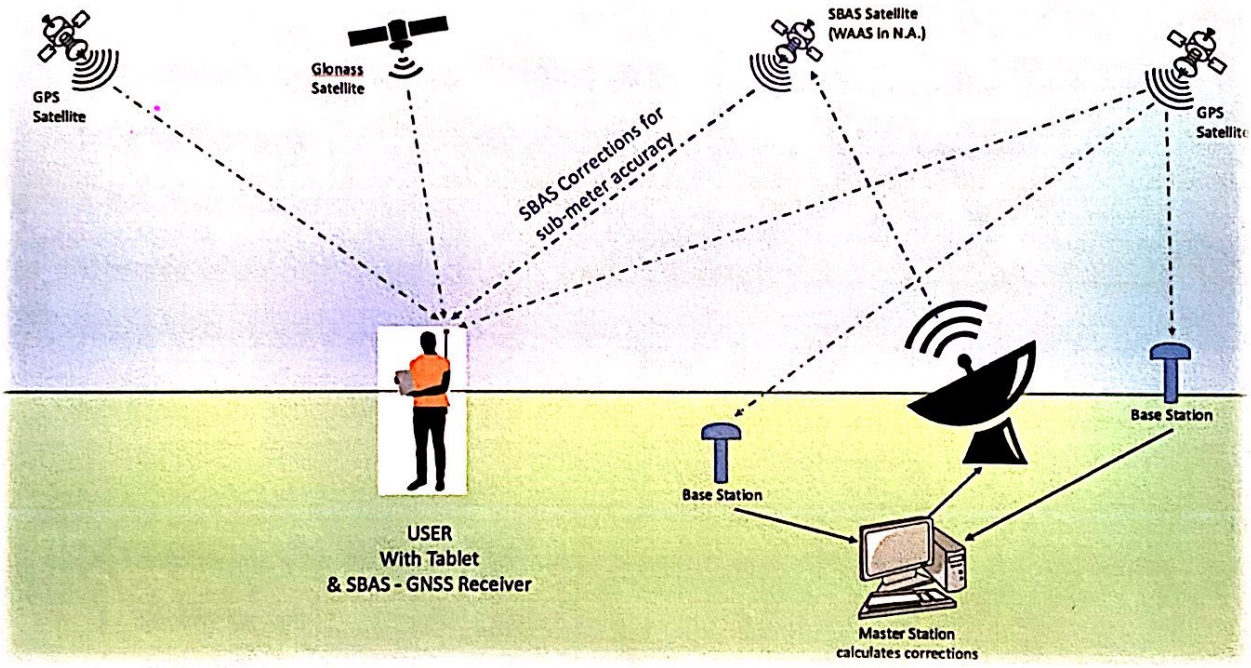
D.G.P.S. SURVEY REPORT FOR

APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION

FOREST DIVISION JANJGIR CHAMPA
DISTRICT JANJGIR CHAMPA
CHHATTISGARH



Computer Plus
R.P.
Raipur (C.G.)

Submitted To

Raigarh Mining & Beneficiation Pvt. Ltd.,
District Janjgir - Champa,
Chhattisgarh.

Report Prepared By

COMPUTER PLUS
Software Development &Consultancy
Devendra Nagar, Raipur, (C.G).

TABLE OF CONTENTS

1. ABOUT US

Computer Plus an **ISO 9001:2015 certified** organization working in the field of I.T. Consulting & Software Services. We are registered organization under **Directorate of Geology and Mining, Chhattisgarh**. We are serving since 1998 & head office in Raipur, (C.G.), with core competence in the areas of Integrated Business Solutions with Implementation and Support.

Our Team:

We're justifiably proud of the team we've assembled. Initially numbering just two programmers, **Computer Plus** has grown steadily and now has over 250 staff members. The **Computer Plus** team is made up of highly-qualified, talented and innovative IT and GIS professionals each with their own area of expertise. Their experience spans the full range of custom software development, from small entrepreneurial projects to complex systems for major corporations.

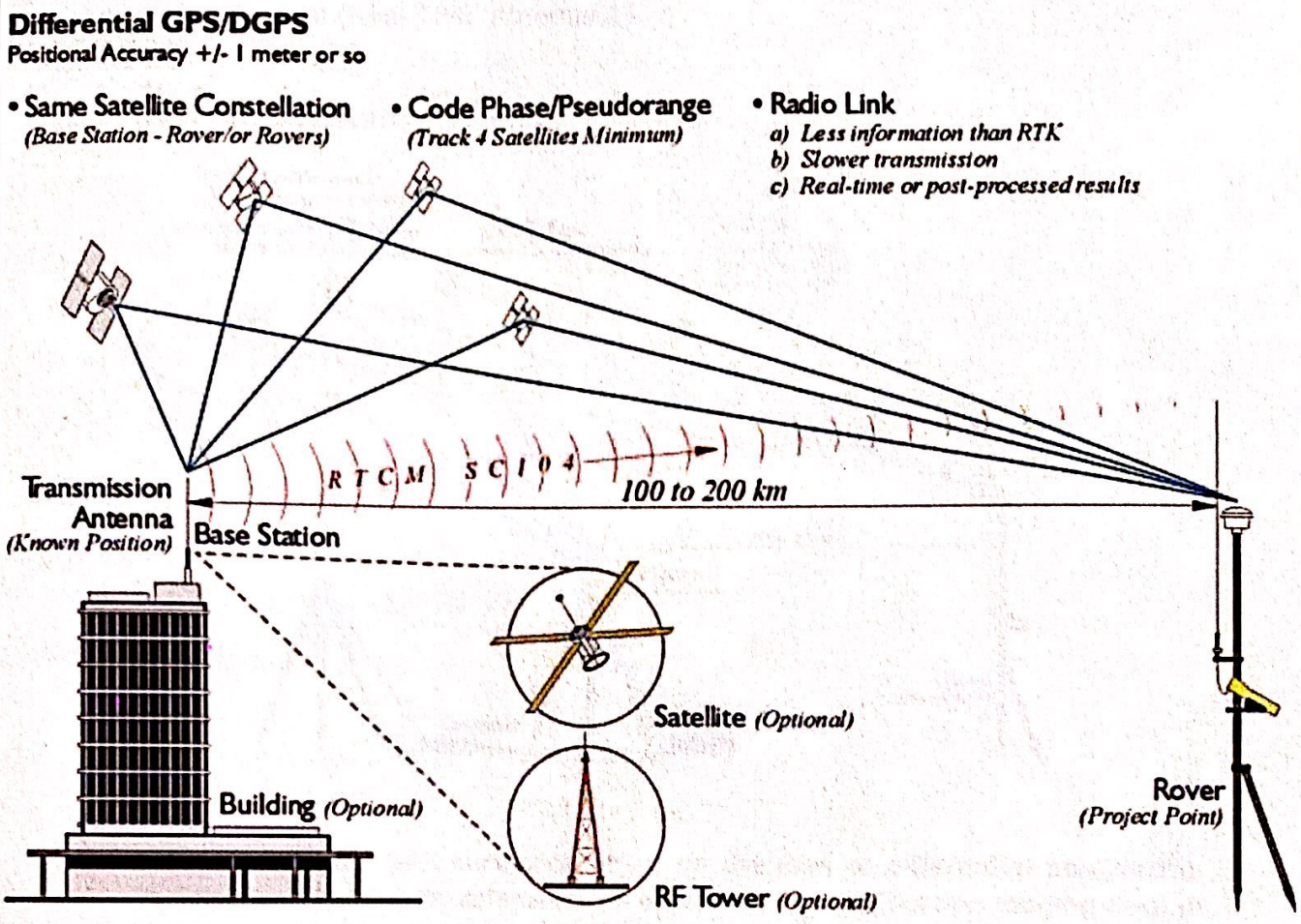
Our Mission:

Computer Plus's mission is to solve challenging technical problems in partnership with our clients.
How we achieve it:

- We understand the business needs of our clients, and how technology can be a tool to make modern businesses more profitable for both private and government sector.
- **Computer Plus** combines technical excellence with great customer service and value for money.
- We value creativity and collaboration; ideas are shared and everybody contributes on an individual basis toward the common goal.

We create new teams for each project, ensuring the best possible combination of skills and experience to meet the client's needs and deliver high quality solutions.

2. INTRODUCTION TO DGPS



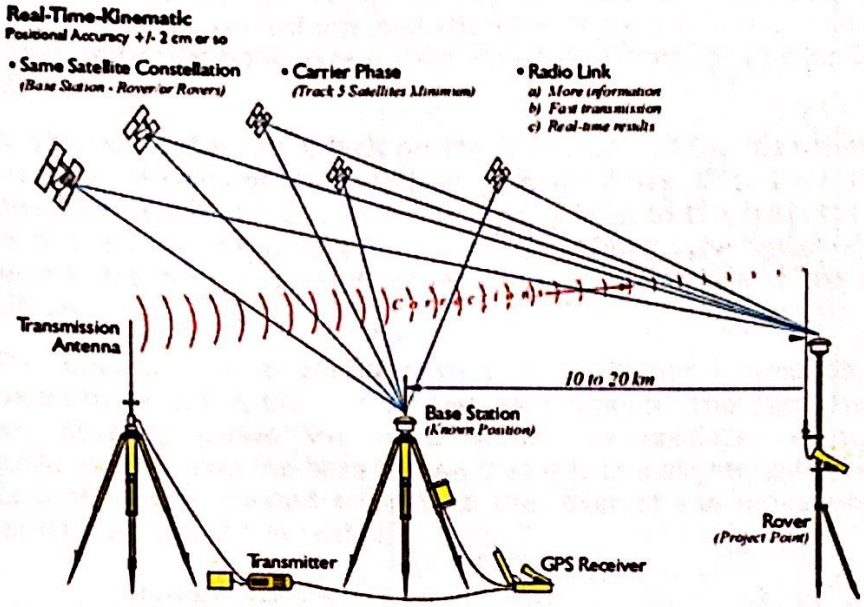
The term DGPS is sometimes used to refer to differential GPS that is based on pseudo ranges, aka code phase. Even though the accuracy of code phase applications was given a boost with the elimination of Selective Availability (SA) in May 2000 consistent accuracy better than the 2-5-meter range still requires reduction of the effect of correlated ephemeris and atmospheric errors by differential corrections. Though the corrections could be applied in post-processing services that supply these corrections, most often operate in real-time. In such an operation pseudo range-based version can offer meter- or even sub meter results.

