



Indian Institute of Information Technology Sri City, Chittoor

NOTICE INVITING TENDER

Tender Notice No.: IIITS/NIT/LAND SURVEY/2022/021, Dt. 17.10.2022

Tenders are invited from resourceful agencies for **“Topographical, Boundary, contour, total station survey, preparation of Master Plan and Design for Indian Institute of Information Technology Sri City, Chittoor as per the standards”** addressed to the Registrar, IIIT Sri City, Chittoor and submit all specified documents.

Bid Issue Date	October 17th , 2022
Last Date of Bid Submission	November 4th , 2022 up to 15:00 Hrs
Date Of Bid Opening	November 4th , 2022 at 16:00 Hrs
Mode of Submission	Sealed Quotation in SINGLE bid system
Address for Submission	The Registrar Indian Institute of Information Technology Sri City Chittoor, #630, Gnan Marg, Sri City, Tirupathi District – 517 646 Andhra Pradesh

For & On behalf of IIIT Sri City, Chittoor

EVSRK Somayajulu

Authorized Signatory



Signature of the tenderer with seal

PART "A": NIT DETAILS

1. **Tender Documents:** The interested parties may collect the tender documents from the Office of the Registrar and also download from web-site of IIIT Sri City – <https://www.iiits.ac.in/tenders/>
2. Bidders are advised to visit the website frequently to find any addendum/ Corrigendum issued or extension of due date for submission, etc. No separate intimation will be issued /advertised in this regard.
3. The tender in SINGLE bid systems in sealed envelope shall be submitted in the office of Registrar in the prescribed format before the due date and time as mentioned in NIT. No other mode of submission is acceptable.
4. **Sealing and Marking of Bids:**
The Techno-Commercial bid must be sealed in an envelope, duly super-scribed as "Techno-Commercial Bid, NIT No.: _____, Submission Deadline: _____".
5. Offer must be legible, clear and free from overwriting and cutting. Incomplete submissions are liable to be rejected.
6. **Completion Time:** All the specified works shall be completed **within 10 days** of award of work including **3 days** of Mobilization period.
7. **Site Visit:** Before tendering, every bidder is advised to inspect the site/locations of work and its environments between Monday to Saturday from 10:00 Hrs to 16:00 Hrs except Sunday and Govt. holidays, to ascertain the exact requirement of the NIT, at his own cost.
8. **Scope of Work:**
 - 8.1 The Scope of work includes the land survey work for the entire IIIT Sri City plot areas with the latest survey equipment's as required for the work
The extent of land survey for the proposed plot area is approximately 80 acres.
The location of the land shall be shown by the IIITS Engineer and the area shall be surveyed within the areas indicated by the IIITS Engineer.
 - 8.2 Technologies which can meet the following accuracy levels shall be adopted. For land-based surveys (a) Fundamental horizontal accuracy of 5cm or better (b) Fundamental vertical accuracy of 5cm or better (c) More than 50 points shall be measured per sq. m and for aerial based surveys (a) Fundamental horizontal accuracy of 5 cm or better (b) Fundamental vertical accuracy of 5 cm or better (c) More than 10 points shall be measured per sq. m. To establish accuracy, a check point survey using GPS (for horizontal accuracy) and Auto Level (for vertical accuracy) shall be carried out to establish the fundamental horizontal and vertical accuracy. A minimum of 25 check points, or check points once every 4 km should be established, and these should be strictly different from any geo-referencing or control network points.
 - 8.3 The following are the set of deliverables which should be submitted after completion of survey:
 - a) Raw GPS data for the entire plot and adjoining areas of interest
 - b) Topographic map of scale 1:1000 of the entire plot area and adjoining areas of interest
 - 8.4) The detailed field surveys would essentially include the following activities:

- a) The detailed field surveys would essentially include the topographic surveys along the proposed location of ramps, causeways and alignment of approach road.
- b) Collection/ Extraction of details for all features such as structures (bridges, culverts etc.) utilities, existing roads, electric and telephone installations (both O/H as well as underground), huts, buildings, fencing and trees (with girth greater than 0.3metre) oil and gas lines etc. falling within the extent of survey.

