

ANNEXURE-VI

DGPS SURVEY IN THE FOREST AREA

INTRODUCTION

D.G.P.S. survey work has been carried out by CSR Geospatial & Consultancy Services as per the Forest Conservation Act – 1980, to obtain forest clearance for the proposed project road.

CSR is a Private consultancy services incorporated on 06-06-2015 and involved in providing Geospatial Solutions. The D.G.P.S survey was done successfully and accurately on dated 7/07/2023 to 26/07/2023 in the presence of Forest officials & team of CSR Geospatial & Consultancy Services (Mr. Sivaiah Chittineni).

The company is providing geospatial technology solutions, modelling & analytics, to clients in sectors such as utilities, telecom, navigation & location, agriculture and natural resources & land information management. It is one of the emerging GIS companies and its core competency lies in providing solutions across the entire geospatial value chain - from data enhancement including every manner of geospatial data conversions to modelling, analytics, and consulting.

It has completed above 50 projects both major and minor, for prestigious clients who include the Forest Department under NHAI, R&B, Panchayat Raj roads, Directorate of Mines and Geology, Irrigation, and Endowment departments.

LOCATION OF THE AREA

The proposed road route is from Davupally to Mallapalem Junction is on the National Highway corridor NH-565. The surveyed area is situated near Sirigiripadu Village. The total route length is approximately 20 km. The route falls in Markapur WLM Division of 38.60 Ha area in districts Prakasam & Palnadu. The surveyed area comes under Vijayapuri South (V.P.South) & Yerragondapalem Forest ranges of Markapur WLM forest Division.

FEATURES & METHODOLOGY OF DGPS SURVEY

After the successful completion of the survey, All the RAW data collected from the field will be post process in the GNSS software, than Validation of the collected data by several methods & Geo-referencing of Forest Compartment maps using software. Superimposition of

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output files on Geo-referenced Vectorised Forest Compartment maps, SOI Toposheet and Satellite Imageries (LISS IV) purchased from NRSC, Hyderabad.

ACTIVITY BACKGROUND

In the state of Andhra Pradesh, the R&B plans to set up a road network from Davupally to Mallapalem Junction. The project mainly passes through Markapur WLM Division.

The proposed road to be laid is approximately 20.978 Kms in length and 21 metres in width starting from Davupally to Mallapalem Junction in Palnadu & Prakasam districts of Andhra Pradesh.

OBJECTIVE

As per Ministry of Environment & Forests (MoEF), all applications for Forest Diversion, under Forest Conservation Act, 1980 must be accompanied with Geo-referenced shape file, showing the boundary of the proposed area (both soft copy and hard copy maps), prepared using Differential GPS (DGPS) and the same should be uploaded to MoEF website along with the online application.

SCOPE OF WORK

DGPS Survey for collection of ground coordinates along the proposed road corridor at 200 m interval and/or at every turn/bend along the proposed road. The DGPS data is collected at forest patches only.

DATA PROCESSING AND INTERPRETATION

- Geo-referencing of SOI Toposheet (1:50,000).
- Creation of proposed road corridor boundary vector map using the DGPS Surveyed data
- Superimposition of route layer on Georeferenced forest maps, SOI Toposheet.
- Preparation of DGPS survey report along with soft copy, hard copies & raw data.
- Submitting of report and Geo-referenced maps and Technical compliance.

MODEL OF DGPS EQUIPMENT USED

Trimble SPS985 GNSS Smart Antenna with Omni STAR® was deployed, which is the most advance and Hi-precision device to carry out the DGPS survey. The DGPS performance

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specifications are given below. The corresponding fact sheets are placed below for ready reference.

DGPS SURVEY PROCEDURE

DGPS survey was carried out using Trimble SPS985 GNSS Smart Antenna with Omni STAR®. Omni STAR® provides space-based GNSS correction services that improve the accuracy of a GNSS receiver for precise positioning applications.

Initially the DGPS was set-up at a known point and observed for duration of 30 minutes until the positional accuracy of 20 cm is achieved. From there on, the Survey team carried out DGPS Survey of predefined points identified by the forest officials/consultants.

DGPS readings were collected at regular intervals of 20m (at curve portion) & 200m (at straight portion) along the proposed road and at every turn or bend.

During the survey the start and end of the road in the forest location was identified with the help of staff from the forest department in the field. The officials from forest department provided necessary information regarding the boundary of the range, compartment etc.

CREATION OF VECTOR LAYERS

The surveyed points captured through DGPS were plotted in the GIS Software; the Polygon and Polyline layers are created using DGPS Surveyed points. Different layers such as the Forest Patch polygon, the proposed road are prepared. The vector layers prepared are then super-imposed on the Geo-referenced map and Cadastral maps.

NO OF POINTS SURVEYED

A total of 392 (includes both left and right) points surveyed along the forest land from 133.922 km to 154.900 km of NH-565.

NAME OF AGENCY

CSR Geospatial & Consultancy Services

HIG -111, Phase 1 & 2, KPHB Colony,

Kukatpally, Hyderabad – 500072.

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PHOTOS



DGPS Survey Instruments




DGPS Survey Instruments

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Survey along the Forest area

Date: 17-08-2023
Place: VIT AXAWADA


Shri. RAKESH KUMAR,
Regional Officer, Ministry of Road
Transport and Highways, Vijayawada


EXECUTIVE ENGINEER (R&B)
M.M. DIVISION, VIJAYAWADA