

Request for Proposal (RFP)

For

Conducting Property Tax Survey

For

Department of Urban Local Bodies, Haryana

Volume II: Scope of Work

(Structure of Proposal & Bid Process Specifications)

RFP No.:- IT/DGULB/2018/09



Released by:

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1. Introduction

Govt. of Haryana intends to provide a single and integrated view of information system across all government agencies in the state for Local Level planning. Land and Properties are considered as very important entities both by the citizen and the Government. For a citizen, the property is a very valuable personal asset and a strong sense of ownership is associated with this. For the Government, land and property takes a centre-stage for governance. Especially in the urban areas, which is growing rapidly, the information about properties is much needed for urban planning as well as for revenue generation. And, much of the citizen services of the urban are also linked to the property which serves as a base, for e.g. the Water, GAS, Utility, Underground Drainage connections etc.

One of the key components of the reforms, commenced by the State of Haryana, to ensure sustainable urban centres, is the e-governance project starting with assigning **Unique Property Identification (UPI)** for Property Taxation with Geo-location. The system could help in efficiently monitoring the process of Tax collection and thereby stop the loss of revenue through effective enforcement of property tax practices.

The intent of this document is to provide the detailed scope of work for Bidder/SI who shall be engaged for Conducting Property Tax Survey / License Survey including Issuance of Notice & Bills, with Technical handholding support in updating of property tax demand, collection, registers etc. for different Municipal Corporations / Councils / Committees of Ambala Cluster for the next 4 years after completion of survey work.

1.1. Institutional Profile – About Department of Urban Local Bodies (DULB), Haryana

Urban Local Bodies are the constitutionally provided administrative units to provide basic infrastructure and services in urban areas i.e. cities and towns. The Directorate of Urban Local Bodies Department, Haryana was established on 1st April, 1982 to lay a solid foundation for the Urban Development in the State of Haryana. For efficient and effective service delivery, the Department continuously replace traditional delivery system of public services by new and improved system of governance that works better, costs less and is capable of serving the citizens' needs with ease.

The Urban Local Bodies Directorate is headquartered at Panchkula and the Municipal Corporations, Councils and the Committees are located across Haryana. At present, there are 10 Municipal Corporations, 18 Municipal Councils and 53 Municipal Committees in the state which are headed by Municipal Commissioners and other established officers.

1.2. Project Background

It has become cumbersome task to provide a solution that assigns a unique identification for urban properties which is necessary for efficient planning and management. This becomes even more complex with the consolidation of multiple independent plots into a single plot while building large apartment complexes and corporate campuses or the process by which plots or dwellings are divided further when properties are bequeathed to the next generation. Thus any optimal solution in Unique Property/House

Addressing must solve intuitiveness not just by the numbering scheme alone but also by representing this numbering scheme in GIS based map allowing for geo-location and utility services to be provided effectively.

The E-Governance Project at Haryana DULB is proposed to provide a state-of-art robust, reliable and futuristic Enterprise GIS platform, aimed to provide decision support system to ULB officials by integrating GIS data with other IT applications and e-Governance system. The databases will ideally possess attributes of every individual property with information such as land owner, co-owner, mailing & permanent address, house style, built year, individual room measurements, compliance with the regulations of the building authorities, public / private utilities mapping to the plot, street characteristics and amenities. There should also be a provision of linking every individual plots with their digital photographs, and a link to the map showing the location of the plot.

1.3. Project Objectives

The overall objectives of the project are as follows:

- Directorate of Urban Local Bodies, Haryana invites application from eligible Bidder/SI under National competitive bidding (NCB) for Conducting Property Tax Survey / License Survey including Issuance of Notice & Bills, with Technical handholding support in updating of property tax, demand, collection registers etc. for different Municipal Corporations / Councils / Committees of Ambala Cluster for the next 4 years after completion of survey work.
- Conducting the door-to-door Property survey, Colony survey, Street survey, license survey and numbering of all the vacant plots, residential, commercial, institutional and industrial building.
- Conduct geo-enabled property tax survey using mobile / handheld device (to be arranged by the Bidder/SI at no additional cost) for faster, transparent and better survey of Buildings / Property as per details mentioned in the RFP document in [Annexure – 1](#)
- Capturing data through mobile app at site as per the format approved by the department
- Creating property codes with colony and street codes online on web application
- Integrate all the geo-tagged locations and respective surveyed data in systems database with highest accuracy. The points should be exactly overlaid on the latest high resolution imagery when it is made available for implementation of Property Tax Assessment and Asset Management System.
- These urban dwellings / properties will have the **Unique Property Identification (UPI) with QR Code** affixed to their buildings using a metallic sheet board. This unique door number has to be generated based on the indicative Property Code generation method as suggested and prescribed in the [Annexure – 2](#).
- Conduct analysis of the integrated data with the property data available with the ULBs to identify any deviating properties from the property tax perspective.
- Generation of requisite Property Tax lists, Register and Bills / License record online on web application provided by DULB.
- Supplementary Property Tax survey and issue the Assessment Notices & Bills

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- Tax Collection will be done by concern municipal office by their own existing set-up
- Host the solution at a Data Center space
- Integration of Geo-tagged survey data points with the Base map on availability from the department
- Provide training on complete solution
- Provide handholding support to the identified users

The above work shall have to be accomplished for all the vacant plots, residential, commercial, institutional, industrial building, multi-storey building (each flat will be treated separate units and hence therefore separate measurement will be done for individual flats) and government building etc. as per the policy of property tax in all areas falling under the purview of Corporation / Council / Committee as the case may be.

2. Scope of Work

The objective of this Request for Proposal (RFP) is to provide Haryana DULB with a Unique Digital Addressing Solution for Urban Properties / Dwellings in Ambala Division. A property identification and assessment solution has been proposed keeping in mind the benefits of providing **Unique Property Identification (UPI)**. The selected Bidder/SI shall implement the project as required by the DULB. This RFP is for geo-tagging and surveying the properties and hosting on the central software application platform of Property Tax. The platform will allow DULB to perform different functions related to Property Tax Management which would be used by DULB officials, staff, surveyors and collection agents.

The overall scope of work for the tender is listed as below.

- Before proceeding for survey work, the bidder shall examine the existing status of tax collection, demand and collection register of licensing and prepare a database in soft format for all the properties eligible for the purpose of said taxes and fees and accordingly the updation / recirculation of property record will be carried out in conformity with the latest survey proposed to be conducted under this assignment.
- GPS Latitude and Longitude survey of Land & Building assessment / license shall be conducted using mobile / handheld device, using Map Interface to geo-tag the property to maximum accuracy.
- The Bidder/SI shall conduct each and every Property, Colony and Street survey.
- **Total Property Area measurement** and verifying the same by making door-to-door measurement of all the properties with help of Laser Distance meter or any other electronic measuring device of each block area within municipal limit of city as per geographical scope mentioned in this document.
- The database shall be supported by the application which can portray database collected and created, in form of **Property Tax Digital Platform MIS** and the same shall be accessible to the DULB.
- All the geo-tagged and surveyed properties will have the **UPI and QR Code** affixed to their buildings using a metallic sheet board and the cost of this will be borne by Bidder/SI, and will also take the **responsibility in affixing this metallic sheet on the Urban Property/Dwellings.**
- The metal plate should be made of TIN and the dimensions of the numbering plate should be 3.5" / 2"
- Implementation and integration with Property Tax Digital Platform consisting of
 - Geo-enabled Survey module
 - Tax assessment module
 - Collection module
 - Property Tax Analytics module
 - Citizen Services

The department and concerned MC will supervise the project and evaluate the situation and conceptualize the plan for execution along with the Bidder. The department will also administer the execution process of the entire project. The benefits of the proposed solution shall be:

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- Access the database by subject:
 - According to Neighbourhood, or Ward or Zone, retrieve data to be identified
 - According to Address, retrieve data associated with the Street and Colony.
 - According to Type of Occupancy, retrieve data individually or by group for property or type of property, economic use or type of economic use, data should be retrievable by street or neighbourhood or based on ward, or for the entire city;
- Easily change or retrieve a new address at any time;
- Add open parameters (data associated with the address) at any time and in unlimited quantity;
- Store in memory all changes in occupancy for purposes of creating history files that will make it possible to observe trends;
- Easily import and export data from/to other applications (street system, facilities, tax system) or another database;
- Print data retrieved and/or all data.

