No _____; Date _____

Contractor's Name _____

[Address and Contact Details]

[Price Schedule as per BOQ submitted along with all Schedules]

Format 1.3: Bank Guarantee Format for Performance Security

(Ref ITB-clause13.2.4 and GCC-clause5.8)

To

The President of India, through

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Whereas..... (name and address of the contractor) (hereinafter called “the contractor”) has undertaken, in pursuance of contract no date..... to delivery (description of Services) (hereinafter called “the contract”).

And Whereas you have stipulated it in the said contract that the contractor shall furnish you with a bank guarantee by a Commercial bank for the sum specified therein as security for compliance with its obligations as per the contract;

And Whereas we have agreed to give the contractor such a bank guarantee.

Now Therefore we hereby affirm that we are guarantors and responsible to you, on behalf of the contractor, up to a total of(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the contractor to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting us with demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall be valid until theday of20.....

Our.....branch at.....*(Name & Address of the*(branch) is liable to pay the guaranteed amount depending on the filing of a claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our* branch a written claim or demand and received by us at our* branch on or before Dt..... otherwise, the bank shall be discharged of all liabilities under this guarantee after that.

(Signature of the authorized officer of the Bank)

.....

.....

Name and designation of the officer

.....

Seal, name & address of the Bank and address of Branch

*Preferably at the headquarters of the authority competent to sanction the expenditure for procurement of goods/ service or at the concerned district headquarters or the state headquarters.

Format 1.4: No Claim Certificate

(Refer GCC-Clause 11.6.6)

(On company Letter-head)

Contractor's Name _____

[Address and Contact Details]

Contractor's Reference No. _____ Date.....

To

The President of India, through

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

No Claim Certificate

Sub: Contract Agreement no. ----- dated -----for the supply of -----

We have received the sum of Rs. (Rupees _____ only) as final settlement due to us for the supply of _____ under the abovementioned contract agreement.

We have received all the amounts payable to us with this payment and have no outstanding dispute of any description whatsoever regarding the amounts worked out as payable to us and received by us.

We hereby unconditionally and without any reservation whatsoever, certify that we shall have no further claim whatsoever, of any description, on any account, against the Procuring Entity, under contract above. We shall continue to be bound by the terms and conditions of the contract agreement regarding its performance.

Yours faithfully,

Signatures of contractor or

officer authorised to sign the contract documents.

on behalf of the contractor

(company Seal)

Date: _____

Place: _____

Format 1.5: Deleted

DELETED

Format 2: Authorization for Attending Pre-bid Conference.

(Refer ITB-clause8)

(on Company Official Letter Head)

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____ Date.....

To

The President of India, through

The Surveyor General of India

Survey of India

[Complete address of the Procuring Entity]

Ref: Tender Document No. T-1590/1147-Project (NAKSHA)_DoLR/Comp_25313 dated 10/10/2024;
Tender Title: Request for Proposal for providing Services for 2D/ 3D Urban Mapping of Urban Areas using on-board Aerial Platform (Manned/ Unmanned) fitted with (i) Nadir Camera, (ii) Multi angle (4 oblique + 1 Nadir) camera, and (iii) Multi angle (4 oblique + 1 Nadir) camera and LiDAR sensor

Subject: Authorization for attending Pre-bid Conference on _____ (date).

Following persons are hereby authorized to attend the Pre-bid Conference for the tender mentioned above on behalf of _____ (Bidder) in order of preference given below.

Sr.	Name	Government Photo ID Type/ Number
I.		
II.		
Alternate Representative		

Note:

1. Maximum of two representatives (carrying valid Government photo IDs) shall be permitted to attend the Pre-bid opening. An alternate representative shall be permitted when regular representatives are not able to attend.

2. Permission to enter the hall where the pre-bid conference is conducted may be refused if authorization as prescribed above is not submitted.

Signatures of bidder or

Officer authorized to sign the bid.

Documents on behalf of the bidder

[name & address of Bidder and seal of company]