

**BEFORE THE NATIONAL GREEN TRIBUNAL, PRINCIPAL
BENCH, NEW DELHI**

Original Application No 463/2022

In the Matter Of :

Vipin Nayyar

-Applicant

vs.

Union of India

-Respondent

NDOH: 25.03.2025

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Filed By

**DEEPAK BORA**

Counsel for the State of Uttarakhand
17, New Lawyers Chambers,
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New Delhi-110001
Mobile No. 9971578987

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--- Applicant

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--- Respondents

STATUS REPORT BY WAY OF AFFIDAVIT BY CHIEF ENGINEER, IRRIGATION DEPARTMENT, DEHRADUN, UTTARAKHAND IN COMPLIANCE OF DIRECTIONS PASSED BY THE HON'BLE NATIONAL GREEN TRIBUNAL VIDE ITS ORDER DATED 27.11.2024

I, **SHANKAR KUMAR SAHA S/O Late SHRI KIRTYANAND SAHA** aged about 57 years, presently posted as Chief Engineer, Irrigation Department, Dehradun, Uttarakhand, do hereby solemnly affirm on oath and state as under:

1. That in my above-mentioned official capacity, I am acquainted with the facts and circumstances of the present matter, and I am fully competent to file this Status Report by way of an Affidavit.



Shankar

2. That, the Hon'ble National Green Tribunal (NGT) vide its order dated 17.02.2025, was pleased to direct the Chief Engineer, Irrigation Department to file an additional report addressing the essential environmental question involved in the case regarding width of the Flood Plain Zone at the location of respondent no.6- Hotel Ganga Forest View and respondent no.7-Restaurant Hideout Café. The relevant paragraphs of the said order are as follows:

"1. Report dated 08.12.2024 has been filed by Chief Engineer, Irrigation Department, Dehradun. However, said report does not furnish information regarding width of the Flood Plain Zone at the location of respondent no.6- Hotel Ganga Forest View and respondent no.7-Restaurant Hideout Café and vague information has been given in the report.

2. Additional report be filed by Chief Engineer, Irrigation, Department, Dehradun at least three days before the next date of hearing fixed.

3. In view of the facts and circumstances we also consider personal appearance of Chief Engineer, Irrigation Department, Dehradun before this Tribunal physically or through VC to be essential for just and proper adjudication of the environmental question involved in the case. Accordingly, he is directed to remain present before this Tribunal with the relevant record on the next date of hearing fixed."

3. That, in accordance with the directives issued by the Hon'ble National Green Tribunal (NGT) it is being clarified that a hydraulic structure known as the Veerbhadra Barrage was constructed across the River Ganga at Pashulok, Rishikesh,



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approximately 1.66 kilometers downstream from Respondent No. 6—Hotel Ganga Forest View. This barrage, which spans a total length of 312 meters, was completed in the year 1980 to regulate the river's flow, hydropower generation of 144 MW at Chilla Powerhouse, Haridwar and serve various hydrological purposes.

4. As per Clause 5, titled "Design Flood Discharge," of the Indian Standard 6966 (Part 1): 1989, which provides guidelines on the hydraulic design of barrages and weirs (in alluvial reaches), a design flood discharge with a 50-year frequency period is generally considered adequate for structural design, except in cases where additional risks and hazards necessitate a more comprehensive review based on site-specific conditions. Furthermore, for designing the freeboard, the guidelines recommend adopting a minimum flood frequency of 500 years or the Standard Project Flood (SPF) to ensure the structural resilience of the barrage.
5. In alignment with these prescribed guidelines, the design discharge capacity of the Veerbhadra Barrage was determined to be 14,750 cubic meters per second (cumecs). Additionally, to ensure adequate freeboard and safeguard against extreme hydrological events, provisions were made to account for a 500-year frequency flood, considering historical data. Notably, the highest recorded flood discharge in the region was observed in the year 1924, when the river's flow peaked at 18,560 cumecs. This historical reference was taken

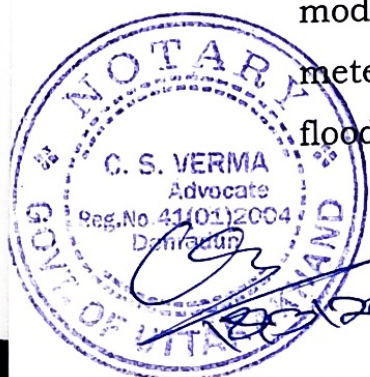


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into consideration while determining the necessary freeboard, ensuring that the barrage remains structurally sound and capable of withstanding extreme flood conditions.