2.1. Project Area

Following is the table showing the list of ULBs for Ambala division with number of Indicative Properties.

AMBALA Division	
Name of the ULB	Number of Indicative Properties
PANCHKULA	118068
AMBALA	176496
YAMUNA NAGAR	152376
THANESAR	68144
NARAIGARH	11619
BARARA	17897
RADOUR	7118
SHAHBAD	16331
LADWA	15717
PEHOWA	21453
Total	605219

2.2. Property Assessment Survey

- I. Development of Property Tax Survey Mobile Application.
- II. Geo enabled property survey for properties and yet to be assessed properties within Cluster.

2.2.1. Development of Property Tax Survey Mobile Application

DULB proposes to conduct Property Tax Survey / License Survey for which household level geo-tagging survey has to be done. Bidder/SI shall create a Mobile Application to be used for Property Assessment Survey. The mobile application should have the following features:

- i. It should geo-tag each property survey sheet using Map Services APIs for capturing accurate co-ordinates and real time location
- ii. It should be compatible with latest (last two) version of Android
- iii. Alpha Numeric data collected via survey should be integrated with central property tax administration software which will be provided by DULB.
- iv. The mobile application should capture all the Photographs or other media in geo-tagged format. Images should be stored in .jpeg format (Best Compression format) with GPS information.

The selected bidder must design, develop, deploy and end user training of customized Mobile based geo-survey application and the database system for geo-tagging all the properties within DULB jurisdiction.

Scope of Mobile Application Development work:

- Surveyor Module for GPS enabled mobile / handheld device with accuracy level of 2-5 Meters, configuration of latest and prevalent Map Service or APIs like Google Maps, Microsoft Bing Maps, DigitalGlobe, Bhuvan, Here Maps, ESRI ArcGIS, etc. (or any other with the approval of DULB or its designated authority) for effective and accurate property tax survey
- Bidder/SI has to study the capabilities and features of the available APIs in terms of diverse set of criteria
- Bidder/SI has to identify and suggest most appropriate Map API for the mobile application according to the Accuracy, Error Rate, Ground truth control GCPs, Licensing, Costing etc. and has to get approved with the department, DULB before integration
- Laser Distance Meter (LDM) or any other Electronic Measuring Device should interact with the survey mobile application
- Conduct geo-enabled property tax survey using mobile / handheld device (to be arranged by the Bidder/SI at no additional cost) for faster, transparent and better survey of Buildings / Property as per details mentioned in the RFP document in as per Annexure – 1
- Provide web services and APIs for the mobile applications, to be integrated with central property tax administration software which will be provided by DULB.
- Provide robust design and solutions considering the integration with backend systems and the integration with existing systems.

- Integrate the latest developments from the mobility space into the mobile application, as and when deemed suitable by the DULB or representatives thereof.

2.2.1.1. Key Features

The following are the indicative features of the Property Tax Survey Mobile Application which can be installed on any GPS enable handheld device with good accuracy for effective and real time geo-enabled property ground-truth survey:

- Surveyor application should be geo-enabled mobile application should access the latest Map Service (Map APIs) or geo-spatial maps and available property tax data in the field
- Survey application should have provision for field related Data entry in the survey form for every property as per DULB requirement
- Should generate a Unique Property Identification (UPI) for every property captured from survey. This ID number will be updated against all the property data in other available municipal data sources.
- In case of Multi-Storey properties and apartments, surveyor application should create parent and child relationship for entering survey information for each unit in a separate survey form.
- Separate data should be collected for Under Construction / Incomplete Buildings including geo-tagged and geo-controlled with timestamp Photograph.
- Ability to attach photograph which should be geo-tagged and geo-controlled with timestamp. The photograph captured should cover the property form all the visible sites with optimum clarity, such that each individual property is distinguished clearly.
- Application should restrict the Upload Photograph facility from gallery so that Surveyor has to click the property photograph on the field within the area.
- Application should have basic map functionalities with user friendly dashboard, showing current location with accuracy units on log-in.
- The surrounding buildings should provide clear distinction between works done, work not done and work in progress for status of the survey process.
- The distinction of properties should be configurable which can be decided by DULB about indicators like outlines and colour.
- As surveyor completes field level data entry he should be able to submit details from field which can be updated in near to real time in centralized database of property tax assessment Software.
- Surveyor should be able to work on properties **within its specified and allocated area**
- **Surveyor should be able get intimation of rejected properties** (by office users in the workflow) through map based interface and should re-survey those properties.
- Surveyor should also be able to **review the process of current status of survey**
- Provision for **new property addition spatially and non-spatially**
- Provision for Alpha numeric IDs for all property
- Provision for Property Ground – Truthing
- Provision for uploading documents from site for new assessment

- **Map Navigation facilities and Search Tool**
- Should support Multi Language so data can be entered in regional language
- Should work in Offline Environment

2.2.1.2. Data Requirements and Migration

- All the Geo-tagged survey data points or layers should be of maximum possible accuracy and should be able to locate and place exactly on the Image Base map (Property layers) at a later stage.
- Property Survey Mobile Application has to be integrated with Property Tax Digital Platform to be provided by DULB
- Data must flow seamlessly between Mobile Application to Property Tax application software
- Data exchange between application and Property Management System must be secure and encrypted
- Uploaded photographs and survey details need to be light weight for quick data transfer
- Provision need to be provided for surveyors facing technical problem in data transfer through cellular data network and should be able to transfer the collected data to server over internet as a package.

2.2.2. Geo enabled Door to Door Property tagging survey

- I. Properties shall be categorized as Open Land, Own household and Multi-storey Building/premise. The Categorized property shall be marked as per its usage i.e. Residential, Commercial, Industrial, Institutional, Government owned, Religious and Mixed usage. Residential properties which are occupied by owners and tenants (property which is given for rent) shall be treated as separate category.
- II. Finalization of the property survey format, a sample survey format is attached as [Annexure – 1 \(A\)](#) & [Annexure – 1 \(B\)](#). After having discussion with Consultant, the DULB shall finalize the contents of survey format, which shall mainly consist of name of the owner, address, contact details (mobile/landline/email id), defined unique ID, Area (ward/zone), Pin code, etc. of each tax payer/unit holder and other relevant information as desired by DULB.
- III. The survey should be conducted by matching the existing property tax records (code matching) of concerned municipality (concerned municipality will provide all existing property tax records to successful vendor and also accompany in the survey, if necessary)
- IV. To capture total property area and floor wise carpet area of the property, Laser Distance Meter (LDM) / Electronic measuring device should be used. To restrict manipulation of Data, LDM or other device should be connected with Bluetooth to transfer the captured data directly to the mobile application of property survey.
- V. To determine the plot and property dimensions, survey teams should be composed of experienced trained personnel.
- VI. Bidder shall **conduct colony / society / street / sector survey** in the prescribed format and will generate online code to each category on the web application.