8.5) The surveyed alignment shall be transferred on to the ground as under:

8.5.1) Reference Pillar and Bench Mark / Reference pillar of size 15 cm X 15 cm X 45cm shall be cast in RCC of grade M 15 with a nail fixed in the centre of the top surface. The reference pillar shall be embedded in concrete upto a depth of 30cm with CCM10 (5 cm wide all around). The balance 15 cm above ground shall be painted yellow. The spacing shall be 250m apart, incase Bench Mark Pillar coincides with Reference Pillar, only one of the two need be provided.

8.5.2) Establishing Bench marks at site connected to GTS Bench marks at a interval of 250 metres on Bench mark pillar made of RCC as mentioned above with RL and BM No. marked on it with red paint.

8.6 Details of utility Services and Other Physical Features:

8.6.1 The contractor shall collect details of all-important physical features along the alignment. These features affect the project proposals and should normally include buildings and structures, monuments, burial grounds, cremation grounds, places of worship, railway lines, stream / river / canal, water mains, sewers, gas/oil pipes, crossings, trees, plantations, utility services such as electric, and telephone lines (O/H & U/G) and poles, optical fibre cables (OFC) etc. The survey would cover the entire right-of-way of the road on the adequate allowance for possible shifting of the central lines at some of the intersection"s locations.

8.6.2 Contractor shall also map out sub-surface utilities. Accurate mapping and resolution of all sub-surface utilities up to a depth of 4 m shall be carried out.

- 9 Differentiation between sub-surface utilities such as live electric cables, metallic utilities and other utilities shall be indicated and sub-surface utilities radar grams further processed into utility maps in formats such as PDF, JPEG and AutoCAD shall be furnished. To meet the accuracy levels, consultant shall use Ground Penetrating Radar, Induction Locator or better technologies.
- 10 The information collected during reconnaissance and field surveys shall be shown on a strip plan so that the proposed improvements can be appreciated and the extent of land acquisition with LA schedule, utility removals of each type etc.

assessed and suitable actions can be initiated. Separate strip plan for each of the services involved shall be prepared for submission to the concerned agency.

11.0) GENERAL REQUIREMENTS

- 11.1 The CONTRACTOR shall establish one Base Line in consultation with the IIITS. Bearing of the base line shall be in the direction of the plant north- south or plant east-west. The base line shall be identified and marked permanently by Pillars.
- 11.2 The CONTRACTOR shall also establish the bearing of the plant north with respect to the true north. This shall also be marked with the help of bench mark pillars.
- 11.3 Major Contours shall be drawn at 5.0m interval and Minor Contours shall be drawn at 0.5m intervals

12.0) COMPLETION TIME

Entire work shall be completed in 10 days from the date of receiving the work order/acceptance of bidder offer whichever is earlier.

13.0 REPORT & DRAWINGS:

- 13.0 The CONTRACTOR shall submit a comprehensive report on all of the above workexecuted by him with detailed explanations and references.
 - 13.1 The submissions shall include hard and soft copies of field books and observations on the basis of which maps and drawings have been produced.
 - 13.2 The submissions shall also include all survey field books and calculations,neatly and systematically presented.
 - 13.3 Final drawings shall incorporate the established Co-ordinate System.
 - 13.4 All drawings shall be vectorised or prepared on AutoCad version 2000 or higher. Each type of feature such as spot levels, contours, land marks etc. shall be done on separate layers. Details of each layer, colour code etc. shall be indicated on a table of the details.
 - 13.5 Nameplates and numbering system for drawings shall be as instructed by the IIITS.
 - 13.6 One drawing, showing the complete plot & its boundaries and prominent features in and around it, drawn to a scale of 1:1000. The scale of the drawing shall be drawn to suitable other scale in consultation with the IIITS.
- Editable soft copies of the drawings shall be submitted.

14.0) SPECIFICATION FOR LAND SURVEY:

This Specification covers the general requirements of fieldwork for Land Survey, preparation of Survey Drawings therefrom and a detailed report on the Survey. The Scope of work shall include mobilization of all necessary equipment, providing necessary experienced and qualified land surveyors, supervisors and technical personnel, skilled and unskilled labour and such other services as required to carryout all field work, analysis and interpretation of all the collected data, preparation of survey drawings there from and submission of a detailed report on the surveywork done. The Specification also covers providing technical services as and whencalled for by the IIITS ENGINEER.

