

**EDFC FIELD UNIT-KOLKATA-CIVIL/EDFC
TENDER DOCUMENT**

Tender No: KKK-EN-AERIAL-SURVEY-PH-I

Closing Date/Time: 24/05/2023 15:00

CGM/DFCCIL/Kolkata acting for and on behalf of The President of India invites E-Tenders against Tender No **KKK-EN-AERIAL-SURVEY-PH-I** Closing Date/Time 24/05/2023 15:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

1. NIT HEADER

Name of Work	Aerial Topographical Survey, Preparation of Plan, L-Section, Cross-section, Land plans, Drone videography etc. for Andal to Sonnagar section except Koderma Detour, Geo Referencing of DFCCIL Land plans along with supply of DGPS coordinate and preparation of KML files in scattered location in Andal-Sonnagar section and Topographical survey and preparation of ESP for DFC yards under GM/Co-Ordination/Kolkata jurisdiction		
Bidding type	Normal Tender		
Tender Type	Open	Bidding System	Single Packet System
Tender Closing Date Time	24/05/2023 15:00	Date Time Of Uploading Tender	02/05/2023 18:18
Pre-Bid Conference Required	No	Pre-Bid Conference Date Time	Not Applicable
Advertised Value	11305333.00	Tendering Section	JHARKHAND
Bidding Style	Single Rate for Each Schedule	Bidding Unit	
Earnest Money (Rs.)	226100.00	Validity of Offer (Days)	60
Tender Doc. Cost (Rs.)	5900.00	Period of Completion	3 Months
Contract Type	Works	Contract Category	Expenditure
Bidding Start Date	10/05/2023	Are Joint Venture (JV) firms allowed to bid	No
Ranking Order For Bids	Lowest to Highest	Expenditure Type	Capital (Works)

2. SCHEDULE

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A -Aerial Topographical Survey, Preparation of Plan, L-Section, Cross-section, Land plans, Drone videography etc. for Andal to Sonnagar section except Koderma Detour, Geo Referencing of DFCCIL Land plans along with supply of DGPS coordinate and preparation of KML files in scattered location in Andal-Sonnagar section and Topographical survey and preparation of ESP for DFC yards under GM/Co-Ordination/Kolkata jurisdiction.							11305333.00	Above/ Below/Par
1	Please see Item Breakup for details.				11305333.00	AT Par	11305333.00	
	Description:- Aerial Topographical Survey, Preparation of Land plan, Drone videography, Geo Referencing of DFCCIL Land plans & Topographical and preparation of ESP of DFC Station yard							

3. ITEM BREAKUP

Schedule	Schedule A-Aerial Topographical Survey, Preparation of Plan, L-Section, Cross-section, Land plans, Drone videography etc. for Andal to Sonnagar section except Koderma Detour, Geo Referencing of DFCCIL Land plans along with supply of DGPS coordinate and preparation of KML files in scattered location in Andal-Sonnagar section and Topographical survey and preparation of ESP for DFC yards under GM/Co-Ordination/Kolkata jurisdiction.							
Item- 1	Aerial Topographical Survey, Preparation of Land plan, Drone videography, Geo Referencing of DFCCIL Land plans & Topographical and preparation of ESP of DFC Station yard							
S No.	Item No	Description of Item			Unit	Qty	Rate	Amount