- VII. Data so captured during the onsite survey will be sent directly to the central database to avoid any manipulation of the captured data. The handheld device must have a capability to capture the Latitude and Longitude of the surveyed property to ensure that the data is captured at the actual location. At the time of saving data, the latitude – longitude should be captured with accuracy rate and the log should be maintained for QA/QC procedure.
- VIII. The SI's team leaders, data analysts, etc. shall process collected Data, undertake necessary Quality Assurance (QA) and Quality Checking (QC) activities and remove errors, if any. After the QA/QC the data should be pushed into the database and integrated with base map whenever made available during the contract period.
- IX. For the survey process, **permission for entry into property must be obtained before conducting survey**. People may resent the intrusion onto their properties unless they understand and accept the purpose of the survey. Community support should be sought to enhance program success.
- X. Wherever the property Owner refuses to co-operate with the SI for data collection, the SI team shall flag the same in the data collection form indicating the specific reason like **"Non- co-operation by Occupier"** with date(s) of visit.
- XI. If such cases occur in large numbers, **the ULB shall depute its staff along with SI survey team to ensure that the data is collected. The SI will have to bear the cost of this survey.**
- XII. After conducting block and colony survey SI will conduct street survey in prescribed format and generate code to such street.
- XIII. A unique property identification code to each property shall be finalised by the department as per the format and which will be properly linked by the agency with the existing property identification code if any. Please refer [Annexure – 2](#) for indicative unique property identification code creation sample which shall be finalized in discussion with DULB.
- XIV. The agency will also **link the said unique property identification code record with the record of property tax, trade license fees / Factory License fees**. The concerned municipality will verify the record submitted by Agency with the existing manual / computerized record with the municipality.
- XV. The survey entries shall be made directly into Mobile Tab/Mobile device as well as manual data entry in prescribed format, for which a relevant Mobile application will be developed by Bidder/SI. (Please see [Annexure – 1 \(A\)](#) to understand sample data format to be captured in survey). The mobile app should able to search data by Name of the Tax payer, ID, Location etc. The system should be able to read English / Hindi language to identify records.
- XVI. **Digital photographs (at least 2)** of each Dwelling / Building must be taken and shall be linked with the respective property in the database.
- XVII. Numbering of all vacant plot, residential plot, commercial institution and industrial building.

2.2.3. Field Survey Data Validation

- I. 100% of the overall properties surveyed by the SI shall be audited by the concerned MCs under the DULB jurisdiction. The bidder shall provide concerned MCs / DULB with data collected for all the properties on Image / Map based solution for validating 100% coverage of the area.
- II. Bidder/Si has to make the log of Horizontal Positional Accuracy showing Root-mean square error (RMSE) accuracy for reference of the collected co-ordinates of the property.
- III. If any irregularities are found as a result of these inspections, the selected bidder needs to rectify the same. Bidder shall be responsible to provide requisite information and facilitate inspection by respective department.
- IV. The findings of the audit agency shall be binding on the bidders and they shall have to re-do the survey and provide necessary explanation for the earlier error, if any.
- V. In case of any discrepancy, the ULB official shall accompany the agencies and shall check the demonstration of actual survey results to the ULB official whose decision in this matter will be final.
- VI. SLA measurement and monitoring for quality of property survey are attached at [Annexure – 3](#).

2.3. Central Software

2.3.1. Property Tax Digital Platform

- Property Tax digital platform will be provided by DULB developed in .NET and MS SQL Server as database. The Bidder/ SI would be required to maintain the application and integrate the same with the Web Application used for Property Survey
- The same needs to be hosted by the bidder (the infrastructure space for hosting would be provided by the department) and use the software for managing property tax data collected, tax registers, notices as per demand during operation and maintenance phase.

2.3.2. Cloud based DC/DR Hosting Services

- Proposed solution shall be hosted in a Cloud environment in a Data Centre, which shall be provided by the department. The bidder shall install and further maintain the said infrastructure which includes:
 - Provide necessary Software licenses and required support for the solution proposed
 - Any other components required for functioning of solution
- Primary Data Centre and Disaster Recovery Centre sites will be cloud enabled.
- Bidder shall host the entire application centrally at the primary data centre.
- Bidder to provide all the necessary MIS reports required to meet the SLA. MIS capabilities with customizable reports, monitoring tool/dashboard.
- The proposed applications shall be centrally hosted at the cloud enabled sites and access provided as online service to users
 - All data should be replicated between Cloud enabled PDC and DRC. There shall be no data inconsistencies issues with either cloud enabled data centre sites.
- Bidder shall provide interoperability support (without any additional cost) with regards to available APIs, data portability, VMs, etc. for the DULB to utilize in case of Change of cloud service provider, migration back to in-house infrastructure, burst to a different cloud service provider for a short duration or availing backup or DR services from a different service provider.
- Officials as may be authorized by DULB shall be allowed to access the systems or its components including databases, subject to such rights & privileges as DULB may decide from time to time for the purpose of testing, audit, certification, review, inspection etc.
- The bidder will not be allowed to change the hosting provider during contract duration without prior approval of DULB.
- The bidder will provide regular data back up to the DULB.

Integration with Property Tax, license charges, data capturing Mobile Application and requirement of software.

- The software managed by the bidder shall be capable of generating & printing tax bills / notices to be issued to all taxpayers.
- The Software managed by the bidder shall be able to generate Colony wise / Ward wise / Zone wise MIS reports.
- The Software shall be capable of making online self-assessment in respect of property tax by Tax Payer / Assesses so that the online payment can be made by the tax payer.
- The web-based property tax information system shall also allow an easy access to download the tax defaulter lists. It should allow an access to download demand notice or invoice for property owners; in addition to viewing digital photographs taken during door-to-door survey of properties.
- The Application must have Self-Assessment module and Payment Module
- It must support Objections, Rectifications and Credentials of the users and citizens.

2.4. Project Implementation

2.4.1. Project Planning

Conducting an urban property survey involves four phases

- i. Preparation
- ii. Public information and education
- iii. Inspection and measurements
- iv. Data build-up, Validation & Updatons

Planning the operation and recruiting and training staff

The survey teams should be guided by the property survey form, which is to be completed during the survey. At least 3 to 5 days of classroom and field training are recommended for surveyors to ensure that their observational and record keeping skills are satisfactory. Survey Agencies should use news media, Web sites, exhibits, and brochures and posters as well as visit the target area-Block to inform residents in advance of the survey and explain its importance. There should be outreach to community organizations and other groups to gain support for the program.

Each premise must be clearly defined and given a number so that it can be unambiguously identified on the map. Because of expected variations in block configurations, decide what constitutes a block for survey purposes. All field personnel must be aware of that definition.

A door to door property survey should than be conducted and all details / attributes of that property should be captured in the questionnaire form of the application. An extra effort should be made by surveying staff to build the block data at the end of the day and revalidate the same at the end of the survey of that Block. The Property data so captured should be fed into the system to build master data.

2.4.2. Minimum Qualification and Experience for Key Resources

Ideally, Urban Property surveys should be conducted by two-person teams, with the qualified surveyor recording the data and making decisions about questionable findings and to determine the plot and properties dimensions and capturing property photographs. Survey teams should be composed of experienced trained personnel.

The bidder shall provide qualified manpower for the following tasks for the project to be successful. The manpower to be deployed shall be experienced and technically capable in their job. The minimum qualifications and skill requirements of key persons are given in the RFP. The CVs of the manpower for “Project Team” and the “Implementation & Roll out Team” shall be got approved from the department.

The responsibility of depositing required amounts in Provident Fund or Insurance or any other statutory requirement, as per prevalent laws, shall solely be that of the bidder and the procuring entity /Client shall in no way be liable / responsible for fulfilment of these obligations.

2.4.2.1. Project Implementation Team (Core Team)

The Program Management Unit will be set up within 15 days of the approval of Requirement Specification, and shall be based at each concerned municipality.

Sr. No.	Particulars (Role)	Educational Qualification & Experience	Duration
1.	Project Manager	Post Graduate in Civil Engineering / Urban Planning / Architecture / Management with 15 years' experience or more Good knowledge field survey , municipal finance, revenue surveys, slum based survey Fluent in Hindi and good communication skills Dealt up with at least 2 nos. of Urban Local Bodies for field survey data collection using mobile/handheld electronic devices for properties.	Entire Project period of 4 years or till date of completion of all liabilities and hand over / transfer to the concerned whichever is later
2.	Survey Team Leader / GIS Expert	M.E / M.Tech / M. Plan / M.Sc., in Surveying / Geography / Remote Sensing / Computer Science / Geo informatics with 8+ years of experience in surveying Skills: Experience in Spatial Data bases / Remote Sensing / Urban Planning / Socio-economic data with GIS and Handling a Team of 15 persons 5 Years of Experience in performing similar work Good knowledge of field survey and ground trothing exercise, property measurement, etc.	