6. The Veerbhadra Barrage has a reservoir that extends approximately 1.73 kilometers in length. Given this spatial extent, Respondent No. 6—Hotel Ganga Forest View is located outside the designated reservoir area of the barrage. The High Flood Level (HFL) corresponding to the design discharge of the barrage has been established at 336.0 meters above mean sea level (AMSL). Additionally, the maximum pond/reservoir level has been determined to be 336.5 meters AMSL. To ensure structural safety and flood resilience, the freeboard for a 500-year frequency flood has been maintained at 1.5 meters, taking into account the historical maximum flood discharge of 18,560 cubic meters per second (cumecs) recorded in the year 1924. Consequently, the top level of the barrage road has been constructed at 338.5 meters AMSL to accommodate extreme flood scenarios.

7. The Veerbhadra Barrage functions as a controlled hydraulic structure, ensuring that the reservoir level is regulated between the Minimum Drawdown Level (MDDL) of 333.15 meters AMSL and the maximum pond level of 336.50 meters AMSL. During the monsoon season, for the purpose of flood moderation, the normal pond level is maintained at 334.50 meters AMSL, helping in the systematic management of floodwaters and reducing the risk of overflow.



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8. The geographical layout of the barrage's upstream area is characterized by distinct terrain features on either side of the River Ganga. On the left bank, the river is bordered by hilly terrain, while on the right bank, the Rishikesh township is situated. Given the proximity of the township to the barrage, strategic measures have been implemented to protect residential and commercial areas from potential flooding due to reservoir ponding. Specifically, an embankment has been constructed with a top level of approximately 339.89 meters AMSL, which is more than 3.3 meters above the maximum pond level. This embankment serves the dual purpose of safeguarding the township from inundation and guiding the river flow towards the barrage spillway, thereby optimizing the controlled discharge mechanism.
9. Owing to the construction of the barrage as a regulated hydraulic structure, the floodplain zoning of the River Ganga, spanning from the Veerbhadra Barrage to its reservoir area (extending 1.66 km upstream), was not undertaken. This decision was based on the premise that the barrage effectively regulates the river discharge and floodwaters, thereby mitigating the necessity for conventional floodplain zoning in this specific stretch of the river.
10. The ground level of Respondent No. 6—Hotel Ganga Forest View has been recorded at 335.99 meters above mean sea level (AMSL), which is nearly equivalent to the High Flood

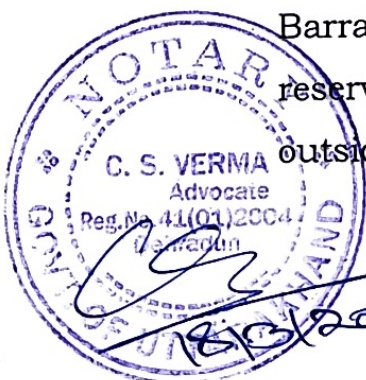


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Level (HFL) at Design Discharge. However, it is important to highlight that this location is sufficiently safeguarded by an embankment of adequate height, thereby reducing the risk of direct flooding and ensuring structural protection against extreme water levels.

11. Furthermore, the width of the River Ganga or the floodplain zone in the vicinity of Respondent No. 6—Hotel Ganga Forest View measures approximately 550 meters. This width is greater than the total length of the Veerbhadra Barrage, which suggests that the floodplain capacity in this particular stretch of the river is substantial, aiding in the effective dispersion and regulation of water flow. The Salient Features of the Veerbhadra Barrage, Pashulok, Rishikesh, which provides detailed structural and hydraulic specifications of the barrage, Cross-section of Respondent No. 6—Hotel Ganga Forest View, illustrating its topographical position in relation to the river and surrounding protective structures, and Google satellite imagery and on-site photographs, offering a visual representation of the location, floodplain, and existing embankments have been annexed herewith and marked as **Annexure A**, **Annexure B**, and **Annexure C** respectively.

12. That the Respondent No. 7—Restaurant Hideout Café is situated approximately 2.42 km upstream of the Veerbhadra Barrage, extending around 0.8 km beyond the designated reservoir area. This positioning places the establishment outside the immediate influence of the barrage-controlled



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reservoir levels, making its flood risk assessment reliant on natural river behavior and historical flood data.