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1	NS-1	Geo referencing of DFCCIL land plan shall be done using appropriate software & established Ground control points. Superimposition of DFCCIL proposed alignment shall also to be made on the approved land plan. The item includes submission of KML/ KMZ file showing DFCCIL ROW and supply of DGPS Co-Ordinates of ROW and center line, at 50 m interval in straight portion and at 10m interval at curved portion and at all offset points. Land Plan will be supplied by DFCCIL.	Per Page	83.00	13812.00	1146396.00
2	NS-2	Conducting Aerial Topographical Survey using DGPS based integrated Drone to capture essential ground features and assets and delivering the topographical information for 100 m width corridor (as decided by EIC DFCCIL) within an accuracy of 5cm. Survey work to be conducted in between Sonnagar to Andal section along DFCCIL proposed alignment except Koderma detour section and including connectivity lines with existing Indian Railway yard and DFCCIL Junction and Crossing stations. Following activities are involved within the scope of work: a) Establishment of Ground Control Points at every approximate 2 km distance, paint marked on the permanent structure and 1 hr DGPS observation of the same. b) Establishment of TBM points at every approximate 500 m with paint marked on permanent structures and RTK survey of the same using the 2 km points as the base. c) Collection of High-Resolution Aerial Imagery of minimum 3 cm GSD using survey grade DGPS integrated Drone i.e., PPK/RTK based Drone having on board dual GNSS system and calibrated camera of 20 MP UAV. Aerial Photo Acquisition shall be done to cover the ROW. Suitable Over lapping: minimum 70% forward and 50% side overlap shall be maintained, ensuring Image Quality: Clear/sharp imagery with good light condition. Images must have XYZ co-ordinates and rotational information, sensor size, focal length as meta data. This information must also be made available in a text file. d) Aero triangulation using the professional photogrammetry software which supports Stereo Capability to measure control points with highest precision and rigorous bundle block adjustment for reliable mathematical calculation and final results. This operation includes measuring and transferring all tie, check, and control points appearing on all photographs manually; and performing a least squares block adjustment. e) 3D Topographical mapping - plan data Capture - All topographical information including natural & manmade features to be captured. All the topographical features including Rail, track center line, Platform, signal, Electrical mast, FOB, RUB, Station Building, Other buildings, Utilities, land use, Roads, wall, Hydro features shall have to be captured, (Extensive Layer list in CAD) The output shall be delivered in DWG format.	Kilometre	345.00	17764.00	6128580.00

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3	NS-3	LONGITUDINAL SECTION & PLAN, CROSS SECTIONS, INDEX SECTION & PLANS : Design of best-fit alignment within DFCCIL/IR available ROW using Bentley Power Rail Track or equivalent software utilizing output & deliverables of NS-2 items (aerial topographical survey) and preparation of drawings in Micro station or Auto CAD and submission of the following in compliance to the Design Criteria located within ROW as per Indian Railway Engineering Code, Indian Railway Permanent Way Manual & DFCCIL SOD for approval: a) Longitudinal Section & Plan drawings showing 2 km in each sheet at a scale of 1cm: 20m longitudinal and 1cm: 2 m laterally /vertical. It should have the Proposed / Existing details of the permanent features such as Stations, Level crossings, all types of Bridges, FOBs, ROBs, RUBs, Subways, complete details of curves, overhead crossings, existing / proposed Rail levels & Formation levels of railway track, existing ground levels, proposed depth of cutting and height of bank , existing / proposed gradients. b) The Plan shall show the alignment of DFCCIL as well as Railway line, curve, curve details, magnetic bearing, details of existing/ proposed bridges , Platforms at station, DFCCIL/ Railway land boundary, level crossings, all permanent/ temporary/ physical structures within the Railway boundary as required for L section, locations of tangent points of curve, turnouts, center line of station and its name, over-head crossing, underground crossings, approach roads, Road network parallel to DFCCIL corridor, configuration of Nallahs / River/water streams etc. c) Contractor should submit detailed earthwork calculation for cutting and filling of DFCCIL proposed alignment. d) It also include deliverables of Engineering reports as per Clause 2.1.15.15 of Chapter-I, Part-II. e) Rate includes cost of labour, material, equipment, tools and plans, topo-sheets etc. complete, including cost of pen-drives/ External hard disc to be supplied along with the tracings.	Kilometre	345.00	4057.00	1399665.00
4	NS-4	Videography survey to review progress of work/ intrusion (encroachment) into the corridor. Drone videography using UAV/ Drone by capturing High resolution videography and delivering the geo-tagged videos along with a player facility to load and link image/ Drawings/other files etc., and linkage to GIS map like Google, Bhuvan etc., with overlay /Sync facility should be available & row, alignment, structure, chainage & other import details can be incorporated in it to actually check the progress of the work or status of or structures or encroachments on land etc.; (As per Railway Board letter No.2015/Track-1/24 (1)/18/1 dated: 09.10.2017 &no. 2015/Track/1/24(1)/18/1 Vol-I dated: 19.03.2019). Contractor should submit following deliverables: - a) Raw 4K quality geo-tagged videos. b) Merged seamless Geo-tagged Video of at least 1920 x 1080 format (full HD) resolution with all annotations. c) Low resolution video for on-line viewing in 640 x 480 format (SD). d) A player facility to load & link image/ Drawings /other files etc. and linkage to GIS Map like Google, Bhuvan etc., with overlay/sync facility should be available & row, alignment, structure, chainage & other import details can be incorporated in it to actually check the progress of the work.	Kilometre	345.00	3188.00	1099860.00