		Worked in atleast one project for field survey data collection using mobile/handheld electronic devices for properties.	
3.	Property Tax Expert	M.Tech / M. Plan / M.Sc., in Planning / Surveying / Civil Engineering with 8+ years of experience in surveying Skills: Experience in Urban Planning / Regional Planning / Spatial Data bases / Socio-economic data and Handling a Team of 15 persons 5 Years of Experience in performing similar work	
4.	Surveyors	(Number of surveyors to be decided by the bidder)	

2.4.2.2. Operations Team (Deployment of Manpower)

Once the system is operational at each concerned municipality, appropriate teams must be provided to man the single window stations to manage the house tax register, demand notices and distribution of notices. The selected bidder shall provide Operations and Maintenance (O&M) services in each municipality starting from the Go-live date of that municipality.

The selected Bidder shall deploy the O&M Team (as per requirement in each municipality) onsite from the start of O&M period till the end of contract period.

The proposed services shall be normally manned for a period of 8 hours each day (6 days per week) as per the requirement throughout the year (excluding national holidays) or as decided by the Office of the Tendering Authority. But in exception condition or in urgency of work, the support might be required on holidays. The selected bidder shall maintain an attendance register for the resources deployed.

Also, it would be the responsibility of the Selected Bidder to retain the deployed manpower for the entire Contract/ Project duration or in the event of a resource leaving the employment with the selected bidder, the same shall be immediately replaced with another resource of equivalent minimum qualifications and experience. All such events should be notified prior to the concerned municipality in writing.

The staff provided by the Selected Bidder will perform their duties in accordance with the instructions given by the designated officers of the concerned municipality from time to time. The Department will examine the qualification, experience etc. of the personnel provided before they are put on the designated positions. The Selected Bidder has to take approval from department/ for the proposed staff before their deployment. The department has every right to reject the personnel, if the same is not acceptable, before or after commencement of the awarded work/ project.

It is responsibility of the selected bidder to scale up the Operations & Maintenance (O&M) team as and when required to ensure smooth project execution throughout the duration.

2.4.2.3. Implementation Schedule

The property survey, installation, implementation and roll out of application modules in the municipalities is to be done in three phases as follows:-

Sr. No	Phase 1	Timelines (T1)		
		Corporations	Committees	Councils
1.	Phase 1 (P1): Geo-enabled Land and building asset property Survey, data management, assessment and data integration into the web system including Issuance of Notice & Bills, with Technical handholding support in updation of property tax demand collection registers etc. complete in all respect as per scope of work	T + 4 Months	T + 3 Months	T + 2.5 Months

Sr. No	Phase 2	Timelines (T2)
1.	Operation & Maintenance (O&M)	T2 = T1 + 4 Years

Where T = Date of signing of the contract.

The O&M period of the DULB shall commence from the date of its “Go Live”.

The O&M period under this contract is 4 years. After completion of this O&M period, the O&M period can be extended further by the concerning DULB on mutually agreed terms and conditions, after taking approval from the competent authority.

2.4.3. Annual Technical Support for 4 years for the Mobile Application created for Property Survey and implemented as part of this RFP

Software version management and software documentation management reflecting features and functionality of the solution. Annual Maintenance Contract (AMC) for all Software component Supplied under this project.

- Provide the latest updates, patches / fixes, version upgrades, etc.
- Bidder has to ensure that annual technical support is available for software application, operating systems, and database for the entire O&M phase.

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- Software version management and software documentation management reflecting features and functionality of the solution.
- Database / Application Software tuning to enhance the performance of the overall system.
- Undertake regular, proactive Database Management activities.

2.4.3.1. Data and Man Power Management

Successful Bidder would be responsible for extending all possible support to different departmental or contract staff for Data Management (like Data entry Screens, Report Generation, Data Analysis, Data Cleansing, etc.). Data could be in English as well as in Hindi. Data should be Unicode compliant.

The successful bidder has to support the Property Tax department. The successful bidder will also have to train and support the department officials in using the Property Tax Software by importing the surveyed geo-tagged data for each department into the database and maintaining it for department specific edits and application development.

Roles and Responsibility of the System Integrator (Successful Bidder) are:

1. Provide support and Maintenance with its own man-power for the period of 4 years from the Go-Live stage.
2. Preparation of necessary user manuals for all the modules and review of the same.
3. Carry out Training programs / workshops for the department personnel

2.5. Training and Change Management

Bidder is expected to manage all activities related to change management, training and transitioning to new system. This includes

- Change Management and Capacity Building strategy for effective use of the system
- Carrying out training of various users of the system
- Creation of user manuals / tutorials for using the system

The bidder will provide training to identify users at each ULB and DULB as per the training plan provided by the bidder. The training will include the following aspects:

- Report handling on Mobile Application
- Report handling on web application
- Data updates on web application
- Tagging properties
- Modifying property status with updated data
- Database integration (linking Visuals, graphic and non-graphic data)
- Generation of Visual thematic maps
- Any other aspects that would be required to equip users for requisite knowledge and skills to operate the system effectively and efficiently.

The users of the system are broadly classified into the following four categories:

- Operational users – These are the users who would be responsible for editing data in the system.
- Managerial users – These include the middle level Managers who would carry out limited data entry and generate reports and query based on criteria.
- Executive users – These include the senior and top-level personnel who would use the system to generate analytical reports.

2.5.1. Training

2.5.1.1. General Requirements

- The bidder's scope of work includes preparing the necessary documentation, presentations, flowcharts, training aids as required for successful delivery of such trainings.
- The details provided in this section are indicative and due to the exhaustive and technical nature of the project the number of training sessions may increase. Over and above the team considered for performing the training as detailed in subsequent sections, bidder has to make provision for two personnel to handle additional training needs as per requirements of DULB.
- Further the bidder has to provide cost for additional and optional training sessions in its commercial proposal in case more training sessions are required. Bidder has to conduct such additional training sessions on DULB's request.
- The bidder shall impart training to DULB employees and other key stakeholders on the usage and maintenance of the application and system integration.
- Bidder shall develop a training and capacity building strategy that will also include a detailed plan of implementation. The strategy has to be multi- pronged since:
 - The implementation is District / Division wise;
 - The scope of project is vast; and
 - Training may need to be repeated for better understanding of the systems and its applications.
- The Bidder shall propose different training modules for different user profiles at appropriate timelines and ensure that the training imparted is comprehensive and complete.
- The Bidder shall provide a change management plan to DULB which addresses the various aspects of capacity building and training. Bidder will provide tentative number of sessions envisaged by bidder for each type of user considering their function and interaction with system.
- The bidder must also prepare Training Modules/content to enable the users for self-learning.
- DULB envisages that the training and capacity building sessions for all stakeholders would primarily be based on '**Train the Trainer**' approach. These master trainers will further train the respective users. The venue of trainings would be at Head Quarters, DULB or concerned MC
- The training material prepared by bidder will be owned by DULB and cannot be used without prior approval of DULB.
- The trainers imparting the training should be well versed in Hindi and English language.
- Training schedule needs to be provided at least 15 days in advance to DULB along with pre-reading material and prerequisites for attendees.

- All training sessions for the implementation phase shall have to be carried out before Go-live of the solution and feedbacks have to be maintained.
- All training sessions will require sign-off from minimum 80% of attendees failing which DULB may ask that session to be carried out again at no extra cost.
- DULB envisages that the training sessions for all stakeholders would primarily be based on 'Train the Trainer' approach. These master trainers will further train the respective users in that ULB.
- Only the conference room/space for the training including one projector would be provided.

2.5.1.2. Training Effectiveness

- Bidder has to ensure that the training sessions held are effective and that the attendees would be able to carry on with their work efficiently. For this purpose, it is necessary that the effectiveness of training sessions is measured. The bidder will prepare a comprehensive feedback form that will capture necessary parameters on measuring effectiveness of the training sessions. This form will be discussed and finalized with DULB.
- After each training session, feedback will be sought from each of the attendees on either printed feedback forms or through a link available on the web portal. One member of the stakeholder group would be involved in the feedback process and he/she has to vet the feedback process. The feedback received would be reported to DULB for each training session.
- For each training session, the bidder will categorise the feedback on a scale of 1 to 10, where 10 will denote excellent and 1 will denote unsatisfactory.
- The training session would be considered effective only after the cumulative score of the feedback [sum of all feedback divided by number of attendees] is more than 7.5.