Usually, pseudo range corrections are broadcast from the base to the rover or rovers for each satellite in the visible constellation. Rovers with an appropriate input/output (I/O) port can receive the correction signal and calculate coordinates. The real-time signal comes to the receiver over a data link. It can originate at a project specific base station or it can come to the user through a service of which there are various categories. Some are open to all users and some are by subscription only. Coverage depends on the spacing of the beacons, aka transmitting base stations, their power, interference, and so forth. Some systems require two-way, some one-way, communication with the base stations. Radio systems, geostationary satellites, low-earth-orbiting.

SURVEY METHOD

1) RTK (Real Time Kinematic)

A. Real-time Kinematic



Most, not all, GPS surveying relies on the idea of differential positioning. The mode of a base or reference receiver at a known location logging data at the same time as a receiver at an unknown location together provide the fundamental information for the determination of accurate coordinates. While this basic approach remains today, the majority of GPS surveying is not done in the static post-processed mode. Post-processing is most often applied to control work. Now, the most commonly used methods utilize receivers on reference stations that provide correction signals to the end user via a data link sometimes over the Internet, radio signal, or cell phone and often in real-time.

In this category of GPS surveying work there is sometimes a distinction made between code- based and carrier-based solutions. In fact, most systems use a combination of code and carrier measurements so the distinction is more a matter of emphasis rather than an absolute difference. Well that's a bit of discussion about static surveying, but as you know, a good deal of GPS these days is done not static. Much work is now done with DGPS or real-time kinematic, RTK.

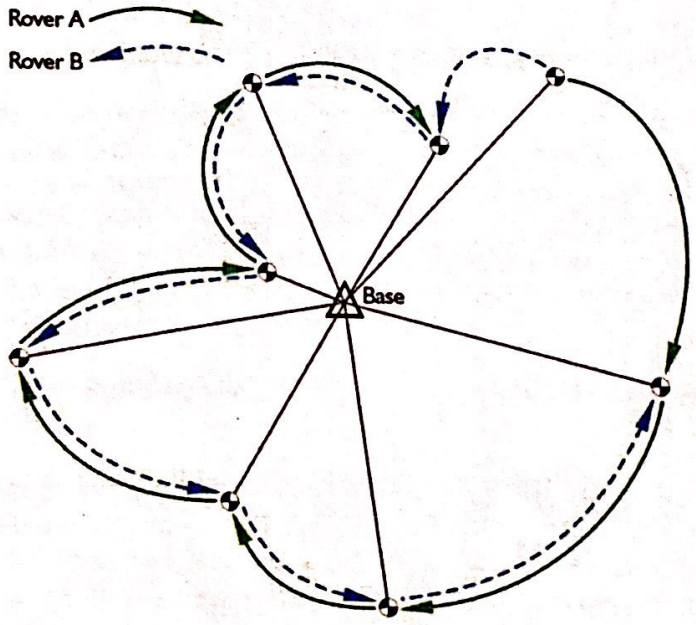
Errors in satellite clocks, imperfect orbits, the trip through the layers of the atmosphere, and many other sources contribute inaccuracies to GPS signals by the time they reach a receiver.

These errors are variable, so the best to way to correct them is to monitor them as they happen. A good way to do this is to set up a GPS receiver on a

station whose position is known exactly, a base station. This base station receiver's computer can calculate its position from satellite data, compare that position with its actual known position, and find the difference. The resulting error corrections can be communicated from the base to the rover. It works well, but the errors are constantly changing so a base station has to monitor them all the time, at least all the time the rover receiver or receivers are working. While this is happening, the rovers move from place to place collecting the points whose positions you want to know relative to the base station, which is the real objective after all. Then all you have to do is get those base station corrections and the rover's data together somehow. That combination can be done over a data link in real-time, or applied later in post processing.

Real-time positioning is built on the foundation of the idea that, with the important exceptions of multipath and receiver noise, GPS error sources are correlated. In other words, the closer the rover is to the base the more the errors at the ends of the baseline match. The shorter the baseline, the more the errors are correlated. The longer the baseline, the less the errors are correlated.

The base station is at a known point, whether it was on a building permanently or it's a tripod mounted base station. The fact that it is in a known position allows the base station to produce corrections. The constellation is telling the base station that it is in a slightly different place, so corrections can be created to send to the rover at the unknown point. The corrections are applied in real time.



RADIAL GPS

Such real-time surveying is essentially radial. There are advantages to the approach. The advantage is a large number of positions can be established in a short amount of time with little or no planning. The disadvantage is that there is little or no redundancy in positions derived, each of the baselines originates from the same control station. Redundancy can be incorporated, but it requires repetition of the observations so each baseline is determined with more than one GPS constellation. One way to do it is to occupy the

project points, the unknown positions, successively with more than one rover. It is best if these successive occupations are separated by at least 4 hours and not more than 8 hours so the satellite constellation can reach a significantly different configuration.

RTK and DGPS are radial. You have a known point in the middle, the base, and then the unknown points around it. This provides little geometric solidity. If there's an error in one of these radial base lines, it would be tough to catch it because there's no real redundancy. The illustration shows a way around this difficulty. There are two receivers, A and B, and it's possible by double occupation, one receiver going one way and the other going the other, by double occupying the unknown points to get some redundancy and some checks against the positions from a base. Another way to do it is to use one receiver. That receiver would occupy each point twice with four to eight hours between the first occupation and the second occupation on the point. Another way is to move the base to another known point. Then if you have vectors from another base into these points, you have a check. This approach allows a solution to be available from two separate control stations. Obviously, this can be done with re-occupation of the project points after one base station has been moved to a new control point, or two base stations can be up and running from the very outset and throughout of the work as would be the case using two CORS stations. It is best if there are both two occupations on each point and each of the two utilize different base stations.

A more convenient but less desirable approach is to do a second occupation almost immediately after the first. The roving receiver's antenna is blocked or tilted until the lock on the satellites is interrupted. It is then re-oriented on the unknown position a second time for the repeat solution. This does offer a second solution, but from virtually the same constellation.

More efficiency can be achieved by adding additional roving receivers. However, as the number of receivers rises, the logistics become more complicated, and a survey plan becomes necessary. Also, project points that are simultaneously near one another but far from the control station should be directly connected with a baseline to maintain the integrity of the survey. Finally, if the base receiver loses lock and it goes unnoticed, it will completely defeat the radial survey for the time it is down.

These are a few possibilities to consider when you are doing a real-time survey.

An advantage to continuously operating reference station network is that since those bases are operating simultaneously and all the time, it's possible to download the positions from more than one base and process your new position based on these continuously operating reference stations and have some redundancy.

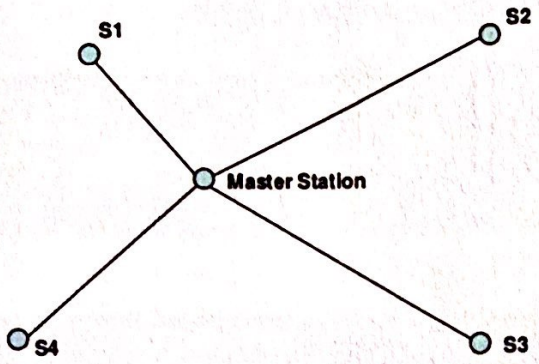
वन परिक्षेत्राअधिकारी
वन परिक्षेत्र, चांपा

उप वन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

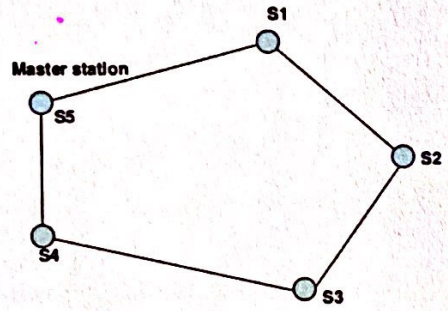
2) STATIC METHOD

I. Rapid Static Method



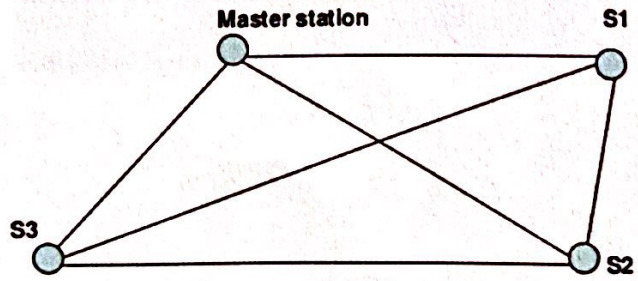
Schematic diagram of Rapid Static Method