15.0) CODES & STANDARDS:

15.1 Only the SI system shall be followed.

15.2 The following specifications, standards and codes including all amendments if any and other specifications and codes referred to therein, shall be considered as a part of this Specification. In all cases the latest issue / edition / revision / amendments shall apply. In case of discrepancy between this Specification and those referred to Standards and Codes herein below or other specifications forming a part of this Bid Document, this Specification shall govern.

IS:1492 & IS:1842 Surveying chain
& pins

IS:5497 Guide for topographic surveys for river valley
projects

IS:8330 Specification for telescopic tripod for surveying
instruments

16.0) REQUIREMENTS:

16.1) The CONTRACTOR shall conduct the Land Survey:

16.1.1 To demarcate the property and fix Boundary Pillars at site in co-ordination with the IIITS ENGINEER as well as representatives of other agencies as applicable. Lengths and bearings with respect to the Magnetic North of each Boundary line shall be determined.

16.1.2 To establish and construct permanent Benchmarks on site at locations to be indicated by the IIITS ENGINEER.

16.1.3. To identify and mark on the Survey Drawings places of worship, tombs, Academic buildings, hostel buildings, relics of archaeological importance, trees with girth more than 300mm at 1m above ground level, transmission lines and towers, telephone /telegraph lines and poles, power and lighting poles, trenches, identified underground services and any other structure etc.

17.0 PERSONNEL FOR LAND SURVEY & DRAWINGS:

17.1 The Survey shall be carried out under the direction and control of a qualified Land Surveyor.

17.2 The CONTRACTOR shall provide all the personnel, suitably qualified, for the successful execution of the work. It is essential that the Survey Party and all personnel involved in the work of Land Survey shall have the appropriate qualifications, specialized knowledge and experience.

17.3 The field work shall be carried out and supervised full time by qualified surveyors only. The Drawings shall be executed by experienced draughtsman and personnel either manually or on computer, using AutoCAD Release 12 or higher. The Report shall be prepared by a qualified and experienced surveyor.

18.0 BOUNDARY LINE:

Boundary Lines of the plot shall be physically established at site by closed traverse with "Total Station" or Theodolite and by constructing Boundary Pillars or embedding pegs at all bends, turning points and at intermediate points of the boundaries located not more than 100m as shown on the Drawing or as directed by the IIITS ENGINEER. The CONTRACTOR shall establish co-ordinates of each of these Boundary Pillars with respect to the Site Co-ordinate Grid. Bearings of all Boundary Lines shall be established with respect to the Magnetic North. The general directions of the next Boundary Pillar on either side shall also be etched on the plate. For straight stretches of lengths exceeding 100m, Boundary Pillars shall be established at every 100m interval.

19.0 FEATURES:

- All existing features, whether natural or man-made and whether of a temporary or permanent nature, shall be incorporated in the Land Survey and shall be shown on the survey drawings and maps that will be subsequently drawn along with their intricate details such as height, width and length. Locations of key features shall be established only by the Site Triangulation Network. Use of Plane Table Survey and tape measurements shall be avoided to the extent possible. Plane Table Survey shall be adapted only to a minor extent for minor features. Tape measurements shall be made only for intricate details of major features already established by the Site Triangulation Network. In any case, each Plane Table Survey exercise shall incorporate at least three independent features established by the Site Triangulation Network.
- Features that shall be incorporated in the Land Survey shall include,

but shall not be limited to the following:

- a) buildings, schools, houses, huts, other structures;
- b) compound walls, fencing, hedges, gates etc.;
- c) places of worship;
- d) transmission lines, towers, poles and power transformers;
- e) microwave towers;
- f) underground utilities;
- g) cables (buried or above ground);
- h) pipe lines (buried or above ground);
- i) telephone lines and poles;
- j) road side lighting poles and cables;
- k) highways, pucca topped roads, macadam roads, dirtroads, cart tracks, pathways, causeways;
- l) culverts, bridges, cross drainage;
- m) open wells, bore wells, pumps;
- n) underground water tanks, overhead water tanks;
- o) cultivated areas;
- p) rock outcrops;
- q) channels, drains, Monsoon stream, streams, rivers;
- r) ponds, lakes reservoirs and any natural or man-made waterbody;
- s) marshy areas;
- t) bunds, dykes, levees, embankments, weirs, dams;

- The details shall incorporate inter alia all the above features which adjoin the plot or have any approach path or right of way adjacent to or through the plot or are located upto about 50m from the plot boundary or as directed by the IIITS ENGINEER.