2.5.1.3. Preparation of training aids

- a) The bidder will prepare all the requisite audio/visual training aids that are required for successful completion of the training for all stakeholders. These include the following for all the stakeholders:
- Training manuals for officials/ users of the system
 - Video (recorded sessions) for application functionality (Citizen centric and back end modules), business intelligence, dynamic reporting etc.
 - Presentations
 - User manuals
 - Installation Manual
 - Application user Manual
 - Operational and maintenance manuals for the modules provided along with the application
 - Regular updates to the training aids prepared under this project
- b) The bidder will maintain a copy of all the training material on the Web-based centralized system and access will be provided to relevant stakeholders depending on their need and role. The access to training on the portal would be finalized with DULB. The bidder has to ensure the following points:

- For each training session, the bidder has to provide the relevant training material copies to all the attendees.
- The contents developed shall be the property of DULB will all rights.

2.5.1.4. Proposed Training Requirements

- The bidder has to ensure that the personnel deployed for training are properly qualified and understand the area of their training in depth. This section covers the number of training that is required.
- The indicative number of training sessions envisaged as of now are given in Section of Operations and Management. These numbers and scope of training would be revised and finalized during the project initiation phase.

2.5.2. Change Management

Change management initiative shall focus on addressing key aspects of project including building awareness among stakeholders. Change management shall also include development and execution of communication strategy for stake holders. Change management workshops shall be planned and conducted based on needs of various stakeholders of Primary Sector System. Key considerations for Change management process are given below:

S. No	Description
1.	Impact assessment – In the light of changes, how are current functioning, ULB Hierarchy, roles and responsibilities going to get impacted.
2.	Assess change readiness – How ready departments and stakeholders are? Are there any potential blockers? Stakeholder issues and concerns etc.
3.	Design change management approach – This is to come up with an optimal way of implementing Centralized Web-Based System (Phases, pilot groups etc.) and time frames.
4.	Develop change plan – This includes creating plan, identifying milestones, developing benefit tracking mechanisms
5.	Define change governance – Including appropriate decision making and review structures

A special consideration will have to be given to Change communication strategy, planning and execution given below are recommended steps are listed below:

S. No	Description
1.	Conduct a Baseline Communication Assessment
2.	Develop and validate Communications Strategy

3.	Develop and Validate Communication Plan
4.	Implement Communications Programs
5.	Measure Results of Communication plan
6.	Adjust Communications Program

2.6. Operations & Maintenance

Post go-live and stable operations, bidder is expected to provide operations and maintenance services for the entire solution deployed including software, Hosting support at Data Centre, etc. for a period as defined. This includes:

- Survey of supplementary properties: - Every year 3% rise (indicative estimate) in number of properties is envisaged. The Bidder must perform the survey for the supplementary properties every year during the O&M phase
- Provision, deployment and supervision of personnel required by DULB
- Manage entire project from conceptualization to operationalization and maintenance as well as subsequent transfer of infrastructure/ applications and handholding for a period of six months from the end of this contract.
- Defining exit management program and knowledge transition to DULB/ concerned MC officials
- Any additional overarching requirements of the solution for strengthening the services relating to DULB and this project.
- Any other overarching requirements of solution not covered above but required by bidder to ensure proper functioning of solution.

The bidder will operate and maintain all the components of the proposed System for a period of four (4) years after Go-Live date. During O&M phase, the bidder shall ensure that service levels are monitored on continuous basis; service levels are met and are reported to DULB. After Go-Live, if any system/sub-system that is deployed during the O&M phase must be added in the proposed system. The bidder needs to implement suitable Performance Improvement Process (PIP) as may be required in the project. The bidder needs to submit its detailed approach for any such modification /business process re-engineering in its technical proposal. The bidder will ensure that at no time shall any data of the proposed System be ported outside the geographical limits of the country.

2.7. Project Management

Some of the key project management governance requirements are covered in this section. The bidder is expected to detail the governance framework in its proposal and can also propose its own governance structure as part of response to this RFP. The bidder's proposed governance model will be discussed between bidder and DULB at the time of on-boarding. The final governance model needs to be approved by DULB.

Project Monitoring Committee (PMC)

A Project Management office may be set up during the start of the project. The PMC will, at the minimum, include a designated full time Project Manager from bidder. It will also include key persons from other relevant stakeholders like DULB, ULBs, PMU, Consultant, etc. and other officials / representatives by invitation. The operational aspects of the PMC need to be handled by the bidder including maintaining weekly status, minutes of the meetings, weekly/monthly/project plans, etc.

PMC will meet formally on a fortnightly basis covering, at a minimum, the following agenda items:

- Project Progress
- Delays, if any – Reasons thereof and ways to make-up lost time
- Issues and concerns
- Performance and SLA compliance reports;
- Unresolved and escalated issues;
- Change Management - Proposed changes, if any
- Project risks and their proposed mitigation plan
- Discussion on submitted deliverable
- Timelines and anticipated delay in deliverable if any
- Any other issues that either party wishes to add to the agenda.

During the development and implementation phase, there may be a need for more frequent meetings and the agenda would also include:

- Development status
- Testing results
- IT infrastructure hosting and deployment status
- Any other issues that either party wishes to add to the agenda.

Bidder shall recommend PMC structure for the project implementation phase and operations and maintenance phase.

2.7.1. Steering Committee

The Steering Committee may consist of senior stakeholders from DULB, DULB nominated / invited personnel and bidder. Bidder will nominate its head or his / her immediate sub-ordinate to be a part of the Project Steering Committee.

The bidder shall participate in monthly Steering Committee meetings and update Steering Committee on Project progress, Risk parameters (if any), Resource deployment and plan, immediate tasks, and any obstacles in project. The Steering committee meeting will be a forum for seeking and getting approval for project decisions on major changes etc.

All relevant records of proceedings of Steering Committee should be maintained, updated, tracked and shared with the Steering Committee and Project Management Office by bidder.

During the development and implementation phase of the project, it is expected that there will be at least a monthly Steering Committee meetings. During the O&M phase, the meetings will be held at least once a quarter.

Other than the planned meetings, in exceptional cases, DULB may call for a Steering Committee meeting with prior notice to the Bidder.

2.7.2. Roles & responsibilities of the stakeholders in the project implementation

2.7.2.1. Project Management Unit

Project Management Unit will be engaged to support the implementation of the system and will monitor the following:

- Overall project planning and management in collaboration with DULB, DULB would be supervising the overall progress of the project, monitor conformance with the timelines, budgets and service levels.
- Assist in finalizing requirements
- Review the scope and technical solutions covering all components provided by the bidder
- Acceptance testing and acceptance
- Perform structured transition and rollout
- Post-deployment reviews
- Confirm and monitor service levels through the engagement with the bidder through periodic reviews
- Monitor the implementation of the project according to the project plan and report to the DULB
- Assess the progress of the implementation and recommend to DULB on release of funds to the bidder

2.7.2.2. Bidder

DULB envisages an integrated approach to implementation. Accordingly, all the implementation components at the state level are “bundled” and contracted out to a single Systems Integrator (SI) who would act as a single point of contact and accountability for the implementation, integration and performance of the system for DULB. The bundle of services would include the following:

- Program Planning and Management
- The SI would develop and deploy required functionality that is scoped under the project
- Host the Solution
- Capacity building & Change management
- Awareness and Sensitization of benefits of IT along with the application level training, Trainers Training, System Administration and Support Training, Handholding support
- Utilization Statements/ Progress Reports
- Application, System and Network Maintenance
- Helpdesk Support
- Operations and Maintenance for 4 years

The bidder would be held responsible for the outcomes of the program and their payments would be linked to the progress of the project as well as the outcomes of the program. The payment schedule will be based on achieving milestones of the Project as well as on accomplishing those milestones with predefined SLAs and Standard.