II.Traverse Method



Schematic diagram of Traverse method

III. Trilateration Method

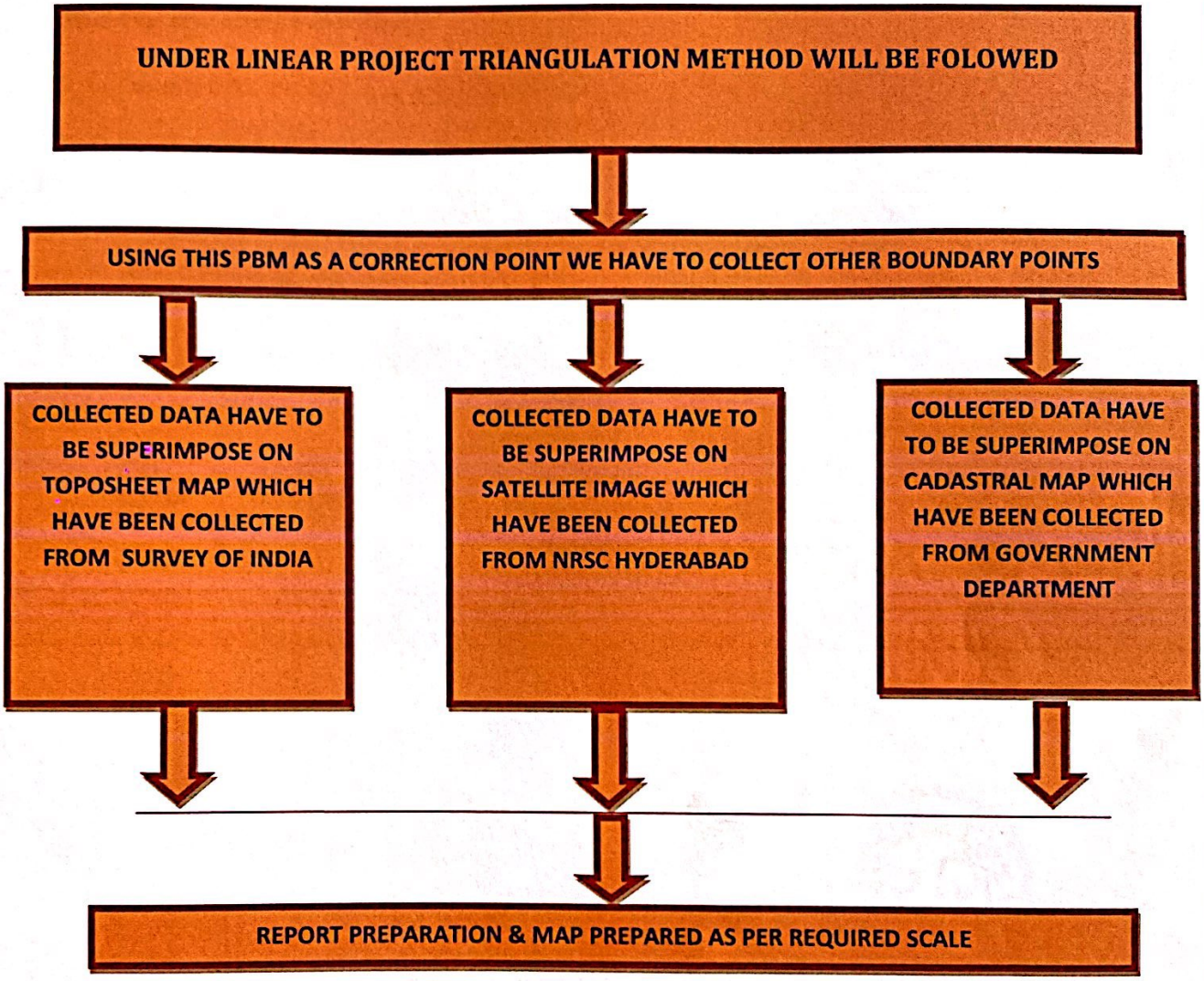


Trilateration method

3. METHODOLOGY USED

Following Methodology have been adopted for DGPS Survey of the proposed site.

SURVEY METHODLOGY UNDER LINEAR PROJECT



4. DETAILS OF SURVEYED SITE

The surveyed area for **Approach Road, Vehicle Parking and open space for plantation,** which comes under **Block Sakti, District Janjgir Champa and Chhattisgarh**. Champa Bus Stand longitude latitude is **82°40'8.54"E 22° 2'2.68"N.** Survey site is located **23.5 Km** from **Champa Bus Stand**. Survey site comes under **Forest Division Janjgir Champa, Forest Range Champa and Forest Circle Bilaspur.**

It is covered in Survey of India Toposheet No. **64K13**.

Details of area surveyed and land details are given below:

AREA DETAILS & LAND CLASSIFICATION

Sr.No.	District Name	Forest Division Name	Land Type	Components	Village Name	Compartment Name	Area (In Hectare)
1	Janjgir-Champa	Janjgir-Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
Total							**0.997**

वन परिक्षेत्राधिकारी
वन परिक्षेत्र, चांपा

उप वन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

5. CONTROL POINTS

Primary Control Point (Fixing of Base Station Point)

Details of primary control points used for fixing of Base Station Point are given below.

Primary Control Point (Fixing of Base Station Point)

Point ID	Geographical Coordinates		UTM Coordinates		
	Longitude	Latitude	East	North	Height
1	82° 50' 1.941" E	21° 58' 51.690" N	689342.462000	2431861.156000	252.778
2	82° 50' 2.903" E	21° 58' 53.465" N	689369.417000	2431916.084000	252.579
3	82° 50' 3.030" E	21° 58' 53.214" N	689373.145000	2431908.384000	255.956
4	82° 50' 5.483" E	21° 58' 55.748" N	689442.592000	2431987.187000	255.307

Surveyed Ground Control Points

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
1	L1	82° 50' 2.087" E	21° 58' 51.428" N	689346.755296	2431853.141920	254.000
2	R1	82° 50' 2.597" E	21° 58' 51.216" N	689361.450194	2431846.799340	254.000
3	L2	82° 50' 2.137" E	21° 58' 52.119" N	689347.927799	2431874.416700	254.000
4	R2	82° 50' 2.658" E	21° 58' 52.087" N	689362.905732	2431873.603350	254.000
5	L3	82° 50' 2.195" E	21° 58' 53.019" N	689349.275953	2431902.104840	252.635
6	R3	82° 50' 2.717" E	21° 58' 52.991" N	689364.260562	2431901.425500	252.026
7	L4	82° 50' 2.257" E	21° 58' 53.894" N	689350.715849	2431929.033510	251.927
8	R4	82° 50' 2.778" E	21° 58' 53.854" N	689365.679475	2431927.989540	251.992
9	L5	82° 50' 2.328" E	21° 58' 54.664" N	689352.487616	2431952.757080	251.949
10	R5	82° 50' 2.849" E	21° 58' 54.620" N	689367.441495	2431951.581700	251.842
11	L6	82° 50' 2.403" E	21° 58' 55.428" N	689354.335319	2431976.264750	251.919
12	R6	82° 50' 2.912" E	21° 58' 55.270" N	689369.014914	2431971.599760	251.451
13	L7	82° 50' 3.018" E	21° 58' 56.365" N	689371.631167	2432005.319150	251.786
14	R7	82° 50' 3.469" E	21° 58' 56.119" N	689384.671664	2431997.900720	251.803
15	L8	82° 50' 3.661" E	21° 58' 57.439" N	689389.687158	2432038.568590	251.612
16	R8	82° 50' 4.087" E	21° 58' 57.151" N	689402.028366	2432029.862450	251.317
17	L9	82° 50' 4.448" E	21° 58' 58.238" N	689411.970132	2432063.404830	250.979
18	R9	82° 50' 4.805" E	21° 58' 57.880" N	689422.348406	2432052.510830	251.033
19	L10	82° 50' 5.066" E	21° 58' 58.695" N	689429.526334	2432077.675570	254.000
20	R10	82° 50' 5.654" E	21° 58' 58.508" N	689446.481762	2432072.137990	253.000
21	L1/1	82° 50' 1.866" E	21° 58' 51.523" N	689340.374000	2431855.976000	197.207
22	L1/2	82° 50' 1.771" E	21° 58' 52.074" N	689337.467000	2431872.901000	196.582
23	L1/3	82° 50' 1.846" E	21° 58' 53.270" N	689339.174000	2431909.701000	196.215
24	L1/4	82° 50' 1.892" E	21° 58' 54.076" N	689340.196000	2431934.530000	196.137
25	L1/5	82° 50' 1.986" E	21° 58' 54.667" N	689342.672000	2431952.732000	196.315

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
26	L1/6	82° 50' 1.981" E	21° 58' 55.571" N	689342.187000	2431980.523000	196.231
27	L1/7	82° 50' 2.027" E	21° 58' 56.305" N	689343.242000	2432003.109000	196.186
28	L1/8	82° 50' 1.920" E	21° 58' 57.512" N	689339.721000	2432040.206000	196.208
29	L1/9	82° 50' 1.667" E	21° 58' 58.504" N	689332.093000	2432070.645000	196.170
30	L1/10	82° 50' 1.558" E	21° 58' 58.736" N	689328.874235	2432077.725670	255.000

Computer Print R.P Raipur (C.G.)