The list given above shall not be construed as being exhaustive and complete and the CONTRACTOR shall include all features in the Survey Drawings and Maps with their proper sizes (dimensions), elevations or depths, co-ordinates and bearings, names of places, road / highway numbers or names, etc.

20.0 ERROR AND ACCURACY:

The CONTRACTOR shall be responsible for the correctness and accuracy of the work done. If any errors are detected, even if such work is approved, the particular work shall be redone by the CONTRACTOR at his cost. The IIITS ENGINEER may check the survey work as required during the course of the survey. However, such checks shall not absolve the CONTRACTOR of his responsibility for the correctness and accuracy of the work.

- All levels shall be read accurate to the nearest 5mm.
- The error for linear measurement shall not exceed 1:10,000.
- The error in angular measurements shall not exceed six (6) seconds per station.
- In any triangulation or traverse, the cumulative angular error shall not be more than $30/N$ seconds where N is the number of traverse stations. The probable error of computed sides shall not exceed 1 in 5000.
- The closing error for levelling shall not exceed $\pm (5 K)$ mm, where K is the distance of the traverse in kilometers.

21.0 MAINTENANCE OF RECORDS:

21.1 All book entries shall be made in ink in proper field and level books in accordance with the standard practice. Any wrong entries shall be neatly struck out and rewritten. All such books shall be made available for inspection by IIITS ENGINEER during any stage of the Survey. If in the opinion of the ENGINEER the book entries are unsatisfactory, he may order the survey work to be redone.

21.2 The CONTRACTOR shall submit calculations to establish the accuracy of the work done, area of the plot and such other calculations that may be necessary.

All field work sheets of Plane Table Survey work, if carried out, shall be maintained for submission to the IIITS ENGINEER

22.0 PILLARS:

22.1 All Pillars shall be constructed by the CONTRACTOR as per the relevant items in the Schedule of Quantities and shall be founded on firm stratum so as to ensure no settlement.

Each of these pillars shall be identified by a unique nomenclature. The nomenclature shall be such so as to clearly distinguish between

Boundary Pillars, including that for established Latitude and Longitude, Baseline Reference Pillars and Benchmark Pillars. Besides the unique nomenclature, details of the relevant pillar shall be legibly etched onto a metal plate. These details shall include inter alia the Reduced Level, Co-ordinates and, as applicable, the latitude and longitude and the general direction of the next Boundary Pillar. Nomenclature and co-ordinate details of Grid Pillars shall be legibly and prominently painted on the respective Pillars in indelible paint.

All Boundary Pillars including that for established Latitude and Longitude and Baseline Reference Pillars shall be connected to the Site Triangulation Network covering the entire site, for effecting a horizontal control for the survey. The co-ordinates of all Pillars including the boundary turning points shall be computed

23.0 DRAWINGS AND FIELD RECORDS:

23.1 The CONTRACTOR shall initially produce check prints of all Drawings for review and comments of the IIITS ENGINEER prior to proceeding with the final copies at no extra cost to the CLIENT. All comments of the IIITS ENGINEER shall be incorporated onto the final Drawings.

23.2 The CONTRACTOR shall submit the following drawings:

- a) Site location plan drawn to a scale of 1:20000.
- b) One drawing, showing the complete plot and prominent features in and around it, drawn to a scale of 1:1000.
- c) Detailed Survey Drawing drawn to a scale of 1:500.
- d) Contour Map drawn to a scale of 1:500 with Contour Interval of 500mm. The contours shall be drawn in 3-Dimensions such that all the spot levels indicated on the drawings bear all the three co-ordinates viz. X, Y and Z - co-ordinates.

23.3 Boundary Lines shall be shown on all the Drawings. Bearings of each Boundary Line with respect to the Magnetic North and that of the Baseline with respect to both the True North as well as the Magnetic North shall be indicated on the Detailed Survey Drawing the Contour Map as well. Magnetic and true North shall be indicated on each of the sheets. All Pillars shall be shown on the Detailed Survey Drawing as well as the Contour Maps. The unique nomenclature for each Pillar shall be indicated on these drawings.