2.7.2.3. DULB

- Reviewing the Request for proposal
- Issue of the LOI to the successful bidder
- Contract signing with selected bidder
- Policy Directions and Guidance for successful execution of the Project,
- Creating a supporting environment for the success of the project
- Timely Release of Payments to SI as per contract
- Approval of Documents/ Deliverables
- Approval of various Project Components and Functionalities to be covered in the Project
- Review progress of the Project
- Ensure proper Training arrangements
- Ensure deployment of appropriate handholding personnel
- Other important policy and procedural issues

2.7.3. General Requirements

- a) Within the defined timelines, bidder shall prepare a comprehensive project plan for entire project covering detailed tasks which are to be carried out as a part of this project along with delivery schedule and key milestones.
- b) Bidder should setup a project management information system which will enable sharing of project plan, regular status updates, issue register with all stakeholders involved
- c) Bidder should define the project governance structure detailing and highlighting roles and responsibilities for all stakeholders involved from bidder's team, DULB and other stakeholders. Requirements that are expected from DULB need to be jointly arrived at and have to be signed off between the bidder, DULB and all relevant parties involved.
- d) Bidder is expected to detail the project implementation approach, phases involved, highlighting dependencies
- e) Project plan should necessarily cover areas of time, scope, quality, and risk management for the entire project.
- f) Plan should also include a work breakdown structure detailing various components expected as outcomes which need to be mutually agreed with DULB.
- g) Considering that the project involves a major transformational change within ULB's, bidder will be expected to detail out a comprehensive change and communications management strategy and plan.
- h) The project plan will be revised within mutually decided timeline and shared with all stakeholders
- i) Bidder along with DULB's consent will define a change control procedure to monitor implementation of any changes in the contract subject to conditions as laid out in this RFP. No change will be accepted without approval of the change control board (CCB) formed and defined as a part of project governance structure.
- j) Schedule for deployment of personnel will be shared upfront with DULB and will comply with the conditions as laid down in this RFP.
- k) The project will be managed out of DULB office in Panchkula. At all points in the execution of the project, key senior resources including the project manager must be based at DULB office. Although the project development/execution shall be undertaken from the SI premises/ project areas as required.

2.7.4. Initial Composition, Full Time Obligation; Continuity of Personnel

- a) Bidder shall ensure that each member of the Key Personnel devotes substantial working time to perform the services to which that person has been assigned as per the proposal.
- b) Bidder shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel to cease or reduce his or her involvement in the provision of the Services during the Term (or agree to any request other than from DULB that would have the same effect):

- Unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; and without DULB's prior written consent. The clauses of non-disclosure agreement shall always operate in any such case.
 - Bidder shall promptly notify DULB of its intention to re-hire any member of the Key Personnel who had resigned from bidder in the previous 12-month period. DULB shall have the right to request that any member of the Key Personnel who resigns and is re-hired by bidder within 12 months of the resignation date be re-assigned to the provision of the Services.
- c) In case the resource has resigned, then the bidder has to inform DULB within one week of such resignation.
- d) Bidder shall promptly initiate a search for a replacement and use commercially reasonable efforts (including the expenditure of reasonable sums, such as to engage the services of a recruiting firm) to ensure that the role of any member of the Key Personnel is not vacant for any longer than 30 days, subject to reasonable extensions requested by bidder of DULB.
- e) Before assigning any replacement member of the Key Personnel to the provision of the Services, bidder shall provide DULB with:
- A resume, curriculum vitae and any other information about the candidate that is reasonably requested by DULB; and
 - An opportunity to interview the candidate, if required.
- f) The bidder has to provide replacement resource, who scores at least the same marks as the resource proposed originally on the same evaluation parameters defined in this RFP document. Once this confirmation is received, DULB may request for an interview of the candidate and notify bidder within mutually agreed timelines. If DULB does not request an interview within mutually agreed timelines then it would be deemed as accepted.
- g) If DULB does object to the appointment, bidder shall not assign the individual to that position and shall seek an alternative candidate.

2.7.5. Solicitation of Employees

- a) During the Termination Period and thereafter, DULB shall have the right to solicit and hire:
- In case of a termination for convenience, all members of the Key Personnel; and
 - In case of a termination other than for convenience, all members of the Key Personnel; plus, in each case, any two members of the bidder Team (other than Key Personnel) of bidder's choice and at its sole discretion.

2.7.6. Transition and Exit Management

- a) The bidder shall submit a structured & detailed Transition and Exit Management plan along with its technical proposal. DULB will evaluate all the Transition and Exit management plans submitted by various bidders. DULB will adopt the best plan which will be implemented by the selected bidder. The bidder needs to update the Transition and Exit management on half yearly basis or earlier in case of major changes during the entire contract duration. The plan needs to be discussed and approved by DULB.
- b) At the end of the contract period or during the contract period or contract termination, if any other agency is identified or selected for providing services related to DULB's scope of work, the bidder shall ensure proper and satisfactory Transition is made to the other agency. In case DULB wants to take over the project itself, then bidder has to ensure proper transition to the DULB team.
- c) All risk during transition stage shall be properly documented by bidder and mitigation measures are planned in advance so as to ensure smooth transition without any service disruption.
- d) The bidder shall provide necessary handholding and transition support. This includes:
 - o The bidder has to ensure **complete documentation for the entire system** is handed over to DULB or its appointed agency, if any.
 - o The bidder to handover all **AMC support related documents, credentials etc. for all OEM products supplied/maintained for the implemented/ proposed system.**
 - o The bidder must ensure that no end of support products (software/hardware) are existing at time of transition in the implemented system
 - o Bidder to **handover the list of complete inventory of all assets created for the project**
 - o Bidder to **assist the new agency/DULB in complete audit of the system including system licenses and physical assets**
 - o Bidder shall close all critical open issues as on date of exit. All other open issues as on date of Exit shall be listed and provided at DULB.
- e) Bidder shall provide all **knowledge transfer** of the system to the incoming SI / Bidder to the satisfaction of DULB as per the specified timelines.
- f) Bidder shall be released from the project once successful transition is done meeting the parameters defined for successful transition.

3. Change Request and Control

The change control schedule will be govern by Schedule II of Volume 3 Master Service agreement from section 37.1 to 37.8.

4. Annexure

4.1. Annexure – 1 (A): Data Input parameters for Asset Property

Following is the indicative list of the fields to be collected for Asset Property Survey:

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of Survey/ Support From ULB (U)	Methodology for Capturing Response
1.	Old Property Number	-		U	Earlier Database of Properties available with ULB
2.	Assessment year	-		U	Earlier Database of Properties available with ULB
3.	Old Assessment Value	-		U	Earlier Database of Properties available with ULB
4.	Old Assessment Year	-		U	Earlier Database of Properties available with ULB
5.	City Survey Number	-		Optional	ULB / Revenue Dept.
6.	Name of the Property Owner	-		M	Aadhaar Integration

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of Survey/ Support From ULB (U)	Methodology for Capturing Response
7.	UID number of Property Owner	-		Optional. If owner can provide the same, it shall be captured	Survey
8.	Type of Owner i. Private ii. Public iii. Government iv. Municipality v. Co-op Society (CHS) vi. Other	-		M	Survey
9.	Name of Occupier	-		M	Survey
10.	UID number of Occupier	-		Optional. If occupier can provide the same, it shall be captured	Survey
11.	Address of Property	-		M	Survey
12.	Name of the Property			M	Survey
13.	Postal Pin code of Property	-		M	Survey
14.	Latitude	-		M	GPS on mobile
15.	Longitude	-		M	GPS on mobile

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of Survey/ Support From ULB (U)	Methodology for Capturing Response
16.	Category of Property 01 – Owner 02 – Occupier 2A – Lease or Rent 2B – Encroacher	-		M	Survey
17.	Copy of rental agreement if available	-		M	Survey
18.	Nature of Property i. Open Plot ii. Individual Bungalow iii. Twin/Duplex Bungalows iv. Apartments v. Row House vi. Building	-		M	Survey
19.	Building Permission i. Yes ii. No	-		M / U	Survey / Earlier Database of Properties
20.	Year of Building Permission	-		M / U	Survey / Earlier Database of Properties
21.	Year of Building Construction	-		M	Survey
22.	Approximate age of Building	-		M	Survey