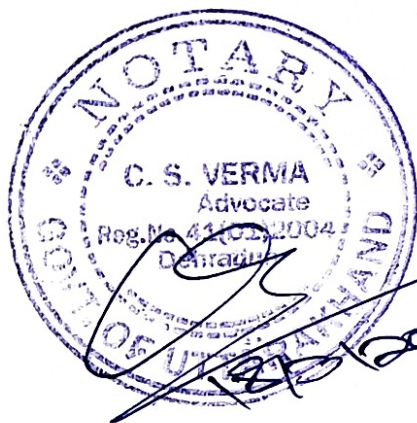
13. As per hydrological studies, the 100-year return period flood level of the River Ganga near Respondent No. 7—Restaurant Hideout Café is 341.05 meters above mean sea level (AMSL). In comparison, the level of Astha Path/Road in the vicinity has been recorded at 339.5 meters AMSL, while the ground level of the Respondent's premises stands significantly higher at 343.94 meters AMSL. This indicates that the ground level of the café is elevated by approximately 2.9 meters above the 100-year return period flood level, providing a natural buffer against potential flooding risks.
14. Furthermore, the width of the River Ganga and its floodplain zone near Respondent No. 7—Restaurant Hideout Café extends to approximately 1,200 meters. This broad floodplain serves as a natural channel for excess water dispersal during periods of high discharge, contributing to overall flood moderation in the area. The Cross-sectional diagram of Respondent No. 7—Restaurant Hideout Café, illustrating its elevation relative to the river and flood levels along with Google satellite imagery and on-site photographs, offering a visual representation of the floodplain, surrounding infrastructure, and topographical setting of the location have been annexed herewith and marked as **Annexure D** and **Annexure E** respectively.



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15. That the present response by way of an Affidavit in compliance with the direction passed by this Hon'ble Tribunal is being filed for the kind perusal of this Hon'ble Tribunal.


Asah
DEPONENT



VERIFICATION

I, the deponent above named, do hereby verify and say that the contents of my above report by way of the affidavit are true and correct to my knowledge based on the record, no part of it is false, and nothing material has been concealed therefrom. The legal submissions are further true as per legal advice received and believed to be true and correct.

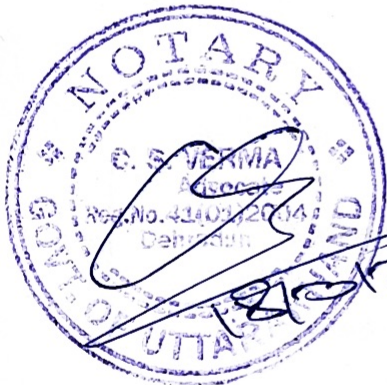
Verified by me at Dehradun, Uttarakhand, on this ^{NOTARY} 18th day of March 2025.

Identified by

10/3/25
Surinder Singh
Assistant Engineer
Irrigation Division Dehradun.



DEPONENT

SHANKAR KUMAR SAHA
Chief Engineer,
Irrigation Department,
Dehradun,
Uttarakhand



 Filed By

DEEPAK BORA

Counsel for the State of Uttarakhand

17, New Lawyers Chambers,

Setalvad Block,

Supreme Court of India

New Delhi-110001

Mobile No. 9971578987

Certified that
The deponent identified
Sworn & Verified the contents of the
Affidavit before me at Dehradun.
on dated 18/3/2025


C. S. VERMA
Notary Public
18/3/2025

entered at serial no 37
at 5:00 PM on 18/3/2025
register


Annexure A


2. SALIENT FEATURES


VIRBHADRA BARRAGE, PASHULOK, RISHIKESH

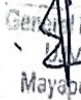
1. River	21400 Sq.km
(1) Catchment area	8450 Sq.km
(2) Snow catchment area at Barrage site.	18560cumec
(3) Maximum flood (1924)	1 in 435
(4) River Slope	1.2m
(5) Assumed design afflux	EL 336.0m
(6) Upstream H.F.L. for design discharge	EL 334.8m
(7) Downstream H.F.L. for design discharge	
2. Barrage	312m
(1) Length between abutments	EL 334.5m
(2) Normal pond level	EL 336.5m
(3) Maximum pond level	EL 333.15m
(4) Minimum pond level	7.5m
(5) Clear road width over bridge	EL 338.5m
(6) Level of road	14750cumec
(7) Design discharge of Barrage	8.10 MCM
(8) Pond Storage capacity	
3. Under sluices	84.0m
(1) Length between abutments	4 nos.
(2) Number of bays	18.0m
(3) Width of bays	3.0m
(4) Thickness of piers (3 nos)	(a) 18x8m
(5) Size of gates (4 nos) in two tiers	bottom tier
	(b) 18x3.15m top
	tier.
(6) Weight of gate	83.16 M.T.
(A) bottom tier	15.74 M.T.
(B) Top tier	EL 325.5m
(7) Crest level	195.0m
(8) Length of impervious floor	2.3m
(9) Depth of Upstream cut off	5m
(10) Depth of Downstream cut off	EL 321.0m
(11) Cistern level	1070cumec
(12) Discharging capacity at H.F.L. per bay appx.	