23.4 The Detailed Survey Drawing shall identify and depict all prominent features and details with their sizes, elevations / depths, bearings and co-ordinates.

23.5 The CONTRACTOR shall mention and acknowledge on all the drawings, all the reference survey and other data used for the Survey and for compilation of the drawings.

23.6 All drawings shall have their respective scales drawn upon them.

23.7 Drawing Name-plates and Drawing Numbers shall be as directed by the IIITS ENGINEER only.

23.8 All drawings submitted by the CONTRACTOR shall be in one of the standard sizes. In case the A0 size is not adequate, the CONTRACTOR shall revert to the IIITS ENGINEER to decide between adopting a larger non-standard size or dividing the site between two or more standard sizes. In case the site is divided into two or more sheets, each sheet shall overlap details of the contingent sheet and suitable match line(s) shall be drawn. Each of these sheets shall be indicated on a key plan of the concerned site, drawn on the top right hand corner.

23.9 The CONTRACTOR shall prepare all drawings and maps in ink on good quality tracing paper weighing not less than 90/95 gm/m². The CONTRACTOR shall submit the tracings along with one reproducible and 6 prints of each map. The CONTRACTOR shall also submit all the drawing information on CD / DVD, each in two sets, compiled in AutoCad 2020 or higher. All these drawings prepared in AutoCAD shall have various layers. The Contractor shall furnish this information with the drawings.

23.10 The CONTRACTOR shall submit all the Field Records, Field Books, Calculations, Plane Table Survey Sheets, Check Prints as marked up by the ENGINEER etc.

23.11 It shall be noted that all Drawings, Maps, Records etc. produced by the CONTRACTOR shall be the sole property of the IIITS and the CONTRACTOR shall not use any of the details for any other work without the written approval of IIITS.

24.0 MEASUREMENTS;

24.1 Measurement of all survey work shall be on area basis. The work covered shall be measured from the prepared drawing by plan meter or by Auto Cad (where the Drawings have been prepared electronically). Only the area surveyed as per requirement of the IIIT ENGINEER will be measured for payment.

25.0 IIIT Sri City reserves the right:

- a. To accept or reject any or all quotations either in whole or in part or to invite revised price bids or to annul the bidding process
 - b. To postpone and/or extend the date of receipt/opening of quotation or to withdraw the same at any time before finalization without incurring any liability to the affected Tenderer / Bidder.
 - c. To omit/delete any item(s) of work from the schedule at the time of allotment or before the commencement of work or during execution of work without assigning any reason whatsoever.
 - d. To change the quantity or add the item or cancel the item/service required.
 - e. To accept or reject any or all the Tenders without assigning any reason.
- 26.0 If the date of opening of the tender is declared as holiday, it will be opened on the next working day at the same time.
- 27.0 **Bid Evaluation:** The bid should be submitted strictly in the prescribed 'Annexure A' and should remain valid for a minimum of THREE (3) months.
- a. The bidder should have experience of having successfully completed similar works in any University, reputed educational institute, Government Organizations and reputed companies during last 3 financial years ending 31st March of the previous financial year. Without required experience party will not be considered in this tender.
 - b. Similar works means, such topographical survey, boundary line survey. Irrelevant works other than survey works shall not be considered in similar works category.
 - c. Average Annual Turnover in the last 3 financial years (2018-19, 2019-20 & 2020-21) shall be minimum 5.00 Lakhs duly supported by certified copies of balance sheets and audit statement by Chartered Accountant.
 - d. Documentary evidences for work experience, turnover, GST, PAN all as indicated & required in the tender document should be furnished without which it will not be taken into account.
 - e. Financial bids, which are incomplete and are not submitted in the prescribed format, will be summarily rejected.
 - f. The Financial bid should clearly contain the details (without erasers/overwriting etc.) as mentioned in the form.
- Works shall be awarded to L1 tenderer on L1 quoted rates. Price quoted by tenderer shall be fixed and not subject to any escalation whatsoever during the period of execution of the contract including the extended period, if any.
- 28.0 This tender notice shall be deemed to form an integral part of the contract to be entered into for this work.
- 29.0 The successful bidder needs to arrange for the required materials, tools & plants and manpower to the locations at his own cost as per the scope of the work.
- 30.0 The successful bidder has to ensure the safety of the manpower/vehicles deployed in the premises. IIIT Sri City will not be responsible for any incident arising during execution of the work.