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of Survey/ Support From ULB (U)	Methodology for Capturing Response
23.	Telephone Number	-		Optional. If owner/occupier can provide the same, it shall be captured	Survey
24.	Email ID	-		Optional. If owner/occupier can provide the same, it shall be captured	Survey
25.	Usage of Property i. Residential ii. Commercial iii. Institutional iv. Religious v. Government	-		M	Survey
26.	If Commercial, name of shop, Industry Items they are trading/manufacturing	-		M	Survey
27.	Width of road on which plot is located	Mts.		M	Tape
28.	Total Plot area	Sq. Mts.		M	Tape
29.	Total Plinth area	Sq. Mts.		M	Tape
30.	If group housing, then whether sewage treatment facility available	-		M	Survey

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of Survey/ Support From ULB (U)	Methodology for Capturing Response
Floor-wise details					
31.	Floor Number	-		M	Survey
32.	Floor wise Carpet area	Sq. Mts.		M	Laser Distance Meter (Distometer)
33.	Floor wise type of construction a) Kuccha b) Load Bearing c) RCC d) High RCC	-		M	Survey
34.	Floor wise type of use a) Residential b) Commercial c) Institution d) Religious e) Government	-		M	Survey
35.	Self-Occupied/Rented	-		M	Survey
36.	Year of Floor Construction	-		M	Survey
37.	Rental value	Rs.		M	Survey
38.	Room No	-		M	Survey
39.	Rainwater harvesting	-		M	Survey
40.	Solar Unit	-		M	Survey
41.	Number of Toilets	-		M	Survey

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of Survey/ Support From ULB (U)	Methodology for Capturing Response
42.	Water connection i. Mun ii. Bore iii. Mun + Bore iv. Well	-		M	Survey
43.	Water pipe size	Mm		M	Survey
44.	Water Meter (Y/N)	-		M	Survey
45.	Electricity Connection	-		M	Survey
46.	Stair/Lift	-		M	Survey
47.	Drain(01)/ Septic tank (02)	-		M	Survey
48.	If septic tank, please provide dimensions				Survey
49.	Advertisement of Building Yes/No	-		M	Survey
50.	Type of advertisement	-		M	Survey
51.	Photograph of Building property atleast from 2 visible locations				Mobile

4.2. Annexure – 1 (B): Data Input parameters for Land Property

Following is the indicative list of the fields to be collected for Land Property Survey:

Sr. No	Field Details	Unit of Measure ment	Details	Mandatory (M) for the bidder at the time of survey/ Support From ULB (U)	Methodology for Capturing Response
1.	Old Land ID	-		U	Earlier Database of Properties available with ULB
2.	Assessment year	-		U	Earlier Database of Properties available with ULB
3.	Old Assessment Value	-		U	Earlier Database of Properties available with ULB
4.	Old Assessment Year	-		U	Earlier Database of Properties available with ULB
5.	Name of the Assesse/ Lessor / Lessee / Sub Lessee			M	Survey
6.	Name of the Present owner			M	Aadhar Integration
7.	UID number of Land Owner	-		Optional. If owner can provide the same, it shall be captured	Survey

Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of survey/ Support From ULB (U)	Methodology for Capturing Response
8.	E-mail and Telephone Details				Survey
9.	Type of Owner i. Private ii. Public iii. Government iv. Municipality v. Co-op Society (CHS) vi. Other	-		M	Survey
10.	Address of Land	-		M	Survey
11.	Postal Pin code of Land	-		M	Survey
12.	Latitude	-		M	GPS on mobile
13.	Longitude	-		M	GPS on mobile
14.	Nature of Land Property i. Open Plot ii. Individual Bungalow iii. Twin/Duplex Bungalows iv. Apartments v. Row House vi. Building			M	Survey
15.	Boundaries of the Land				
	North	Mts.		M	Survey
	West	Mts.		M	Survey

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Sr. No	Field Details	Unit of Measurement	Details	Mandatory (M) for the bidder at the time of survey/ Support From ULB (U)	Methodology for Capturing Response
	South	Mts.		M	Survey
	East	Mts.		M	Survey
16.	Description of Land Property i. Residential ii. Commercial iii. Institutional iv. Religious v. Government			M	Survey
17.	Width of road on which plot is located	Mts.		M	Survey
18.	Photograph of land property at least from 2 visible locations				Mobile

4.3. Annexure – 2: Standard Performa for Property Survey DULB

Following are the Tables showing the indicative details of Code and ID with Type Fields for collection of property details:

TABLE – I	
District Code	District Name
XX	XXXXXX

TABLE – II					
Municipal Master					
MC Name	MC Code	MC Name	MC Code	MC Name	MC Code
XXXXXX	XX	XXXXXX	XX	XXXXXX	XX

TABLE – III	
Area Type Master	
Area Type Code	Area Type
1	Lal Dora
2	Regularized Colony
3	Planned Colony
4	Unapproved Colony
5	Others

TABLE – IV	
Ownership Type Master	
Ownership Type Id	Ownership Type
1	Individual
2	Company/Firm
3	Partnership
4	State Government Building
5	Central Government Building
6	Autonomous Bodies Building / Semi-Govt. Building
7	Others

TABLE – V	
Area Unit Master	
Property Area Unit Id	Unit
A	Acre
B	Sq. Yard
C	Sq. Feet

Table – VI	
Length Breadth Unit Master	
A	Yard
B	Feet

TABLE – VII	
Floor Master	
Floor Id	Floor
V	Vacant Plot
B1	Basement I
B2	Basement II
B3	Basement III
GF	Ground Floor
1F	First Floor
2F	2nd Floor
3F	3rd Floor
Continue	

TABLE – VIII	
Usage Master	
Usage Id (UID)	Usage Description
1	Self- Occupied
2	Rented
3	Parking

TABLE – IX	
Rebate Master	
RID	Rebate Description
1	No Rebate
2	Religious Property
3	Orphanages
4	Alm Houses
5	Municipal Buildings
6	Cremation / Burial Grounds
7	Dharamshala
8	Central and State government Educational Institutions
9	Government Hospitals
10	Self Defence / Paramilitary Force Personnel
11	Ex-service / Paramilitary Force Personnel /his/her spouse

12	Families of deceased soldiers / ex-servicemen / ex-central paramilitary forces personnel
13	Self-Occupied Resi. House occupied by Freedom Fighter
14	War Widow
15	Horticulture/Agriculture
16	State Government Buildings (except Boards/Corporation/Undertakings/Autonomous Bodies)

TABLE- X					
PC ID	Property Category	PT ID	Property Type	PS ID	Property Sub Type
1	Residential	1	House	1	Independent House
				2	Independent Flat
		2	Flat	3	Housing Society
				4	Independent
2	Commercial	3	Shop	5	Shop
				4	Commercial Space
		7	Multiplex		
		8	Commercial Office		
3	Industrial	5	Industry	9	Industry
4	Institutional	6	Commercial	10	Commercial
				7	Educational Institutional
		8	Non Commercial Institutional		
				13	Residential
5	Vacant Plot	9	Residential	13	Residential
				10	Commercial
		11	Industrial/Institutional		
				12	Private Hospital
		17	51 to 100 Beds		
18	More than 100 Beds				
		13	Marriage Palace	19	Marriage Palace

TABLE –XI	
Construction Type Master	
Const Type	Const Desc
1	Super RCC
2	RCC/RBC
3	ACC
4	Wooden Batton
5	Vacant Plot

Table – XII	
Master for Shops in notified HSAMB Market	
A	Shops
B	Booths

Following is the indicative property ID scenario and bidder can suggest best practices from different cities and take sign off from the DULB on the property ID construct.