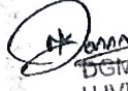




 Executive Engineer (I & M)
 UJVN Limited
 Pashulok Barrage
 Rishikesh


 Executive Engineer (Civil)
 UJVN Limited
 Pashulok Barrage
 Rishikesh


 General Manager (Civil-main.)
 UJVN Limited
 Gangga Bhawan, Dehra Dun


 General Manager (C.V.)
 UJVN Limited
 Mayapur, Haridwar


 DGM (CM-GV)
 UJVN Limited
 Mayapur, Haridwar


 Dy. General Manager
 Hydel Generation
 UJVN Limited
 Chilla, Pauri Garo



4.	Spillway bays	
	(1) Length between abutments	225.0m
	(2) Width of bays (11 nos)	18.0m
	(3) Thickness of piers (10 nos)	2.7m
	(4) Size of gates (11 nos) (Clear)	18x10.15m
	(5) Weight of gate	76.77 MT
	(6) Crest level	EL 326.5 m
	(7) Length of impervious floor	179.0m
	(8) Depth of Upstream cut off	2.3m
	(9) Depth of Downstream cut off	4.75m
	(10) Cistern level	EL 321.75m
	(11) Discharging capacity at H.F.L. per bay appx.	960cumec
5.	Silt Excluder	
	(1) Width of tunnels at entrance (6nos)	2 nos 3.2 m wide 2 nos 3.1 m wide 2 nos 2.5 m wide.
	(2) Width of tunnels at exit	2.5m wide
	(3) Height of tunnels	1.6m
	(4) Maximum length of tunnels	107.4m
	(5) Thickness of Partition walls	0.6m
6.	Ram Dhara	
	(1) Width	1.5m
	(2) Crest level	EL 332.0m
	(3) Discharge at normal pond Appx.	10cumec
	(4) Discharge at minimum pond Appx.	3cumec
7.	Divide wall	
	(1) Width of divide wall	6.0m
	(2) Length of divide wall U/s	124.0m
	(3) Length of divide wall D/s	92.25m
8.	Canal Head Regulator	
	(1) Length between abutments	63.0m
	(2) Size of bays (5 nos.)	11.0m
	(3) Thickness of pier (4 nos.)	2.0m
	(4) Size of gates (5 nos)	11.0m clear
	(5) Crest level	EL 327.8m
	(6) Length of Downstream impervious floor	22.97m
	(7) Depth of Downstream cut off	6.0m



Ma Dong
DGM (CM-GV)
UJVN LIMITED
MAYAPUR, HARIDWAR

Dr. General Manager
Hydel Generation Circle
UJVN Limited
Ghilla (Pauri Sahawal)
General Manager (G.V.)
UJVN Limited
Mayapur, Haridwar
General Manager (Civil-Maint.)
UJVN Limited
Ganga Bhawan, Dehradun

Sadest
Executive Engineer (Civil)
UJVN Limited
Pashulek Rishikesh

Asaba

- (8) Discharging capacity at normal pond bay approx. 140cumec
- 9. Power Channel
 - (1) Capacity upto 0.208km from head 680cumec
 - (2) Capacity from 0.208km onwards 565.0cumec
 - (3) Total Length 14.220km
 - (4) Bed Width in head reaches 42.0m
 - (5) Bed width of channel beyond 0.6137 km. 12.5m
 - (6) Side Slopes 1.75:1
- 10. Silt Ejector
 - (1) Width at entrance 42.0 m
 - (2) Opening height at entrance 1.6m
(1.0 Meter above bed level and 0.6m depressed)
 - (3) Number of tunnels 3 (each having 4 sub tunnels)
 - (4) No. of gates at exit end 3
 - (5) Size of gates 3.148mx3.0m
 - (6) Discharge 115cumec
- 11. Stop Log Gate
 - (1) Number of units 6
 - (2) Weight if each unit Appx. 25MT
 - (3) Size of stop log gate units
 - (a) Bottom most 18.0m (Clear) x1.5m
 - (b) First intermediate 18.0m (Clear) x1.5m
 - (c) Second intermediate 18.0m (Clear) x1.9m
 - (d) Third intermediate 18.0m (Clear) x1.9m
 - (e) Fourth intermediate 18.0m (Clear) x2.2m
 - (f) Top most 18.0m (Clear) x2.2m
- 12. Gantry Crane
 - (1) Hoisting capacity 50.0MT
 - (2) Maximum height of lift 17.0m
 - (3) Lifting speed 3.0m/min
 - (4) Speed of long travel 12.0m/min
 - (5) H.P. of hoist main motor (Lno) 47.0