31.0 Accommodation, Transportation and Food should be arranged by contractor themselves.

32.0 PAYMENT TERMS:

- a. 100% of Bill Value for the works shall be made after completion of work within 30 days with applicable tax deductions.
- b. Payment will be initiated only after receipt of certificate from the official concerned from IIIT Sri City Chittoor.
- c. All taxes must be clearly mentioned in financial bid.
- d. No escalation of prices for services will be entertained later in any case.
- e. Only the area surveyed as per requirement of the IIIT ENGINEER will be measured for payment.

33.0 **TAXES AND DUTIES:** The Rates unless otherwise specified, will be deemed to exclude sales tax or GST or any other taxes and duties, which are in force or may be levied by the Central/State/Local Governments from time to time, on the production and sale of the goods.

34.0 On account of security consideration, some restrictions may be imposed by the security staff on the working and/ movement of men and materials etc. The contractor will be bound to follow all such restrictions/ instructions and he shall organize his work accordingly. No claim on this account, whatsoever, shall be payable.

35.0 **JURISDICTION:** All the disputes arising out of this order shall have exclusive jurisdiction of Tirupati, Andhra Pradesh only.

Annexure-1

DETAILS TO BE FURNISHED BY THE BIDDERS

1. Name of the Firm/Company:
(Attach copy of the Registration Certificate)
2. Address for Communication:
3. Contact Person Telephone/ Mobile No.:
4. E-mail:
5. Details of Proprietor/partner/Director
6. Copies of Work order of previous similar works.
7. GST Registration No.:
(Attach copy of the GST Registration Certificate)
8. PAN Number:
(Attach copy of the PAN Card)

This is to certify that the above facts are true complete and correct to the best of my knowledge and belief. Further, it is certified that I/We have read and understood the terms and conditions of the Tender Notice.

I/We give an undertaking and give our unconditional and unequivocal acceptance of all terms and conditions of the Tender and agree to abide by these terms and conditions.

Name and Signature of the Firm/Company

Seal of the Firm/Company

Signature of the tenderer with seal

Annexure-2

Declaration regarding black-listing and/ or litigations

I/we hereby declare that our firm/agency is not black-listed by any Ministry or Department of Central Government/State Government or PSU or other bodies under the Central Government/State Government. I/we further declare that no criminal case is registered or pending against the firm/company or its owner/partners/directors anywhere in India.

Date the day of 2022

Signature of Bidder

Name & Address of Bidder

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.....

Signature of the tenderer with seal

PRICE BID: ANNEXURE 'A'

NIQ No. : IIITS/NIT/LAND SURVEY/2022/021, Dt.17.10.2022

Name of the Work : Topographical, Boundary, contour, total station survey, preparation of Master Plan and Design for Indian Institute of Information Technology Sri City, Chittoor as per the standards

Name of the Bidder: _____

Sl. No.	Item Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Mobilization of all instruments including Total Station equipment, DGPS, GPS equipment etc., drawings, office material, personnel etc. to site and demobilization of the same after completion of all field work etc. complete.	LUMPSUM			
2	<p>Executing all Field work on dry, wet and water filled land including determination of Latitude and Longitude at a specified point to be decided by IIIT Engineer within the area to be surveyed, plotting of survey and contour maps and furnishing all drawings, documents, as per specifications and drawings etc. complete.</p> <p>The Scope comprises of the following components.</p> <p>a) Total Station Survey b) Triangulation Boundary Survey. c) Survey Topographic features. d) Level and contour survey. e) FMB sketch Superimposed with Site Boundary</p> <p>(Note: At least 10 GPS points shall be established within the site at locations indicated by the client. These shall be painted clearly and legibly at places indicated by IIIT)</p> <p style="text-align: right;">TOTAL</p> <p>(Rupees _____)</p>	80	ACRES		

Note: Above rates exclusive of applicable GST.

For & On behalf of IIIT Sri City, Chittoor



Authorized Signatory



Signature of the tenderer with seal