वन परिक्षेत्राअधिकारी
वन परिक्षेत्र, चांपा

उप वन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

6. SURVEY DATE

Survey Date	Observation	Survey Time	Village
27-07-2021	Base Observation	12:30 PM To 02.30 PM	Chhita Pandariya Bhag - 2
28-07-2021	Pillar Survey	10:30 AM To 12:00 PM	
24-12-2021	Base Observation	10:00 AM To 12.00 PM	
	Pillar Survey	12:30 PM To 05:00 PM	

Weather was pleasant with clear sun light. Survey point marking and temporary pillar posting has been done by a team of **Computer Plus.** Comprising of following members:

1. Mr. Kishor Sahu
2. Mr. Rakesh Ratre
3. Mr. S. Rohit Kumar
4. Mr. Sanjay Gardiya
5. Mr. Amit Loha

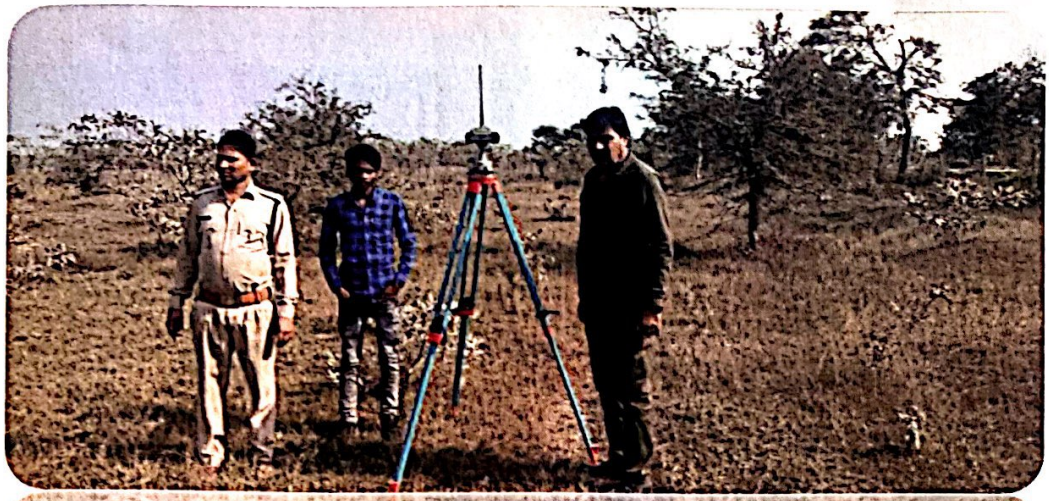
The team was headed by **Mr. Kishor Sahu** and Report is prepared by **T.Preeti**.

➢ **Base Station Photographs**

वन परिक्षेत्राअधिकारी
वन परिक्षेत्र, चांपा

उप वन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल



- **Survey Photographs with Staff**

Thank You!

DGPS SURVEY & REPORT PREPARED BY:

COMPUTER PLUS

Software Development & Consultancy

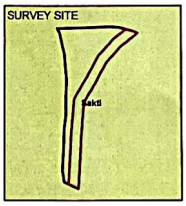
Plot No. 4 Sector-1, Devendra Nagar
Raipur (C.G.) 492001
Phone No: 0771 4031077 M: 7587113793
E-mail: info@cplus.in Website: www.cplus.in

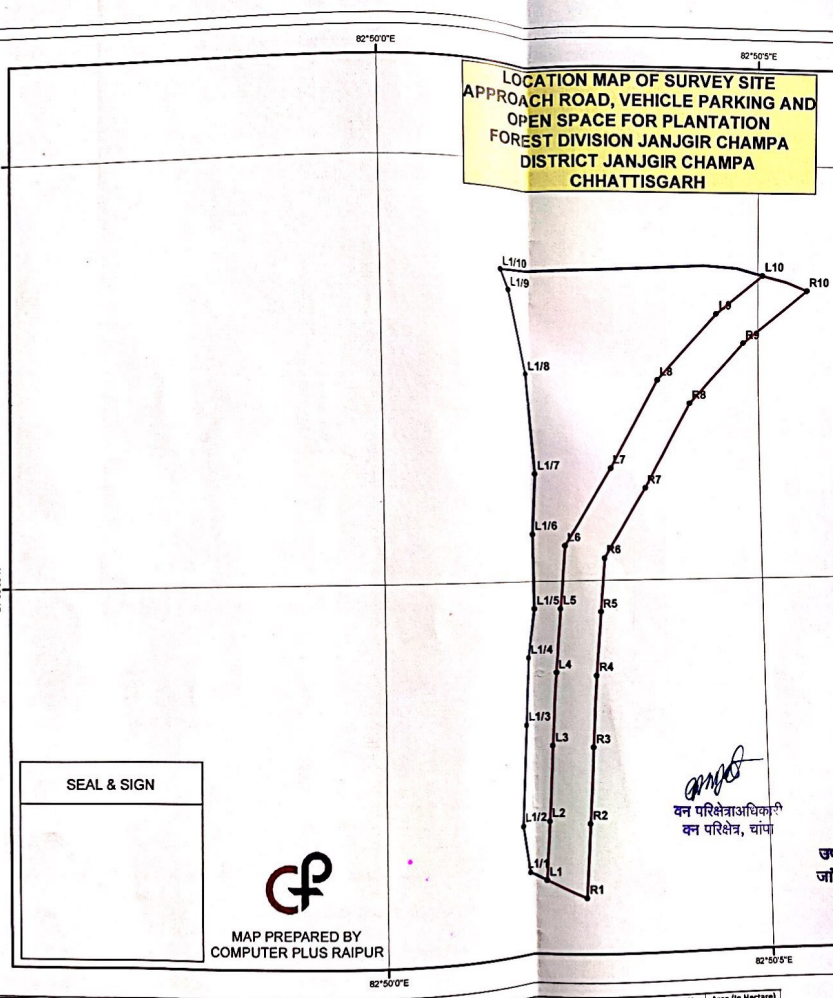
Service providing

- GPS & DGPS Land Survey
- GIS ANALYSIS WORKS
- GIS MAPPING & TOPOLOGICAL SURVEY
- MAP DIGITIZATION
- SOFTWARE DEVELOPMENT& WEB DESIGNING
- MOBILE & WEB APPS
- DATA ANALYSIS WORK

LOCATION MAP OF SURVEY SITE APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION FOREST DIVISION JANJGIR CHAMPA DISTRICT JANJGIR CHAMPA CHHATTISGARH

INDEX





SEAL & SIGN

MAP PREPARED BY
COMPUTER PLUS RAIPUR

वन परिक्षेत्राधिकारी
वन परिक्षेत्र, चांपा

उप वन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

Legend
- Surveyed Ground Control Points

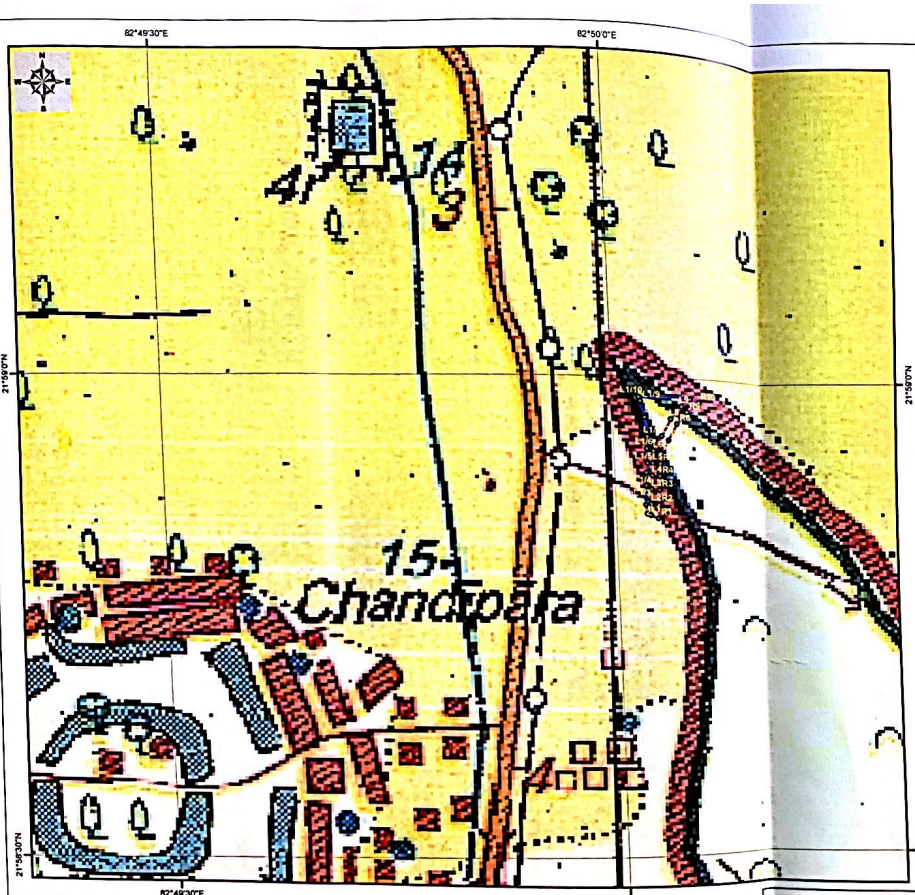
Survey Site Total Area : 0.997 (In Hectare)
- Approach Raod Area : 0.379 (In Hectare)
- Vehicle Parking and open space for plantation Area : 0.618 (In Hectare)

Sr.No.	District	Division	Land Type	Land Description	Village	Compartment No.	Area (In Hectare)
1	Janjgir- Champa	Janjgir- Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
				Total			0.997

Scale
1:1,500
1 centimeter = 15 meters
0 10 20 40 60 80 Meters

Geographic Coordinate Systems
WGS 1984
Projected Coordinate Systems
WGS 1984 UTM Zone 44N

GEO REFERENCE SURVEY SITE ON SOI TOPOSHEET
APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION
FOREST DIVISION JANJGIR CHAMPA
DISTRICT JANJGIR CHAMPA
CHHATTISGARH