Shankar Kumar Singh
Suresh Singh
18/3/2025

Executive Engineer (Civil)
UJVN Limited
Pashulok Rishikesh

Executive Engineer (E&M)
UJVN Limited
Pashulok Barrage
Rishikesh

Dy. General Manager
Hydel Generation Circle
UJVN Limited
Chilla (Pauri Garhwal)

General Manager (CM-GV)
UJVN LIMITED
MAYAPUR, HARIDWAR

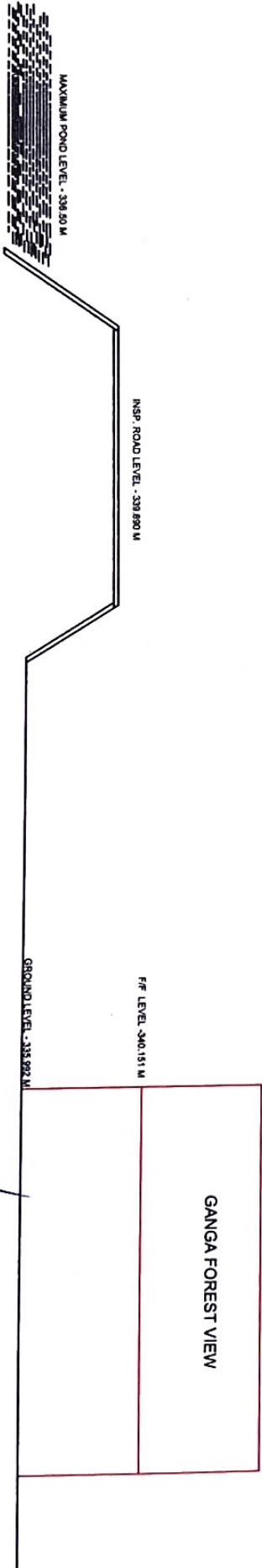
General Manager (G V)
UJVN Limited
Mayapur, Haridwar

General Manager (Civil-Main)
UJVN Limited
Ganga Bhawan, Dehradun

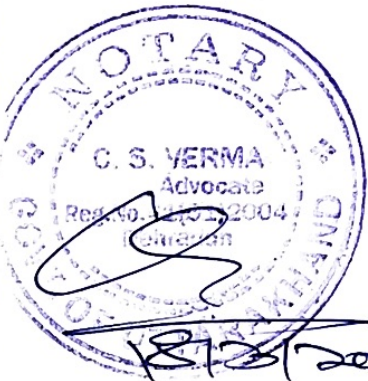
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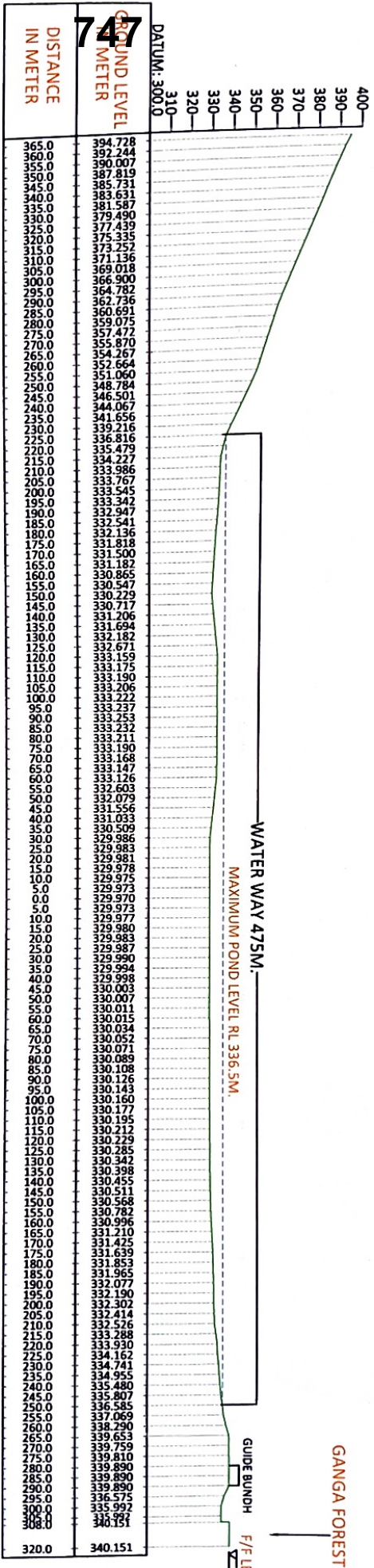
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GANGA FOREST VIEW HOTEL