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5	NS-5	DGPS based Topographical Survey shall be conducted by using Total Station and preparation of long section and cross section as required and as advised by Engineering in Charge at site. The survey should show all the permanent objects as available. Transferring of TBM and drawing proposed alignment of track on ground and conduction of details contour survey of the proposed area shall be done. Preparation and submission of details survey drawing indicating grid line. Contour line as suitable interval as per provision in Engineering code of Indian Railways (Latest Version) and as per direction of Engineer-in-charge. Topographical survey data is required to finalize the connectivity of DFC Yard with IR in locations as decided by DFCCIL. Contractor should submit all survey details of existing IR yard, existing structures, L-section and cross section of proposed DFCCIL track, connectivity of DFC and IR line	Acre	90.00	8577.00	771930.00
6	NS-6	Preparation of Yard ESPs for various stations on DFCCIL proposed alignment as per instruction of EIC DFCCIL showing the details of proposed yard arrangements with proposed grades including regrading of existing yard and showing details like CSL lengths of various lines, center to center distances of tracks, gradients, Curve details, type of turnouts, snag dead ends, derailing switches, platforms, Shelters, cross overs, Railway boundaries of entire yard with chainages and locations of station building, other service buildings, Electrical, OHE & S&T installations, FOB, Subway, RUB, ROBs etc., including details of infringing (condonation) grades & structures and preparing yard plans with the proposed additions & alterations to the existing stations duly suggesting improvements to existing alignment so as to ascertain the removal of infringements of structures & condoning grades in yards duly making phase yard plans as per the requirement of the DFCCIL/Railways with respect to approved master plan in separate plans like Phase-I, Phase-II & Final, duly incorporating complete detailed Modus operandi for execution of work in both Phase plans and Master plan. Any alterations proposed in the approved plan to be in cooperated in the master plan in a separate table. The consultant shall submit advance copy of the ESPs on white paper for approval of DFCCIL/IR. After the approval of DFCCIL/IR, the Consultant shall submit drawings in 3 (three) hard coloured copies on Polyester based tracing paper (100 to 150 Microns) and two soft copies on CD. The scope includes required corrections and modifications as suggested by approving authorities of DFCCIL/Railways till its final approval. Required follow up with various approving authorities including required explanations on various provisions/facilities in the ESP shall be arranged by consultant. Note: i)The colour scheme to be followed in the drawing shall be as per standard practice of DFCCIL/IR. ii) Payment will be done as per Stages given below - (a) Submission of ESP and approval by DFCCIL: 50% (b) Approval by Indian Railway: 40% (c) Submission of ESPs in hard & soft copies :10%	Each	2.00	4451.00	8902.00

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7	NS-7	Preparation of revised land plans (three sets in original) incorporating all the corrections over approved land plan for handing over of DFCCIL acquired land to IR , showing DFCCIL proposed alignment, existing IR lines, Toe lines, distance between adjacent IT track and DFCCIL track, Chainage, DGPS coordinates at desired interval on it. Approved land plan will be supplied by DFCCIL. The relevant details such as survey nos. area, name of village/revenue maps also to be mentioned and submitting to revenue authorities with all details duly colouring the proposed land to be acquired etc. complete as per the specification and as directed by engineering in charge. NOTE: Scanning of village/revenue maps/ Land plans shall be accurate. The soft copy so scanned will be the property of the department. No other copy to be kept with the contractor.	RM	375000.00	2.00	750000.00
					Total	11305333.00