<p>Property ID: - In Property ID MMM is Municipal Code CCCCCC means Colony Code, SSSS means Street Code HHHHH means House Number.</p> <ul style="list-style-type: none"> • 18 Digit Code • [MMM + CCCCCC + SSSS + HHHHH] HHHHH are alpha numeric in nature and no special character such as @ # \$ % * - etc. is to be used. House number should be kept similar as given by Govt. departments or colonizers for colonies/sectors. <ol style="list-style-type: none"> 1. District Code should be taken from the table given above. (Table – I) 2. MC Code is the municipal code should be taken from table given above. (Table – II) 3. Colony Code is the code generated by municipality online in application 4. Ward no. is the number of ward of the municipality. 5. If the municipality has divided its area in zone than same no. to used otherwise 1 to be used. 6. Street Code should be generated on the prescribed street survey format and the same to be used. 	<ol style="list-style-type: none"> 19. Longitude of the property is to be taken at the center of the front boundary wall of the plot. 20. Water connection from Govt. supply is there then use “Y” otherwise use “N”. 21. Sewerage connection with Govt. sewerage is there then use “Y” otherwise use “N”. 22. Year of sewerage connection is the year in which house sewerage connected with the main sewerage. 23. If the owner belongs to BPL than use “Y” otherwise use “N”. 24. If owner belongs to BPL category than enter the BPL card no. 25. In these parameters details are to be filled for the buildings not used for residential or Govt. purpose. <ol style="list-style-type: none"> a) Name displayed on the building to be entered. b) Type of business should be entered in this column. c) Year of establishment of 1st Business to be enter in this column.
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<p>7. House/Property no. is the number which is in use or given by Govt. department such as HUDA, Improvement Trust, etc. or colonizers.</p> <p>8. Old property ID is the number given in the existing property registrar maintained in the municipality.</p> <p>9. Area type code should be filled up from the table given above. (Table – III)</p> <p>10. Ownership type code should be filled up from the table given above. (Table – IV)</p> <p>11. In owner details, details of all the owners should be given for individual properties.</p> <p>12. Property Area is the plot area.</p> <p>13. Measurement unit is the unit in which property area has been taken and code to be used be taken from the table above. (Table – V)</p> <p>14. Year of occupation of building is the year in which owner occupied the building.</p> <p>15. Length of the property is the length of the plot.</p> <p>16. Width of the property is the width of the plot.</p> <p>17. Measurement unit is the unit taken in the measurement of length and width of the plot. (Table – VI)</p> <p>18. Latitude of the property is to be taken at the center of the front boundary wall of the plot.</p>	<p>26. Construction Detail:-This table is to be filled for all buildings irrespective of no. of floors.</p> <p>(i) Details of all floors are to be entered floor wise as well as usage wise in case of all the buildings except flats. For example there is a building of mix use of two storey having shop and residence at ground floor and residence at first floor then in that case entry for residential area of each floor are to be entered floor wise in separate rows of table and shop/shops in separate row of the table. In case of multistoried flats, flat wise Performa to be filled along with floor id.</p> <p>(ii) Floor ID is the floor whose details are to be entered in table and ID to be taken as per Table – VII.</p> <p>(iii) Usage ID is the ID to be taken from Table – VIII.</p> <p>(iv) Rebate ID is the ID for which rebate is to be claimed as per Table – IX otherwise to be left blank.</p> <p>(v) PC ID, PT ID and PSID to be taken from Table – X.</p> <p>(vi) Type of construction to be taken from Table – XI.</p> <p>27. If the shop / shops falls in Grain Market / SubziMandi / Timber Market / Sub-Market yard notified by HSAMB use “Y” otherwise “N”.</p> <ul style="list-style-type: none"> • If the shop/ shops falls in Grain Market / SubziMandi / Timber Market / Sub-Market yard notified by HSAMB than use Table – XII.
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4.4. Annexure – 3: SLAs related to validation of 10% of surveyed land/building assets

Sr. No	Service Level	Penalty
1.	For submitted property survey data of any property, if there is up to 5% of error identified by the Audit Agencies	No penalty imposed. The Successful Bidder(s) is required to perform re-survey of the identified properties and correct the erroneous data entries. No additional payment would be made for re-survey.
2.	For submitted property survey data of any land/ asset property, if there is up to 10 % of error identified by the Audit Agencies	2* 'X' Where X= Price Quoted by the Bidder for property survey. The bidder will be penalized 2 times the rate quoted for the number of properties in which errors were identified by the audit agencies. The Successful Bidder(s) shall be required to perform re-survey of the identified properties and correct the erroneous data entries. No additional payment would be made for re-survey.
3.	For submitted property survey data of any land/ asset property, if there is more than 10 % and upto 15% of error identified by the Audit Agencies	4* 'X' Where X= Price Quoted by the Bidder for property survey. The bidder will be penalized 4 times the rate quoted for the number of properties in which errors were identified by the audit agencies. The Successful Bidder(s) shall be required to perform re-survey of the identified properties and correct the erroneous data entries. No additional payment would be made for re-survey.
4.	For submitted property survey data of any land/ asset property, if there is more than 15 % and upto 20% of error identified by the Audit Agencies	8 * 'X' Where X= Price Quoted by the Bidder for property survey. The bidder will be penalized 8 times the rate quoted for the number of properties in which errors were identified by the audit agencies. The Successful Bidder(s) shall be required to perform re-survey of the identified properties and correct

		the erroneous data entries. No additional payment would be made for re-survey.
5.	For submitted property survey data of any land/ asset property, if there is more than 20 % of error identified by the Audit Agencies	Termination of Contract without clearing any of the pending invoices
6.	For completion of survey in the defined timelines as per the time schedule given in RFP	In case the survey is not completed in the defined timelines as specified in the RFP the bidder will be charged 1% per month penalty on the balance amount to be paid for survey maximum upto 10%, beyond which the contract will be terminated without clearing any of the pending invoices

4.4.1. Error Definitions:

In the above table error shall mean any one of the following:

- a) Errors in capturing internal measurements such as carpet area and Plot area etc. This shall be validated against the data captured by validation/audit agencies. Differences in the measurements upto 10% can be ignored. But for more than 10% it shall be considered as an error.
- b) Data Captured for all mandatory fields shall be validated by the audit agencies for all the fields other than those mentioned in (a).
- c) Discrepancies between the data captured by survey agencies and audit agencies shall be analysed and accordingly errors will be calculated.

Maximum Penalty applicable to the bidder shall not exceed 10% of the Total Work Order value till the completion of property survey. If the total Penalty exceeds beyond 10%, it would be considered as non-conformance to the Quality of Services and may lead to termination of the Contract and DULB may on their sole discretion cancel the order and go afresh with the entire property survey exercise without clearing any of the pending payment of the bidder and forfeiting the performance bank guarantee submitted by the bidder after receiving the order.

4.5. Annexure – 4: Details & Features of Property Survey Mobile Application

The key features of the mobile application are explained in [Section 2.2](#) of Property Assessment Survey.

4.5.1. Functional Requirements Specifications

Some of the major modules required for the Mobile application are as follows:

Sr. No.	Module	Key Features
1)	Login Module	User Role based login
2)	User Management	User administration module User authentication and data storage for user accounts.
3)	Form Builder	Create & Edit Forms, Drag and Drop customise fields
4)	Asset Management	
	<ul style="list-style-type: none"> New Property Geo-tagging 	Property locations tagging. New Points, Line, Polygons creation, Photographs tagging, etc.
	<ul style="list-style-type: none"> Old Property Geo-tagging 	Identification of property assessed or non-assessed. New Points, Line, Polygons creation, Photographs tagging, etc.
	<ul style="list-style-type: none"> Rejected Properties 	Details for properties submitted, reasons of rejections
	<ul style="list-style-type: none"> Duplicate Properties 	Duplicate properties records details, provision to delete or merge these duplicate records.
5)	Geo-Tagging	Images – stored in .jpeg format (Best compressed format)
6)	Map Interface	Basic Map Controls like Zoom In & Zoom Out, Current Location, Map navigation, Info Tool, GPS Navigation, GIS Layer On & Off, Legend Window, Attribute Window
7)	Map Analysis	Categorization of Geo-tagged points using different symbology; Colour coding for door lock, deny survey, under construction, broken building, start survey, owner not available, incomplete survey;

		Add Spatial features (Point, Line, Polygon), Merge layers, Basic Query, Attribute management
8)	Integration	Should work in Offline mode for Data Capturing Access and configurable with Laser Distance Meter or Electronic Measuring Device
9)	Alerts & Notifications	Alerts for rejection, duplications and notifications of reassigned Properties
10)	Reporter	Users can view and customize the reports as per his/her role and requirements., Reports auto generated by system Generates reports, charts and graphs; user analysis