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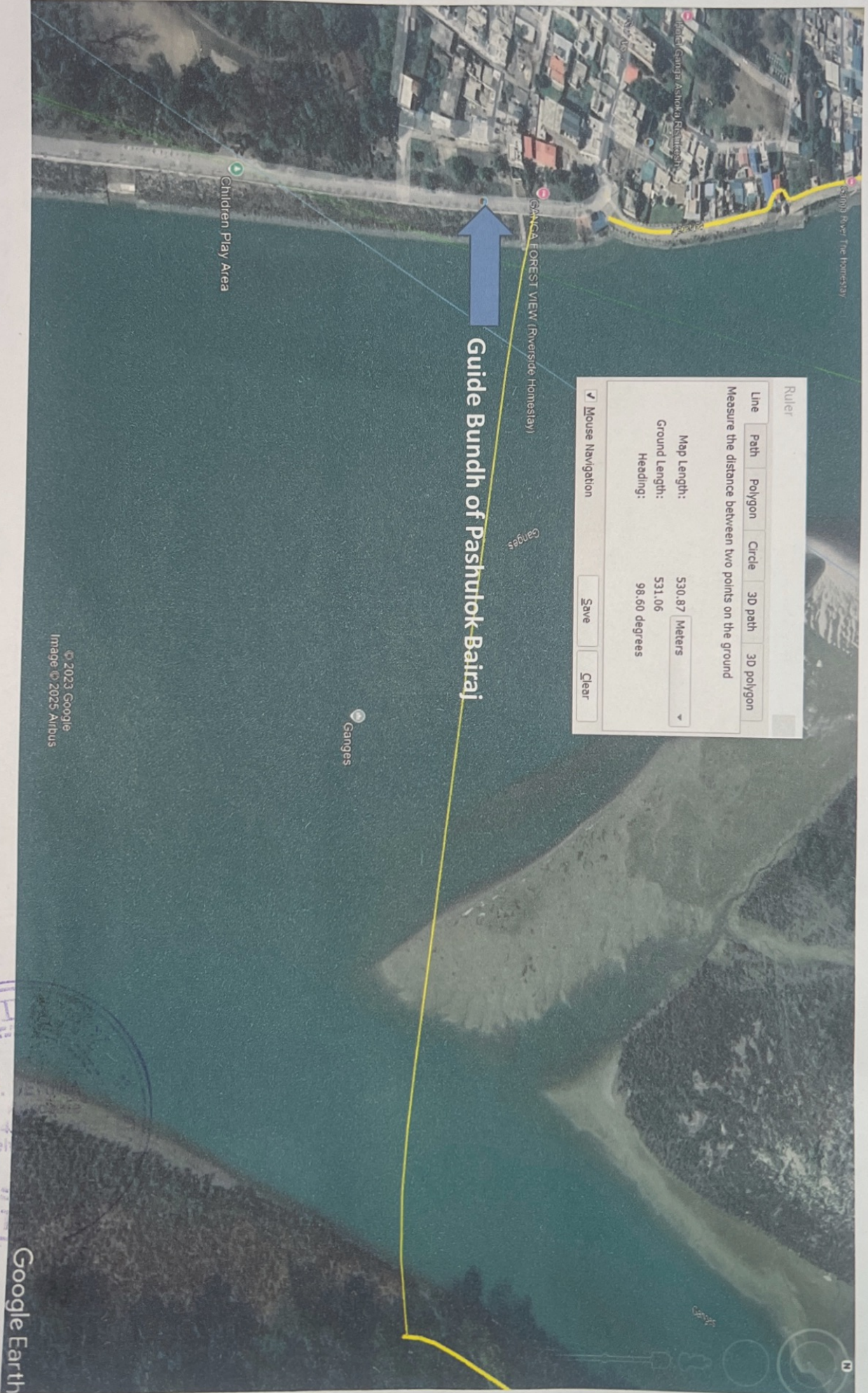
CROSS SECTION NEAR GANGGA FOREST VIEW HOTEL

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Verified by *Shankar Kumar Saha*
 the deponent *Shankar Kumar Saha*
 Sworn & Verified the content of the
 Affidavit before me at *Delhara*
 on dated *18/12/2025*

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 18/12/2025





Amrnu - C

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Government of India
 Ministry of Environment, Forest and Climate Change
 New Delhi

Google Earth

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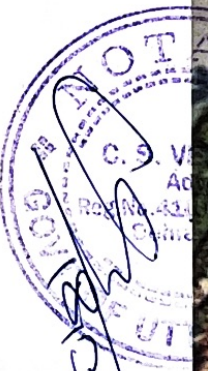
Hotel Forest View