SURVEYED GROUND CONTROL POINTS

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
1	L1	82° 50' 2.087" E	21° 58' 51.428" N	689346.755296	2431853.141920	254.000
2	R1	82° 50' 2.597" E	21° 58' 51.216" N	689361.450194	2431846.799340	254.000
3	L2	82° 50' 2.137" E	21° 58' 52.119" N	689347.927799	2431874.416700	254.000
4	R2	82° 50' 2.658" E	21° 58' 52.087" N	689362.905732	2431873.603350	254.000
5	L3	82° 50' 2.195" E	21° 58' 53.019" N	689349.275953	2431902.104840	252.635
6	R3	82° 50' 2.717" E	21° 58' 52.991" N	689364.260562	2431901.425500	252.026
7	L4	82° 50' 2.257" E	21° 58' 53.894" N	689350.715849	2431929.033510	251.927
8	R4	82° 50' 2.778" E	21° 58' 53.854" N	689365.679475	2431927.989540	251.992
9	L5	82° 50' 2.328" E	21° 58' 54.664" N	689352.487616	2431952.757080	251.949
10	R5	82° 50' 2.849" E	21° 58' 54.620" N	689367.441495	2431951.581700	251.842
11	L6	82° 50' 2.403" E	21° 58' 55.428" N	689354.335319	2431976.264750	251.919
12	R6	82° 50' 2.912" E	21° 58' 55.270" N	689369.014914	2431971.599760	251.451
13	L7	82° 50' 3.018" E	21° 58' 56.365" N	689371.631167	2432005.319150	251.786
14	R7	82° 50' 3.469" E	21° 58' 56.119" N	689384.671664	2431997.900720	251.803
15	L8	82° 50' 3.661" E	21° 58' 57.439" N	689389.687158	2432038.568590	251.612
16	R8	82° 50' 4.087" E	21° 58' 57.151" N	689402.028366	2432029.862450	251.317
17	L9	82° 50' 4.448" E	21° 58' 58.238" N	689411.970132	2432063.404830	250.979
18	R9	82° 50' 4.805" E	21° 58' 57.880" N	689422.348406	2432052.510830	251.033
19	L10	82° 50' 5.066" E	21° 58' 58.695" N	689429.526334	2432077.675570	254.000
20	R10	82° 50' 5.654" E	21° 58' 58.508" N	689446.481762	2432072.137990	253.000
21	L1/1	82° 50' 1.866" E	21° 58' 51.523" N	689340.374000	2431855.976000	197.207
22	L1/2	82° 50' 1.771" E	21° 58' 52.074" N	689337.467000	2431872.901000	196.582
23	L1/3	82° 50' 1.846" E	21° 58' 53.270" N	689339.174000	2431909.701000	196.215
24	L1/4	82° 50' 1.892" E	21° 58' 54.076" N	689340.196000	2431934.530000	196.137
25	L1/5	82° 50' 1.986" E	21° 58' 54.667" N	689342.672000	2431952.732000	196.315
26	L1/6	82° 50' 1.981" E	21° 58' 55.571" N	689342.187000	2431980.523000	196.231
27	L1/7	82° 50' 2.027" E	21° 58' 56.305" N	689343.242000	2432003.109000	196.186
28	L1/8	82° 50' 1.920" E	21° 58' 57.512" N	689339.721000	2432040.206000	196.208
29	L1/9	82° 50' 1.667" E	21° 58' 58.504" N	689332.093000	2432070.645000	196.170
30	L1/10	82° 50' 1.558" E	21° 58' 58.736" N	689328.874235	2432077.725670	255.000

AREA DETAILS AND LAND CLASSIFICATION

Sr.No.	District	Division	Land Type	Land Description	Village	Compartment No.	Area (In Hectare)
1	Janjgir- Champa	Janjgir- Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
				Total			0.997

Legend
- Surveyed Ground Control Points

Survey Site Total Area : 0.997 (In Hectare)
- Approach Raod Area : 0.379 (In Hectare)
- Vehicle Parking and open space for plantation Area : 0.618 (In Hectare)

SOI TOPOSHEET MAP NO. : 64K13

RGB
- Red: Band_1
- Green: Band_2
- Blue: Band_3

Geographic Coordinate Systems
WGS 1984
Projected Coordinate Systems
WGS 1984 UTM Zone 44N

Scale
1:8,000
1 centimeter = 80 meters
0 50 100 200 300 400 Meters

MAP PREPARED BY
COMPUTER PLUS RAIPUR

SEAL & SIGNATURE

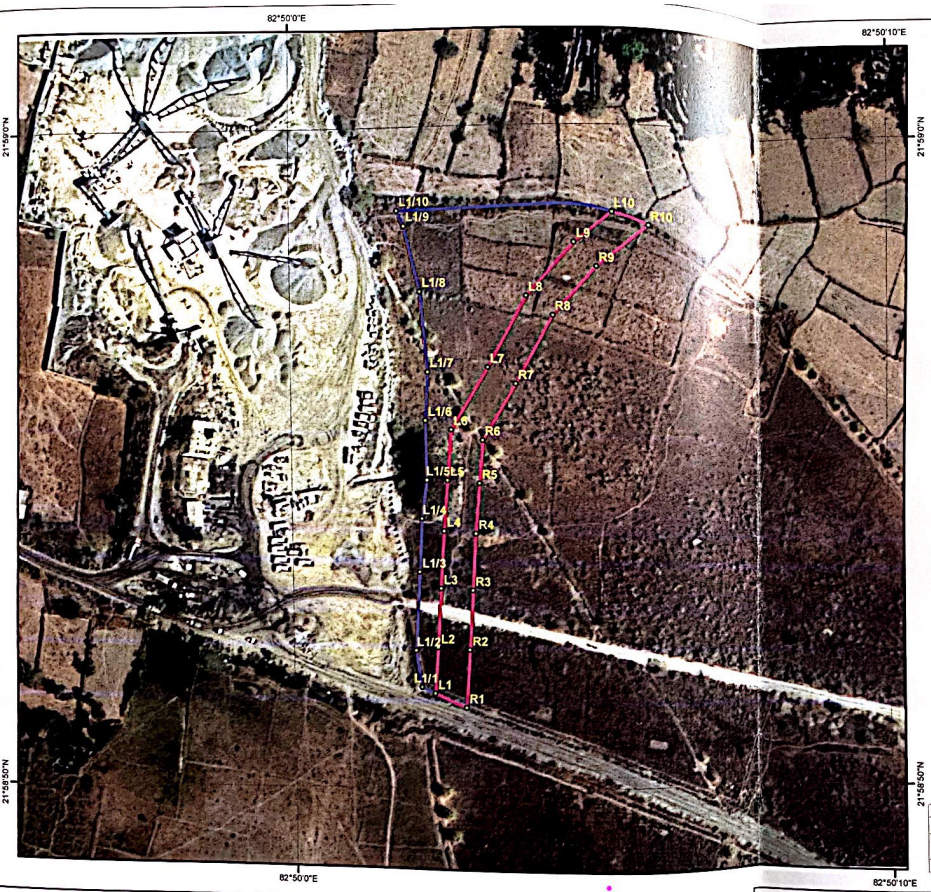
(Authorized Signatory)

वन परिक्षेत्राधिकारी
वन परिक्षेत्र, चांपा

उप वनमण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

SURVEY SITE SUPERIMPOSE ON GOOGLE IMAGE APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION FOREST DIVISION JANJGIR CHAMPA DISTRICT JANJGIR CHAMPA CHHATTISGARH



SURVEYED GROUND CONTROL POINTS

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
1	L1	82° 50' 2.087" E	21° 58' 51.428" N	689346.755296	2431853.141920	254.000
2	R1	82° 50' 2.597" E	21° 58' 51.216" N	689361.450194	2431846.799340	254.000
3	L2	82° 50' 2.137" E	21° 58' 52.119" N	689347.927799	2431874.416700	254.000
4	R2	82° 50' 2.658" E	21° 58' 52.087" N	689362.905732	2431873.603350	254.000
5	L3	82° 50' 2.195" E	21° 58' 53.019" N	689349.275953	2431902.104840	252.635
6	R3	82° 50' 2.717" E	21° 58' 52.991" N	689364.260562	2431901.425500	252.026
7	L4	82° 50' 2.257" E	21° 58' 53.894" N	689350.715849	2431929.033510	251.927
8	R4	82° 50' 2.778" E	21° 58' 53.854" N	689365.679475	2431927.989540	251.992
9	L5	82° 50' 2.328" E	21° 58' 54.664" N	689352.487616	2431952.757080	251.949
10	R5	82° 50' 2.849" E	21° 58' 54.620" N	689367.441495	2431951.581700	251.842
11	L6	82° 50' 2.403" E	21° 58' 55.428" N	689354.335319	2431976.264750	251.919
12	R6	82° 50' 2.912" E	21° 58' 55.270" N	689369.014914	2431971.599760	251.451
13	L7	82° 50' 3.018" E	21° 58' 56.365" N	689371.631167	2432005.319150	251.786
14	R7	82° 50' 3.469" E	21° 58' 56.119" N	689384.671664	2431997.900720	251.803
15	L8	82° 50' 3.661" E	21° 58' 57.439" N	689389.687158	2432038.568590	251.612
16	R8	82° 50' 4.087" E	21° 58' 57.151" N	689402.028366	2432029.862450	251.317
17	L9	82° 50' 4.448" E	21° 58' 58.238" N	689411.970132	2432063.404830	250.979
18	R9	82° 50' 4.805" E	21° 58' 57.880" N	689422.348406	2432052.510830	251.033
19	L10	82° 50' 5.066" E	21° 58' 58.695" N	689429.526334	2432077.675570	254.000
20	R10	82° 50' 5.654" E	21° 58' 58.508" N	689446.481762	2432072.137990	253.000
21	L1/1	82° 50' 1.866" E	21° 58' 51.523" N	689340.374000	2431855.976000	197.207
22	L1/2	82° 50' 1.771" E	21° 58' 52.074" N	689337.467000	2431872.901000	196.582
23	L1/3	82° 50' 1.846" E	21° 58' 53.270" N	689339.174000	2431909.701000	196.215
24	L1/4	82° 50' 1.892" E	21° 58' 54.076" N	689340.196000	2431934.530000	196.137
25	L1/5	82° 50' 1.986" E	21° 58' 54.667" N	689342.672000	2431952.732000	196.315
26	L1/6	82° 50' 1.981" E	21° 58' 55.571" N	689342.187000	2431980.523000	196.231
27	L1/7	82° 50' 2.027" E	21° 58' 56.305" N	689343.242000	2432003.109000	196.186
28	L1/8	82° 50' 1.920" E	21° 58' 57.512" N	689339.721000	2432040.206000	196.208
29	L1/9	82° 50' 1.667" E	21° 58' 58.504" N	689332.093000	2432070.645000	196.170
30	L1/10	82° 50' 1.558" E	21° 58' 58.736" N	689328.874235	2432077.725670	255.000