4. ELIGIBILITY CONDITIONS

Standard Technical Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer / JV firm (as per clause no. 65.15.1 of GCC) must have satisfactorily completed any of the following during last 7 years, ending last day of month previous to the one in which tender is invited: (a)Three similar works each costing not less than the amount equal to 30% of advertised value of subject work, or (b)Two similar works each costing not less than the amount equal to 40% of advertised value of subject work, or (c)One similar works each costing not less than the amount equal to 60% of advertised value of subject work; Submission Requirement: Thetenderer shall submit the completion certificates/ certified completion certificates from the client(s) and or Photocopies of original certificates of client.	No	No	Allowed (Mandatory)
1.1	Defination of Similar Work :- Final location survey (FLS) Preliminary Engineering cum traffic survey (PECT)/ Reconnaissance Engineer-cum-Traffic survey (RECT) for projects like Railways, Highways, Irrigation canals Project	No	No	Not Allowed

Standard Financial Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer must have minimum average annual contractual turnover of V/N or V whichever is less; where, V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover. The tenderers shall submit requisite information as per Form 2B, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.	No	No	Allowed (Mandatory)

5. COMPLIANCE

Commercial-Compliance

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	No	Yes	Allowed (Optional)

Custom

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
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1	Documents to be enclosed with the TECHNICAL BID as per Clause 1.3.2(b) of Part-I of Chapter-III of Tender Document	No	No	Not Allowed
1.1	Offer letter complete as per Form-1 of Tender Document	No	No	Allowed (Mandatory)
1.2	Tenderer's Technical credentials in accordance with Para 1.3.13 (i)(A) of Part-I, Chapter-III (Preamble & General Instructions to Tenderers): As per Form No. 2A of Tender Document	Yes	Yes	Allowed (Mandatory)
1.3	Tenderer's Financial credentials in accordance with Para 1.3.13 (i)(B) of Part-I, Chapter-III (Preamble & General Instructions to Tenderers): As per Form No. 2B of Tender Document	Yes	Yes	Allowed (Mandatory)
1.4	Applicant's Party Information Form: As per Form 2D of tender Document	No	No	Allowed (Mandatory)
1.5	Certificates for authenticity of documents/ Format for Affidavit: As per Form 22 of Tender Document	Yes	Yes	Allowed (Mandatory)
1.6	Format of Integrity pact: As per Form 20 of Tender Document	Yes	Yes	Allowed (Mandatory)
1.7	Details of Earnest money in accordance with Para 1.3.8 of Part-I, Chapter-III (Preamble & General Instructions to Tenderers)	Yes	Yes	Allowed (Mandatory)
1.8	An undertaking that he is not blacklisted or debarred by Railways or any other Ministry or Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was or is a partner/member. Concealment or wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.: As per Clause 1.3.6 of Part-I, Chapter-III (Preamble & General Instructions to Tenderers)	Yes	Yes	Allowed (Mandatory)
1.9	Documents to be Submitted Along with Tender as per Clause 1.3.6.2 of Part-I, Chapter-III (Preamble & General Instructions to Tenderers)	No	No	Allowed (Optional)
1.10	A copy of the tender papers including amendments duly signed and scanned or digitally signed by the tenderer on each and every page in token of his having studied the tender papers carefully shall be attached with the tender	No	Yes	Allowed (Mandatory)

6. Documents attached with tender

S.No.	Document Name	Document Description
1	TenderDocumentAerial-Survey2.pdf	Tender Document

This tender complies with Public Procurement Policy (Make in India) Order 2017, dated 15/06/2017, issued by Department of Industrial Promotion and Policy, Ministry of Commerce, circulated vide Railway Board letter no. 2015/RS(G)/779/5 dated 03/08/2017 and 27/12/2017 and amendments/ revisions thereof.

As a Tender Inviting Authority, the undersigned has ensured that the issue of this tender does not violate provisions of GFR regarding procurement through GeM.

Signed By: JOY KARMAKAR

Designation : DYPM/Civil/Kolkata