Guide Bundh of Pashulok Bairaj

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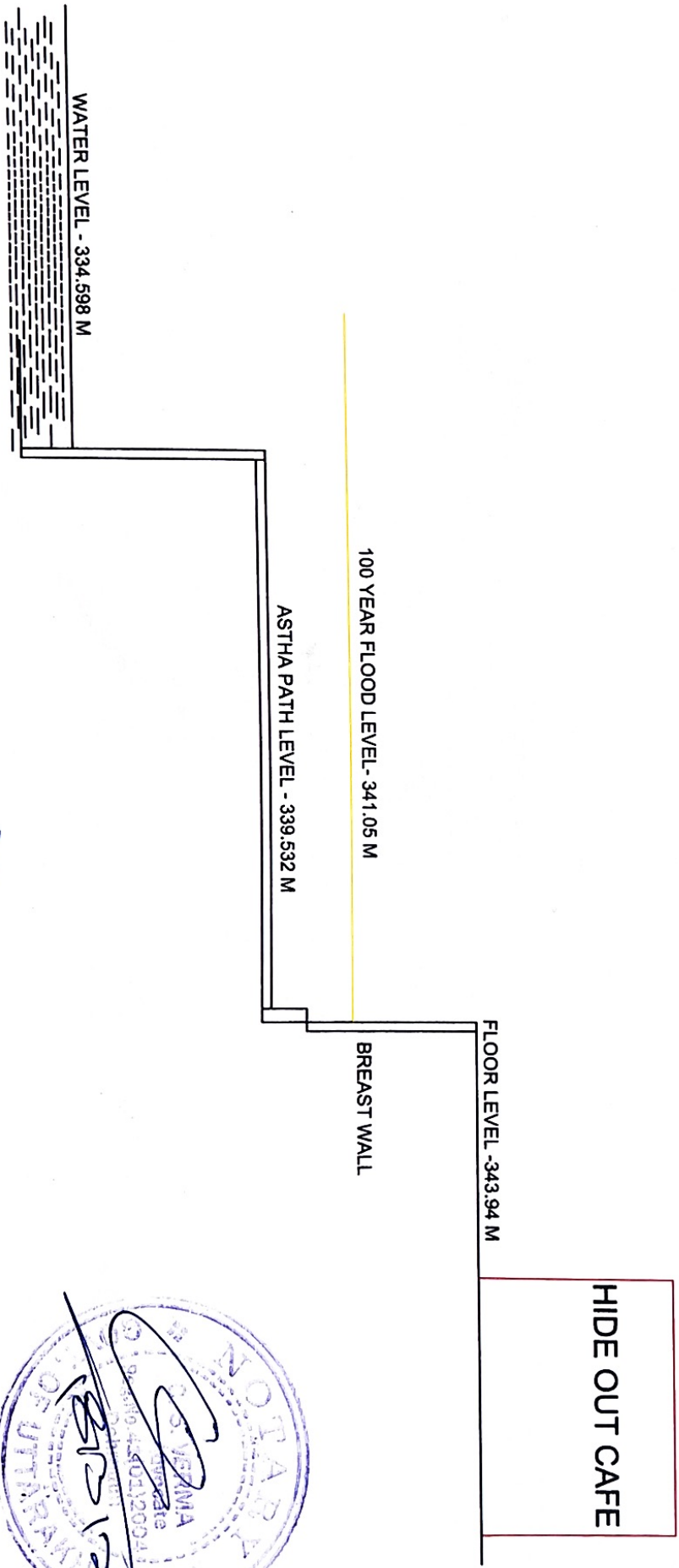


Annexure D

(13)

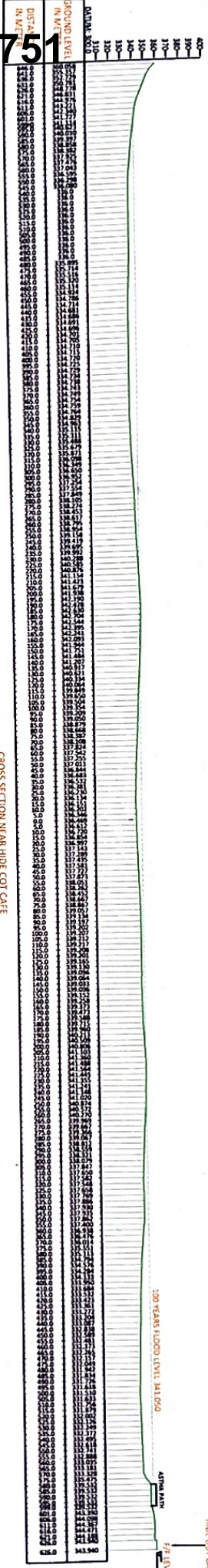
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CROSS SECTION NEAR HIDE OUT CAFE