AREA DETAILS AND LAND CLASSIFICATION

Sr.No.	District	Division	Land Type	Land Description	Village	Compartment No.	Area (In Hectare)
1	Janjgir- Champa	Janjgir- Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
				Total			0.997

Legend

- Surveyed Ground Control Points

Survey Site Total Area : 0.997 (In Hectare)

- Approach Raod Area : 0.379 (In Hectare)
- Vehicle Parking and open space for plantation Area : 0.618 (In Hectare)

Google Image.jpg

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

Geographic Coordinate Systems
WGS 1984
Projected Coordinate Systems
WGS 1984 UTM Zone 44N

Scale
1:2,000
1 centimeter = 20 meters

0 15 30 60 90 120 Meters

SEAL & SIGNATURE

(Authorized Signatory)

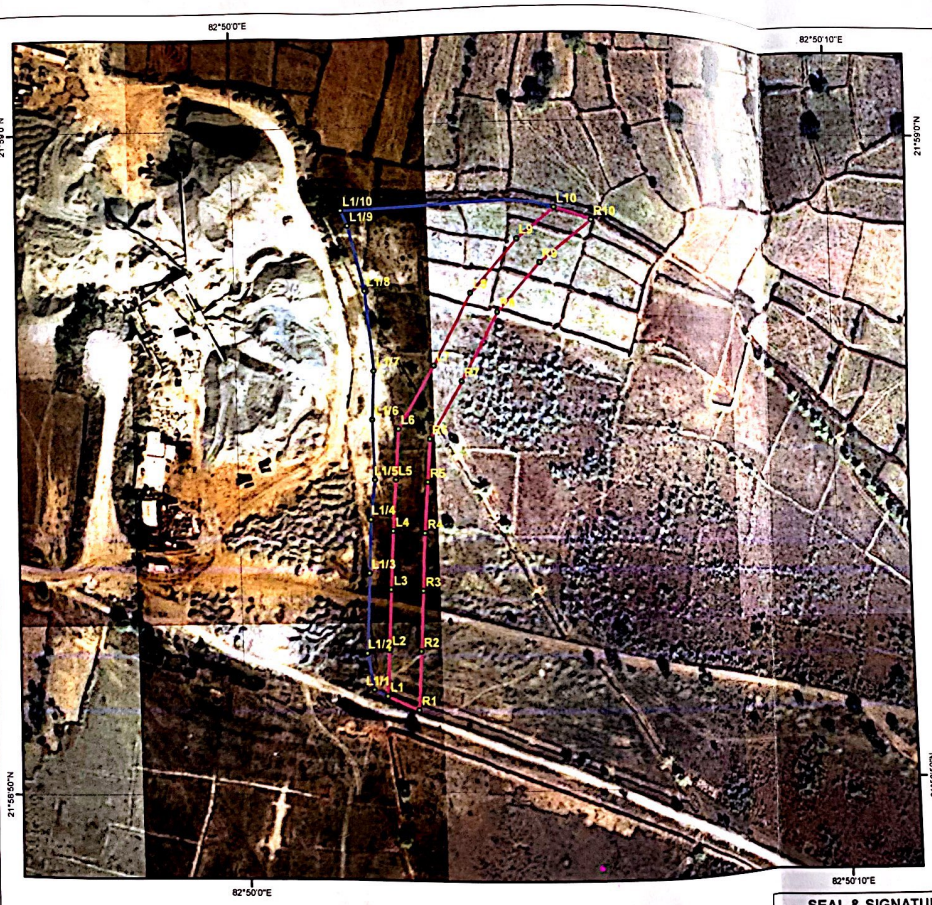
MAP PREPARED BY
COMPUTER PLUS RAIPUR

वन परिक्षेत्राधिकारी
वन परिक्षेत्र, चांपा

उप वन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

SURVEY SITE ON SATELLITE IMAGE APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION FOREST DIVISION JANJGIR CHAMPA DISTRICT JANJGIR CHAMPA CHHATTISGARH



SURVEYED GROUND CONTROL POINTS

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
1	L1	82° 50' 2.087" E	21° 58' 51.428" N	689346.755296	2431853.141920	254.000
2	R1	82° 50' 2.597" E	21° 58' 51.216" N	689361.450194	2431846.799340	254.000
3	L2	82° 50' 2.137" E	21° 58' 52.119" N	689347.927799	2431874.416700	254.000
4	R2	82° 50' 2.658" E	21° 58' 52.087" N	689362.905732	2431873.603350	254.000
5	L3	82° 50' 2.195" E	21° 58' 53.019" N	689349.275953	2431902.104840	252.635
6	R3	82° 50' 2.717" E	21° 58' 52.991" N	689364.260562	2431901.425500	252.026
7	L4	82° 50' 2.257" E	21° 58' 53.894" N	689350.715849	2431929.033510	251.927
8	R4	82° 50' 2.778" E	21° 58' 53.854" N	689365.679475	2431927.989540	251.992
9	L5	82° 50' 2.328" E	21° 58' 54.664" N	689352.487616	2431952.757080	251.949
10	R5	82° 50' 2.849" E	21° 58' 54.620" N	689367.441495	2431951.581700	251.842
11	L6	82° 50' 2.403" E	21° 58' 55.428" N	689354.335319	2431976.264750	251.919
12	R6	82° 50' 2.912" E	21° 58' 55.270" N	689369.014914	2431971.599760	251.451
13	L7	82° 50' 3.018" E	21° 58' 56.365" N	689371.631167	2432005.319150	251.786
14	R7	82° 50' 3.469" E	21° 58' 56.119" N	689384.671664	2431997.900720	251.803
15	L8	82° 50' 3.661" E	21° 58' 57.439" N	689389.687158	2432038.568590	251.612
16	R8	82° 50' 4.087" E	21° 58' 57.151" N	689402.028366	2432029.862450	251.317
17	L9	82° 50' 4.448" E	21° 58' 58.238" N	689411.970132	2432063.404830	250.979
18	R9	82° 50' 4.805" E	21° 58' 57.880" N	689422.348406	2432052.510830	251.033
19	L10	82° 50' 5.066" E	21° 58' 58.695" N	689429.526334	2432077.675570	254.000
20	R10	82° 50' 5.654" E	21° 58' 58.508" N	689446.481762	2432072.137990	253.000
21	L1/1	82° 50' 1.866" E	21° 58' 51.523" N	689340.374000	2431855.976000	197.207
22	L1/2	82° 50' 1.771" E	21° 58' 52.074" N	689337.467000	2431872.901000	196.582
23	L1/3	82° 50' 1.846" E	21° 58' 53.270" N	689339.174000	2431909.701000	196.215
24	L1/4	82° 50' 1.892" E	21° 58' 54.076" N	689340.196000	2431934.530000	196.137
25	L1/5	82° 50' 1.986" E	21° 58' 54.667" N	689342.672000	2431952.732000	196.315
26	L1/6	82° 50' 1.981" E	21° 58' 55.571" N	689342.187000	2431980.523000	196.231
27	L1/7	82° 50' 2.027" E	21° 58' 56.305" N	689343.242000	2432003.109000	196.186
28	L1/8	82° 50' 1.920" E	21° 58' 57.512" N	689339.721000	2432040.206000	196.208
29	L1/9	82° 50' 1.667" E	21° 58' 58.504" N	689332.093000	2432070.645000	196.170
30	L1/10	82° 50' 1.558" E	21° 58' 58.736" N	689328.874235	2432077.725670	255.000

AREA DETAILS AND LAND CLASSIFICATION

Sr.No.	District	Division	Land Type	Land Description	Village	Compartment No.	Area (In Hectare)
1	Janjgir- Champa	Janjgir- Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
				Total			0.997

Legend

- Surveyed Ground Control Points

Survey Site Total Area : 0.997 (In Hectare)

- Approach Raod Area : 0.379 (In Hectare)
- Vehicle Parking and open space for plantation Area : 0.618 (In Hectare)

