Scope of Work (Stereo Digitization Only – 5 cm GSD)

With Tables, Schema Placeholders, BoQ, and Eligibility Criteria

1. Description of Services

The Service Provider shall perform **2D stereo digitization** using digital stereo images (5 cm GSD) supplied by Survey of India (SOI).
The work includes:

- Feature extraction from stereo models
- Creation of SOI-schema compliant 2D GIS layers
- DSM, DTM, DEM or elevation modeling not required.

Work is limited strictly to **planimetric (2D) digitization**.

2. Scope of Work

2.1 Stereo Digitization Tasks

The contractor shall stereo digitize all visible and photogrammetrically interpretable features:

- Building footprints
- Property boundaries (compound walls, fences, hedges)
- Roads, lanes, pathways
- Open/visible drains, culverts
- Utilities (poles, manholes, transformers)
- Water bodies
- Vegetation outlines where relevant
- Misc. topographical markers as per SOI schema

Stereo compilation must also be used for **obscured areas** (tree cover, sheds, shadows).

3. GIS Integration Requirements

- Output formats: **SHP, GDB, KML**
- Projection: **UTM**
- Datum: **WGS 84**
- Separate layers for each feature class
- Attribute fields must follow the SOI schema

4. Accuracy Requirements

- Expected planimetric accuracy: **±10 cm** from 5 cm GSD stereo imagery

- No vertical measurements required
- No DSM/DTM validation required

5. Deliverables

1. **Final 2D GIS dataset** in SHP, GDB, and KML
2. **Layer-wise feature classes**, schema-compliant
3. **Topology & QC report**
4. **Final project report**
5. **Digital handover** of all GIS files + metadata

6. Delivery Timeline

- Total duration: **2months from award**

7. Penalty Clause (Simplified)

- Delay penalty: **0.25% of contract value per week of delay**
- Maximum penalty: **2% of contract value**

8. Data Security & Handling

- Work must be carried out inside authorized facility
- NDA mandatory
- No copying to external devices
- All processing must remain within India
- Only Indian citizens will handle data unless special approval is granted
- All intermediate and final data must be handed over; contractor cannot retain copies

9. Support & Corrections

- Contractor must fix QA issues within **5 working days after digitization.**
- No additional charge for corrections

10. TABLES AND SCHEMA PLACEHOLDERS

10.1 Feature Schema Placeholder Table

(*Actual schema will be SOI-provided and inserted during execution.*) Annexure " 1" attached.

10.2 Illustration Placeholder

A diagram showing stereo model layout, left-right image, parallax & 3D interpretation.