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Certified that *Shankar Kumar Saha*
 Ins. department identified *Shankar Kumar Saha*
 Sworn & Verified the contents of this
 Affidavit before me a *Notary Public*
 on date *18/12/2025*



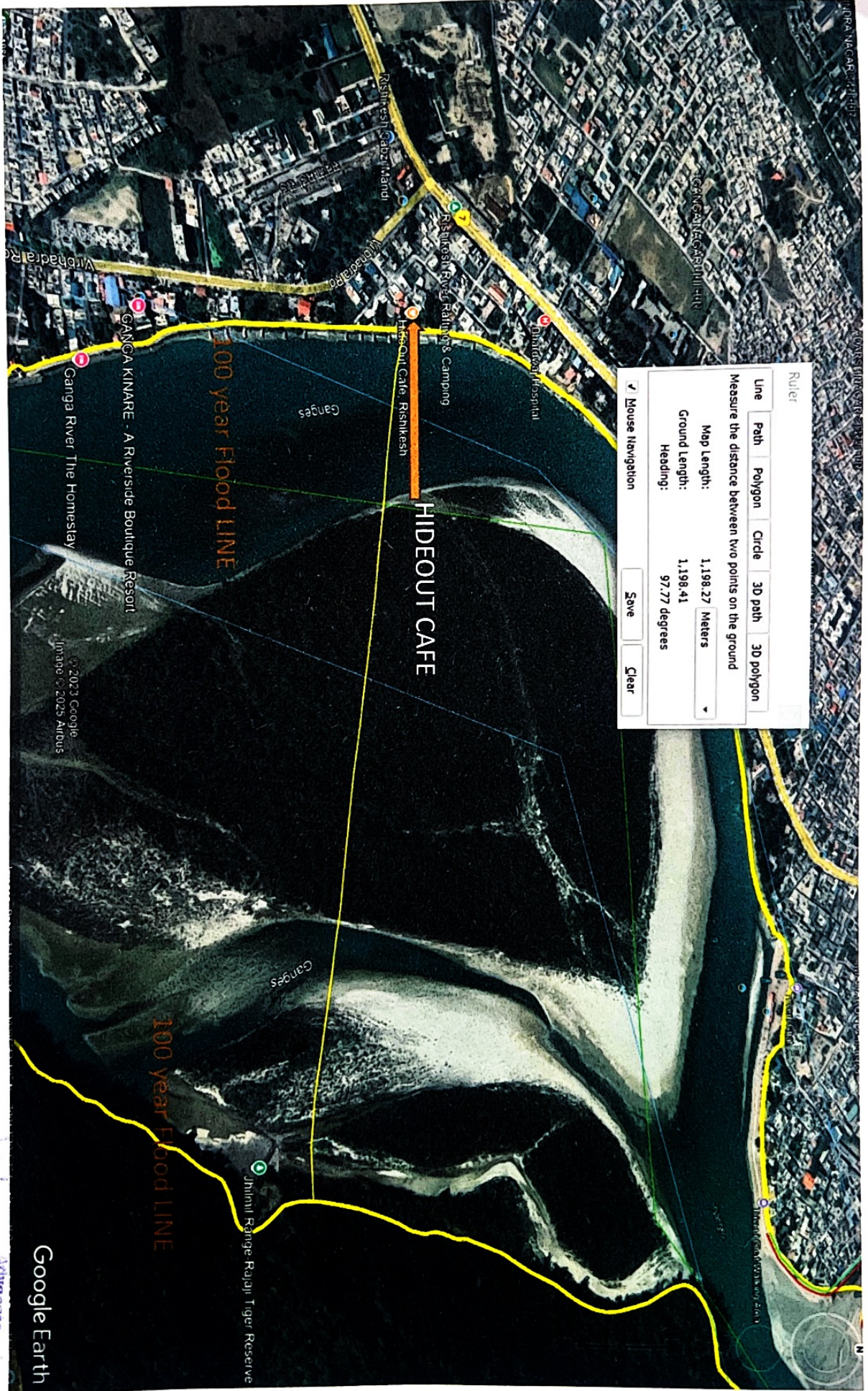
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Annexure - E



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Ref. No. 4110/2004
 21/11/2025



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ADVOCATE
 2/2/2025
 8/13/2025
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Photo taken from Hideout Cafe



Arredos

Arredos