SATELLITE IMAGE

RGB

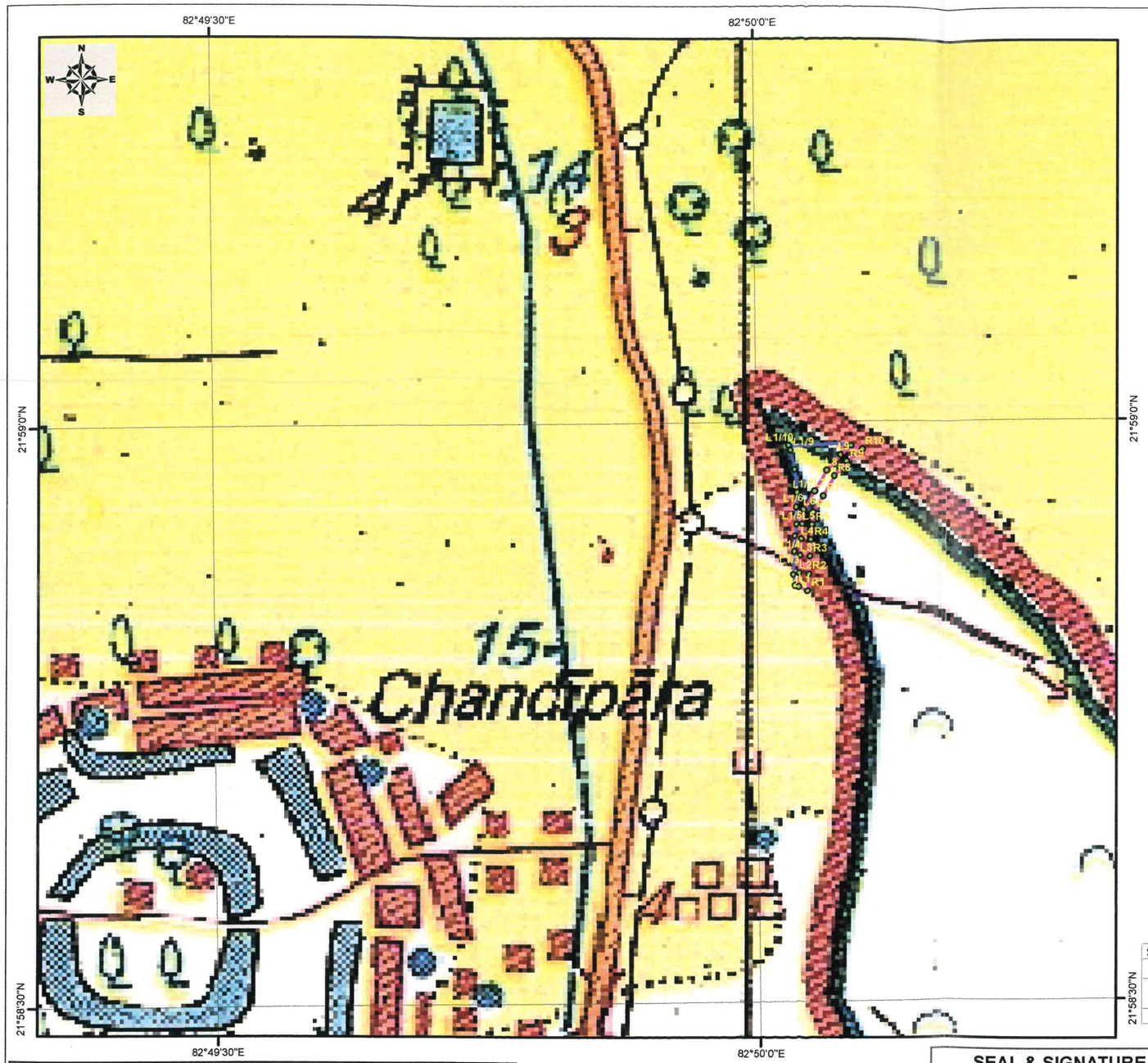
- Red: NONE
- Green: NONE
- Blue: NONE

Geographic Coordinate Systems
WGS 1984
Projected Coordinate Systems
WGS 1984 UTM Zone 44N

Scale
1:2,000
1 centimeter = 20 meters

0 15 30 60 90 120 Meters

SEAL & SIGNATURE	(Authorized Signatory)
MAP PREPARED BY COMPUTER PLUS RAIPUR	वन परिक्षेत्राधिकारी वन परिक्षेत्र, चांपा उप वन मण्डलाधिकारी जांजगीर-चांपा (छ.ग.) वनमंडलाधिकारी जांजगीर-चांपा वनमंडल



GEO REFERENCE SURVEY SITE ON SOI TOPOSHEET
APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION
FOREST DIVISION JANJGIR CHAMPA
DISTRICT JANJGIR CHAMPA
CHHATTISGARH

SURVEYED GROUND CONTROL POINTS

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
1	L1	82° 50' 2.087" E	21° 58' 51.428" N	689346.755296	2431853.141920	254.000
2	R1	82° 50' 2.597" E	21° 58' 51.216" N	689361.450194	2431846.799340	254.000
3	L2	82° 50' 2.137" E	21° 58' 52.119" N	689347.927799	2431874.416700	254.000
4	R2	82° 50' 2.658" E	21° 58' 52.087" N	689362.905732	2431873.603350	254.000
5	L3	82° 50' 2.195" E	21° 58' 53.019" N	689349.275953	2431902.104840	252.635
6	R3	82° 50' 2.717" E	21° 58' 52.991" N	689364.260562	2431901.425500	252.026
7	L4	82° 50' 2.257" E	21° 58' 53.894" N	689350.715849	2431929.033510	251.927
8	R4	82° 50' 2.778" E	21° 58' 53.854" N	689365.679475	2431927.989540	251.992
9	L5	82° 50' 2.328" E	21° 58' 54.664" N	689352.487616	2431952.757080	251.949
10	R5	82° 50' 2.849" E	21° 58' 54.620" N	689367.441495	2431951.581700	251.842
11	L6	82° 50' 2.403" E	21° 58' 55.428" N	689354.335319	2431976.264750	251.919
12	R6	82° 50' 2.912" E	21° 58' 55.270" N	689369.014914	2431971.599760	251.451
13	L7	82° 50' 3.018" E	21° 58' 56.365" N	689371.631167	2432005.319150	251.786
14	R7	82° 50' 3.469" E	21° 58' 56.119" N	689384.671664	2431997.900720	251.803
15	L8	82° 50' 3.661" E	21° 58' 57.439" N	689389.687158	2432038.568590	251.612
16	R8	82° 50' 4.087" E	21° 58' 57.151" N	689402.028366	2432029.862450	251.317
17	L9	82° 50' 4.448" E	21° 58' 58.238" N	689411.970132	2432063.404830	250.979
18	R9	82° 50' 4.805" E	21° 58' 57.880" N	689422.348406	2432052.510830	251.033
19	L10	82° 50' 5.066" E	21° 58' 58.695" N	689429.526334	2432077.675570	254.000
20	R10	82° 50' 5.654" E	21° 58' 58.508" N	689446.481762	2432072.137990	253.000
21	L1/1	82° 50' 1.866" E	21° 58' 51.523" N	689340.374000	2431855.976000	197.207
22	L1/2	82° 50' 1.771" E	21° 58' 52.074" N	689337.467000	2431872.901000	196.582
23	L1/3	82° 50' 1.846" E	21° 58' 53.270" N	689339.174000	2431909.701000	196.215
24	L1/4	82° 50' 1.892" E	21° 58' 54.076" N	689340.196000	2431934.530000	196.137
25	L1/5	82° 50' 1.986" E	21° 58' 54.667" N	689342.672000	2431952.732000	196.315
26	L1/6	82° 50' 1.981" E	21° 58' 55.571" N	689342.187000	2431980.523000	196.231
27	L1/7	82° 50' 2.027" E	21° 58' 56.305" N	689343.242000	2432003.109000	196.186
28	L1/8	82° 50' 1.920" E	21° 58' 57.512" N	689339.721000	2432040.206000	196.208
29	L1/9	82° 50' 1.667" E	21° 58' 58.504" N	689332.093000	2432070.645000	196.170
30	L1/10	82° 50' 1.558" E	21° 58' 58.736" N	689328.874235	2432077.725670	255.000

AREA DETAILS AND LAND CLASSIFICATION

Sr.No.	District	Division	Land Type	Land Description	Village	Compartment No.	Area (In Hectare)
1	Janjgir- Champa	Janjgir- Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
Total							0.997

Legend

- Surveyed Ground Control Points

Survey Site Total Area : 0.997 (In Hectare)

- Approach Raod Area : 0.379 (In Hectare)
- Vehicle Parking and open space for plantation Area : 0.618 (In Hectare)

SOI TOPOSHEET MAP NO. : 64K13

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

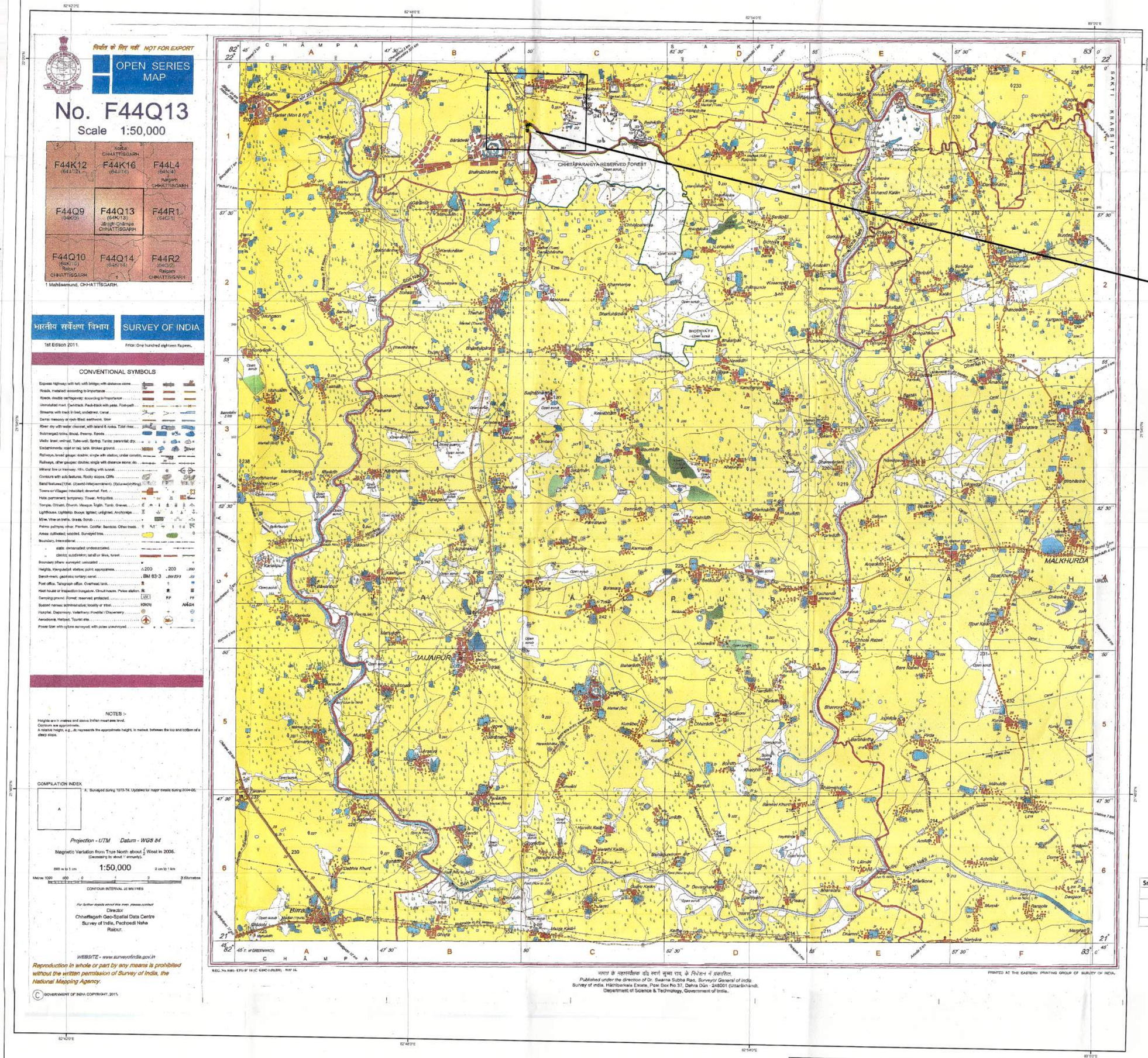
Geographic Coordinate Systems
WGS 1984
Projected Coordinate Systems
WGS 1984 UTM Zone 44N