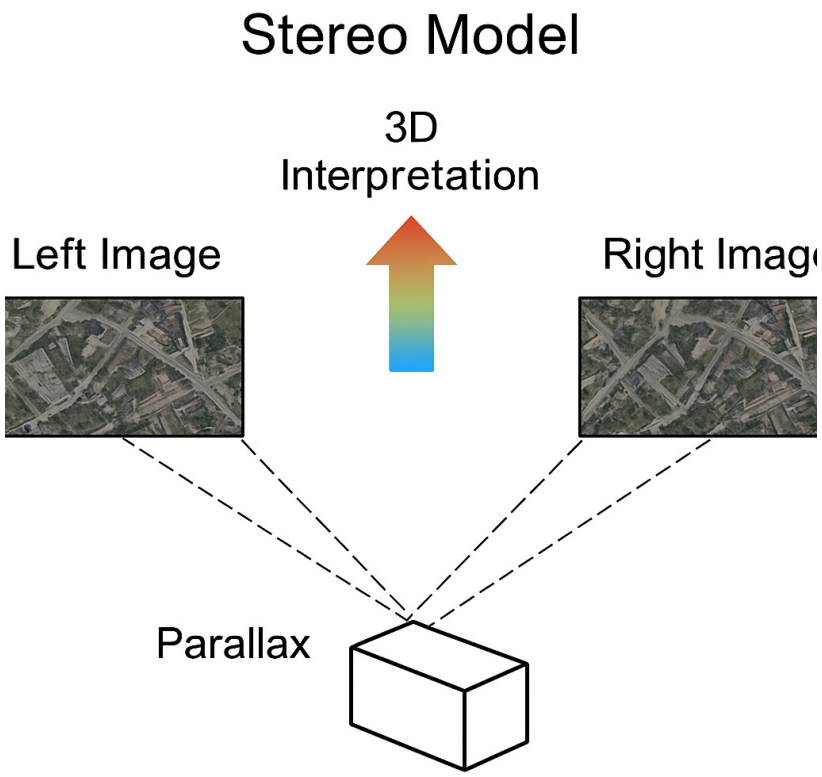

Figure Caption:
Example of stereo model for 2D digitization

11. BILL OF QUANTITIES (BoQ)

FORMAT 1.2 Price Schedule

S. No	Item Description	Quantity	Units	BASIC Rate per sq km in figures to be entered by the Bidder in Rs. P	GST per Sq km in Rs. P	Total Amount per Sq Km with taxes in Rs. P	Total Amount of all area with taxes in Rs. P	Total Amount in words
1.	Stereo Digitization of Urban Area with GIS Layer Creation (SHP, GDB, KML) QA/QC & Topology Verification Final Reporting & Documentation Data Handover & Support	44.85	Sq. K.m.					
	Total							

(*Rates to be quoted by bidder.*)

12. PRE-QUALIFICATION & TECHNICAL ELIGIBILITY CRITERIA

12.1 Pre-Qualification Criteria

- Bidder must be an **Indian registered legal entity**.
- Must comply with **Government of India Geospatial Guidelines 2021/22**.
- Must submit **NDA**.

12.2 Technical Eligibility

- Minimum **2 years experience** in photogrammetry or stereo digitization.
- Must have completed **at least one project ≥ 20 sq km** stereo digitization.
- Must have:
    - Licensed stereo compilation software
    - At least **2 trained photogrammetry operators**
    - Adequate hardware (stereo workstation, 3D monitors, suitable GPU)
- Must demonstrate ability to produce:
    - SOI-schema standard layers
    - Planimetric accuracy matching 5 cm GSD

NAKSHA PROJECT-SDMS(VERSION-4) **Annexure-1**

	FEATURE DATASET		FEATURE CLASS	GEOMETRY
1	PROPERTY_MARKER	1	Boundary_Wall	2D/3D Line
		2	Fence	2D/3D Line
		3	Hedge	2D/3D Line
		4	Building_Junctions	2D/3D Line
		5	Others	2D/3D Line
		6	Field Bunds	Line
2	LAND_PARCEL	7	Land Parcel	Polygon
3	BUILDING	8	Building_Footprint	2D/3D Polygon
		9	Building_Model	Polyhedron
		10	Building_Outline	2D/3D Line
4	LAND_COVER	11	Cultivation	2D/3D Polygon
		12	Plantation	2D/3D Polygon
		13	Play_Ground	2D/3D Polygon
		14	Park	2D/3D Polygon
		15	Wooded_Area	2D/3D Polygon
		16	Vacant_Land	2D/3D Polygon
		17	Others	2D/3D Polygon
5	HYDROLOGY	18	Drain_Edge	2D/3D Line
		19	Stream_Edge	2D/3D Line
		20	Drain_CL	2D/3D Line
		21	Stream_CL	2D/3D Line
		22	River_CL	2D/3D Line
		23	River_Bank	2D/3D Line
		24	Canal_CL	2D/3D Line
		25	Canal_Edge	2D/3D Line
		26	Water_Body	2D/3D Polygon
6	HYPSOGRAPHY	27	Contour_Thick	2D/3D Line
		28	Contour_Thin	2D/3D Line
		29	Breakline	2D/3D Line
		30	Spot_Height	2D/3D Point
7	TRANSPORT	31	Divider	Polygon
		32	Side_Walk	Polygon
		33	Bridge	Polygon
		34	Rotary	Polygon
		35	Traffic_Island	Polygon
		36	Others	Polygon
		37	ROAD_CENTER_LINE	Line
		38	ROAD_POLYGON	Polygon
		39	Metro_Line	Line
			Metro_Poly	polygon
		40	Railway_Line	Line
			Rail_Poly	polygon
		41	Others	Line
		42	Bus_Station	Polygon

		43	Bus_Stop	Polygon
		44	Metro_Station	Polygon
		45	Airport	Polygon
		46	Railway_Station	Polygon
		47	Traffic _Signal	Point
		49	Road_Cway_Edge	Line
8	UTILITIES	50	Tower	Point
		51	Others	Point
		52	Power_Line	Line
		53	Electric_Pole	Point
		54	Pylon	Point
		55	Wireless_Mast	Point
		56	Electric_Sub_Station	Polygon
		57	Tank	Polygon
		58	Petrol_Pump	Polygon
		59	Stadium	Polygon
		60	Pipeline	Line
		61	Others	Polygon
9	Ground_Survey_Points	62	Check_Point	Point
		63	Control_Point	Point
		64	CORS	Point
		65	Height_BM	Point
10	Flag	66	Flag	Polygon