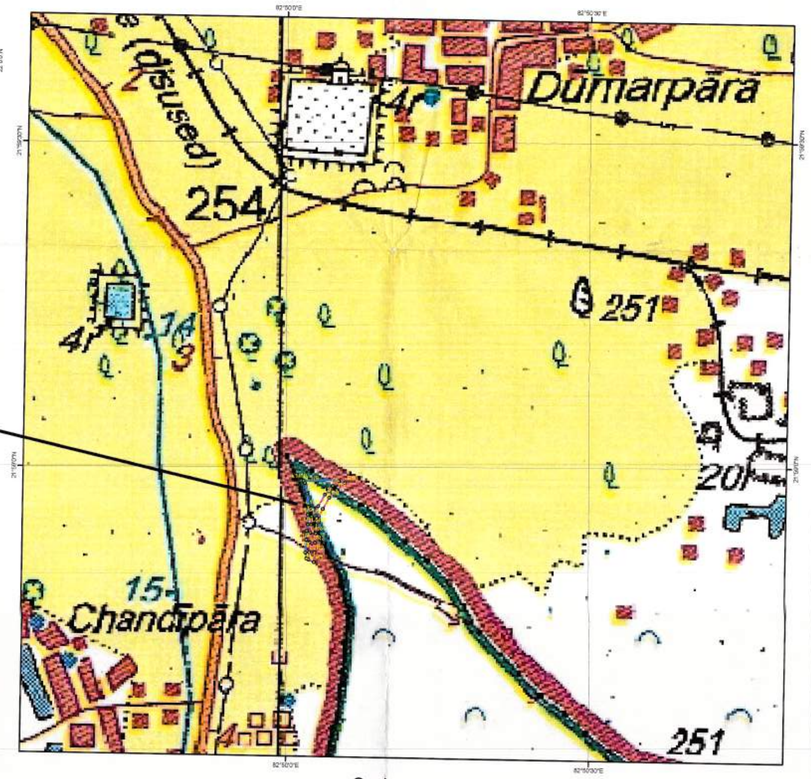
Scale
1:8,000
1 centimeter = 80 meters

0 50 100 200 300 400 Meters

SEAL & SIGNATURE	(Authorized Signatory)
MAP PREPARED BY COMPUTER PLUS RAIPUR	वन परिक्षेत्राधिकारी वन परिक्षेत्र, चांपा उप वन मण्डलाधिकारी जांजगीर-चांपा (छ.ग.) वनमंडलाधिकारी जांजगीर-चांपा वनमंडल

SURVEY SITE ON SOI TOPOSHEET No .: 64K13
APPROACH ROAD, VEHICLE PARKING AND OPEN SPACE FOR PLANTATION
FOREST DIVISION JANJGIR CHAMPA
DISTRICT JANJGIR CHAMPA
CHHATTISGARH





Scale
1:8,000
1 centimeter = 80 meters

0 160 320 640 960 Meters 1,280

SURVEYED GROUND CONTROL POINTS

Sr.No.	Point ID	Geographical Coordinates		UTM Coordinates		
		Longitude	Latitude	Easting	Northing	Height
1	L1	82° 50' 2.087" E	21° 58' 51.428" N	689346.755296	2431853.141920	254.000
2	R1	82° 50' 2.597" E	21° 58' 51.216" N	689361.450194	2431846.799340	254.000
3	L2	82° 50' 2.137" E	21° 58' 52.119" N	689347.927799	2431874.416700	254.000
4	R2	82° 50' 2.658" E	21° 58' 52.087" N	689362.905732	2431873.603350	254.000
5	L3	82° 50' 2.195" E	21° 58' 53.019" N	689349.275953	2431902.104840	252.635
6	R3	82° 50' 2.717" E	21° 58' 52.991" N	689364.260562	2431901.425500	252.026
7	L4	82° 50' 2.257" E	21° 58' 53.894" N	689350.715849	2431929.033510	251.927
8	R4	82° 50' 2.778" E	21° 58' 53.854" N	689365.679475	2431927.989540	251.992
9	L5	82° 50' 2.328" E	21° 58' 54.664" N	689352.487616	2431952.757080	251.949
10	R5	82° 50' 2.849" E	21° 58' 54.620" N	689367.441495	2431951.581700	251.842
11	L6	82° 50' 2.403" E	21° 58' 55.428" N	689354.335319	2431976.264750	251.919
12	R6	82° 50' 2.912" E	21° 58' 55.270" N	689369.014914	2431971.599760	251.451
13	L7	82° 50' 3.018" E	21° 58' 56.365" N	689371.631167	2432005.319150	251.786
14	R7	82° 50' 3.469" E	21° 58' 56.119" N	689384.671664	2431997.900720	251.803
15	L8	82° 50' 3.661" E	21° 58' 57.439" N	689389.687158	2432038.568590	251.612
16	R8	82° 50' 4.087" E	21° 58' 57.151" N	689402.028366	2432029.862450	251.317
17	L9	82° 50' 4.448" E	21° 58' 58.238" N	689411.970132	2432063.404830	250.979
18	R9	82° 50' 4.805" E	21° 58' 57.880" N	689422.348406	2432052.510830	251.033
19	L10	82° 50' 5.066" E	21° 58' 58.695" N	689429.526334	2432077.675570	254.000
20	R10	82° 50' 5.654" E	21° 58' 58.508" N	689446.481762	2432072.137990	253.000
21	L1/1	82° 50' 1.866" E	21° 58' 51.523" N	689340.374000	2431855.976000	197.207
22	L1/2	82° 50' 1.771" E	21° 58' 52.074" N	689337.467000	2431872.901000	196.582
23	L1/3	82° 50' 1.846" E	21° 58' 53.270" N	689339.174000	2431909.701000	196.215
24	L1/4	82° 50' 1.892" E	21° 58' 54.076" N	689340.196000	2431934.530000	196.137
25	L1/5	82° 50' 1.986" E	21° 58' 54.667" N	689342.672000	2431952.732000	196.315
26	L1/6	82° 50' 1.981" E	21° 58' 55.571" N	689342.187000	2431980.523000	196.231
27	L1/7	82° 50' 2.027" E	21° 58' 56.305" N	689343.242000	2432003.109000	196.186
28	L1/8	82° 50' 1.920" E	21° 58' 57.512" N	689339.721000	2432040.206000	196.208
29	L1/9	82° 50' 1.667" E	21° 58' 58.504" N	689332.093000	2432070.645000	196.170
30	L1/10	82° 50' 1.558" E	21° 58' 58.736" N	689328.874235	2432077.725670	255.000

AREA DETAILS AND LAND CLASSIFICATION

Sr.No.	District	Division	Land Type	Land Description	Village	Compartment No.	Area (In Hectare)
1	Janjgir- Champa	Janjgir- Champa	Reserve Forest	Approach Road	Chhita Pandariya Bhag - 2	RF42	0.379
2				Vehicle Parking and open Space for Plantation			0.618
				Total			0.997

Scale
1:8,000
1 centimeter = 80 meters

0 205 410 820 1,230 Meters 1,640

Geographic Coordinate Systems
WGS 1984
Projected Coordinate Systems
WGS 1984 UTM Zone 44N

Legend

- Surveyed Ground Control Points

Survey Site Total Area : 0.997 (In Hectare)

- Approach Raod Area : 0.379 (In Hectare)
- Vehicle Parking and open space for plantation Area : 0.618 (In Hectare)

SOI TOPOSHEET MAP NO. : 64K13

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

SEAL & SIGNATURE	(Authorized Signatory)
MAP PREPARED BY COMPUTER PLUS RAIPUR	जन परिक्षेत्राधिकारी जांजगीर-चांपा (छ.ग.) / उप वन मण्डलाधिकारी जांजगीर-चांपा (छ.ग.) / वनमंडलाधिकारी जांजगीर-चांपा वनमंडल

THIS MAP IS TO BE PRINTED IN A0 SIZE